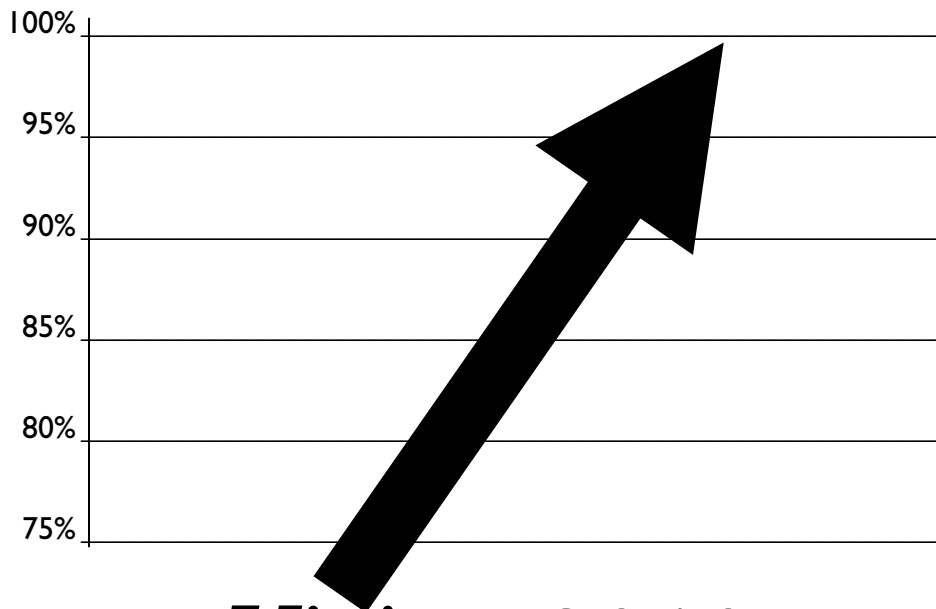


# Alameda County Source Reduction and Recycling Plan



*Vision 2010:  
75% and Beyond*

**ALAMEDA COUNTY SOURCE REDUCTION AND RECYCLING BOARD**

Adopted January 9, 2003

**ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY**

Adopted January 29, 2003

with Green Building, Business and Public Agencies, Organics, Schools,  
and Media and Outreach program revisions adopted January 2006

**STOPWASTE.ORG**  
*Reducing the Waste Stream for Alameda County*

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***“Our entire society rests upon -- and is dependent upon -- our water, our land, our forests, and our minerals. How we use these resources influences our health, security, economy and well-being.”***

*John F. Kennedy*

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## **ABOUT THE AGENCY**

The Alameda County Waste Management Authority and Recycling Board is an integrated public agency that offers a wide range of programs in the areas of waste prevention, public education, home composting, recycled product procurement, technical assistance, low interest loans and grants to non-profit organizations.

### ***The Alameda County Source Reduction and Recycling Board***

The Alameda County Source Reduction and Recycling Board (Recycling Board) was created in 1990 by the voters of Alameda County through a ballot initiative, "Measure D." The eleven-member Recycling Board includes six citizen experts appointed by the Alameda County Board of Supervisors and five elected officials from the Alameda County Waste Management Authority.

The Recycling Board is responsible for programs that promote source reduction, residential and commercial recycling, recycled product procurement and market development. Program funding is provided from a per ton disposal surcharge at the Altamont and Vasco Road landfills.

### ***The Alameda County Waste Management Authority***

The Waste Management Authority (Authority) is a public agency formed in 1976 by a Joint Exercise of Powers Agreement among the County of Alameda, each of the fourteen cities within the county, and two sanitary districts that provide refuse and recycling collection services. The Authority has a seventeen-member board composed of elected officials appointed by each member agency.

The Authority is responsible for preparation of the Alameda County Integrated Waste Management Plan and Alameda County Hazardous Waste Management Plan. It manages a long-range program for development of solid waste facilities and offers a wide variety of other programs in the areas of source reduction and recycling, market development, technical assistance and public education. Funding is provided by per ton disposal and waste import mitigation fees.

Collectively, the Authority and Recycling Board operate as one organization, under the administrative direction of an Executive Director.



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**Alameda County Source Reduction  
and Recycling Board Members**

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Martin Bourque	Recycling Program Operations
Debbie Jeffery	Source Reduction Specialist
Marj Leider	Vice Mayor, City of Livermore
Claudia McCormick	Councilmember, City of Dublin
Nancy McEnroe	Councilmember, City of Piedmont
Jewel Okawachi	Councilmember, City of Albany
Thomas Ott	Waste Hauling Industry
Jean Quan	Councilmember, City of Oakland
Mark Spencer	Environmental Educator
Chad Wilson	Recyclable Materials Processing Industry

*Updated March 2006*

**Alameda County Waste Management Authority  
Board Members**

<b><u>Agency</u></b>	<b><u>Representative</u></b>
Alameda County	Supervisor Keith Carson
Alameda	Mayor Beverly Johnson
Albany	City Councilmember Jewel Okawachi
Berkeley	City Councilmember Dona Spring
Dublin	City Councilmember Claudia McCormick
Emeryville	City Councilmember Ken Bukowski
Fremont	Mayor Bob Wasserman
Hayward	City Councilmember Olden Henson
Livermore	Vice Mayor Marj Leider
Newark	City Councilmember Susan Johnson
Oakland	City Councilmember Jean Quan
Piedmont	Vice Mayor Nancy McEnroe
Pleasanton	Mayor Jennifer Hosterman
San Leandro	Mayor Shelia Young
Union City	Mayor Mark Green
Castro Valley Sanitary	District Boardmember Dennis Waespi
Oro Loma Sanitary District	District Boardmember Laython Landis

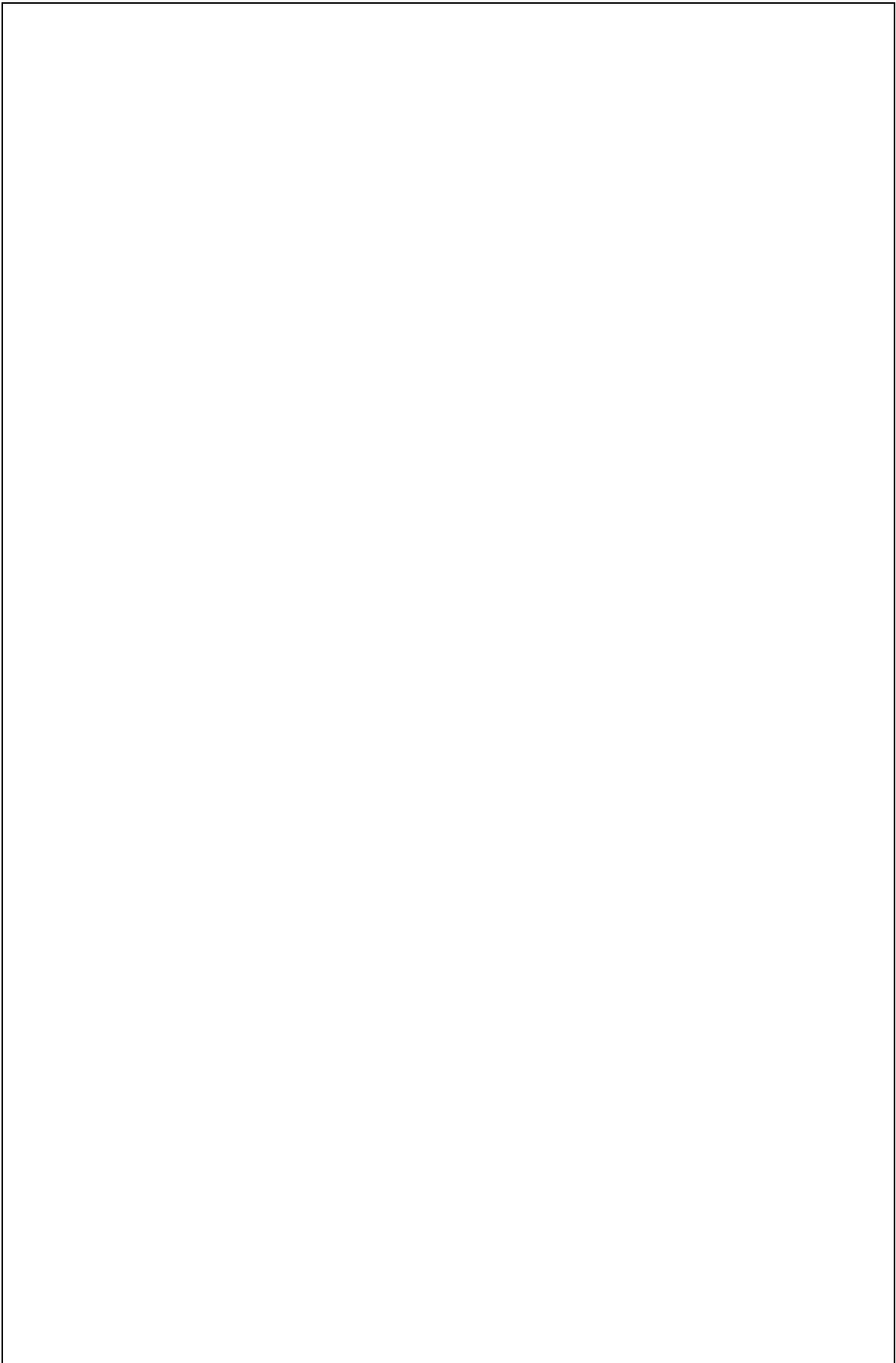
*Updated March 2006*

# Alameda County Source Reduction and Recycling Plan

## *Vision 2010: 75% and Beyond*

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## PLAN BACKGROUND

The Source Reduction and Recycling Initiative (“Measure D”) was a local ballot initiative approved by voters in 1990. It established aggressive countywide waste diversion goals above the goals mandated by the state. Measure D not only sets a 75% and higher goal for reduced landfilling, but also defines the problem in a new way. Measure D places the main emphasis on preserving natural resources, and describes the need to establish long-term sustainable consumption and disposal patterns. In support of these ambitious goals, the measure directs the Recycling Board to prepare (and periodically update) an Alameda County Source Reduction and Recycling Plan (Plan) that identifies the necessary programs and policies.

Measure D (the Alameda County Waste Reduction and Recycling Initiative Charter Amendment included as Appendix L) requires the Plan to be comprehensive, taking into account programs developed by other public agencies and private organizations. In preparing the Plan, the Recycling Board must consult with a wide variety of concerned public agencies and the public. Additionally, the "Save Agriculture and Open Space Lands" initiative (included as Appendix M) passed November, 2000, contains a policy that requires the County to conform its policies and programs to the Recycling Plan.

### ***Uses of the Plan***

The Plan identifies specific programs, objectives, and strategies for the County to reach a 75% and beyond diversion rate. The Plan will serve as a guiding document together with the Countywide Integrated Waste Management Plan (CoIWMP). The Plan describes the Agency’s long-range thinking and vision and outlines the specific strategies the Agency will use in leading the county to a more sustainable future.

The Plan is designed to be used in conjunction with the CoIWMP and the Agency’s annual budget, which will include more detailed objectives and action plans. These three documents will be used to respond to changing conditions.

### ***Preparation of the Plan***

Between 2000 and 2002, several studies were conducted that guided the development of this document. They include the Recycling Board Five Year Programmatic and Financial Audit; the Waste Characterization Study 2000; the Weight Based Disposal Study; and the Waste Production Measurement Study. In addition to these reports, the previous Recycling Plan (adopted in 2000) served as a resource.

## **Plan Background**

A variety of sources provided input for the Plan. Central to Plan development was a year-long series of meetings with the Recycling Board and the Waste Management Authority Board. All major topics contained in the Plan were presented by staff and discussed by the Board. Individually and collectively, board members provided direction for staff to pursue in preparation of this Plan. Internally, Agency staff developed specific strategies and objectives that aligned with the Board's direction on policies, priorities, strategies and targets.

In addition, staff held stakeholder meetings with environmentalists, business owners, landscapers, solid waste consultants, recycling industry professionals, waste haulers, the Local Task Force and the Technical Advisory Committee (comprised of recycling staff from the member agencies). The Recycling Board also held a series of stakeholder meetings on the topic of education. Certain individuals who could not make the stakeholder meetings, but wanted to give input, were met with individually. The Agency's website was used as a general and open avenue for feedback. A list of attendees at stakeholder meetings is included as Appendix A. Review of the draft Plan will be solicited from those who participated in the stakeholder meetings.

### **Structure of the Plan**

After describing the broad solid waste context that the Agency works within and general philosophy and policies, the Plan describes the targeted waste materials and the overall strategic approach for getting to 75% waste diversion and beyond. The specific program approach and strategies are outlined within five major areas: green building, business, organics, schools, and public education. Both qualitative and quantitative objectives are included for each major program area.

The Plan includes sections on member agency activities, research and legislative advocacy, implementation, funding, and monitoring and evaluation.

This Plan is not intended to cover all Agency programs, but only those programs related to the 75% and beyond waste diversion goals. Several important Agency programs are not included, such as management of Agency-owned property, the household hazardous waste program, and state mandated planning projects. Agency programs not included here are described in the Countywide Integrated Waste Management Plan (CoIWMP). The CoIWMP is a state-mandated plan that identifies solid waste facilities and wastesheds and describes the plan for reaching the 50% recycling goal. The CoIWMP contains certain policies that are regulatory. The CoIWMP is also undergoing revision, and will include the programs adopted in this Plan.



## **MISSION STATEMENT**

The Waste Management Authority and the Source Reduction and Recycling Board form an integrated Agency dedicated to achieving the most environmentally sound solid waste management and resource conservation program for the people of Alameda County. Within this context, the Agency is committed to achieving a 75% and beyond diversion goal and promoting sustainable consumption and disposal patterns.

In achieving this goal, the Agency will:

- Provide strategic planning, research, education and technical assistance to the public, businesses and local governments.
- Initiate innovative programs and facilities to maximize waste prevention, recycling and economic development opportunities.
- Serve as a pro-active public policy advocate for long term solutions to our challenges.
- Partner with organizations with compatible goals.



## VISION STATEMENT

This section describes where the Agency wants to be in the future, thereby giving direction to program development.

**1. The Agency is a national leader in pursuing effective solutions that reduce the waste of material and other natural resources.**

Leadership requires innovative ideas, advanced technology, proactive policy development, effective communication and heightened visibility for the Agency and its programs. It requires that the Agency use in-house programs to “practice what it preaches.”

**2. Alameda County achieves 75% diversion from landfills by the year 2010, and progresses toward even greater reduction in later years.**

Alameda County’s broad waste reduction goals are supplemented with specific quantitative and/or qualitative goals for all programs.

**3. The Agency’s waste prevention and recycling programs are integral to a society that is environmentally, economically, and socially sustainable over the long-term.**

Agency programs are linked with other resource conservation efforts and with local and countywide social and economic development programs.

**4. In achieving waste prevention and recycling goals, the Agency helps accomplish other worthwhile goals:**

- Helps create an aware and educated public that has adopted the values and behaviors associated with conservation and sustainability with respect to the consumption and disposal of materials and natural resources;
- Establishes durable, economically sustainable markets for discarded materials that are recovered; and
- Creates jobs and other forms of social betterment for the residents of Alameda County.

**5. The Agency’s internal operations support its mission.**

The Agency ensures that all residents and businesses can participate in its decision-making process and ensures that all programs funded with public monies meet rigorous standards of evaluation. Board members and staff work together cooperatively, harmoniously and with mutual respect.



## **OVERALL GOALS**

This plan sets forth the following general goals:

- Achieve a 75% waste diversion rate by 2010, with 20% of this coming from waste prevention.
- Establish the groundwork for moving beyond a 75% diversion rate after 2010.
- Increase and maximize participation in resource conservation and recycling to reduce waste.
- Maintain priority on waste prevention and broaden programs to incorporate sustainability concepts.
- Assist in the development of markets to support diversion efforts. Close the recycling loop by identifying and supporting end uses for targeted materials.
- Educate residents and businesses about the environmental, economic and health merits of sustainable practices.
- Expand partnerships with key stakeholders, including member agencies, haulers, processors, recyclers, other public agencies, businesses, schools, utilities and public policy makers at every level of government.
- Promote best resource stewardship practices in businesses, member agencies and schools.
- Maximize impact of Agency programs by coordinating delivery of services.



## CONTEXT AND PHILOSOPHY

This section describes the context in which the Agency operates (locally, nationally and internationally), as well as the philosophical underpinnings of the Agency’s goals. With this context and philosophical approach in mind, the Agency’s specific strategies can be developed consistently and cohesively.

There are several important areas to consider for this discussion:

- Recycling Hierarchy (Reduce, Reuse, Recycle)
- Solid Waste System
- Economic and Global Issues
- Sustainability
- Programs Offered
- Beyond 75%

### **Recycling Hierarchy**

As outlined in state law, the hierarchy for waste reduction is Reduce, Reuse, and Recycle. These three elements represent the relative priorities in programmatic efforts undertaken by the Agency and its partners.

The most important diversion strategy is “Source Reduction,” also referred to as waste prevention. Waste prevention activities range from the consumer level, such as buying in bulk and avoiding unnecessary packaging, to manufacturing and system changes in businesses to reduce the amount of materials used in producing and delivering products to market. This strategy, although the most important, is also the most elusive to pursue. It requires both substantial behavioral and structural changes and is difficult to measure where it occurs and in what quantity. Despite that, waste prevention is likely to be the most lasting and most cost-efficient means of diversion over the long term. Using fewer materials and other natural resources tends to produce significant material and labor savings and, therefore, becomes an integral part of common practices.

Following waste prevention is “Reuse,” or putting a still-usable product or material back into circulation. Activities as diverse as thrift shops, reusable transport packaging, and building deconstruction fall in this category. While this strategy might be considered as well-established, it is under pressure from relentless merchandising and a seemingly ever increasing trend towards the disposable economy.

The last tier of the hierarchy is “Recycling”. This strategy takes a used material—anything from paper to concrete to tires—and remakes it into a usable product. This is the most commonly understood strategy, as nearly everyone participates in residential recycling programs.

## **Context and Philosophy**

While efforts are prioritized in order of the hierarchy, pursuing all three is needed to meet the Agency's 75% and beyond diversion goal. Balancing the level of effort in each area is an important reason for the range of programs offered. While waste prevention is essential, it is not enough on its own. The same holds true for recycling programs. While these can capture large quantities of materials, other more fundamental changes regarding reducing consumption of natural resources are needed to reach the greater goal of a more sustainable, resourceful economy.

### **Solid Waste System**

Alameda County hosts three landfills and four transfer stations and has hundreds of businesses involved in solid waste hauling and processing. With the exception of the City of Berkeley operations, all these facilities are privately owned and operated. The Agency does not own or operate landfills, transfer stations, or other solid waste facilities. It does not direct waste flow, negotiate franchises or control solid waste collection and disposal infrastructure.

The Agency's influence is less direct than many other public agencies in the solid waste field, which often have more control over waste flow, facility operations, and rates charged for refuse and recycling services. As a result, it has focused its efforts on coordinating and leveraging the efforts of other players in the system.

The Agency works with member agencies, private sector haulers and processors, other public agencies, private businesses, citizens, and statewide and national organizations. The Agency works most closely with the staff and elected officials of member agencies, who do control waste flow, set contract terms and exercise land-use authority.

The private sector haulers and processors, who own and operate the landfills and transfer stations in the county, are important partners. Their practices have a great deal of impact on recycling and recovery rates. Other public agencies are partners, when common agendas can be forged and pursued. Private businesses and citizens, whom the Agency attempts to reach via public education or direct service programs to change behavior and support recycling efforts, are also essential. Finally, the Agency has relationships with statewide and national organizations dealing with solid waste and stays involved in important policy and legislative activities.

In this context, the Agency has worked to develop strong relationships with key stakeholders and has positioned itself as a leader in the area of waste prevention and sustainability. Part of its leadership is to work with member agencies so that government can lead by example, to "walk the talk," before regulating the private sector.

### **Economic and Global Issues**

Despite strong partnerships with local stakeholders, the Agency frequently confronts issues arising from the global economy. How products are



## **Context and Philosophy**

packaged, delivered, and marketed has a huge impact on disposal in Alameda County, and yet those decisions often occur well beyond the Agency's sphere of influence. The recyclable materials economy is also a global issue. Markets or conditions in Asia greatly influence the ability to recycle products here in Alameda County.

The Agency positions itself to take advantage of emerging issues and offer appropriate programs locally. For instance, in the business sector, the Agency recognizes the limited control that local members of national chains have over their own purchasing practices. Part of the business strategy includes working with national chains to see if they are willing to consider adopting more sustainable practices. Locally promoting the use of certified environmental management systems (such as the ISO 14000) is another way to have a larger influence. The Agency also supports state and national efforts to advance manufacturer responsibility and product stewardship. By promoting material efficiencies locally, and taking advantage of other outside forces, the Agency can still influence how businesses operate and produce waste.

A recently conducted UCB study on the statewide economic benefits of recycling indicated that each dollar spent on diversion instead of landfill disposal, generates nearly twice as many sales tax revenue dollars and jobs. The study concluded that diversion is good for the economy. This suggests that Alameda County's economy will benefit as the county progresses toward its 75% and beyond diversion goal.

### **Sustainability**

This plan defines the 75% and beyond diversion goal in broader terms than just reducing solid waste. The goal includes general progress towards sustainability, recognizing that meeting a specific solid waste goal is inextricably linked to the bigger picture of resource use and conservation.

Sustainability promotes the efficient use of natural resources. As some sustainability advocates point out, the environment doesn't expand when the economy expands. Adherents to this school of thought argue that we should help develop an economy that is based on principles that maintain and enhance the natural systems upon which it ultimately depends.

In addition to the arguments of pursuing sustainability for its own sake, sustainable consumption and disposal patterns are key to achieving—and maintaining—specific diversion goals. In practical terms, linking up with other “hot button” topics such as energy conservation can bring solid waste to a higher priority than it might otherwise gain on its own.

### **Programs Offered**

The types of programs offered by the Agency stem directly from its setting in the greater solid waste and global economy infrastructure. The Agency concentrates its resources on financial assistance (including both subsidies and incentives), technical assistance, public education, and supporting

## **Context and Philosophy**

municipal programs. It takes advantage of its close relationships with member agencies and local haulers and processors, as well as its resources and countywide mandate. The Agency can help facilitate the cooperative relationships of the many diverse stakeholders and lead the numerous parties entrusted with getting to a 75% and beyond diversion rate.

An example of the Agency's role is the assistance it offers to member agencies when negotiating new franchises. The Agency is able to provide expertise and support so that the member agencies can negotiate the most recycling friendly services possible at a competitive cost. Other types of programs include supporting adequate recycling processing infrastructure by financing diversion facilities that might not otherwise occur. Since the Agency operates countywide, certain kinds of public education can be offered more economically and easily than on the municipal level.

Recognizing that member agencies face resource constraints, the Agency also takes on difficult programs such as schools recycling, multifamily housing outreach, and business recycling. The Agency plays a leadership role in identifying unmet needs and complementing the efforts of the other players in the system. From its unique perspective, the Agency can be flexible and responsive to changing conditions.

### **Beyond 75%**

Measure D provides that the Recycling Board support programs to achieve diversion beyond 75% in order to “establish sustainable discarded materials management practices.” While this plan lays out specific targets and strategies to reach 75%, it also builds the groundwork for a recycling rate greater than 75%. The sustainability practices needed to reach 75% become even more important to reaching diversion rates beyond 75%. While there are obstacles to achieving such aggressive waste diversion rates—ranging from problematic materials, lack of manufacturer responsibility, national flow control policies and tax and resource development policies—it is nevertheless important to stay focused on this ambitious goal. Some cities are adopting zero waste policies as part of their “beyond 75%” vision. A key component of zero waste policies is support for manufacturer or producer responsibility initiatives. The Agency will stay vigilant for opportunities to influence larger policy issues, such as manufacturer responsibility, at the regional, statewide and national level and be an aggressive advocate for change.

## GENERAL POLICIES

The following policies derive from the Agency's mission and vision. They define the Agency's basic philosophy as reflected in the Recycling Plan.

### 1. Promote maximum resource conservation.

In 1990, 13% of potential discarded materials generated in Alameda County were source reduced, recycled or composted. By 2000, this figure had increased to 50%. The goal of the Plan is to reduce, recycle and compost over 75% of discarded materials generated in the county. The Plan shall identify realistic, achievable interim goals and timetables.

The Plan shall extend the concepts of reduction, recycling and composting to include reducing resources used in production of goods, reducing the material content of goods in use, and reducing the resource impacts of overall market demand for goods.

The Plan shall recognize that reduction, recycling and composting are forms of resource conservation and the Plan shall provide for compatible joint efforts directed at conserving water, air, land, energy and biological resources.

### 2. Promote waste prevention as the top priority.

Waste prevention is the top of the hierarchy; the Plan shall ensure that the Agency maximizes its investment in waste prevention in all programs.

### 3. Provide specific goals and measurements.

In addition to the 25%, 50%, and 75% countywide goals, there shall be distinct goals for diverting specific targeted materials. The Plan shall establish goals and measurements for waste prevention, including measuring efficiency in materials use. For each goal, it must define "how will we know it when we see it."

### 4. Focus on regional approaches.

This is a regional agency and the Plan shall focus on programs that are most appropriate to do on a regional level. This includes assisting local jurisdictions and working with other agencies on joint ventures to deal with regional issues. The definition of "region" varies with the nature of the program and may be countywide, Bay Area-wide or include nearby counties outside the Bay Area. Some Agency actions, such as policy development, waste prevention, and leadership, are inherently applicable across the Bay Area, statewide and nationally. However, Agency programs shall complement, not substitute for, programs developed and implemented by other counties.

## **General Policies**

**5. Promote sustainable economic development.**

Resource conservation is a key tool in economic development, as it may reduce production costs and thereby improve the competitive position of businesses that operate in the county. Consumers also gain economic advantage through more resource efficient practices.

**6. Promote the social benefits of reduction, recycling and composting.**

The Plan shall recognize that there can be social benefits to Agency programs. There is an opportunity to “invest in people” and integrate economic survival goals (e.g., providing new jobs or expanded food banks) with broader environmental goals (see discussion of economic benefits of recycling on page 11). The Plan can also help ensure that social costs and benefits of a sustainable earth are shared.

**7. Address the fundamental need to change public attitudes and values regarding use of resources.**

There is a need to encourage changes in public attitudes and values that relate to consumption of resources. The Plan should promote values that emphasize the benefits of responsible and efficient consumption.

**8. Place Alameda County in a leadership position in the field of resource conservation.**

The Plan shall define the Agency’s responsibility to be a “leader.” At minimum, this shall include development of innovative solutions, support for new research, and support for demonstration projects. The Agency can obtain credibility by “practicing what it preaches” through in-house efforts. An important aspect of leadership is for the Agency to be more visible, both to the public and to those who directly participate in the management of discarded materials. Another aspect of the Agency’s role is to try to spur leadership efforts on the part of local, state and federal governments. There is a particular need for the Agency to be a leader in the area of waste prevention.

**9. Recognize that private industry and institutions can and should play a major role in providing solutions.**

Private industry can and should be a cost-effective provider of services to “close the loop,” but may need help to overcome economic obstacles through methods such as financial incentives, educational programs, joint ventures and partnerships, and site development assistance.

**10. Focus on methods that encourage voluntary action by industry and the public.**

## **General Policies**

The Plan shall promote measures that help *persuade* people to change behavior. Techniques of persuasion include providing incentives such as: saving money, time and space; progressive rate structures; providing basic “how to” and “where to” information; providing popular role models; encouraging direct “hands on” participation in programs, and drawing on peer pressure and community spirit.

**11. Focus on a few programs that are “done well.”**

The Agency can be more effective by taking on a few high impact and high profile projects in each category, rather than by diluting its efforts among many small projects.

**12. Focus on public information and education.**

A key government role that may not be provided by private industry is to provide objective and comprehensive information. This includes the role of “connecting” the information-seeker to a variety of data sources.

**13. Identify cost-effectiveness as one key criterion for Agency programs.**

Agency resources must be spent effectively. Not only because resources are limited, but also because cost-effective programs are most likely to be sustained over time. The concept of cost-effectiveness shall include lifecycle cost analyses, cost-avoidance, and take into account externalities such as environmental costs. The difficulty in measuring cost-effectiveness in some areas, such as education, is acknowledged.

Other important criteria used to evaluate potential programs include: the size of the material stream being addressed; the lack of alternative private/governmental funding; the opportunity to leverage investment through matching grants; program value in demonstrating new technologies; new jobs created; opportunities to “close the loop;” and the capabilities and experience of the project proponents. Each program shall also be evaluated in terms of potential environmental impacts to air, land or water quality.

**14. Take into account significant economic trends.**

The Plan shall be realistic with regard to economic trends. Several key trends include changes where waste is landfilled, increasing globalization of markets, generally low commodities prices and the effects of the normal business cycle on the demand for and supply of materials.

**15. Visualize change.**

## **General Policies**

Nothing is constant except change. The Plan shall provide for periodic needs assessments to identify changing conditions and new solutions to problems. The Plan shall specify a means to secure input and feedback on existing programs on an ongoing basis. Programs need to be assessed on whether they are obtaining their goals, their continuing cost-effectiveness, and whether the program, in its present form, is continuing to meet a priority need.

## PRIORITIES AND TARGETS

Using the major planning studies conducted between 2000 and 2002, this section of the Plan identifies specific material and sector targets for programs.

The challenge for the Agency is to both reduce the amount of waste in the waste stream by approximately half, in order to reach the 75% goal, and do it in a way consistent with the Agency's philosophy and context.

The targets for this plan are:

<u>Material</u>	<u>Sectors</u>
Food Waste	Residential and Commercial
Unpainted Wood	Commercial, Roll Off, and Self Haul
Other Paper	Residential and Commercial
Yard Waste	Residential, Commercial, Self Haul, and Roll Off
Cardboard	Residential, Commercial, Self Haul, and Roll Off
Film Plastic	Commercial, Self Haul, and Roll Off
Inerts	Self Haul and Roll Off
Mixed Paper	Residential and Commercial
Newspaper	Residential

This Plan targets materials that appear in large amounts in today's waste stream and for which there is a technically feasible, cost-effective strategy for the Agency to pursue.

While programs aimed at all these targets are necessary to reach 75%, the programs that target food waste, contaminated paper, construction and demolition debris, and waste from businesses are especially important because of the preponderance of these materials in the waste stream.

The rest of this section outlines more specifically the means by which the Agency selected and developed these targets and tonnage diversion estimates.

### **Waste Characterization Study**

One of the most important sources of information in identifying targets is the Waste Characterization Study 2000. The Agency sponsored this study to understand better the composition of solid waste generated and disposed in Alameda County. Used with comparable studies conducted in 1990 and 1995, this study tracked changes in the composition of the waste stream reflecting a number of external factors, including the impact of municipal recycling programs, changes in packaging and manufacturing, and economic activity.

The year-long study included field sampling and sorting at the six processing and disposal facilities in the county. It determined the composition of the solid waste stream both for the county and the 17 member agencies and

## Priorities and Targets

divided the data among five sectors: single family residential, multi-family residential, commercial, roll off, and self haul. The first three sectors describe generator segments, and the last two (roll off and self haul) describe the mode of delivery to the transfer station or landfill. Roll off and self haul contain waste from both the residential and commercial sectors.

The study helps track program success, identify sectors for recycling or diversion programs, and evaluate trends in solid waste disposal over the past decade. The Executive Summary of this study is included in Appendix B.

Table 1 presents the top thirteen materials remaining in the waste stream and the countywide tonnages by sector. Definitions of all materials in the Waste Characterization Study are included in Appendix B.

The Plan focuses on these materials, as they represent such a large proportion of the waste stream. One or more Agency programs target all those materials and sectors outlined in a bold box in the chart. Materials that are targeted by *all* member agency programs are in shaded boxes.

**Table 1: Top Materials Disposed in Alameda County (tons)**

Target Material	Single family	Multi-family	Commercial	Roll off	Self haul	Total Tons
Food waste	78,274	25,708	57,429	21,708	1,612	184,717
Unpainted wood	2,970	2,443	22,624	70,232	38,465	136,741
Other paper	48,447	16,277	39,979	15,298	2,495	122,496
Yard waste	16,939	8,558	14,806	11,388	57,692	109,393
Painted wood	2,853	1,587	14,134	30,335	36,442	85,357
Cardboard	8,737	4,384	24,827	29,412	9,249	76,602
Composite bulky items	1,394	1,564	5,258	32,915	34,396	76,538
Mixed plastic	12,569	4,461	20,453	25,216	10,599	73,294
Film plastics	21,378	7,086	21,276	14,894	2,124	66,753
Other ferrous metals	3,484	2,177	12,589	29,711	18,274	66,238
Crushable inerts	2,289	752	7,847	20,160	25,449	56,503
Mixed paper	17,414	5,556	12,970	14,820	3,210	53,969
Newspaper	19,417	6,846	10,776	3,705	1,446	42,189



Agency Target



Member Agency Target

Additional trends noted by the Waste Characterization Study include reduced yard waste in the residential waste stream and overall increase of food waste in the waste stream.



### **Recycling Board Five Year Audit**

The recent Recycling Board Five-Year Programmatic and Financial Audit (Audit), mandated by Measure D, provided a broad, independent overview and evaluation of recycling, waste prevention, market development, and public education programs within Alameda County. The Audit also profiled other national model programs to determine what, if any, activities could be added to Alameda County's mix of programs. The review was "forward looking," seeking opportunities for improved effectiveness and efficiency within and between municipal and regional waste reduction efforts, and focused on reaching a goal of 75% diversion by 2010.

The Audit found that member agency and countywide programs, together with the private sector recycling infrastructure, constitute one of the most extensive waste diversion efforts in the country. From a countywide perspective, there are no program gaps, in the sense that no waste stream or generator segment is largely or completely unaddressed. The Agency's current blend of programs, coupled with those of the various member agencies, focus on what will be necessary to reach 75% diversion. Many of these programs are new and the full potential is far from realized. The study identified the same materials needed to reach 75% diversion as above, namely, food waste, unpainted wood, other paper, plant debris, cardboard, film plastics, crushable inerts, mixed paper, and newspaper. The Executive Summary of this study is included as Appendix C.

### **Waste Production Measurement Study**

This study, completed in early 2002, took a different perspective on waste characterization. The study analyzed business practices, by activity, to determine which practices provide the most potential for waste prevention. The study helped gain detailed understanding of the ways that non-residential establishments produce solid wastes. Results of the study will be used to seek the most effective ways to prevent those wastes from occurring.

On an activity and business type basis, the study provided data on waste production that can be generalized and used for program planning and modeling. Based on estimates of waste prevention potential and related cost savings, the study will help identify practices to be targeted for waste prevention programs and outreach. Follow-up studies will help determine means of measuring waste prevention, which will be an additional tool for targeting waste prevention efforts. The Executive Summary of this study is included as Appendix D.

### **Weight Based Disposal Study**

Another study aimed at the commercial sector, the Weight Based Disposal Study, correlated weight and composition data gathered from commercial routes against general business data, to determine what types of businesses

## Priorities and Targets

generate what kind of waste and in what quantity. These results have been extrapolated, where appropriate, countywide. Consequently, the data from the project can be used to identify specific industry and business groups for the development of targeted diversion programs. A specific jurisdiction can take the data from this study and then examine the characteristics of their own local businesses. With this data, they can correlate quantities and types of waste that are likely to be generated, by business type, and therefore promote programs applicable to their particular mix of businesses. This study, in conjunction with the Waste Production Measurement Study, will be used to refine business sector programs and policies. The Executive Summary of this study is included as Appendix E.

### Program Areas

There are natural groupings of the target materials and sectors that reflect programmatic approaches taken by the Agency. Those program areas, and their targeted material types and sectors, are outlined in Table 2 and described fully in the Strategy section starting on page 25. While programs in all of these areas are necessary to reach 75%, the programs that target food waste, contaminated paper and construction and demolition debris are especially important because of the preponderance of these materials in the waste stream. In addition to these program areas, member agencies pursue complementary targets, such as increasing capture rates in existing collection programs.

**Table 2: Target Materials and Programs**

<b>Program</b>	<b>Material</b>	<b>Sectors</b>
Green Building	Unpainted Wood Inerts Cardboard	Roll Off Self Haul
Business	Mixed Paper Cardboard Food Waste Film Plastics	Commercial Roll Off Self Haul
Organics	Food Waste Yard Waste Other Paper	Residential Commercial Roll Off Self Haul

### Tonnage Estimates

Estimates of how many tons need to be diverted to meet the 75% goal are based on extrapolation of existing disposal and diversion. Using 1990 as a baseline, and calculating expected increases in generation based on ten years of data, the Agency forecast total generation, and consequently, needed diversion to get to the 75%. Current efforts in recycling were calculated to grow proportionately with the increased growth in generation.

## **Priorities and Targets**

For Alameda County to reach the 75% goal, total disposal should not exceed an estimated 1.2 million tons in 2010. This figure is based on a total waste generation of 4.7 million tons in 2010, of which 75% (or 3.5 million tons) is diverted, either through recycling or waste prevention. Current disposal is 1.7 million tons, with an estimated 50% countywide recycling rate.

A number of assumptions underlie this estimate. First of all, the Agency and jurisdictions have limited control over the waste stream and currently influence about one-third of all diversion activity occurring. The remainder is credited to private sector initiative. The one-third estimate is based on actual diversion tonnages that can be documented from Agency and member agency sponsored programs and compared to total estimated diversion. With this assumption in mind, the Agency and jurisdictions' target is an additional 500,000 tons of new diversion, with an additional two million tons of diversion resulting from growth in existing programs. The private sector will need to contribute approximately one million tons of diversion. An additional assumption regarding projected generation is included in Table 3.

The assumptions are inherently speculative, and the resulting calculations should be taken as estimates subject to change based on real events (e.g., actual vs. projected growth rates).

Tonnage diversion by major project and year are estimated to demonstrate how the Agency will meet its targeted new diversion. These diversion estimates are presented in Table 3. This table contains those projects for which reliable estimates can be developed. (More detail on these projects is found in the Strategy section of this Plan.) Much of the Agency's work, such as in public education, cannot be translated into diversion estimates, yet that work is necessary to meet the 75% goal. Some portion of that work is estimated in the "other" category, although the true total impact on diversion is unknown.

**Priorities and Targets**

**Table 3: Diversion by Major Project<sup>(1)</sup> and Year**

<b>Program (Project - Project #)</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Organics (Organics Processing Development - 7019; Organics Technical Assistance - 0005)			20,000	44,000	76,000	112,000	138,000	152,000	166,000	180,000
Green Building (C&D Diversion - 0009)	8,000	16,000	24,000	32,000	40,000	48,000	56,000	64,000	72,000	80,000
StopWa\$te (StopWa\$te - 7013)	7,500	7,500	7,500	13,500	19,500	25,500	31,500	37,500	43,500	49,500
Material Recycling Facility (MRF Capacity Expansion - 9005)		25,000	30,000	35,000	40,000	40,000	40,000	40,000	40,000	40,000
City Efforts	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000
Other				5,000	10,000	20,000	30,000	40,000	50,000	60,000
<b>Total Agency &amp; Jurisdiction New Diversion</b>	<b>25,500</b>	<b>68,500</b>	<b>111,500</b>	<b>169,200</b>	<b>235,500</b>	<b>305,500</b>	<b>365,500</b>	<b>413,500</b>	<b>461,500</b>	<b>509,500</b>
Private Sector Diversion	100,000	200,000	300,000	400,000	500,000	600,000	700,000	800,000	900,000	1,000,000
<b>Total New Diversion</b>	<b>125,500</b>	<b>268,500</b>	<b>411,500</b>	<b>569,500</b>	<b>735,500</b>	<b>905,500</b>	<b>1,065,500</b>	<b>1,213,500</b>	<b>1,361,500</b>	<b>1,509,500</b>
Continued Efforts Diversion	1,706,606	1,739,885	1,773,813	1,808,402	1,843,666	1,879,618	1,916,270	1,953,637	1,991,733	2,030,572
<b>Total Diversion</b>	<b>1,832,106</b>	<b>2,008,385</b>	<b>2,185,313</b>	<b>2,377,902</b>	<b>2,579,166</b>	<b>2,785,118</b>	<b>2,981,770</b>	<b>3,167,137</b>	<b>3,353,233</b>	<b>3,540,072</b>
Total Generation <sup>(2)</sup>	3,449,632	3,573,819	3,702,477	3,835,766	3,973,853	4,116,912	4,265,121	4,418,665	4,577,737	4,742,536
Total Alameda County Waste Landfilled	1,617,526	1,565,434	1,517,164	1,457,864	1,394,687	1,331,794	1,283,351	1,251,528	1,224,504	1,202,464
Countywide Diversion Rate [3]	53%	56%	59%	62%	65%	68%	70%	72%	73%	75%

Note:

(1) While nearly all Agency projects have diversion impacts, direct or indirect, only those projects with major, measurable diversion impact are singled out on this chart. The remainder is estimated and summarized under "Other".

(2) Generation is defined as all "potential garbage" or, in other words, garbage plus all recycling and all waste prevention. Generation estimates are based on actual disposal from 1990-2000. An estimated countywide diversion rate of 50% in 2000 and 12% in 1990 was used to calculate historical growth in generation. This growth was extrapolated to 2000-2010 and annualized at 3.6%.

[3] Countywide diversion rates are estimated counting ADC as disposal. For the year 2000, according to CIWMB accepted and submitted numbers is 54%. The countywide rate including ADC as disposal is 50%.

## **Priorities and Targets**

Table 4 breaks down estimated new diversion needed by program and material type, to understand which portions of the waste stream, and in which quantity, the major programs are targeting. The Agency's total target is larger than this table, which contains just the major programs for which reliable estimates of diversion can be made at this time. This table does not reflect ongoing diversion, for example, existing yard waste diversion.

**Table 4: Targeted New Material Diversion by Program (Tons)**

<b>Target</b>	<b>WCS 2000 Disposal</b>	<b>Organics</b>	<b>Green Building</b>	<b>Stop- Wa\$te</b>	<b>MRF</b>	<b>Total</b>
Food waste	184,717	102,000		7,425		109,425
Unpainted wood	136,741		56,000		10,000	66,000
Other paper	122,485	65,500				65,500
Yard waste	109,393	12,500			8,000	20,500
Cardboard	76,602		8,000	12,375	6,000	26,375
Composite bulky items	75,538					0
Film plastics	66,753			4,950		4,950
Other Ferrous Metals	66,238					0
Crushable inerts	56,503		16,000		8,000	24,000
Mixed paper	53,969			24,750	2,000	26,750
Newspaper	42,189					0
Other Materials					6,000	6,000
<b>Total for above</b>	<b>991,128</b>					
<b>Total</b>		<b>180,000</b>	<b>80,000</b>	<b>49,500</b>	<b>40,000</b>	<b>349,500</b>

### **Reducing Non-Recoverable Materials**

A number of materials in the waste stream can be considered non-recoverable, including treated and painted wood, bulky composite items and mixed plastics. Recoverability is rarely limited by technical feasibility. With enough effort or expense, virtually any item or material can be converted in some way to the same or another use. In practice, however, recoverability is defined by the economics of various collection and recovery alternatives compared to disposal. For example, formulations of glass such as Pyrex™ and leaded glass, despite being just as recyclable as the other formulations, are generally considered non-recoverable because they typically end up as contaminants in container glass remanufacture.

There are some materials, such as heavily contaminated street sweeping fines, preservative-treated wood, and worn-out shoes, for which recovery probably does not make sense. For materials such as mixed plastics, the challenge is to find acceptable substitute materials that are recoverable, or to develop collection and recovery schemes that have acceptable costs. Recent examples of Agency success in this area include support for collection and recovery of mattresses and tires. The Agency will continue to look for opportunities to support market development for currently non-recoverable materials and support economical collection and recovery systems.



## OVERALL STRATEGY

Getting to 75% and beyond will require maintaining and improving existing programs and continuing to focus on targeted materials. While programs are needed to divert a broad range of materials, special emphasis is needed on organics and construction and demolition debris due to the large quantities of these materials still being landfilled, as well as on large generators of waste and generators of heavy waste. Increasing the quality and quantity of environmental education provided to the county's school children and conducting broader education to promote recycling, waste prevention and sustainability principles is also critical to achieving the stated goals.

The Agency's role is strongest in providing incentives and assistance to others through the following five strategies:

1. Providing *technical and financial assistance*.
2. Supporting adequate *infrastructure*, including facilities, land, and equipment.
3. Supporting continued and enhanced *collection programs*.
4. Promoting *market development* for recovered materials.
5. Emphasizing and championing *waste prevention and sustainability* practices.

Each of these five strategies is described more fully below.

### **I. Technical and Financial Assistance**

#### **Technical Assistance**

The Agency provides technical assistance to member agencies and others in key areas of expertise including organics recycling, green building, solid waste and recycling contract modifications, business recycling and multi-family recycling. The Agency will stay current with emerging issues in waste management, such as electronic waste recycling, and keep its member agencies apprised of recycling options. Tools such as recycling guides, case studies, workshops and model contract language will be offered. Best practices in areas such as business waste prevention, residential recycling programs, school recycling programs and green building will be identified and promoted.

#### **Financial Assistance**

A variety of financial assistance is offered in many programs. Such assistance includes grants, loans, subsidies and incentives or cash rewards for performance. Financial assistance will be used strategically to help kick start efforts that would not otherwise be undertaken or would take much longer to begin. Financial assistance will be offered to start or expand collection programs, to encourage residents and businesses to begin or improve their

## **Overall Strategy**

use of existing collection programs, and to foster market development. Both technical and financial assistance will be used to help businesses understand the linkage between waste prevention practices and cost savings. One of the recommendations contained in the Five Year audit is that a checklist be used to help determine the best use of incentives and subsidy funding. That checklist is included as Appendix F.

### **II. Infrastructure**

Adequate recycling processing capacity is a critical component to getting to and beyond 75%. Agency programs need to focus both on expanding existing capacity and on creating or encouraging new capacity. While recycling processing capacity currently exists both in and out-of-county, the Agency will prioritize development of in-county capacity for certain key materials to ensure the long term viability and availability of such material processing at a cost-competitive rate. Key materials include organics and construction and demolition debris. Based on previous practice, most Agency assistance will be in the form of financial aid to privately owned and operated facilities.

New facilities will require the availability of appropriate land. The Agency will research the availability of appropriate land parcels for specific identified recycling needs, such as construction and demolition debris recycling. The Agency will also help existing transfer stations and landfills expand the range or volume of materials recovered for diversion. To accomplish this, the Agency may provide financial support for new equipment and operations to expand existing recovery efforts.

The agency budget for FY 02/03 contains an appropriation to conduct a land study including an inventory of industrially-zoned land. The land study will also explore barriers and opportunities for the agency in this area. The land study would tap the expertise of organizations with direct involvement in land purchases, such as the Trust for Public Land, in order to examine potential revenues and strategies. The land study will also explore the use of recycling easements on current and future Authority owned land and land banking and will evaluate strategies for making local zoning and general planning processes more recycling-friendly, including preserving industrially zoned land.

In addition, “round table” discussions will be held with recognized organizations to discuss available “carrots and sticks” to promote expansion and siting of end users and value-added processors; available local mechanisms, e.g., licenses or permits to promote specific strategies; siting of appropriate diversion facilities in the urban vs. rural areas; and strategies for educating land developers regarding the benefits and special issues of working with target businesses in the recycling market development community.



## **Overall Strategy**

Agency staff will coordinate and pursue appropriate actions as recommended from the land study and resulting from round table discussions to help ensure adequate land (e.g., through partnership with vendors and host cities, financial incentive, purchase, promoting easements, etc.) for diversion facility needs that arise through and beyond 2010.

### **III. Collection and Recovery Programs**

Getting to and beyond 75% will require the continuation and improvement of existing collection programs. The Agency's role in this area is to provide technical and financial support to cities and businesses for enhanced collection programs (such as adding new materials) or promotional efforts designed to enhance participation in existing collection programs.

Promotional efforts can also be used to increase capture rates of specific materials such as mixed paper.

While the Agency's primary focus is on promoting collection of source separated recyclables, assistance will also be provided to facilities to separate recyclables from loads of mixed debris. One example of this is supporting the expansion of the Davis Street Transfer Station to accommodate the recycling of mixed debris from self haul, debris box and construction and demolition debris loads.

### **IV. Market Development**

Equally important to adequate collection and processing is the manufacture and purchase of products made with recovered materials. Promoting the use of recycled content products is the other half of the diversion challenge.

Activities in this area will include the following:

- Assisting in the local siting of new or expanded industries that use recycled materials as feedstock, or that process recycled materials into a higher-value, more readily usable form.
- Providing financial assistance to businesses for converting from virgin to recycled content materials in the manufacturing process.
- Promoting consumer preference for products containing recycled content.
- Promoting the maximum use of recycled content products, with the maximum percentage of post-consumer content, to government agencies, businesses and the building industry.
- Promoting new products that use recycled materials and new uses for existing products.
- Promoting recycling opportunities for previously hard to recycle materials such as film plastic.

### **V. Waste Prevention and Sustainability**

Promoting waste prevention is one of the Agency's highest priorities. Out of the 75% diversion goal, 20% is targeted to come from waste prevention activities. Preventing waste from being generated in the first place conserves more resources than recycling. It also produces significant benefits in terms of production efficiencies and cost savings. Examples of waste prevention include using reusable pallets instead of limited-use wood ones, or choosing low waste producing landscaping instead of conventional high maintenance landscaping. Commercial activities that have the most opportunity for incorporating waste prevention practices will be targeted for assistance.

The concepts of sustainability include reduced and more efficient use of all natural resources, including raw materials, water, and energy, and reducing the creation or use of toxins. Sustainability concepts will be incorporated into all Agency projects wherever practicable. Many programs already do this, including the StopWa\$te Partnership, the Green Building Program, and the Landscaper Outreach project. Promoting sustainability concepts, while within the Agency's vision, also helps leverage the waste diversion message more effectively as businesses, consumers and government agencies grapple with other important environmental goals such as reducing energy consumption. Incorporating the importance of waste prevention and recycling within a broader environmental context allows this message to get more attention than it might otherwise receive and allows businesses and government agencies to benefit from a more comprehensive approach.

#### **Program Areas**

The next section of the Plan describes objectives and specific strategies in the five major program areas. Strategies for the Green Building, Organics, and Business sections are organized according to the general headings described above. Schools and Public Education do not lend themselves to this type of organization.

Each of the five program areas includes a description of the overall approach for diverting targeting wastes in the short, medium and long term. Each program area also includes specific objectives and strategies for implementing those objectives. The short term is expected to be 2003-2005, the medium term, 2006-2008 and the long term, 2009-2010.

## GREEN BUILDING

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***“To remain competitive and continue to expand and produce profits in the future, the building industry knows it must address the environmental and economic consequences of its actions.”***

*Sustainable Building Technical Manual,  
Public Technology, Inc. 1996*

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### **Approach**

The Green Building Program area consists of two complementary efforts: construction and demolition debris recovery and green building promotion. These programs target the 21% of landfilled waste generated by the construction and demolition industry.

The Green Building Program follows the Reduce, Reuse, Recycle hierarchy by incorporating a comprehensive green building approach that includes resource conservation, building reuse, construction and demolition debris recovery and use of recycled content materials.

Construction and demolition efforts emphasize both promoting the availability of existing recovery facilities to contractors and builders, as well as the development of new processing facilities for managing these waste streams. While on-site source separation of construction and demolition debris materials is always promoted as the most preferable option, space and other constraints often result in loads of mixed debris from construction and demolition job sites. The short term strategy has been to provide subsidies for use of mixed construction and demolition debris processing facilities, while at the same time continuing to encourage in-county facility development. If adequate capacity is not developed at existing transfer stations and landfills, then the medium and long term strategy is to encourage development of a new construction and demolition debris facility.

The program to increase construction and demolition debris recycling efforts began by promoting voluntary participation by industry, but has since moved to encouraging a mandatory approach. The Agency encourages cities to mandate construction and demolition debris recycling for projects over a certain size through a construction and demolition debris ordinance. This ordinance was recently updated to require 100% diversion of all portland cement concrete and asphalt concrete and an average of at least 50% of all remaining C&D debris from construction, demolition, and renovation projects. As of August 2005, ten jurisdictions have adopted C&D ordinances. When combined these jurisdictions represent close to 70% of the population of Alameda County. Several additional cities are interested in adopting similar ordinances.

## **Green Building**

The Green Building Program reaches architects, designers, engineers, builders, contractors and member agency staff involved in building. It educates them on construction and demolition debris recycling and reuse and the use of resource efficient building materials and techniques. Green building focuses on the efficient use of resources, such as reducing the amount of materials used in construction; using more durable products and recycled content building materials; and improving energy efficiency and water efficiency; and improving indoor air quality in buildings. This holistic approach provides a more attractive package for building professionals to offer to consumers concerned about environmental issues.

The short term strategy, to be continued in the medium term, was to provide education on a comprehensive basis to all those involved in designing, constructing and buying buildings. The audience ranges from architects, designers and contractors to public agency capital project managers and consumers. The Agency will continue to work collaboratively with local, regional, and state agencies in promoting green building. In the medium term, the Agency will initiate a comprehensive marketing campaign to proactively influence the definition of green building and drive demand for green homes and materials.

This program, like construction and demolition debris recycling promotion, is making the shift away from a voluntary approach toward encouraging cities to adopt mandatory green building policies and ordinances for civic buildings. The Agency is pursuing an integrated approach to sustainability and has modified the Civic Green Building Model Ordinance to include Bay Friendly Landscaping. Such a policy or ordinance requires Green Building and Bay Friendly Landscaping practices to be incorporated into city owned and funded buildings, traditional public works projects, and public/private partnership projects. Cities with adopted Environmentally Preferable Purchasing are recommended to coordinate implementation. Six cities have adopted a civic green building ordinance as of May 2005.

Green building for private construction will continue to be encouraged through a voluntary, market-driven approach. In keeping with that, the Agency has adopted a model resolution, encouraging all of the cities in Alameda County to adopt the Alameda County Residential Green Building Guidelines (for New Home Construction, Home Remodeling and Multifamily) as a city reference document. LEED™ is recommended as the reference document for commercial buildings.

In the long term, the Agency would narrow its focus to waste prevention, recycling and buy recycled messages once green building practices become more common. Additionally, in the long term, the Agency will work to advocate changes in the state building code to support green building practices.

## **Green Building**

### **Targeted materials and sectors**

<b><u>Material</u></b>	<b><u>Sector</u></b>
Unpainted wood	Commercial, roll off, self haul
Inerts (concrete and asphalt)	Roll off, self haul
Cardboard	Roll off, self haul

### **Green Building Objectives**

- Member agencies have franchise agreements that allow for maximum diversion of construction and demolition materials.
- Sustainable building concepts are well known and commonly used in the residential, commercial and public sectors.
- Environmentally sound and financially viable materials management practices (including waste prevention) are commonly used by all participants in the building and deconstruction processes.
- 8,000 tons of new waste is diverted annually.
- The percentage of construction and demolition materials identified by the Waste Characterization Study is reduced from 21% in 2000 to 12% in 2010.
- All member agencies will have adopted and successfully implemented a construction and demolition debris ordinance or policy by 2008.
- All member agencies will have adopted and successfully implemented a civic green building ordinance or policy by 2010. Starting in 2005, it is recommended that member agencies adopt an integrated ordinance including Green Building and Bay Friendly Landscaping practices.
- All member agencies will have adopted the Alameda County Residential Green Building Guidelines (for New Home Construction, Home Remodeling and Multifamily) as a city Reference Document for private residential construction projects by 2008.
- All member agencies will have adopted LEED™ as a city Reference Document for private commercial projects by 2008.
- Adequate capacity exists for sorting and recycling mixed construction and demolition debris materials in-county by the end of the medium term.
- Explore barriers and opportunities for building reuse and identify effective methods to encourage the reuse of existing buildings. Include stakeholders such as architects, preservation groups, contractors, engineers and tradespeople who specialize in building reuse.

**Strategies**

**I. Technical and Financial Assistance**

*Short term (2003-2005)*

**Provide member agencies with the following assistance:**

- Continue to provide model language and help with adoption and implementation of civic Green Building Ordinances, policies that require that green building practices are employed in publicly owned and funded buildings. (Six member agencies have adopted Civic Green Building Ordinances).
- Promote and recommend adoption of an integrated ordinance including Green Building and Bay Friendly Landscaping practices for civic, traditional public works and public-partnership projects.
- Promote and encourage adoption of the Alameda County Residential Green Building Guidelines (for New Home Construction, Home Remodeling and Multifamily) as a city Reference Document for private residential construction projects and LEED™ for private commercial projects. Interested member agencies may choose to pursue a mandatory ordinance option for private development individually.
- Continue to work with member agencies to incorporate green building language into general plans.
- Continue to promote USGBC's LEED® green building rating systems to member agencies and provide training scholarships, memberships and project registration assistance. (68 member agencies staff attended LEED training classes in 2003-2004),
- Continue to promote the regional use of Alameda County Residential Green Building Guidelines for new home construction, home remodeling and multifamily projects.
- Continue support of Build It Green and other local and state agencies in developing and promoting voluntary statewide residential green building guidelines consistent with Alameda County's guidelines.
- Continue to provide member agencies' planning and building officials, architect and public works staff with green building workshops and trainings.
- Continue to provide green building design assistance through technical assistance and grants.
- Continue to require a construction and demolition debris plan requiring 100% diversion of all portland cement concrete and

## **Green Building**

asphalt concrete and an average of at least 50% of all remaining C&D debris as a condition of grant funding for any building.

- Continue to assist cities with development, adoption, and implementation of ordinances requiring contractors to recycle their construction and demolition debris. (Ten jurisdictions have adopted ordinance. Staff is currently working to increase effectiveness of ordinance implementation)
- Analyze construction and demolition debris data from waste management plans submitted to cities.
- Assist cities in developing requirements in their building and design review process that maximize recycling after the project is built (i.e., design for recycling).
- Provide access to a list of LEED Accredited Professionals in partnership with US Green Building Council, Northern California Chapter.
- Provide information on where to obtain green building materials locally (Materials Database).
- Continue to foster and develop partnership with local and regional building industry organizations (Became a founding member of US Green Building Council, Northern California Chapter and Build It Green).

### **Provide residents with the following assistance:**

- Continue to distribute residential green building guidelines for remodeling and new home construction.
- Continue to sponsor workshops and presentations to the general public on the remodeling guidelines at appropriate venues such as home and garden shows in partnership with the Bay Friendly Gardening program.
- Continue to sponsor green home tours and cross-promote them with the Bay Friendly Gardening tours.
- Develop case studies.
- Provide information on where to obtain green building materials locally (Build It Green materials database).
- Provide access to a list of Certified Green Building Professionals.

### **Provide builders with the following assistance:**

- Continue to work with production home builders on using the new home construction guidelines.
- Continue to assist developers in promoting green features of new homes.
- Continue to develop and promote green model homes.

## **Green Building**

- Continue trainings for home builders, architects, small contractors, skilled craftspeople and tradespeople.
- Continue to develop and foster relationships with building industry organizations and construction and demolition debris trade associations.
- Continue to develop and promote a green builder certification program.
- Provide design and financial assistance to multi-family housing developers.
- Work with suppliers to increase the number of green building materials they offer.
- Continue to develop case studies for commercial, civic, multifamily, home remodeling and single-family projects.
- Continue to provide workshops for builders, small and large contractors, skilled craftspeople and tradespeople on how to effectively manage construction and demolition debris.
- Continue to evaluate strategies to determine effectiveness.
- Provide information on where to obtain green building materials locally (Build It Green materials database).

### *Medium term (2006-2008)*

- Continue all short term strategies.
- Assist cities in fine tuning construction and demolition debris ordinances and civic green building and Bay Friendly Landscaping ordinances.
- Assist cities in using the Alameda County Residential Green Building Guidelines (for New Home Construction, Home Remodeling and Multifamily) as a city Reference Document for private residential construction projects and LEED™ for private commercial projects.
- Develop a minimum performance standard for construction & demolition debris recycling and civic green building ordinances implementation.
- Determine whether to prioritize access to green building grants and technical assistance for cities who have implemented construction and demolition debris and civic green building ordinances.
- Continue green building trainings.
- Continue to provide technical assistance to member agencies to implement construction and demolition debris and green building policies.



## **Green Building**

- Explore the feasibility of increasing construction and demolition debris recycling requirements to exceed 50%.
- Explore funding opportunities to provide technical assistance to multifamily developers to incorporate guidelines into projects.
- Evaluate success of strategies to date.

### *Long term (2009-2010)*

- Continue to assist cities in updating and implementing construction and demolition debris and civic green building and Bay Friendly Landscaping ordinances that meet Agency's minimum performance criteria
- Continue to provide technical assistance on waste management and recycled content materials use.
- Evaluate effectiveness of strategies to date.

## **2. Infrastructure**

### *Short term (2003-2005)*

- Identify appropriate parameters for land for a mixed construction and demolition recycling facility (e.g., size of parcel, zoning requirements).
- Research whether appropriate land parcels exist for a mixed construction and demolition facility in Alameda County.
- Pursue development of a construction and demolition debris facility (if determined to be needed, feasible and cost-effective, and if appropriate land parcels exist).
- Continue to support and promote construction and demolition debris recycling capacity by continuing subsidy for contractors who use qualified facilities for mixed construction and demolition debris. This subsidy will be reviewed annually.
- Continue to establish new or expanded construction and demolition debris recycling capacity at existing facilities through the Material Recovery Facility (MRF) program.
- Continue to assist existing facilities by continuing to print *Builders' Guide to Reuse and Recycling* and promoting the availability of these facilities.
- Evaluate strategies used at end of short-term period to determine success in increasing construction and demolition debris recovery.
- Evaluate continuing need for subsidies/financial incentives.

*Medium term (2006-2008)*

- Continue to work on facility development, if not completed in the short term.
- Evaluate continuing need for subsidies/financial incentives if still appropriate.
- Update *Builders' Guide to Reuse and Recycling*.
- Evaluate strategies used at end of medium term period to determine success in increasing construction and demolition debris recovery and need for revisions.

*Long term (2009-2010)*

- Continue to promote existing facilities through the *Builders' Guide to Reuse and Recycling*.
- Evaluate continuing need for subsidies and financial incentives.
- Evaluate strategies used to determine success.

**3. Collection Programs**

*Short term (2003-2005)*

- For cities that are going out to bid or renegotiating contracts for their waste hauler and recycler, continue to provide sample contract language requiring haulers to provide construction and demolition debris recycling service and encouraging an open competitive environment for these materials.

*Medium term (2006-2008)*

- Continue to assist cities that are going out to bid for a new hauler and recycler with contract language to maximize construction and demolition debris diversion.

*Long term (2009-2010)*

- Continue to assist cities that are going out to bid for a new hauler and recycler with contract language to maximize construction and demolition debris diversion.

**4. Market Development**

*Short term (2003-2005)*

- Continue to promote the use of recycled content products to builders, architects, designers, small and large contractors, skilled craftspeople and tradespeople in coordination with Bay Friendly Landscaping program.
- Continue to distribute green building guidelines, with information on Materials Database.

## **Green Building**

- Continue to hold workshops on green building.
- Continue to subsidize cost of LEED™ trainings for city engineers, architects and capital project managers.
- Continue to partner with suppliers and distributors to carry more recycled content products.
- Partner with utilities such as PG&E and EBMUD to cross-promote each other's concepts.
- Continue to develop presentation tools to promote recycled content products, including hands-on building materials display.
- Continue to encourage recycling of unpainted wood for the highest and best use.
- Continue to encourage non-ADC use for construction and demolition debris materials.
- Continue support of Build It Green and its Suppliers Council, a collaborative group of manufacturers, suppliers and users that will work to accelerate the penetration of green building products in the marketplace. Green sustained yield rural forest products and urban forest products would be included.
- Evaluate strategies to determine effectiveness.

### *Medium term (2006-2008)*

- Complete renovation of Agency building to minimum LEED™ Silver standard as a green showcase for the public.
- Continue existing partnerships and develop new ones as appropriate, including with Build It Green and US Green Building Council, Northern California Chapter.
- Continue to encourage non-ADC use for construction and demolition debris materials.
- Evaluate strategies to determine effectiveness.

### *Long term (2009-2010)*

- Focus on job site recycling and materials selection if the other aspects of green building are institutionalized and incorporated by architects, builders and contractors.
- Continue to identify local sources of green building materials.
- Promote expanded collection of targeted materials.

## **5. Waste Prevention and Sustainability**

### *Short term (2003-2005)*

- Support new, innovative and cost effective technologies for diverting the targeted materials, particularly unpainted wood (e.g., finger jointing machine, reusable form boards).
- Promote construction techniques that efficiently use materials, such as Optimum Value Engineering and Advanced Framing Techniques.
- Continue to research and promote material substitutions that will reduce the amount of materials being landfilled (e.g., plastic lumber and engineered lumber in place of old growth wood, aluminum form boards, linoleum instead of vinyl, carpet leasing).
- Continue to promote LEED™ credit for building reuse, using the Agency building as a showcase.
- Provide cities with model general plan language to promote building reuse, where appropriate.
- In coordination with member agencies, continue to promote green building concepts (including building reuse) at military base closures, as allowable under building codes.
- Sponsor job site construction site audits to determine waste prevention efforts that could be promoted to others.
- Continue to support deconstruction and salvage activities.
- Continue to support centrally located building reuse retail stores.
- Conduct up to two Building Reuse Forums to discuss barriers, opportunities and strategies to promote the use of existing buildings. (Sponsored and participated in Decon04 in partnership with EPA Region IX and the Used Building Materials Association).
- Promote waste prevention practices to multifamily housing developers.

### *Medium term (2006-2008)*

- Continue to research and promote material substitutions and construction techniques that promote waste prevention.
- Continue to work with base redevelopment.
- Continue to support deconstruction and salvage activities, including efforts to design for deconstruction.
- Evaluate strategies to determine effectiveness.
- Continue to promote building reuse and evaluate strategies to determine effectiveness of program.

## **Green Building**

- Continue to partner with Build It Green, regional and state agencies, and non-profit housing associations to promote consistent state residential green building guidelines.
- Continue to partner with US Green Building Council to promote LEED™ as a standard for commercial and civic buildings.
- Initiate a comprehensive consumer marketing campaign to proactively influence the definition of green building and drive demand for green homes and materials.

### *Long term (2009-2010)*

- Evaluate strategies to determine effectiveness.



## **BUSINESS AND PUBLIC AGENCIES**

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***“All waste is lost profit.”***

from *What We Learned in the Rainforest*  
Bill Shireman, Chairman & CEO, the Future 500 and  
Tachi Kiuchi, Chairman & CEO Emeritus,  
Mitsubishi Electric America

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### **Approach**

The Business Assistance Program brings a multi-faceted approach to the non-residential sector, where the majority of waste is still generated. This sector consists of businesses, public agencies and institutions and includes commercial, industrial and office environments. Programs are designed to prevent waste, promote reuse, boost resource efficiency and materials recovery, enhance markets for recyclable materials and instill sustainable development best practices for business.

Large and medium sized waste generators are targeted for assistance through the StopWaste Partnership (SWP). The SWP is a collaborative effort between the Agency, Economic Development Alliance for Business, East Bay Municipal Utility District, Pacific Gas & Electric and the member agencies. The Partnership focuses its resources on medium and large generators since they generate the majority of waste. The Partnership focuses on waste prevention and recycling but offers comprehensive environmental assessments and technical assistance to reduce waste. These assessments evaluate a company's ability to reduce materials use, waste, wastewater, and energy and water consumption. Recommendations are provided to help businesses and institutions cut costs while improving their environmental performance. Both a county-wide program and industry-specific targeting are combined under the Partnership. The Partnership also provides customized strategic planning assistance to interested member agencies to work in tandem to boost commercial/industrial recycling and waste prevention within individual jurisdictions. Member agency staff also work closely with the Partnership to help target and promote the Agency's services to large garbage generators.

The StopWaste Partnership and many other Agency efforts support direct involvement by waste generators in segregating their recyclables from garbage. In addition to this active approach, the Agency supports a role for the more passive sorting of recyclables-rich loads from businesses that can't separate their waste. This approach involves targeting recyclables-rich loads of commercial, self haul and debris box garbage for mechanical sorting at upgraded transfer stations, such as the Davis Street Materials Recovery Facility.

## ***Business and Public Agencies***

Small business recycling is addressed by several different projects of the Agency and its member agencies. Through the Franchise and Ordinance Assistance project, cities receive model contract language requiring service providers to provide a minimum level of recycling for all businesses, including the small ones who tend not to receive service from private sector providers. The Agency encourages franchise language to promote non-exclusive collection of commercial recyclables. Additionally, the Agency provides \$1 million of funding each year to member agencies for non-residential programs, and some member agencies use this money to support small business recycling programs.

The Green Business Program receives financial and technical support from the Agency and is administered by the Association of Bay Area Governments (ABAG). The Green Business Program offers resource efficiency services to smaller, consumer-oriented businesses such as printers, restaurants and auto body repair shops. The Agency's Recycling Information Services (RIS) provides businesses of all sizes with technical assistance and referrals to reuse and recycling vendors or drop-off sites via the Recycling Hotline, recycling guides, and a comprehensive online recycling information website and database. Small businesses receive expert advice and resources that help businesses with their recycling needs.

In the area of market development assistance, the Agency identifies opportunities in emerging markets and provides technical and limited grant assistance. Through the Revolving Loan Fund, the Agency provides low cost financial assistance to companies so that they can expand their consumption of recycled materials or improve product quality. The StopWaste Partnership identifies material market needs of in-County businesses and works in concert with the Agency's RIS staff to find markets for these materials. The Agency also provides expanded resources for both businesses and public agencies in the area of recycled product and environmentally preferable purchasing (EPP). The Agency's Recycled Product Central and GSA Liaison projects, in particular, offer in-depth purchasing assistance to member agencies and the County of Alameda General Services Agency to help them lead by example in the EPP arena.

Waste prevention is an increasing focus area for the Agency's business outreach efforts. The Agency's Waste Production Measurement Study, completed in 2003, and its Waste Prevention Estimator Tool (developed in 2005) have identified commercial and industrial activities or functions that should be most amenable to a focus on waste prevention. The Agency has begun and will continue to experiment with offering incentives for behavioral changes in the area of waste prevention and recycling. Follow-up studies and surveys and direction from the Recycling Board have led to the integration of waste prevention services into the StopWaste Partnership and include the following:

- Identification and marketing of best practices to specific industries and business types;



## **Business and Public Agencies**

- Technical assistance including training and financial incentives for implementing waste prevention best practices; and
- Documentation of the linkages between waste prevention and economic benefits including cost savings.

Overall, targeted technical and financial assistance (including incentives, funding, recognition, trade alliances, training and education) are tools that are used to initiate and boost recycling, waste prevention, resource efficiency and market development activities in Alameda County's non-residential sector.

### **Targeted Materials and Sectors**

<u>Material</u>	<u>Sector</u>
Cardboard	Commercial, Roll off, Self haul
Mixed paper/white paper	Commercial
Film plastics/mixed plastics	Commercial, Roll off
Food	Commercial
Unpainted wood (pallets)	Commercial

### **General Business Objectives**

- Businesses and public agencies adopt both recycling and waste prevention best practices.
- Partner with local and regional business, trade and economic development organizations to promote waste prevention and recycling and to reduce waste.
- 50% (1500) of employers with 50 employees or more have been offered or received recycling services.
- 25% (750) of employers with 50 employees or more have been offered or received waste prevention services.
- Recycling services are available to all businesses, either through franchise agreement or competitively.
- Seek collaborative partners that will assist us in increasing the adoption of waste prevention best practices by businesses in the County.
- All transfer stations have appropriate and cost-effective infrastructure for maximizing diversion of commercial waste.
- Public agencies and businesses are offered recycled content and environmentally preferable purchasing resources.
- Markets for target materials such as plastic film and fiber are stimulated due to market development assistance.

## **Business and Public Agencies**

- Market Development services and successes are enhanced by partnering with local, regional and state business assistance organizations.
- 5,000 new tons of waste are diverted annually; ongoing diversion is monitored.
- The first Sustainable Business Rating System will be developed and piloted in Alameda County with the use of a multi-stakeholder input process.
- Measure and evaluate SWP results by using several indices including: diversion achieved, number of businesses assisted, number of waste prevention projects, mini-grants and incentives funding projects, presentations made to business or trade associations, and number of publications distributed.

### **Strategies**

#### **I. Technical and Financial Assistance**

##### *Short term (2003-2005)*

- Continue to evaluate StopWaste client targeting and marketing plan biennially.
- Continue to offer multi-media assessments of businesses and public agencies, providing a core focus on waste prevention and recycling and additional expertise in energy and water conservation and reduction of wastewater discharges.
- Continue to work with StopWaste clients to have them adopt resource efficient practices and especially waste prevention practices.
- Continue to provide financial incentives including mini-grants, waste prevention funding and incentives for businesses adopting best environmental practices.
- Continue to track diversion successes of StopWaste clients and report those back to clients and member agencies.
- Continue to develop case studies of the most resource efficient clients.
- Continue to develop web-based “best practices” database.
- Target multi-tenant facilities for coordinated implementation of services.
- Continue member agency training, two-way referrals for services and consulting on business best practices.

## ***Business and Public Agencies***

- Continue to provide mitigation funds to member agencies for commercial programs.
- Continue to fund non-profits on specific diversion projects.
- Continue to provide public recognition to exemplary clients.

### *Medium term (2006-2008)*

- Evaluate whether to continue using mitigation funds to divert non-residential waste and, if so, whether to establish more specific guidelines for using these funds.
- Continue to evaluate StopWaste client targeting and marketing plan biennially.
- Continue to offer multi-media assessments of businesses and public agencies, providing a core focus on waste prevention and recycling and co-sponsor expertise in energy and water conservation and reduction of wastewater discharges.
- Continue to work with StopWaste clients to have them adopt resource efficient practices and especially waste prevention best practices.
- Continue to provide financial incentives including mini-grants, loans and waste prevention funding for businesses adopting best environmental practices.
- Continue to track diversion successes of StopWaste clients and report those back to clients and member agencies.
- In addition to diversion achieved, measure program results with other indices including: number of businesses assisted, number of presentations made to business groups, number of publications distributed, number and relevance of waste prevention projects, interest in funding mechanisms such as SWP mini-grants and waste prevention funding.
- Continue to work with member agencies on two-way referrals for services and customized consulting strategies to boost recycling and waste prevention in individual jurisdictions.
- Continue to develop and disseminate case studies of the most resource efficient clients.
- Continue to refine web-based resources for businesses including the “best practices” database.
- Continue to provide public recognition to exemplary StopWaste clients including case studies, public awards, and media/public relations opportunities.
- Work in collaboration with business and trade associations to provide industry-specific waste prevention and recycling technical assistance.

## **Business and Public Agencies**

- Work with local garbage and recycling haulers to promote and target business assistance services to maximize diversion. Offer StopWaste clients opportunities to attend workshops or networking events. Provide businesses with sample contract language for construction & demolition debris recycling, green building, and Bay-Friendly Landscaping techniques, as needed, in coordination with Agency Green Building and Bay-Friendly programs.
- Produce and update StopWaste toolkit portfolio for clients which will reflect changing markets and services and will include: cost-benefit analysis tool, supply-chain management demo, client case studies, sample contract language, and the Alameda County recycling guide.
- Offer work done with member agencies on large public venues and special events to reduce waste and increase recycling by including Special Events Best Practices Guide and completed case studies on the Agency website.
- Continue to have RIS provide small businesses with referrals to reuse and recycling vendors or drop-off sites via the Recycling Hotline, Alameda County Recycling Guide, and Agency website.
- Track distribution of all program services and materials.
- Continue to work collaboratively with the Organics Technical Assistance project to target food waste generating businesses with technical, financial and/or incentives assistance.
- Evaluate program results using program data and relevant study results, and revise strategies as needed.

### *Long term (2009-2010)*

- Continue to work with StopWaste clients to have them adopt resource efficient practices and especially waste prevention best practices.
- Continue to provide financial and social (e.g. recognition) incentives for businesses adopting best environmental practices.
- Evaluate the need to develop and promote business sustainability guidelines that can be incorporated into member agency business license requirements or other local processes.
- Evaluate the need to encourage cities to adopt requirements for institutions and/or businesses of a certain size to develop and implement recycling plans (for city adoption and implementation).
- Encourage cities to require recycling/waste prevention plans and/or conditions for multi-tenant projects in building permit process.

## **Business and Public Agencies**

- Evaluate the use of mitigation funds to divert non-residential waste and, if so, whether to establish more specific guidelines for using these funds.
- Evaluate results and revise program as needed.

### **2. Infrastructure**

#### *Short term (2003-2005)*

- Continue to provide funding for MRF sorting of recyclable rich debris box and roll off loads.

#### *Medium term (2006-2008)*

- Evaluate the effectiveness of the MRF in diverting significant quantities from recyclable rich debris box and roll off loads.
- If expanded MRF approach seems effective, consider helping other transfer stations in-county employ this approach.

#### *Long term (2009-2010)*

- Continue to help all transfer stations in Alameda County to have the appropriate infrastructure for maximizing diversion of targeted materials.

### **3. Collection Programs**

#### *Short term (2003-2005)*

- Continue to provide cities with model franchise language maximizing business recycling services.
- Provide businesses with contract language to include in their custodial contracts that maximize recycling efforts. Enhance work with janitorial staffs to promote acceptance of recycling programs.
- Continue to offer mini-grants for one-time purchases such as recycling bins.
- Continue to provide signage, collection bins and recycling program kickoff assistance to large generators of targeted materials.
- Continue to promote the use of effective and appropriate employee incentives.
- Continue to encourage businesses to assign recycling point people.

#### *Medium term (2006-2008)*

- Using results of relevant studies, revise strategies as needed.

## **Business and Public Agencies**

- Continue to provide cities with model franchise language that maximize business recycling services.
- Continue to provide businesses contract language to include in their custodial contracts that offer incentives for additional diversion. For StopWaste clients provide janitorial staff training as needed.
- Monitor specialized routing for recyclable-rich customer loads, and consider assisting haulers to develop these.
- Continue to offer mini-grants for one-time purchases such as recycling bins.
- Continue to provide signage, decals, collection bins and recycling program kickoff assistance to large generators of targeted materials.
- Continue to promote the use of effective and appropriate employee incentives.
- Continue to encourage businesses to assign recycling point people or “champions.”

### *Long term (2009-2010)*

- Continue to provide cities with model franchise language that maximize business recycling services.
- Continue to encourage businesses to assign recycling point people or “champions.”
- Evaluate and refine strategies.

## **4. Market Development**

### *Short term (2003-2005)*

- Monitor the markets for all Agency targeted materials.
- Continue to help establish durable, economically viable markets for targeted materials.
- Coordinate data on materials use by business type through use of state research, Weight Based Study and Waste Production Measurement Study.
- Continue to offer financial and technical assistance to businesses interested in market development activities through the Revolving Loan Fund and the Market Development Assistance Project.
- When economically feasible, continue to support and develop Eco-Industrial Park projects.

## ***Business and Public Agencies***

- Continue to research recovery options for hard to recycle materials found in working with clients.
- Promote recycled content products to member agencies and employers.
- Promote the incorporation of Environmental Preferable Purchasing practices into purchasing policies to member agencies and employers.
- Consider providing financial and technical assistance to product developers whose products will prevent the creation of waste and strengthen end markets for targeted materials.
- Determine current market capacity for plastic film and research assisting businesses in converting to marketable and recyclable plastics.
- Continue to support and promote existing plastic film end users.
- Target and educate generators of plastic film to divert this material.
- Provide financial assistance for generators of plastic film to bale or consolidate the material.
- Continue to identify and support potentially viable fiber end users that wish to site in the region.
- Continue to support mattress and furniture recycling efforts.
- Work higher up the supply chain to get national chains to incorporate waste prevention practices, recycled procurement practices, and promote recycling programs not only to their stores but also to suppliers and distributors.

### *Medium term (2006-2008)*

- Target assistance to help retain and establish durable, economically viable markets for targeted materials.
- Monitor markets for all Agency targeted materials.
- Continue to facilitate the development of economically feasible markets for targeted materials.
- Focus on ways to use any future waste characterization studies to identify any sources of potentially marketable materials.
- Participate in educational efforts to target audiences that present market development as an economic development activity.
- Work with CIWMB, OBDC and regional market development partners to coordinate data and services that encourage the development and increased utilization of recycled materials markets.

## ***Business and Public Agencies***

- Continue to offer financial and technical assistance to businesses interested in market development activities through the Revolving Loan Fund and the Market Development Assistance Project.
- Build upon lessons learned from the Eco-Industrial Park component of Market Development Assistance services.
- Distribute integrated brochure for all business-focused programs on an ongoing basis.
- Partner with State and Local partner organizations to investigate recovery options for hard to recycle materials found in working with business clients such as: plastic film, Tyvek™ and polystyrene.
- Consider partnerships with product developers whose products will prevent the creation of waste and strengthen end markets for targeted materials.
- Continue to support and promote existing plastic film end users and partner with processors or manufacturers seeking plastics as a feedstock
- Continue to target and educate generators of plastic film to divert this material.
- Continue to offer financial assistance for any large generators of plastic film to bale or consolidate the material.
- Continue to focus on and support bulky materials recovery efforts.
- Increase Buy Recycled and Environmentally Preferable Purchasing (EPP) efforts with interested large employers.
- Increase Buy Recycled and EPP outreach to member agencies.
- Continue to work higher up the supply chain to get national chains to incorporate waste prevention practices, recycled content and EPP practices, and promote recycling programs not only to their stores but also to suppliers and distributors.
- Use data gathered from focus groups and other qualitative research to provide information regarding how to best target the promotion of recycled content and EPP efforts.
- Distribute Recycled Content and Environmentally Preferable Product Fact sheets and other EPP resources to larger companies and institutions through the StopWaste Partnership, to several smaller industries through the Green Business Program, and to any other interested parties via the Recycling Hotline and Agency website.
- Continue to assist the County of Alameda General Services Agency with the implementation of the Measure D-specified Recycled Product Purchase Preference Program.



*Long term (2009-2010)*

- Monitor markets for all Agency targeted materials.
- Continue to help establish durable, economically viable markets for targeted materials.
- Continue to promote recycled content and environmentally preferable products to member agencies and employers.
- Consider whether to increase efforts to promote EPP to the general public in Alameda County.
- Evaluate and revise strategies as needed.

**5. Waste Prevention and Sustainability**

*Short term (2003-2005)*

- Continue to provide comprehensive resource efficiency assessments that result in recommendations to reduce materials use and waste, energy consumption and wastewater.
- Include product suppliers and distributors as a part of the comprehensive environmental assessment process, when advantageous.
- Identify and employ the most useful measurements of waste prevention.
- Gain a better understanding through client work of costs and cost savings, including labor efficiencies associated with waste prevention activities, to share with others.
- Continue to develop and share best recycling and waste prevention practices.
- Document and produce case studies that chronicle successful waste prevention projects.
- Focus waste prevention efforts on activities with high waste prevention potential including administrative activities, shipping and receiving, food service, patient care, food production, and non-food raw material manufacturing.
- Hold business-oriented focus groups on effective incentives for and barriers to specific waste prevention activities.
- Promote reusable shipping/transportation containers.
- Encourage businesses to get vendors to take back and reuse pallets.
- Target a few large or national chains to change their practices.

## **Business and Public Agencies**

- Conduct an activity-focused (e.g. duplex printing and copying) paper use reduction campaign, focusing on equipment, practices, software solutions, cost savings, and best practices.
- Continue to offer Sustainability Inventory (SI) Best Practices toolkit to any interested member agencies. The SI is a profile of a community's current environmental, economic and social conditions and resources. Appendix G provides a description of the Inventory.
- Continue to recognize business successes in resource efficiency.

### *Medium term (2006-2008)*

- Continue to provide comprehensive resource efficiency assessments that result in recommendations to reduce materials use and waste, and work with co-sponsors to provide assistance to reduce water and energy consumption and wastewater emissions.
- Include product suppliers and distributors as a part of the comprehensive environmental assessment process, when advantageous.
- Identify the most useful measurements of waste prevention to use in reaching and monitoring Measure D goals.
- Gain a better understanding through client work of costs and cost savings, including labor efficiencies associated with waste prevention activities, to share with others.
- Continue to develop and promote best recycling and waste prevention practices.
- Document and produce case studies that chronicle successful waste prevention projects.
- Focus waste prevention efforts on activities with high waste prevention potential including administrative activities, shipping and receiving, food service, patient care, food production, and non-food raw material manufacturing.
- Hold periodic business-oriented focus groups on effective incentives for and barriers to specific waste prevention activities.
- Encourage businesses to get vendors to take back and reuse pallets and other materials or products routinely delivered to businesses.
- Target a few large or national chains to change their practices and produce waste prevention case studies.
- Conduct at least one waste prevention best practice project which focuses on several aspects simultaneously such as on behavioral practices, equipment, software solutions and cost savings in regard to a paper use or packaging reduction campaign..

## ***Business and Public Agencies***

- Continue to offer member agencies summary results of the completed Sustainability Inventories and completed web-based case studies from the Sustainability Inventory project.
- Continue to recognize business successes in resource efficiency.
- Continue to promote reusable shipping/transportation containers and paper use reduction strategies when practical and cost-effective.
- Work with member agencies, regional groups, non-profits and industry to encourage practical manufacturer responsibility efforts.
- Work with stakeholders, including packaging designers, to promote the development of more efficient, less wasteful packaging.
- Continue to work with stakeholders to develop and pilot test Sustainable Business Rating System for use by businesses and institutional procurement entities.
- Continue to assist the County of Alameda with their Measure D-specified waste minimization and paper use reduction program.
- Evaluate and refine strategies as needed.

### *Long term (2009-2010)*

- Continue to update and promote waste prevention best management practices.
- Continue to encourage vendor take-back.
- Continue to work with packaging designers to promote the development of more efficient, less wasteful packaging.
- Continue to offer member agencies summary results of the completed Sustainability Inventories and completed web-based case studies from the Sustainability Inventory project.



## ORGANICS

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***“I firmly believe that by the second decade of the new century, native landscaping will become the norm, and that the typical highly controlled landscape of today will be viewed as a museum piece...a symbol of our wasteful past.”***

Dr. David Northington, Former Executive Director  
Lady Bird Johnson Wildflower Center

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### **Approach**

The Organics Program consists of two complementary efforts:

- a sustainable landscaping program that prevents, and recycles plant debris and promotes recycled content building materials in landscapes, and
- centralized collection and processing of food scraps, plant debris and contaminated paper.

The Organics Program follows the Reduce, Reuse, Recycling hierarchy by incorporating a waste prevention approach focusing on better landscape design and practices with improved organics recycling infrastructure. Food is the single largest category of landfilled waste at 12%. Adding contaminated paper and plant debris brings the compostable portion of the waste stream to 27% of all landfilled materials. Composting is the preferred method of handling, compared to conversion technology or bioreactor landfills, because it is a cost effective, proven technology that is environmentally beneficial.

In the area of sustainable landscaping and waste prevention, the Agency has had a long-standing focus on residential green waste. The Home Composting program educated residents on reducing green waste at home through the technique of home composting. Over 20% of the single family households countywide now practice home composting and in some communities the participation is nearly 50%. The success of home composting combined with the broad implementation of collection programs has contributed to a significant decrease in residential plant debris and food waste going to the landfill.

To build upon that success, the Agency launched the Bay-Friendly Landscaping and Gardening program. Of the 110,000 tons of plant debris still being landfilled approximately 60% of that material is disposed of by a landscape professional according to the Agency's 2000 Waste Characterization Study. Bay-Friendly Landscaping and Gardening focuses not just on landscape professionals such as landscape architects, designers,

## Organics

builders and maintenance crews but also on their clients: residents, property managers and local government staff.

Bay-Friendly addresses the multiple ways that plant debris is generated through over-watering, over-fertilizing, poor soils, inappropriate plant selection, over-planting, shearing, poor pruning techniques and more. It educates on composting, grasscycling and mulching, using recycled content and salvaged building materials in the landscape, as well as broader concerns such as conserving water and energy, using integrated pest management, reducing storm water runoff and creating wildlife habitat.

Bay-Friendly's whole systems approach has multiple benefits. It appeals to a broader residential and professional audience. It also facilitates partnerships with public and nonprofit agencies with the same audience, such as the Bay Area Stormwater Management Association and local water districts, providing a consistent environmental message.

In the area of collection and processing, the Organics Processing Development, (OPD) and the Organics Technical Assistance to Member Agencies , (OTA) projects emphasize food scraps and contaminated paper diversion through centralized collection and composting. Increasing food scraps diversion is largely dependent upon an improved collection and processing infrastructure. For residential collection, this means continuing to work with jurisdictions as they transition to food scraps collection by identifying food scraps as a recyclable that can be integrated into weekly collection of green waste, and helping them with program start, program monitoring and public education. For commercial collection, the Agency is providing technical and financial assistance to jurisdictions and haulers to initiate and maintain new diversion programs. Equally important to collecting the material is the ability to recycle it through composting. The Agency is working to develop low-cost, long-term, high-quality compost processing in Alameda County. In-county composting will help close the loop on organics diversion and provide value added products back to the community, including residents and landscape professionals, as well as securing the long term ability to divert this material. Market development for compost products will be a future area of focus as more organics are diverted.

### **Targeted Materials and Sectors**

<u>Material type</u>	<u>Sector</u>
Food Waste	Residential and commercial
Other paper	Residential and commercial
Yard Waste	Residential, commercial, self haul, roll off

### **Objectives**

- Ensure long term, low cost, high quality, high volume composting facility in Alameda County with adequate capacity for, and commitments from, member agencies.

## Organics

- All member agencies have residential and commercial food scraps collection service in their jurisdictions with 25% participation rate in the residential sector and targeting a minimum of 50% of food scrap generating businesses.
- 180,000 tons of organics will be processed through the organics processing facility by the end of 2010.
- Bay-Friendly Landscaping and Gardening principles and practices will be well known and commonly used in the residential, commercial and public sectors.
- A significant percentage of Alameda County residents and professional landscapers and turf managers will practice composting, mulching and grasscycling, as well as additional Bay-Friendly practices for waste handling, disease and pest control, and water use.
- One hundred or more of the private sector professional landscapers in Alameda County will have attended an ACWMA & RB sponsored Bay-Friendly training by the year 2010.
- Each member agency will adopt specific Bay-Friendly practices for its public landscapes.
- At least one new public or private landscape will be designed and constructed in each of the member agencies using Bay-Friendly principles and practices and serving as a model for such practices.
- The professional landscape community will be provided with an array of effective learning tools and incentives to practice Bay-Friendly Landscaping.
- Bay-Friendly Landscaping and Gardening will serve as a basis for partnerships with at least five other key agencies in Alameda County
- Provide an assortment of educational tools to residents on Bay-Friendly Gardening practices to meet all adult learning styles.
- Partnerships with appropriate public and private entities will have been leveraged to bring Bay-Friendly landscaping design, construction, and maintenance practices to target audiences in an efficient and coordinated campaign.
- Continue to promote backyard composting and provide resources and/or access to low-cost bins.

**Strategies**

I. **Technical and Financial Assistance  
(Combined with Waste Prevention and Sustainability)**

*Short term (2003-2005)*

**Provide residents with the following services:**

- Continue to provide low cost compost bins to county residents via website, phone and direct mail sales as a core educational tool of the Bay-Friendly Gardening project.
- Continue to recruit and educate master composter trainers in compost education and expand curriculum to include Bay-Friendly gardening concepts and practices.
- Promote Bay-Friendly Gardening design and maintenance practices to residents, e.g., composting, mulching, plant choice to minimize waste, Integrated Pest Management, and water conservation through workshop series, annual Garden Tour and Gardening Guide.

**Provide Landscape Professionals and Member Agencies with the following services:**

- Document and promote Bay-Friendly (sustainable) landscaping practices.
- Continue providing outreach and education on Bay-Friendly practices to landscapers.
- Continue formation of panel of experts from landscaping industry to provide program direction, technical assistance, speakers and trainers.
- Continue to document case studies from local landscapers that successfully reduce and reuse plant debris.
- Create comprehensive promotional campaign to brand Bay-Friendly Gardening and Landscaping to residents and landscapers respectively.

*Medium term (2006-2008)*

**Provide residents with the following services:**

- Continue to promote Bay-Friendly practices to the residential audience through distribution of the Bay-Friendly Gardening Guide, registering gardens as Bay-Friendly and updated web site.
- Evaluate saturation of home compost bin sales and whether demand is continuing or waning. Use market and consumer



## Organics

research to determine the most cost-effective option to maintain home composting participation in the county.

- Evaluate how residential food scraps collection affects home compost bins sales and home composting practices.
- Continue to recruit and train master composters and include Bay-Friendly Gardening overview and practices in the training. Provide continuing Bay-Friendly Gardening education to master composter alumni and host gardeners from Garden Tours.
- Maintain Bay-Friendly demonstration gardens and determine whether to expand or change their use.
- Continue the Bay-Friendly Gardening how-to workshops in partnership with other public agencies and provide seasonally. Continue to provide compost education within the Bay-Friendly series and expand to include soil health.
- Pilot and evaluate effectiveness of new Bay-Friendly Gardening public education tools including: the Bay-Friendly Garden Tour, registering residential gardens as Bay-Friendly, and promoting Bay-Friendly plants at local nurseries.

### **Provide landscape professionals and member agencies with the following services:**

- Continue to promote Bay-Friendly practices to the professional and public agency audience.
- Evaluate member agency landscape ordinances and policies that may be impeding and/or supporting implementation of Bay-Friendly landscaping practices.
- Develop model Bay-Friendly landscape ordinance and policy, in coordination with member agency staff and the Agency's Green Building project.
- Work with Member Agencies to incorporate Bay-Friendly language into their General Plans
- Develop model Bay-Friendly contract specification and bid language for use by landscape professionals, the agency's Environmental Purchasing Policy (EPP) project and Member Agencies as a part of Recycling Board's Waste Prevention Fund.
- Link the message of sustainable landscaping to the need for healthy soils, storm water management, energy and water conservation, green house gas reduction and healthy urban environments.
- Continue to build on partnerships with other public agencies and organizations to provide a coherent and unified Bay-Friendly Landscaping and Gardening message.

## Organics

- Refine infrastructure and support of providing grants and technical assistance to member agencies designing and constructing landscapes using Bay-Friendly principles and practices. Coordinate efforts with the Green Building for Member Agencies project.
- Develop a Bay-Friendly professional landscape maintenance certification program in partnership with other Alameda County public agencies such as EBMUD, PG&E, etc.
- Continue to develop and foster relationships with the landscape industry organizations and trade associations.
- Require construction and demolition debris recycling plans for a minimum of 50% diversion requirement include plant debris as a condition for Bay-Friendly grant funding. Coordinate with the Green Building Program.
- Promote Bay-Friendly Landscaping to home builders and developers and multi-family projects in coordination with the Green Building program.
- Provide information on where to obtain Bay-Friendly Landscaping plants, compost, mulch and recycled content materials to professionals and residents in coordination with the Agency's Green Building Material Database and the Bay Area Build It Green, a non-profit organization.
- Develop trainings and workshops for landscapers and landscape architects that embrace sustainable landscaping practices and designs.

### *Long term (2009-2010)*

#### **Provide residents with the following services:**

- Continue to distribute information and hold trainings and workshops for residents and landscapers in Bay-Friendly practices.
- Evaluate how residential food scraps collection affects home compost bin sales and home composting practices. Evaluate and refine strategies.
- Provide access to list of certified Bay-Friendly Landscape professionals.
- Encourage the use of the Bay-Friendly Gardening Guide among local governments in the greater Bay Area in order to create a common definition for sustainable gardening practices.
- Provide landscape professionals and member agencies with the following services:

## Organics

- Continue to provide professional landscaper community, including member agency staff with Bay-Friendly Landscaping workshops and training.
- Continue to refine and distribute the Bay-Friendly Landscape Guidelines, Sustainable Practices for Landscape Professionals.
- Encourage the use of the Bay-Friendly Landscape Guidelines, Sustainable Practices for Landscape Professionals among local governments in the greater Bay Area in order to create a regional standard and common definition for sustainable landscapes.
- Support the development and growth of a professional association of landscapers with a mission of promoting sustainable landscaping practices in the greater Bay Area.
- Continue providing technical and financial assistance to member agencies implementing Bay-Friendly landscaping principles.
- Evaluate implementation of Bay-Friendly practices in member agency projects.
- Continue to assist member agencies in adopting Bay-Friendly Landscaping ordinances and evaluate the effectiveness of the policy and implementation.
- Continue to promote Bay-Friendly Landscaping to home builders and developers in coordination with the Green Building program.

## 2. Infrastructure

### *Short term (2003-2005)*

- If approved by the Authority Board, finalize an operations contract with Material Recovery Industries Inc. that conforms with the Compost Facility Development Guidelines.
- If approved by the Authority Board, finalize the Environmental Impact Report for the compost facility on Andrade Road.
- Monitor quality of compost products and markets.

### *Medium term (2006-2008)*

- If approved by Authority Board, bid and build a composting facility on Andrade Road in accordance with contract and EIR conditions.
- Monitor contract with in-county compost facility(ies), if built.
- Begin implementation of the mitigation and monitoring program in accordance with the Final EIR.
- If facility is not successful, work to ensure other capacity for Alameda County organic waste.

## Organics

- Monitor quality of compost products and markets, including a focus on feedstock.

### *Long term (2009-2010)*

- Monitor contract with in-county compost facility(ies), if built.
- Monitor quality of compost product and markets.

## 3. Collection Programs

### *Short term (2003-2005)*

- Continue to provide technical assistance and financial subsidies for residential and commercial organics collection.
- Assist member agencies that have adopted Residential Food Scrap collection programs to increase participation levels for greater diversion.
- Continue to encourage jurisdictions to include residential and commercial food scraps collection programs in new and negotiated contracts.
- Assist the member agencies to implement commercial foodwaste diversion programs through technical assistance and funding support.
- Evaluate the incentives and subsidy program
- Monitor existing promotions to increase participation.
- Evaluate new available technologies.
- Evaluate the incentives and subsidy program against a list of criteria to minimize risk that the funded activities would occur without the funding and to ensure that Agency goals are being met.
- Encourage recycling of unpainted wood for compost feedstock and mulch.
- Discourage chemically treated, painted wood from inclusion in compost processing or mulch use.
- Continue to promote countywide edible food scraps recovery through a public education campaign.

### *Medium term (2006-2008)*

- Accept untreated wood as a feedstock at county compost facility and monitor for contamination.

## Organics

- Assist member agencies that have adopted Residential Food Scrap collection programs to increase participation levels for greater diversion.
- Assist the member agencies to implement commercial foodwaste diversion programs through technical assistance and funding support.
- Continue to distribute information and hold trainings and workshops for residents and landscapers in sustainable landscaping practices.
- Monitor how transfer stations recycle unpainted wood.
- Investigate the feasibility of promoting a statewide landfill ban for certain organics materials, with the support of neighboring counties.
- Monitor bioreactor landfill development trends and regulations and monitor the local siting and/or retrofit of existing landfills for policy action.
- Monitor and evaluate programs. Revise as needed.

### *Long term (2009-2010)*

- Advocate for statewide landfill ban on selected organic materials such as yard waste or unpainted wood.
- Consider “recycling of last resort” at area landfills for organic and other materials suitable for recycling.
- Investigate markets and processes for the recovery of painted wood.
- Monitor and evaluate programs. Revise as needed.

## 4. Market Development

### *Short term (2003-2005)*

Promote use of compost to residents, landscapers, and municipalities. Coordinate with Bay-Friendly Landscaping for Professionals and Member Agencies programs and Bay-Friendly Gardening Program.

Encourage in-county purchase of compost products. Coordinate with Bay-Friendly Landscaping for Professionals and Member Agencies programs and Bay-Friendly Gardening Program.

Create a logo and or slogan for Alameda County produced compost so that residents can recognize and purchase locally produced compost.

Promote the Bay-Friendly Gardening & Landscaping programs, Master Composter program and Bay-Friendly practices through the marketing and bagging of locally produced compost.

## Organics

Continue to promote compost quality standards, consistent with those developed for the Alameda County Compost Facility, in state and national forums.

Research and promote recycled content and sustainable landscape construction materials.

Encourage member agencies to include a provision in new plant debris processing contracts for a percentage of compost/mulch in give back for community projects.

Examine local government ordinances and purchasing guidelines to increase preferences for locally produced compost and mulch that meet established quality standards.

Continue to promote chipping plant debris for mulch.

Coordinate Bay-Friendly Gardening outreach with green building outreach.

Target greenwaste currently used as Alternative Daily Cover (ADC) for composting.

### *Medium term (2006-2008)*

- Implement market development plan for Alameda County Compost Facility.
- Distribute 3% compost product giveback from the Alameda County Compost Facility contract to member agencies and public projects.
- Evaluate and revise strategies as needed.
- Require the use of locally produced compost and mulch made from plant debris, when appropriate, as a condition for Bay-Friendly grant funding.
- Continue to encourage member agencies to include a provision in new plant debris processing contracts for a percentage of compost/mulch in give back for community projects.

### *Long term (2009-2010)*

- Continue to evaluate markets and promote uses of compost.
- Continue to distribute compost product givebacks from the Alameda County Compost Facility.
- Continue to encourage member agencies to include a provision in new plant debris processing contracts for a percentage of compost/mulch in give back for community projects.
- Evaluate and revise strategies as needed.

## 5. Waste Prevention and Sustainability

*Combined with Public Education & Technical Assistance, above.*

## SCHOOLS

### **General Approach**

The Agency's Schools Program seeks to educate K-12 public school students throughout Alameda County about waste reduction and responsible environmental behaviors through the 4Rs (reduce, reuse, recycle and rot) concepts. The Schools Program offers a comprehensive approach, including educational programs, teacher training and technical support for school districts, with the following three goals in mind:

1. Students are empowered to engage in 4Rs behaviors
2. Students practice 4Rs behaviors in school
3. Students apply 4Rs behaviors in everyday life.

To achieve these three goals, the Schools Program is focused on two major areas: recycling infrastructure and education. These two areas work hand-in-hand to provide Alameda County students with waste reduction education (awareness, knowledge, attitude and skills) and the opportunity to practice what they are learning. The recycling infrastructure at schools throughout the districts and waste reduction educational opportunities serve to reinforce each other and provide positive role modeling for practicing 4Rs behaviors.

### **Schools Infrastructure Approach**

In 2002, based on the work of the Education Ad Hoc Committee, the Agency adopted the approach of linking district-wide recycling infrastructure with district-wide 4Rs education services. School districts which commit to district-wide recycling provide positive role modeling for their students to practice 4Rs behaviors providing an immediate and tangible connection for students. Equally, the education services provide leverage for the Agency to engage districts and move them toward full and systemic implementation of a sustainable recycling program.

There are 18 school districts in Alameda County supporting approximately 350 schools, and over 215,000 students. Public schools generate 4% of the county's waste stream. If all schools reduce their waste stream by 30%, the total reduction annually would be 18,000 tons or about half a percent reduction in the county's waste disposal. While a half a percent is not significant to the county's waste reduction goal on whole, providing both recycling opportunities and academic education to K-12 schools begins a pattern of responsible waste reduction behavior.

The Schools Program infrastructure project provides technical assistance and expertise in the area of waste reduction, recycling, composting, and procurement to school districts that commit to district-wide recycling. As of April 2005, there are eight school districts that have made this commitment: Alameda, Albany, Berkeley, Castro Valley, Emery, Oakland, San Leandro,

## Schools

and San Lorenzo, representing 57% of schools in Alameda County. To provide the widest waste reduction modeling opportunity across the school district – the first step of engagement with a district is a recycling bin-in-every-classroom program and developing a system to support it.

Districts that commit to a recycling bin-in-every-classroom receive the Schools Program’s free technical assistance and expertise on waste reduction and recycling. There are three phases to technical assistance: design and development, implementation, and finally sustaining – the program is integrated into the district organizational structure and continues from year to year. The Schools Program assists a district with moving through the necessary steps to achieve a sustainable district-wide recycling program.

As soon as the district has achieved a sustaining district wide classroom recycling program, additional technical assistance is offered in other areas (i.e., waste reduction, recycling, composting, and procurement).

### **Targeted Materials and Sectors**

<u>Material type</u>	<u>Sector</u>
Mixed Paper	Commercial, roll-off, self haul
Food Waste	Commercial, roll-off, self haul
Yard Waste	Commercial, roll-off, self haul

### **School Infrastructure Objectives**

- Partner with a minimum of two school districts per year
- Provide partner districts technical assistance to design a “bin-in-every-classroom” recycling program
- Provide partner districts technical assistance and other resources to implement a “bin-in-every-classroom” recycling program
- Provide partner districts technical assistance to build organizational capacity to sustain their district-wide recycling program
- Provide partner districts technical assistance to evaluate their options for next steps in waste reduction
- Publish best practices and case studies to share district’s experience throughout Alameda County
- Create a uniform identity for school recycling in Alameda County schools
- Celebrate partner district successes
- Provide mini-grant program for private schools to develop recycling infrastructure



## **Schools**

### **School Infrastructure Strategies**

#### *Short term (2003-2005)*

- Eight school districts adopted district-wide recycling: Alameda, Albany, Berkeley, Castro Valley, Emery, Oakland, San Leandro and San Lorenzo
- Eight districts partner for technical services and 4Rs education programs
- Two districts have met a sustaining level for recycling bin-in-every classroom
- Four districts are in implementation phase for recycling bin-in-every classroom
- Two districts are in design and development phase
- 205 number of schools are being served through district-wide recycling
- 102,000 number of students are being serviced by district-wide recycling
- 3,200 number of hours of technical assistance provided to partner districts
- 9,500 number of yards of garbage reduced per school year

#### *Medium term (2006-2008)*

- Provide draft language for cities and sanitary districts on franchise services to include no cost recycling services for school districts
- Move districts with a bin-in-every-classroom recycling programs from an implementation phase into sustainable phase
- Move districts with sustainable bin-in-every-classroom recycling programs to another target area such as landscaping or food recycling, construction & demolition debris, or procurement
- Celebrate school district successes
- Evaluate effectiveness of technical assistance

#### *Long term (2009-2010)*

- Assess actual waste reduction achieved in partner districts
- Evaluate approach and relationships with partner districts

### **Schools Education Approach**

The Schools Program provides a variety of activities to communicate the 4Rs concepts to the K-12 community. The activities identified provide

## **Schools**

programming that supports access to the 4Rs message for a large number of students (e.g., assemblies) and services that focus on content in depth (e.g., classroom presentations), resulting in a comprehensive approach.

The Schools Program has adopted student outcomes in three areas: knowledge, attitudes, and behaviors as results of the 4Rs education services and activities.. The education services provided as part of the Schools Program are continuously evaluated to ensure the education services are meeting the needs of the population they serve. The Agency goal is to have its services, which are delivered in schools or during school hours, correlated to the state content standards. Delivery of services correlated to state content standards adds validity to the waste reduction message and helps schools achieve their core mission, academic achievement.

The Schools Program, to meet the needs of the schools, must be flexible and adapt its education services to current academic conditions and climate. It is important to measure both qualitatively and quantitatively the 4Rs services provided. Quantitative measurement, such as the number of students or teachers served, provides feedback on cost effectiveness and equity. Qualitative measurement provides information on topics such as what do students know, believe, or practice.

### **Schools Education Objectives**

- Provide low or no cost 4Rs academic enrichment activities to public schools in target districts
- Provide grade specific programs and activities
- Provide teacher tested activities
- Fill all slots for tours at the irecycle@school Education Center annually
- Students know the 4Rs hierarchy (reduce, reuse, recycle, rot) and related terms: natural resources, landfill, habitat
- Students recycle in their classroom
- Students can track the amount of materials they dispose over a finite period and come up with strategies to reduce, reuse, recycle, and compost the materials
- Students explain how 4Rs conserve natural resources
- Students know what does and does not decompose
- Students identify reuseable and recyclable materials in their classroom and home
- Students believe their actions can reduce waste going to local landfills
- Students reuse at least one commonly use item

## **Schools**

- Students believe their action can make a positive impact in their school

### **Education Strategies**

#### *Short term (2003-2005)*

- Education services were offered to partner school districts: Alameda, Albany, Berkeley, Castro Valley, Emery, Oakland, San Leandro and San Lorenzo
- Verimacomposting classroom presentation were revised to target 4th & 5th grade levels and correlated to state content standards
- irecycle@school Education Center tours were revised to target 4th & 5th grade levels and correlated to state content standards
- Research was conducted on environmental education reach, access, and 4Rs awareness in K-12 schools to identify opportunities for strengthening environmental education in Alameda County
- Evaluation plan and tools were established for all education services provided
- 1,000 youth were provided 4Rs activities in after-school programs
- 300 teachers received training on integrating 4Rs activities into classroom content
- 9,000 students received a field trip to the Davis Street Education Center and activity and tour
- 2,200 (FY 2003-04) students participated in waste reduction service learning projects
- 200 classroom presentations were made
- 60,000 students viewed the “Secret Life of Custodians” assembly receiving an introduction to the 4Rs and their campus recycling program
- A teacher 4Rs resource kit was developed and made available on-line
- All K-12 schools were invited to participate in the Re-create Art Contest focusing on creative reuse

#### *Medium term (2006-2008)*

- Provide partner school districts with comprehensive 4Rs education services
- Expand teacher training opportunities on 4Rs topics
- Provide field trips to irecycle@school Education Center at the Davis Street Transfer Station

## **Schools**

- Evaluate the need for an additional 4Rs education center and tour at a new location
- Develop education service to target middle schools in partner districts
- Test the use of “Kits” as a method of providing greater access to 4Rs lessons in the classroom
- Conduct external evaluation of education services to determine whether the goals of the program are being achieved
- Establish a marketing and outreach plan for the education services
- Establish the Agency’s role in supporting and developing comprehensive environmental education in Alameda County

### *Long term (2009-2010)*

- Provide partner school districts with comprehensive 4Rs education services
- Assess effectiveness of linking education services to school district modeling waste reduction behavior
- Conduct external evaluation of education services to determine whether the goals of the program are being achieved
- Examine the effect of 4Rs education training provided for teachers and building of capacity of the 4Rs concepts and principals being taught in Alameda County schools

## MEDIA AND OUTREACH

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***“In the end, we conserve only what we love. We will love only what we understand. We will understand only what we are taught”***

Baba Dioum, Senegalese poet

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### **Approach**

Recognizing that long-term solutions to the waste management challenges depend on changing public attitudes and behaviors, the Agency targets numerous public education and information efforts to a wide audience that includes residents, member agencies, public agencies and public policy makers at every level of government. Through its major programs, the Agency also tailors education materials to target specific audiences, such as businesses and manufacturers; builders and designers; professional landscapers; and schools.

By coordinating with its member agencies, the Agency offers public education support for existing and relatively mature programs to increase participation and/or set-out rates for residential curbside, plant debris and food scrap recycling programs, and for multi-family and commercial recycling programs.

The Agency uses a number of media to transmit its message. These include print media, in the form of brochures, posters, guides, directories and outdoor advertising; broadcast media; and “live” telephone operators in the Recycling Information Services Program. The Recycling Information Services Program includes the countywide Recycling Hotline (1-877-STOPWASTE) and the Compost Information Hotline (510-444-SOIL).

Electronic media centers on the Agency website at [www.stopwaste.org](http://www.stopwaste.org), which offers a comprehensive overview of Agency programs, jurisdiction-specific recycling information, reports and studies, and special events.

### **Target Materials and Sectors**

These projects provide media support to major programs with specific target materials and sectors (StopWaste Partnership, Bay Friendly Landscaping/Gardening, Green Building, Schools and Organics Collection programs.) In addition, various public education programs are designed to reach across and support all Agency efforts, collectively, and to provide public information materials in a variety of media.

**General Public Education Objectives**

- Communicate waste reduction to Alameda County constituents by providing practical information on how people can make a difference in an easy way.
- Provide a coordinated, consistent media message and look across Agency programs.
- Assist Agency programs in building name and recognition in Alameda County.
- Provide design assistance and technical support in print, electronic, website and other media.
- Maximize and coordinate local media advertising and news opportunities for all Agency projects and programs.
- Improve “marketing” of all Agency programs and projects.
- Cultivate strong relationships with the local media. Establish a reputation as the “go to” Agency for recycling, waste reduction, and sustainable practices and programs.
- Leverage partnerships with local and regional agencies to reach a broader audience.
- Develop a media strategy and master calendar for the Agency that is coordinated with member agency events and promotions.
- Manage Agency’s Seminar and events.
- Maintain a dynamic website that is continually updated.

**Strategies**

*Short term (2003-2005)*

- Continue to provide multi-media support to a wide range of Agency programs.
- Continue to promote increased participation and capture rates in current programs.
- Continue to provide same day response to all media inquiries.
- Incorporate results of Agency studies and plans, including Waste Characterization Study 2000, the Source Reduction and Recycling Plan, the Five-Year Audit and others into public education materials.
- Continue to support specialized promotion and outreach campaigns, including Household Hazardous Waste (Alameda County Environmental Health Department), Used Oil Recycling (participating member agencies), and regional Buy Recycled campaigns (Bay Area Recycling Outreach Coalition).

## **Media and Outreach**

- Continue to provide 4Rs “how to” information, technical support and waste prevention concepts through the recycling hotline, home composting hotline and Agency website, and distribute informational guides and brochures.
- Continue to provide translation services in Spanish, Mandarin and Vietnamese languages through the Recycling Hotline.
- Develop a comprehensive photo library
- Complete re-design of website
- Promote website and hotline.
- Refine the various Agency programs message and branding.

### *Medium term (2006-2008)*

- Continue short-term strategies.
- Develop specific media strategies for Agency programs.
- Improve relationships with local media contacts and be more proactive with public relations efforts to generate more visibility for Agency programs.
- Expand research capabilities through use of focus groups, scientific research and other polling.
- Meet translation needs and increase usage of non-language based messages and concepts.
- Maximize news opportunities for Agency events.
- Continue to increase in-house capacity and technical expertise in print, electronic and other media to support programs.
- Expand use of internet, email and related technologies.
- Make continuous improvements to website.

### *Long term (2009-2010)*

- Expand use of technology.
- Continuously expand feedback loops to provide analysis and measurement of programs.





## **MEMBER AGENCY ROLES AND PROGRAMS**

Member agencies play a critical role in achieving the 75% goal. Through the solid waste collection and disposal contracts that they administer, the member agencies control the flow of waste and exert considerable influence over recycling and composting collection programs for both the residential and commercial sector. The long term viability of programs such as food waste recycling and small business recycling depends in great part on member agencies including these programs and costs into their refuse and recycling contract. The Agency helps to kick-start such programs by providing an array of technical and financial assistance.

Agency staff will also respond to member agency requests for research and data. Agency staff will be in an on-going dialogue with member agencies about how to best refine Agency programs to better meet the needs of the jurisdictions. The Agency will partner with jurisdictions to continue to identify and support development of projects and activities to develop and expand waste reduction programs for organics, construction and demolition debris, and the other targeted materials. This partnership will include coordination on the following:

- Solid waste facility development.
- Maintaining and expanding recycling infrastructure.
- Food waste collection and processing.
- Construction and demolition debris recycling.
- Green Building and Construction and Demolition Debris policies and ordinances.
- Outreach to large employers.
- Outreach to schools.
- Outreach to multi-family recycling.
- Electronics waste.
- Advertising and promotion.
- Expanding capture rates in existing programs.
- Waste prevention.
- Buy recycled efforts.
- Compost bin and mower sale days.

## **Member Agency Roles and Programs**

Member agencies will also need to:

- Continue their outreach and education efforts to maintain and increase participation in existing programs.
- Adopt and implement construction and demolition debris recycling ordinances and green building ordinances.
- Apply for incentives money and develop appropriate programs for businesses and residents to recycle or prevent waste.
- Start or expand residential and commercial food waste programs.
- Implement green building practices.
- Purchase recycled content products.
- Identify businesses in their community that need recycling and waste prevention technical assistance.
- Communicate to other partners the recycling challenges in their community.
- Incorporate language into their franchise agreements that maximizes recycling opportunities and waste prevention.

### **Highlights of Member Agency Programs**

The following provides highlights of member agency commitments to future activities as excerpted from the Five Year Audit.

#### **Alameda**

Alameda is committed to reaching the 75% diversion rate outlined in Measure D. Alameda has a commingled residential recycling collection program, in which papers and containers are collected together in one container. Alameda also offers a 10 gallon can or bag for low volume generators. They are currently procuring new collection services and the new franchise collectors will receive additional compensation when Alameda reaches the 75% diversion goal. Alameda is also updating its municipal code to include changes resulting from their new performance contract and new construction and demolition debris diversion provisions. Alameda intends to increase the frequency of their yard waste collection to weekly and add food waste and contaminated paper to the program. Alameda's reported recycling rate is 65%.

#### **Albany**

Albany hopes to establish a 75% diversion rate by 2010, but has not passed resolution through the City Council to make the goal a requirement. Albany plans to increase its diversion rate through development of several new programs. In 2002, Albany will begin an electronics recycling program and a construction and demolition wood waste program. Additionally, they may also

## **Member Agency Roles and Programs**

consider a residential food waste collection program in the next few years. They would like to take advantage of grants and monies available through the Agency, such as the food waste incentive funds. Albany's refuse and recycling collection contract expires in 2004. Albany plans to implement several new programs when a new franchise agreement is signed in January 2004. Albany's reported recycling rate is 62%.

### **Berkeley**

Berkeley plans to reach the Agency's 2010 goal of 75% waste diversion. The focus will be on expanding Berkeley's commercial food waste and recycling services and improving scavenging activities and incentives for source separation at the Berkeley Transfer Station. Berkeley works to divert as many materials off the transfer station floor as possible, including appliances, CRTs, tires, mattresses and reusable goods. Berkeley has made good efforts in promoting green building. They plan to work on enacting a construction and demolition recycling ordinance and provide help to contractors with regard to the reduction of construction and demolition waste.

Berkeley's food waste collection program demonstrates the potential efficiency of food waste recycling. From only 18 businesses, the City of Berkeley collected 1,925 tons of organics for recycling in 2001. Berkeley considers promotion of reuse and waste reduction ideas as integral to achieving the 75% diversion goal. Berkeley reported a 49% diversion rate in 2000.

### **Dublin**

To date, Dublin has not formally adopted a 75% diversion goal for 2010. However, this goal has been discussed at City Council. Dublin's planned commercial food waste program is expected to contribute a significant amount of diversion. Dublin's commitment to construction and demolition debris recycling has made a significant impact on their diversion rate. Unlike other jurisdictions, Dublin requires contractors to submit a performance bond to comply with their construction and demolition debris recycling ordinance. Dublin is also working with the Agency to implement green building guidelines for city sponsored projects. In 2000, Dublin's diversion rate was 56%.

### **Emeryville**

Emeryville plans to meet the 75% diversion goal adopted by the Agency. Their efforts will be focused on construction and demolition debris projects and business recycling, because these are viewed as the two greatest impediments to reaching their goals. Emeryville is currently implementing a construction and demolition debris recycling ordinance and is concentrating its programmatic enhancements on streamlining the recycling collection

## **Member Agency Roles and Programs**

process for both multi-family dwellings and commercial units to increase the incentives to participate. Emeryville reported a 48% diversion rate for 2000.

### **Fremont**

In 1999, the Fremont City Council adopted a 75% diversion goal by 2010. Fremont hopes to reach the goal through various programs, including e-waste drop-off, commingled residential recycling collection, residential food waste collection, and free commercial recycling collection. Fremont reported a 62% diversion rate for 2000. Fremont considers separating collection and disposal contracts as a key ingredient to reaching aggressive recycling goals.

### **Hayward**

In order to address the goal of 75% diversion, Hayward believes that there are at least two significant barriers that must be addressed. These include the need to establish stable markets for several types of materials that have been targeted for diversion and the need to site cost-competitive processing facilities in the county. Hayward believes that developing and maintaining viable markets for several material types can only be accomplished regionally or statewide.

Construction and demolition debris has become an important waste material targeted for diversion due to the increased construction activities in Hayward. For this reason, an ordinance requiring that these materials be diverted was adopted in April 2001. The ordinance requires all residential and commercial projects with a value of \$75,000 or more and all city initiated engineering and transportation projects recycle at least 50% of construction and demolition debris materials. Hayward believes it critical that the Materials Recovery Facility at Davis Street aggressively divert construction and demolition materials generated in Hayward. The new processing capacity at Davis Street will assist in diverting materials that are self hauled. Hayward is planning a commercial organics collection program to begin in 2002. Hayward's reported diversion rate is 50%.

### **Livermore**

Livermore expects to reach a 75% diversion rate by 2010. They plan to accomplish this goal through planned program changes. In 2002, Livermore will implement single-stream recycling and collection of a broader range of material types for commercial and residential customers. They will also be offering variable can rates for residential customers and free recycling services to commercial customers to encourage recycling. Residential plant debris collection will be increased from bi-weekly to weekly in 2002, which will likely increase plant debris diversion. Livermore's new contract with WMAC includes a pilot residential and permanent commercial food waste collection program. Livermore anticipates that the food waste programs will divert a significant amount of material each year. Finally, they plan to adopt a construction and demolition debris ordinance, annual e-waste drop-off

## **Member Agency Roles and Programs**

events, and a community garage sale in 2002. Livermore hopes to encourage source-reduction activities, improve public education about waste-reduction practices, and increase recycling with these events.

The Livermore City Council has adopted a resolution on the 75% goal. Livermore's plan is to reach this goal through new programs, program enhancements, and a commitment to waste diversion practices. Livermore reported a 53% diversion rate for 2000.

### **Newark**

Newark hopes to reach a 75% diversion rate by 2010, but has not yet planned program enhancements to ensure this accomplishment. However, Newark plans to improve commercial recycling participation by increasing collaboration between their hauler and businesses. Newark is also encouraging multi-family recycling through the pilot single-stream program.

WMAC provides educational materials and program ideas for organics programs and school recycling programs. Newark may also consider e-waste collection events, franchised commercial plant debris collection, or city-sponsored reuse activities such as citywide garage sales. Newark reported a 53% diversion rate for 2000.

### **Oakland**

Oakland will focus on full implementation of the construction and demolition debris ordinance and continued implementation of food waste collection to increase its diversion rate significantly.

Oakland adopted a construction and demolition debris waste reduction and recycling ordinance in July 2000. The ordinance requires construction and demolition debris recycling by affected projects. A pre-plan and post-project report must be submitted as part of the building permit process. The plan and report indicate how projects meet the minimum 50% waste reduction requirement of the ordinance and what prevented projects from meeting the requirement, if applicable. City project proponents are also required to comply with a minimum 50% waste reduction requirement. There have been over 450 construction and demolition debris waste reduction plans submitted by permit applicants, and approximately 200 job sites have been visited by City staff to provide technical assistance since July 2000. Oakland has also adopted a sustainable development initiative that includes green building. Green building guidelines are currently being tested in City capital improvement projects and by the Oakland Unified School District. Additionally, the Oakland Unified School District is in the process of implementing a district-wide recycling program. Oakland reported a 51% diversion rate in 2000.

## **Member Agency Roles and Programs**

### **Piedmont**

Piedmont is anticipating reaching the 75% diversion goal outlined in Measure D, but specific actions to do so have not been approved by the City Council. A tool for increased diversion is to continue education efforts through newspaper articles, mailings, and possible implementation of school education programs.

Currently, a construction and demolition debris ordinance is being considered. It is in the preliminary stages. Piedmont staff members are researching different types of construction and demolition debris ordinances that focus primarily on residential dwellings. Piedmont's construction and demolition debris ordinance will target remodeling materials used in housing units. Piedmont would also like to implement diverse salvage and reuse programs that are unique to housing units. A used oil drop off program is also being planned for the future. Piedmont reported a 63% diversion rate in 2000.

### **Pleasanton**

Pleasanton is focused on achieving the 75% diversion goal outlined in Measure D. In addition to continuing its current recycling programs, Pleasanton intends to implement a commingled commercial recycling program and adopt a comprehensive construction and demolition debris recycling ordinance. Pleasanton anticipates the adoption of this ordinance in 2002. The ordinance is based on the Agency's model ordinance and mandates that large construction and demolition debris projects recycle a minimum of 50% of the materials generated on the construction site.

The commercial program will allow businesses to place refuse and recyclables into a single container. The materials will then be picked up weekly and delivered to the transfer station, where a conveyor belt will be used to remove all recyclable materials from the commercial waste stream. The program will emulate the current residential recycling program. Full implementation of the program should achieve considerable results because approximately 60% of the waste generated in Pleasanton comes directly from the business community.

Pleasanton does not perceive any barriers at this time to achieving the 75% diversion goal. Pleasanton has taken Agency-derived criteria for programs into consideration, although they have not asked for assistance from the Agency in implementing their enhancements and new programs. Pleasanton reported a 48% diversion rate in 2000.

### **San Leandro**

San Leandro is working with their contracted hauler to develop several new programs to achieve 75% diversion, including residential and commercial food waste collection, enhanced commercial programs, the construction and demolition debris ordinance, and e-waste diversion. San Leandro reported a 52% diversion rate in 2000.

## **Member Agency Roles and Programs**

### **Union City**

Union City expects to reach the 75% diversion rate, as outlined in Measure D. They hope to accomplish this goal through expansion of their current programs and implementation of new programs. The franchise agreement that will go into effect in 2003 will include immediate improvements to Union City's curbside recycling and plant debris collection programs. It will also include wide-ranging promotion and public education requirements that will be the responsibility of the franchised hauler. Strong performance and customer service standards will also be included. Union City is confident that development of new programs will bring them to a 75% diversion rate. These programs include the construction and demolition debris ordinance, the organics collection program, and an expanded curbside recycling program. Union City reported a 61% diversion rate in 2000.

### **Castro Valley Sanitary District**

The Castro Valley Sanitary District has made progress toward the 75% goal. District-wide implementation of their pilot food waste program will contribute to the achievement of that goal. In March 2002, the District expanded the food waste program to include 15,000 residents. All residents will receive individual containers for food waste. Residents will be asked to set out food waste with plant debris for collection. The Agency has assisted the Castro Valley Sanitary District in implementing, funding, and promoting this program.

The Castro Valley Sanitary District contracted with their hauler for non-exclusive commercial recycling services in May 2001. Prior to that time, no franchised commercial recycling services were offered in the Castro Valley Sanitary District. Currently, businesses may take advantage of the services offered by their hauler, contract with private haulers, or self haul recyclables. Weekly collection of recyclables is offered for a fee to all commercial accounts in the Castro Valley Sanitary District by their hauler. Their hauler has developed a technical assistance program to assist new businesses implement recycling programs. The program will begin in 2002. The Castro Valley Sanitary District is currently developing long-term commercial recycling goals. The District is not required to report individually to the CIWMB. However, the District complies with AB 939 through joint reporting with Unincorporated Alameda County and Oro Loma Sanitary District. The 2000 diversion rate for Unincorporated Alameda County was 65%.

### **Oro Loma Sanitary District**

With a diversion rate of 71%, the Oro Loma Sanitary District is focused on (and currently pursuing) the Measure D goal of a 75% diversion. The greatest barrier to achieving the 75% target is that residents and businesses are already implementing a series of diversion tools and they are unwilling to (or cannot) bear the cost of participating in additional programs. In spite of this barrier, the Oro Loma Sanitary District is exploring four new programs

## **Member Agency Roles and Programs**

directed at additional waste reduction, including additional commercial programs, implementing a food waste program for both residential and commercial establishments, developing a multi-family dwelling recycling route, and providing school programs.

### **Unincorporated Alameda County**

Until the spring of 2000, Alameda County did not have a franchise agreement for refuse, recycling, or plant debris collection services. Various private haulers serviced the area, and self haul was common among the residential and commercial population. Many of the residents living in rural portions of Unincorporated Alameda County had difficulty locating service providers, and residents often traveled several miles to drop-off facilities.

In the spring of 2000, Alameda County contracted with a hauler for refuse, recycling, and plant debris collection services in an attempt to satisfy the needs of rural areas and facilitate recycling and sustainable plant debris collection. Several areas in Unincorporated Alameda County are not served by the hauler, such as the Town of Sunol and Castlewood Golf Course.

- Alameda County coordinates with another hauler on a paper-gobbler program. The program provides a designated paper collection route to schools in Sunol and several businesses in Unincorporated Alameda County. The hauler collects mixed paper from schools and cardboard from several businesses.



## **RESEARCH AND LEGISLATIVE ADVOCACY**

Research into new collection and processing techniques, emerging technologies, markets, programs and policies will be conducted as needed. The Agency will continue to take the lead in maintaining state-mandated data on disposal, and providing information on generators and discarded materials. The Agency may wish to consider conducting a Waste Characterization Study periodically to determine the effectiveness of diversion programs in reducing targeted waste streams. Additionally, the Agency will use focus groups, surveys and targeted waste audits to help determine the effectiveness of programs and the need for changes or refinements. The following research and legislative advocacy activities are planned:

- Evaluate new collection and processing technologies as appropriate.
- Monitor waste stream composition as needed through a Waste Characterization Study.
- Monitor solid waste legislation and actively support sound diversion oriented legislation.
- Meet member agency needs for research on issues of regional and local (if it affects a number of jurisdictions) importance related to waste reduction and sustainability.
- Research and provide tools to businesses and member agencies to enhance their progress toward a sustainable economy and environment.
- Meet CIWMB requirements for reporting of regional data such as landfill capacity.
- Provide disaster debris recycling resources.
- Maintain recycling and refuse rates and services database.
- Provide comparative data on in-county recycling programs.
- Refine and maintain model contract language for franchises and ordinances. Include minimum requirements for collection for small businesses and schools; data collection and reporting requirements, etc.
- Develop, test and use reasonable protocol for measuring waste prevention practices.
- Address emerging issues such as electronic waste
- Support state, national and international efforts to strengthen manufacturer responsibility of problematic materials as a way of achieving sustainable design—one that incorporates waste prevention, reuse, and recyclability.

### ***Research and Legislative Advocacy***

- Continue to research new and emerging waste prevention practices.
- Monitor local, state and national progress toward a sustainable environment.

## IMPLEMENTATION

The strategies in this plan are implemented through the direct programs that the Agency undertakes, through the member agencies that negotiate franchises for solid waste and recycling as well as undertake their own local programs, and through cooperative relationships with the various haulers, processors, generators, and other stakeholders.

Getting to 75% depends greatly upon the Agency's partners in this area, especially the member agencies, haulers, and processors. The extent to which the Agency can support and enhance the operations and programs of these partners can expand its impact beyond its direct budget and control. This plan assumes that the players below assume the following roles.

### ***Recycling Board and Authority Roles***

The Agency concentrates its resources on financial assistance (including both subsidies and incentives), technical assistance, public education, and supporting municipal programs. The Agency can champion the effort for the 75% and beyond diversion rate.

The Recycling Board and Authority will directly implement programs appropriate to the countywide scale. These include:

- Providing public education and technical assistance.
- Supporting continued and enhanced collection programs.
- Assisting in developing facilities and programs to serve multiple jurisdictions.
- Assisting in developing markets for materials.
- Emphasizing and championing waste prevention and sustainability practices.
- Coordinating efforts between the various stakeholders.

### ***Member Agencies***

Most member agencies, having already met or being close to the 50% recycling goal, are working toward achieving higher diversion levels. To achieve the 75% and beyond goal in their jurisdiction, member agencies will need to continue to improve existing programs and expand into new areas. Member agencies will also need to partner with the Agency to coordinate efforts.

### ***Haulers and Facility Operators***

The haulers need to be responsive to jurisdictions' requests for improved or new recycling programs. Areas that may be targeted for improved collections

## **Implementation**

include multi-family housing, schools and small businesses. Haulers will work with Agency staff to identify other recycling opportunities that may need to be addressed. Haulers who own transfer stations will work with the Agency to consider or implement upgrades to their facilities to increase recycling. Haulers will be asked to provide the Agency with a list of their largest generators as potential StopWa\$te clients.

Facility operators (landfill and transfer station) will work with the Agency to improve or expand recycling capacity for various materials, including food waste and construction and demolition debris materials.

### **Private Sector**

The private sector is critical in the equation to get to a 75% and beyond diversion rate.

The Agency, together with its member jurisdictions, has control over an estimated one-third of all potential diversion. Two-thirds of the diversion activity happens in the private sector. Getting to 75% will require continued and increased diversion activities by private businesses and institutions. To help this happen, the Agency will continue to form partnerships with the private sector and provide technical assistance, grants and loans.

### **Recycling Businesses**

Recycling businesses are a critical component of the overall plan. The Agency will work with businesses to help them maximize their capacity for throughput and remain a part of the recycling solution.

### **Non-profit sector**

The non-profit sector plays an important role in recycling materials that may not be handled by for-profit businesses, such as books and mattresses. Non-profits also serve as an important vehicle for educating their members about recycling opportunities. The plan expects that this sector will continue to apply for grants and loans to try new recycling technologies, to increase recycling opportunities and participation, and develop special niche recycling efforts.

## FUNDING

To put the Agency's role in perspective, it is helpful to consider the system-wide costs for recycling and waste disposal. Based on data collected by Agency staff, the annual cost for disposal and recycling is estimated to be \$300 million in Alameda County. This figure includes the costs of transporting, processing, and disposing or marketing of waste and recyclables. The Agency annual budget is approximately \$18 million, or 6% of the total. The cost per ton of disposal and recycling in Alameda County is estimated to be \$100-\$150 per ton. This cost translates to approximately \$190 per household per year for refuse and recycling services.

The Agency has a broad funding base, which historically has been very stable. The majority of its ongoing funding comes from fees levied on each ton landfilled. Authorization for those fees comes from either state legislation (AB939), or from the local county charter amendment, Measure D.

### Fees on Tonnage

- Facility Fee (\$1.50/ton) is an AB939 fee applied on all waste disposed in Alameda County landfills, and all franchised waste generated in Alameda County and disposed of at an out-of-county landfill.
- Mitigation Fee (\$4.53/ton) is an Authority fee levied on all out-of-county waste disposed of in-county, to offset negative environmental impacts. This fee is adjusted annually.
- San Francisco Fee (\$4.68/ton) is a fee on San Francisco Waste disposed of in the Altamont. Established in the contract between the WMA and the City and County of San Francisco, this fee is adjusted annually.
- Measure D fee (\$6.95/ton) is a fee established by Measure D/County Charter Amendment. Court action determined that this fee applies only to landfills in the unincorporated county. Annually, after the end of each calendar year, Agency staff will petition the Board of Supervisors to approve an increase in the Measure D surcharge in direct accordance with the change in the Consumer Price Index for the prior calendar year.

The Authority also generates revenue from interest on its fund balances and reserves. In addition, the Authority owns 1,600 acres of land in the Altamont Hills as reserve landfill capacity, and this property provides residential rent, wind and communications towers revenue.

A portion of Agency revenue is directly (and negatively) affected by the success of its programs, as tonnage revenue is based on disposal. In addition, Agency fees can affect waste flow, as out of county landfills use lower fees as a competitive advantage. Member agencies have the ability, through their

## **Funding**

rate structures, of being able to recover costs from recycling directly, and not solely through revenue generated through disposal.

In order to analyze the potential revenue available to conduct programs, the Agency prepared a multi-year fiscal forecast. This forecast set forth three scenarios: one in which the private sector met the needed contribution to the overall goal; one in which it met half; and one in which it met none. In all three scenarios, the Agency met its programmatic goals and reduced the waste stream by 500,000 tons per year. That analysis, translated to revenue available for projects, is contained in Appendix H.

Generally speaking, as the county moves towards the 75% and beyond goal, there is expected to be a decline in Agency revenues. Although to date, the Agency has seen both increased recycling *and* increased disposal, the Agency expects that meeting the more ambitious 75% goal will translate into an overall decrease in tonnage and, consequently, revenue from this source. This is also coupled with lost interest revenue, as the Agency will spend down its reserves to achieve these goals. It should be noted, however, that these forecasts contain some relatively large and speculative assumptions, and that these tools need refining as the county moves past 50% to 75% diversion. These calculations should be taken as estimates subject to change based on real events.

In addition to revenue forecasts, the Agency also analyzed expected program growth and expenditures, based on the objectives contained in this plan, and compared this to the expected revenues. (See Appendix I.) Program estimates were calculated individually for those programs with specific and known variations in future expenses (such as those programs with one-time expenses, or large increases in activities planned). This cost forecast, when compared to the revenue forecast, showed that expenses were within a reasonable range of available revenue, even when it included an up to 3% annual growth in overall project expenditures. However, if the revenues drop off aggressively as in the “best case for recycling” scenario, then there may be some budget shortfall in certain years.

These budget estimates will be refined through the annual budget and year-end processes, and there may be peaks or valleys in project budgets and/or revenues due to specific factors not anticipated in the general cost estimates. At this point, it appears that there will probably be adequate revenue, based on the current fee structure, to support the programs contained in this plan. In any case, it would be premature to make decisions on changes to fees based on this analysis. These projections do not have a high degree of precision, and a number of variables could produce significant changes to these forecasts, including actual disposal patterns and whether or not reserves are fully used for projects.

Should the Agency experience a budget shortfall, there are several actions that the Agency could undertake in order to ensure adequate revenue for the activities in this plan, including:

## **Funding**

- Implementing additional internal cost control and greater efficiencies.
- Maximizing revenue from existing investments.
- Considering changes to the operations of the Agency to decrease fixed costs.
- Metering out project activities and coordinating internally to flatten out spikes in expenditures.
- Examining the use of consultants versus in-house positions.
- Shifting certain projects to maintenance mode versus active expansionist mode.
- Considering changes to the Recycling Board's distributions in order to provide more flexibility and adjust to the priorities in this plan.
- Considering fee increases.

### **Integrating the CoIWMP and the Measure D Mandates.**

The issue of fully integrating the CoIWMP and Measure D mandates, and combining the fees, was specifically researched as part of the Recycling Plan development. This issue was identified because of a trend to dispose certain materials, such as self-haul debris, in out-of-county landfills, thereby avoiding the Measure D fee.

One possible way to address this fee erosion is by fully integrating the CoIWMP and the mandates of Measure D. In effect, the Facility Fee could replace the Measure D fees. To do so, either the CoIWMP would be amended so that it includes the same programs at the same funding levels required by Measure D, or the Measure D programs would be amended with approval of the Board of Supervisors and a majority of cities so that the Measure D programs are completely compatible with the CoIWMP. Agency legal counsel has recommended the second option.

Differences in the enabling legislation provide substantial hurdles to overcome to integrate the fees. In order to pursue this course of action, several key actions would need to be taken:

1. The Recycling Board would need to eliminate the funding mandates, as these could not be justified within the CoIWMP. The CoIWMP would have difficulty justifying the 50% Mandated Disbursement to Municipalities as one example.

## **Funding**

2. Each jurisdiction would need to amend their SRRE (Source Reduction and Recycling Element) to contain both the 75% and beyond goal and support all the programs of the Agency. This would need to be unanimous before any funding integration could occur.
3. The Recycling Board and the Waste Management Authority would need to examine their existing roles and prerogatives, and consider whether to relinquish any of these to the other.

At this point, the Agency plans to monitor the situation, particularly any trends in revenue erosion, and consider fee integration or expansion if warranted. Appendix J contains a discussion of fee issues, including the legal analysis of this option.



## **MONITORING AND EVALUATION**

This plan sets forth ambitious goals on a number of fronts, from changing behavior around waste and recycling, to creating more recycling infrastructure to divert waste, to expanding existing programs to tackle new materials or processes, to implementing waste prevention techniques. Measuring progress is difficult, as accurate and consistent numbers on recycling and disposal may not be available.

Historically, the state methodology has been used to measure progress towards recycling goals, with an interim diversion measurement methodology that counts ADC use as disposal, not diversion. There are several complicating factors in the state methodology, including estimating total generation, dealing with base year issues, and adjusting for population and economic growth. (Actual recycling tons are not included in the methodology, as it is impossible to capture fully how much is recycled.) How various numbers are estimated or interpreted translate to big differences in calculated diversion rates. Additionally, the state methodology does not address sustainability issues, including the real, physical limits of the natural systems upon which the economy relies.

This plan addresses these limitations by several means. First, the plan considers a number of factors to create a multi-dimensional assessment of the state of recycling, waste reduction and general sustainability. Progress to the 75% is one aspect of this more holistic approach. Second, it sets forth specific objectives in each strategy section to evaluate programmatic effectiveness. Third, the Agency will conduct studies, such as the Recycling Board Five-Year Audit and periodic Waste Characterization Studies, to analyze progress towards recycling goals.

### **Performance Measurements**

#### **I. Recycling and Sustainability Index**

The first measurement system considered is the multi-dimensional index of recycling and sustainability. The factors included are:

- Annual tons disposed (including all materials in the county charter, to the extent available).
- Comparisons of disposal to other counties, including Santa Clara, San Francisco and Contra Costa counties.
- Population and taxable sales.
- Annual waste disposed per capita.
- Annual waste disposed per business and per job.
- Annual waste disposed per \$1,000 in unallocated taxes.

## **Monitoring and Evaluation**

- Capture rates in municipal programs.
- ADC used from year to year.
- Summary of jurisdictional programmatic efforts including new programs.
- Annual electricity, natural gas, and water use.
- Percent recycling rate as determined by the state diversion methodology.

The goal is to show ongoing progress in each factor over time. Additionally, progress toward reducing waste and getting closer to an established tonnage mark would be evaluated. The Agency could use this data as a means to determine whether the overall system of resource usage and waste disposal was moving in the right direction, and to determine whether more aggressive programs and policies were needed over time to influence the greater arena of waste and recycling. This data is most effective as a systemic evaluation and less effective in determining Agency performance per se. The Agency will provide an annual report to the two Boards on systemwide progress using the multi-dimensional factors above.

### **2. Programmatic Evaluation**

In addition to the systemwide measurement, the Agency will measure its own progress according to specific programmatic measurements.

Consequently, this plan outlines specific objectives under each program area. These objectives will be linked to the annual Agency budget, and translated into action plans for each project on a year to year basis. As part of the annual budget, the Agency will report on progress towards the Recycling Plan's specific goals and objectives. This will vary program area to program area, ranging from the number of tons collected and processed at facilities supported by the Agency to the number of school children reached through various outreach efforts. Changes or clarifications to the Plan's objectives can also be proposed and made through this process.

### **3. Periodic Studies**

Some of the most important information about the effectiveness of programs comes through the periodic studies conducted by the Agency. Two of these, the Recycling Board Five-Year Audit and the Waste Characterization Study, bear special mention.

The Five-Year Audit is a periodic chance to evaluate, using independent experts, how well the Agency programs are doing, while comparing them to other national models. In addition to a programmatic audit, it contains a fiscal audit to ensure that Recycling Board funds are being used appropriately. This audit gives the Agency the ability to be sure that all possible recycling efforts are considered, and those appropriate to this area are included. General recommendations on the Agency's programs are also included.

## **Monitoring and Evaluation**

The Waste Characterization Study actually sorts, weighs, and reports all the material being disposed in Alameda County or handled at in-county facilities. This is very important information that can help determine appropriate targets, as well as progress of Agency programs in reducing amounts of specific material in the waste stream. To date, three studies have been conducted and are statistically valid for each member agency.

Other studies can provide more specific information to evaluate certain aspects of recycling efforts, such as the waste production measurement or weight based disposal studies. These types of studies will be proposed and carried out as appropriate.

### **Adjustments to the Plan**

The most important vehicle to make adjustments to plan implementation will be the Annual Budget. Using the measurements outlined above, the Agency has the flexibility to adjust the goals and strategies contained within the Recycling Plan on an annual basis, based both on internal program performance and objectives, as well as external system trends. As goals are refined and updated or as changes are proposed, these will be presented explicitly to the Boards through the budget development process. During the implementation of the Plan, as the Agency moves towards the medium and long term goals and activities, the needed evaluation of the short-term activities and development of more specific goals can occur on an ongoing basis. As part of the annual budget, multi-year revenue forecasts and multi-year budget projects will be presented and analyzed.

Either in response to developments or in the case of a major project failure, there may be the need for more drastic changes to the Plan. In this case, the Agency could propose updating the Plan comprehensively. Although it is expected that this Plan will serve until 2010, a substantive revision could occur in the five to seven year period after formal Board approval of this Plan.



## Appendix A: Stakeholder Meeting Participants

The following individuals participated in stakeholder meetings held between February and May, 2002 and provided input for the Source Reduction and Recycling Plan.

John Armando	Raisch Industries
Mike Biddle	Epic Plastics
Justine Burt	SAIC
Karen Deckert	Rubicon Landscape
Jim Greco	California Waste Associates
Pat Hooper	EcoRep Group
Eric Horton	Vasco Road Sanitary Landfill
David Johnston	Green Building Consultant
Delyn Kies	Kies Strategies
Steve Lautze	Oakland/Berkeley RMDZ
Dave MacDonald	Waste Management Inc.
Bernie Meyerson	EMS
Steven Myli	East Bay Regional Park District
James Paxson	Hacienda Business Park
Steven Sherman	Applied Compost Consulting
Lou Shikany	Alameda County
Jim Shirley	Bank of America
Doug Spitzer	Marathon Recovery
Mel Weiss	WeisCo Recycling
Shelley Worsham	Lawrence Berkeley National Lab
Ellen Axelrod	City of Livermore
Jason Behrmann	City of Dublin
Vera Dahle-Lacaze	City of Hayward
Maria DiMeglio	City of Alameda
Becky Dowdakin	City of Berkeley
Judy Erlandson	City of San Leandro
Barbara Frierson	City of Fremont
Mark Gagliardi	City of Oakland
Noelle Hartshorn	Castro Valley Sanitary District
David Huerta	City of Fremont
Susan Kattchee	City of Oakland
Judy Lieberman	City of Albany
Ashley Lyon	City of Piedmont
Tracy Swanborn	Representing City of Newark
Jacquie Toray	City of Livermore
Jeff Bryant	State Department of Education
Krista Danielson	Alameda County Office of Education
Andre Douglass	Oakland Unified School District

## Appendix A

Andrew Furco	UC Berkeley
Mark Gagliardi	City of Oakland
Evan Goldberg	Alameda County Office of Education
Gay Hoagland, Ph.D.	California State University Hayward
Maria Laxo	California Regional Environmental Education Consortium
Krista Linda Laney	Make a Circus
Lori Mann	Environmental Educational Consultant
Janet Schneider	Central Contra Costa Waste Management Authority
Annie Sevelius	Project Create
Carolie Sly	Community Learning Services
Casandra Smith	Davis Street Education Center
Richard Valle	Union City Council

## EXECUTIVE SUMMARY

### 2000 ALAMEDA COUNTY WASTE CHARACTERIZATION STUDY

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#### **Introduction**

In 1990 and again in 1995, the Alameda County Waste Management Authority and Source Reduction and Recycling Board (Agency or ACWMA) conducted solid waste characterization studies to better understand the composition of solid waste generated and disposed in Alameda County, California (County). These studies (1990 Study and 1995 Study) were designed to estimate the composition of solid waste generated in the County's 14 incorporated municipalities, two Sanitary Districts, and the unincorporated areas within the County, as well as the Countywide aggregate composition.

Since 1995, the composition of the County's disposed solid waste stream has changed for a variety of reasons. Local jurisdictions have implemented new recycling or other diversion programs. Manufacturing industries have altered the mix of materials used to package and sell their goods, resulting in changes in composition of disposed packaging. Additionally, the economic expansion that occurred throughout the latter half of the 1990s fueled an increase in economic activity among households and businesses. This increase heightened consumption (and disposal) of durable goods, and also spurred increased construction and renovation-related waste generation.

To better understand the impact of these changes on solid waste composition, the Agency retained R. W. Beck, Inc. (R. W. Beck) to perform a 2000 update (2000 Study) to these previous characterization studies. The update included a year-long field sampling and sorting effort at the six processing and disposal facilities located in the County. The 2000 Study ultimately achieved a number of critical objectives, including:

- Determining the composition of the County's aggregate solid waste stream in 2000, as well as the solid waste composition of its 14 incorporated jurisdictions, two Sanitary Districts, and the County unincorporated area;
- For each jurisdiction and for the County as a whole, differentiating the solid waste composition among the following five generator segments: single-family residential, multi-family residential, commercial, roll-off, and self-haul;
- Comparing the results of the 2000 Study with those from the 1995 Study and the 1990 Study; and

- Meeting State requirements for performing solid waste characterization studies. By meeting the objectives listed above, the 2000 Study facilitates better measurement of the effectiveness of current solid waste diversion programs, identifies specific sub-sectors of the solid waste stream that may be targeted for future recycling or diversion programs, and evaluates trends in solid waste disposal over the past decade. Each of these outcomes is beneficial as the County seeks additional solid waste diversion opportunities that may be needed to achieve the 75

## **Appendix B**

percent diversion goal specified in Measure D, passed by the voters of Alameda County in 1990.

The remainder of this Executive Summary presents an overview of the project methodology, background data, and key findings of the 2000 Study. Comprehensive results of the 2000 Study are contained in Volumes 1 and 2 of the main report.

### **Report Contents**

Complete results of the 2000 Study, as well as additional comparisons, can be found in the main body of the report. The complete report consists of two volumes in addition to this Executive Summary:

- **Volume 1** contains the **Countywide aggregate results**. Volume 1 also includes detailed background information, describes the project methodology, and presents a range of demographic and solid waste data for the County as a whole.
- **Volume 2** presents **individual results for each jurisdiction within Alameda County**. Specifically, Volume 2 includes the results of the 2000 Study for the 14 incorporated cities, two sanitary districts, and the unincorporated area of Alameda County (which excludes the two sanitary districts). For each jurisdiction, a complete range of findings and comparisons is presented.

Additional information is included in a set of appendices to the main report volumes.

### **Demographic and Waste Flow Data**

Alameda County is situated in California, on the eastern edge of San Francisco Bay, and encompasses 14 incorporated cities. Additionally, there are two Sanitary Districts that have been established in the County's unincorporated area. Throughout this report, the Sanitary Districts (SDs) are treated as separate jurisdictions, and "Unincorporated Alameda County" refers to the remaining unincorporated areas outside of the two SDs.

In 1995, the County was home to 1,344,157 people living in 518,197 households. By 2000, these totals had increased to 1,454,302 people and 536,493 households, an increase of 8.2% and 3.5%, respectively. As of 1999, the County contained roughly 39,500 businesses generating over \$18 billion in gross sales. County households earned a median income of \$63,258.81. Table ES.1 shows these data for each of the County's jurisdictions, as well as Countywide totals.



## Appendix B

**Table ES.1**

### Alameda County Demographic Data

<b>Jurisdiction</b>	<b>Population (2000)<sup>1</sup></b>	<b>Housing Units (2000)<sup>1</sup></b>	<b>Business Establishments (1999)<sup>2</sup></b>
Alameda (City)	73,713	31,852	1,924
Albany	17,836	7,493	510
Berkeley	109,463	46,285	4,270
Castro Valley S.D. <sup>3</sup>	47,195	14,969	657
Dublin	32,519	9,597	857
Emeryville	7,311	4,438	684
Fremont	208,026	69,616	5,479
Hayward	129,610	44,991	4,201
Livermore	74,303	26,130	1,842
Newark	43,043	13,152	1,165
Oakland	402,104	155,676	10,581
Oro Loma S.D. <sup>3</sup>	70,117	29,333	1,293
Piedmont	11,625	3,866	233
Pleasanton	65,930	23,678	2,750
San Leandro	76,736	31,272	1,855
Uninc. Alameda <sup>3</sup>	17,531	3,855	170
Union City	67,240	19,042	1,075
<b>Total</b>	<b>1,454,302</b>	<b>535,245</b>	<b>39,546</b>

<sup>1</sup> State of California, Department of Finance, *City/County Population and Housing Estimates, 1991-2000*, Sacramento, California, May 2000.

<sup>2</sup> California Board of Equalization, *Taxable Sales in California (Sales & Use Tax) During 1999*.

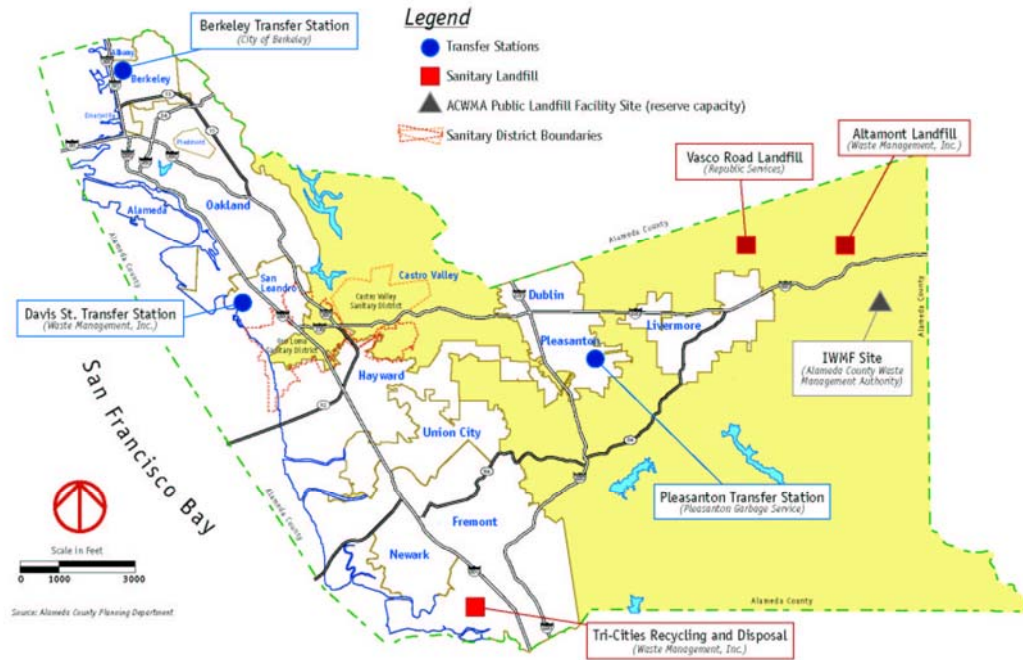
<sup>3</sup> Sanitary District estimates were extrapolated based on additional information provided by ACWMA. Castro Valley SD is estimated to be 31% of Unincorporated Alameda County, Oro Loma SD is estimated to be 61%, and Unincorporated Alameda County is the remaining 8%.

The 17 jurisdictions in the County deliver waste to a total of six transfer stations and disposal facilities. The locations of these facilities relative to each jurisdiction in the County are illustrated in Figure ES.1.

## Appendix B

Figure ES.1

### Alameda County Solid Waste System

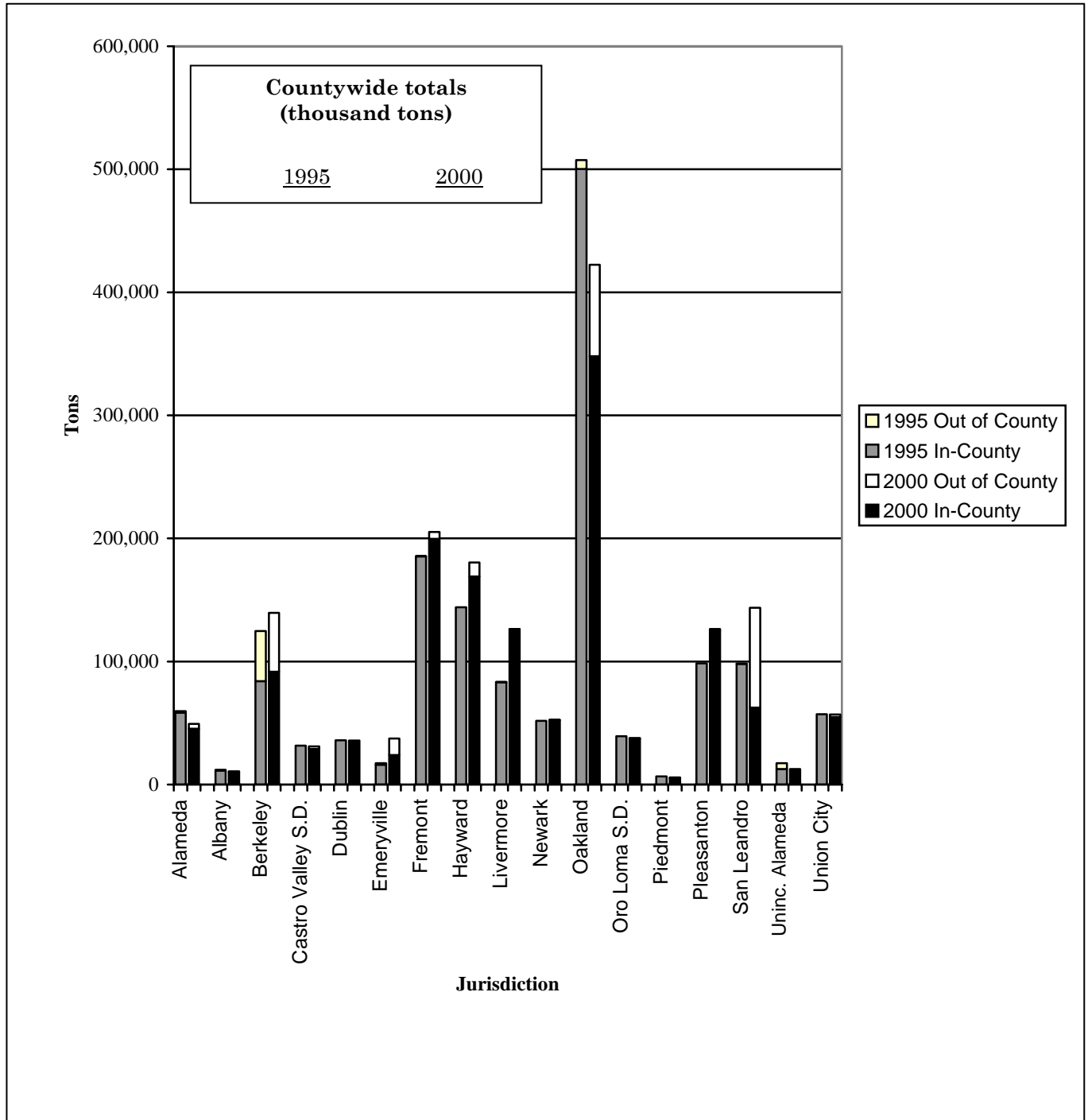


#### EXISTING TRANSFER STATIONS, LANDFILLS AND IWMF SITE General Locations

Figure ES.2 shows the total amount of solid waste disposed in and out of County from each jurisdiction in both 1995 and 2000. Note that waste flows for certain jurisdictions have changed significantly since 1995.

## Appendix B

**Figure ES.2  
2000 Alameda County Solid Waste Disposal Summary**



A detailed breakdown of waste by jurisdiction and by generator sector is summarized in Table ES.2. Table ES.2 includes all tons that were delivered to in-County facilities, although some of this material was subsequently transferred out of County (to the Redwood Landfill) for ultimate disposal.

## Appendix B

**Table ES.2**

**2000 In-County Solid Waste Disposal by Generator Sector (Tons)**

Jurisdiction	Single Family	Multi-Family	Commercial	Roll-off	Self-Haul	Total Received by In-County Facilities <sup>1</sup>	Total Disposed at Redwood Landfill <sup>2</sup>	Total In-County Disposal
A	B					C	D	E
Alameda (City)	13,947	7,488	10,784	8,411	7,792	48,421	3,059	45,362
Albany	3,350	1,399	2,209	2,396	549	9,902	23	9,879
Berkeley	19,637	16,267	15,891	9,552	31,455	92,802	1,093	91,709
Castro Valley S.D.	10,671	1,947	6,397	5,142	6,780	30,936	1,979	28,957
Dublin	6,611	1,909	11,732	8,615	6,913	35,780	41	35,739
Emeryville	444	1,542	9,953	10,778	1,433	24,151	130	24,021
Fremont	37,632	14,381	52,639	49,236	46,034	199,922	303	199,619
Hayward	27,621	9,771	53,534	64,832	22,759	178,518	9,482	169,036
Livermore	25,327	5,368	24,454	26,348	44,687	126,183	23	126,160
Newark	8,740	1,234	13,652	23,952	4,979	52,558	149	52,409
Oakland	97,216	40,277	90,360	69,669	94,934	392,456	44,423	348,033
Oro Loma S.D.	15,033	4,484	8,645	6,033	3,563	37,758	867	36,891
Piedmont	3,703	0	330	684	695	5,411	238	5,173
Pleasanton	24,203	3,595	16,059	61,089	20,260	125,205	50	125,155
San Leandro	22,833	11,425	23,656	37,548	30,945	126,406	63,941	62,465
Union City	14,275	1,785	13,749	21,043	4,429	55,281	258	55,023
Uninc. Alameda	1,460	0	355	1,141	8,037	10,993	0	10,993
<b>Total</b>	<b>332,703</b>	<b>122,872</b>	<b>354,397</b>	<b>406,468</b>	<b>336,243</b>	<b>1,552,683</b>	<b>126,059</b>	<b>1,426,624</b>
<b>Percent of Total</b>	<b>21.4%</b>	<b>7.9%</b>	<b>22.8%</b>	<b>26.2%</b>	<b>21.7%</b>	<b>100.0%</b>		

Source: Solid waste haulers and facilities that operate in Alameda County

<sup>1</sup> The composition percentages found as a result of this study apply to the tons shown in Column C. All future results tables reflect values in this column.

<sup>2</sup> Apportioned tonnages received at an Alameda County facility (Davis Street Transfer Station) but disposed at the Redwood Landfill, an out of County facility.

Note: Totals may not sum precisely due to rounding error.

A portion of the solid waste that is generated in Alameda County is landfilled in other counties. Table ES.3 presents the quantity of solid waste that was reported to be exported from Alameda County. The 247,000 tons reported in 2000 represents less than 20 percent of the in-County total. However, this reflects a significant increase since the 1995 Study, when only 56,000 tons, or 4 percent of the in-County total, was exported. The results shown throughout this Executive Summary and the body of the main report present the composition of total waste received by in-County facilities (third column from right in Table ES.2).

## Appendix B

**Table ES.3**

**2000 Total Solid Waste Disposal by Jurisdiction (Tons)**

<b>Jurisdiction</b>	<b>Total In-County Disposal</b>	<b>Total Out-of-County</b>	<b>Total Waste Disposed</b>
Alameda (City)	45,362	4,029	49,391
Albany	9,879	899	10,779
Berkeley	91,709	47,829	139,538
Castro Valley S.D.	28,957	1,979	30,936
Dublin	35,739	71	35,811
Emeryville	24,021	13,417	37,438
Fremont	199,619	5,626	205,246
Hayward	169,036	11,327	180,363
Livermore	126,160	104	126,264
Newark	52,409	223	52,632
Oakland	348,033	74,451	422,484
Oro Loma S.D.	36,891	867	37,758
Piedmont	5,173	589	5,761
Pleasanton	125,155	1,188	126,344
San Leandro	62,465	81,229	143,694
Union City	55,023	2,006	57,029
Uninc. Alameda	10,993	1,503	12,496
<b>Total</b>	<b>1,426,624</b>	<b>247,338</b>	<b>1,673,964</b>
<b>Percent of Total</b>	<b>85.2%</b>	<b>14.8%</b>	<b>100.0%</b>

Source: ACWMA Internal Memorandum to Technical Advisory Committee, May 17, 2001.

Note: Totals may not sum exactly due to rounding error.

### **Field Data Collection Summary**

The Sampling Plan for the 2000 Study was closely based on that used for the 1995 Study. In 1995, a total of 1,060 physically sorted (i.e., sorted by hand) samples and 739 visually surveyed samples were taken across four seasons of sorting and visual surveying. The 2000 Study targeted roughly the same number of physical samples, and an increased number of visual samples, with field data collection taking place over four seasons. Table ES.4 summarizes the total number of samples taken by generating sector in the 1995 and 2000 Study.

**Table ES.4**

**Comparison of Samples Taken by Generating Sector, 1995 and 2000**

<b>Generating Sector</b>	<b>Physical Samples</b>		<b>Visual Samples</b>	
	<b>1995</b>	<b>2000</b>	<b>1995</b>	<b>2000</b>
Single family residential	298	260	NA	NA
Multi-family residential	105	121	NA	NA
Commercial	512	477	NA	NA
Roll-off	75	86	236	331
Self-haul	70	86	503	714
<b>Total</b>	<b>1,060</b>	<b>1,030</b>	<b>739</b>	<b>1,045</b>

Note: 1,020 physical samples and 1,020 visual samples were targeted in the 2000 Study.

## Appendix B

As shown in the table, a significant increase in the number of roll-off and self-haul visual samples was achieved in the 2000 Study. Physical samples remained at roughly the same levels as in the 1995 Study, with only minor shifting of some samples from the single family to the multi-family sector, and from the commercial to the roll-off and self-haul sector.

In general, the 2000 Study Sampling Plan tracks closely with that of the 1995 Study. The 2000 Study targeted the following pre-planned sample distribution for each jurisdiction:

- SF residential: 15 samples
- MF residential: 8 samples
- Commercial: 30 samples

Table ES.5 summarizes the planned and actual number of single family, multi-family and commercial samples in each jurisdiction from the 2000 Study.

**Table ES.5  
Comparison of Planned vs. Actual Samples Taken, 2000 Study**

Jurisdiction	Physical Samples		Visual Samples
	Planned	Actual	Actual
Alameda (City)	53	63	17
Albany	53	60	9
Berkeley	53	67	104
Castro Valley S.D.	53	62	16
Dublin	53	67	31
Emeryville	53	62	14
Fremont	53	65	169
Hayward	53	67	92
Livermore	53	66	71
Newark	53	62	41
Oakland	54	69	263
Oro Loma S.D.	53	62	4
Piedmont	15	19	11
Pleasanton	53	67	65
San Leandro	53	64	67
Uninc. Alameda	45	46	29
Union City	53	62	42
<b>Total Planned<sup>1</sup></b>	<b>856</b>	<b>NA</b>	<b>NA</b>
Roll-off and Self-Haul <sup>2</sup>	164		1,045
<b>Grand Total</b>	<b>1,020</b>	<b>1,030</b>	<b>1,045</b>

<sup>1</sup> 1,020 physical samples and 1,020 visual samples were targeted in the 2000 Study.

<sup>2</sup> Roll-off and self-haul samples were apportioned across jurisdictions based on incoming loads.

As shown in Table ES.5, all sampling targets were successfully met.

## Key Findings

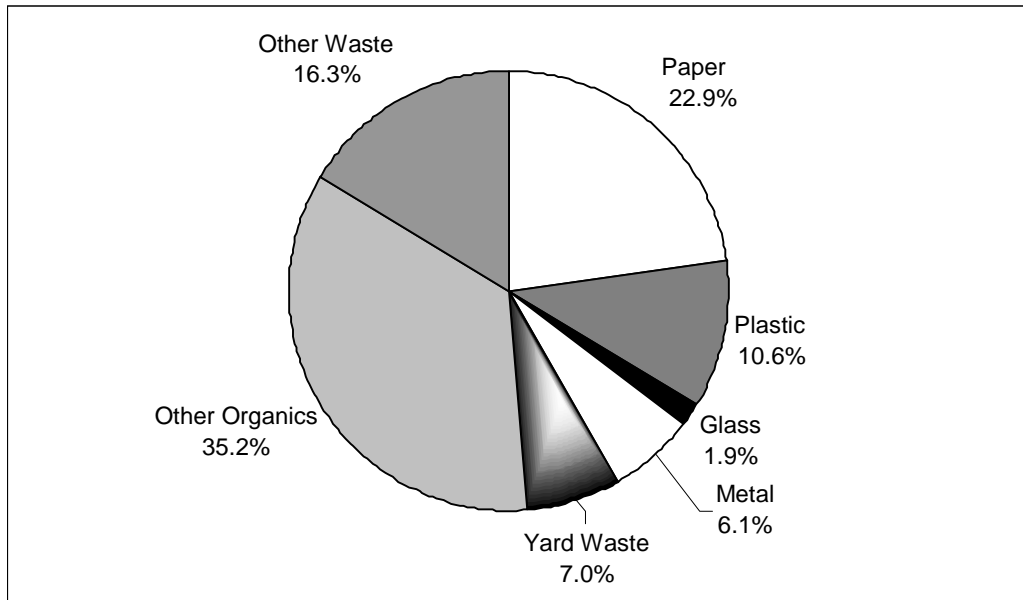
### 2000 Countywide Results

The following tables and figures highlight key findings from the 2000 Study, as well as selected comparisons with previous studies. When reviewing these tables, note that totals may not sum precisely due to rounding error.

**Figure ES.3** presents the composition of the County's aggregate waste stream in 2000, as well as selected statistical data. See the main body of this report for a detailed description of the statistical measures used.

**Figure ES.3**

**2000 Alameda County Aggregate Waste Composition by Major Material Group**



Material Groups	Tons Disposed	Mean (%)	Standard Deviation	Conf. Interval <sup>1</sup>		Sampling Error(%) <sup>2</sup>
				Lower (%)	Upper (%)	
Paper	355,288	22.9	16.2	22.0	24.0	4.4
Plastic	164,725	10.6	9.6	10.1	11.2	5.0
Glass	29,754	1.9	2.7	1.8	2.1	6.7
Metals	95,274	6.1	9.1	5.8	6.6	7.2
Yard Waste	109,393	7.0	14.2	6.4	7.9	10.6
Other Organics	545,873	35.2	23.6	33.6	36.9	4.8
Other Waste	252,378	16.3	19.8	15.0	17.7	8.4
Total	1,552,683	100.0				

<sup>1</sup> Calculated at a 90% level of confidence.

<sup>2</sup> Indicates width of confidence interval relative to the mean composition. Calculated by dividing one-half the width of the confidence interval by the mean composition.

Note: Totals may not sum precisely due to rounding error.

## Appendix B

**Tables ES.6 and ES.7** compare the weight percent of materials in each generating sector for the 1995 and 2000 Studies, respectively.

**Tables ES.8 and ES.9** compare the tons of waste disposed from each generating sector for the 1995 and 2000 Studies, respectively. Note that some of the difference in disposed tons between 1995 and 2000 may be attributable to waste flowing out of County, and not necessarily due to changes in the percent composition. Specific trends are discussed later in this Executive Summary.

**Table ES.6**  
**Summary of 1995 Landfilled Waste Composition Results by Generator Sector (Weight Percent) – Alameda County**

	Material Categories	Single-Family	Multi-Family	Commercial	Roll Off	Self Haul	Total
Paper		<b>32.9</b>	<b>32.1</b>	<b>36.9</b>	<b>25.1</b>	<b>9.6</b>	<b>24.6</b>
	1 Corrugated	3.2	4.4	6.2	8.6	2.1	4.7
	2 High Grade	2.2	2.6	4.6	2.5	0.9	2.3
	3 Text Books	0.1	0.5	0.4	0.2	0.6	0.4
	4 Newspaper	4.8	6.5	4.1	0.7	0.7	2.6
	5 Magazines	2.4	1.7	1.7	0.4	0.5	1.2
	6 Phone Books	0.4	0.6	0.5	0.1	0.1	0.3
	7 Mixed Paper	5.5	4.6	5.2	5.4	2.4	4.4
	8 Other Paper	14.2	11.2	14.2	7.3	2.4	8.8
Plastic		<b>10.5</b>	<b>10.0</b>	<b>12.0</b>	<b>16.7</b>	<b>5.4</b>	<b>10.5</b>
	9 HDPE-narrow	0.6	0.8	0.5	0.1	0.1	0.3
	10 HDPE-wide	0.2	0.3	0.4	0.2	0.1	0.2
	11 PET-narrow	0.4	0.6	0.3	0.1	0.0	0.2
	12 PET-wide	0.0	0.1	0.1	0.0	0.0	0.0
	13 Film Plastics	4.9	4.0	4.8	5.8	0.8	3.8
	14 Other Plastics	4.4	4.3	6.1	10.5	4.3	6.0
Glass		<b>4.1</b>	<b>5.2</b>	<b>3.0</b>	<b>1.6</b>	<b>1.5</b>	<b>2.6</b>
	15 CRV Glass	1.2	1.4	0.9	0.2	0.2	0.6
	16 Other Recyc-clear	1.8	2.3	1.2	0.7	0.2	1.0
	17 Other Recyc-color	0.7	1.1	0.3	0.3	0.1	0.4
	18 Other Non-recyclable	0.4	0.5	0.6	0.3	1.0	0.6
Metals		<b>3.7</b>	<b>4.7</b>	<b>5.3</b>	<b>4.7</b>	<b>4.0</b>	<b>4.4</b>
	19 Aluminum Cans	0.4	0.5	0.3	0.2	0.1	0.2
	20 Other Non-Ferrous	0.6	0.4	0.5	0.3	0.5	0.5
	21 Steel Food and Bev Cans	1.4	1.4	0.7	0.4	0.1	0.6
	22 Other Ferrous	1.3	2.1	3.5	3.4	3.1	2.8
	23 White Goods	0.0	0.3	0.4	0.4	0.2	0.3
Yard Waste		<b>12.9</b>	<b>8.0</b>	<b>4.9</b>	<b>5.2</b>	<b>20.5</b>	<b>11.8</b>
	24 Leaves & Grass	8.7	6.8	3.1	2.4	8.7	6.2
	25 Branches & Brush	4.1	1.2	1.8	2.8	11.8	5.6
Other Organics		<b>32.4</b>	<b>32.3</b>	<b>31.8</b>	<b>30.1</b>	<b>30.2</b>	<b>31.1</b>
	26 Food Waste	21.2	16.7	14.9	5.6	2.7	10.6
	27 Tires	0.0	0.6	0.7	0.1	0.3	0.3
	28 Other Rubber	0.2	0.4	1.0	1.5	0.4	0.7
	29 Wood-unpainted	0.6	1.0	5.6	13.3	13.2	8.2
	30 Wood-painted	0.5	1.8	2.1	4.7	6.4	3.6
	31 Textiles & Leather	4.2	7.8	4.9	4.1	6.1	5.2
	32 Diapers	4.7	2.8	1.3	0.4	0.4	1.7
	33 Other Organics	1.0	1.1	1.4	0.6	0.7	0.9
Other Waste		<b>3.6</b>	<b>7.7</b>	<b>6.1</b>	<b>16.7</b>	<b>28.9</b>	<b>15.0</b>
	34 Crushable Inerts	0.4	0.6	1.4	3.1	5.5	2.8
	35 Other Inerts	1.8	1.4	1.3	2.7	5.9	3.2
	36 Gypsum Wallboard	0.0	0.1	0.4	3.1	2.9	1.6
	37 Asphalt Roofing	0.0	0.1	0.1	2.7	5.4	2.3
	38 HHW	0.6	1.0	0.5	0.1	0.2	0.4
	39 Brown Goods	0.7	0.9	1.5	1.0	1.8	1.3
	40 Comp. Bulky Items	0.1	3.6	1.0	4.1	7.7	3.6
	<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>



## Appendix B

**Table ES.7**  
**Summary of 2000 Landfilled Waste Composition Results by Generator Sector (Weight Percent) – Alameda County**

	Material Categories	Single-Family	Multi-Family	Commercial	Roll Off	Self Haul	Total
Paper		<b>33.3</b>	<b>32.5</b>	<b>31.3</b>	<b>18.0</b>	<b>6.0</b>	<b>22.9</b>
	1 Uncoated Corrugated	2.6	3.6	7.0	7.2	2.8	4.9
	2 High Grade Paper	1.9	2.6	4.4	1.9	0.6	2.2
	3 Text Books	0.3	0.3	0.4	0.1	0.2	0.3
	4 Newspaper	5.8	5.6	3.0	0.9	0.4	2.7
	5 Magazines	2.5	2.3	1.4	0.4	0.2	1.2
	6 Phone Books	0.4	0.4	0.2	0.1	0.1	0.2
	7 Mixed Paper	5.2	4.5	3.7	3.6	1.0	3.5
	8 Other Paper	14.6	13.2	11.3	3.8	0.7	7.9
Plastic		<b>12.3</b>	<b>11.4</b>	<b>13.9</b>	<b>11.3</b>	<b>4.4</b>	<b>10.6</b>
	9 HDPE Bottles-Natural	0.3	0.3	0.3	0.1	0.0	0.2
	10 HDPE Bottles-Colored	0.4	0.3	0.3	0.2	0.1	0.2
	11 HDPE-Wide	0.2	0.2	0.5	0.5	0.3	0.4
	12 PET-Slim	0.6	0.6	0.5	0.2	0.1	0.4
	13 PET-Wide	0.1	0.0	0.1	0.1	0.0	0.1
	14 Film Plastics	6.4	5.8	6.0	3.7	0.6	4.3
	15 Other Plastic Containers	0.5	0.5	0.4	0.3	0.1	0.3
	16 Mixed Plastics	3.8	3.6	5.8	6.2	3.2	4.7
Glass		<b>3.1</b>	<b>3.7</b>	<b>2.3</b>	<b>0.9</b>	<b>0.8</b>	<b>1.9</b>
	17 CRV Glass	1.3	1.7	1.3	0.2	0.1	0.8
	18 Other Recyclable Glass-Clear	1.0	1.0	0.5	0.1	0.0	0.4
	19 Other Recyclable Glass-Color	0.5	0.6	0.3	0.0	0.0	0.2
	20 Other Non-Recyclable Glass	0.4	0.3	0.3	0.6	0.7	0.5
Metals		<b>3.2</b>	<b>3.8</b>	<b>5.5</b>	<b>9.2</b>	<b>6.9</b>	<b>6.1</b>
	21 Aluminum Cans	0.3	0.4	0.4	0.2	0.0	0.3
	22 Other Non-Ferrous Metals	0.6	0.7	0.6	0.9	0.6	0.7
	23 Steel Food and Beverage Cans	1.1	0.9	0.7	0.2	0.1	0.6
	24 Other Ferrous Metals	1.0	1.8	3.6	7.3	5.4	4.3
	25 White Goods	0.0	0.0	0.3	0.5	0.7	0.4
Yard Waste		<b>5.1</b>	<b>7.0</b>	<b>4.2</b>	<b>2.8</b>	<b>17.2</b>	<b>7.0</b>
	26 Leaves and Grass	3.3	4.7	2.1	1.5	7.2	3.5
	27 Branches and Stumps	0.4	0.5	0.4	0.5	2.4	0.9
	28 Prunings and Trimmings	1.4	1.8	1.6	0.8	7.5	2.7
Other Organics		<b>38.5</b>	<b>36.3</b>	<b>35.2</b>	<b>35.2</b>	<b>31.2</b>	<b>35.2</b>
	29 Food Waste	23.5	20.9	16.2	5.3	0.5	11.9
	30 Tires	0.1	0.4	0.9	0.1	0.3	0.4
	31 Other Rubber	0.6	0.6	1.1	0.5	0.2	0.6
	32 Wood-Unpainted	0.9	2.0	6.4	17.3	11.4	8.8
	33 Wood-Painted	0.9	1.3	4.0	7.5	10.8	5.5
	34 Textiles and Leather	3.8	3.6	2.6	1.4	1.2	2.3
	35 Carpet	0.9	1.1	1.8	2.2	5.5	2.5
	36 Diapers	4.5	3.5	1.3	0.1	0.1	1.6
	37 Other Organic Waste	3.2	2.8	1.0	0.8	1.2	1.6
Other Waste		<b>4.5</b>	<b>5.4</b>	<b>7.6</b>	<b>22.5</b>	<b>33.4</b>	<b>16.3</b>
	38 Crushable Inerts	0.7	0.6	2.2	5.0	7.6	3.6
	39 Other Inerts	1.4	1.4	0.9	3.6	5.7	2.8
	40 Gypsum Wallboard - Painted	0.2	0.1	0.1	1.2	3.0	1.0
	41 Gypsum Wallboard -	0.1	0.1	0.4	1.5	2.1	1.0
	42 Asphalt Roofing	0.1	0.0	0.2	1.8	3.6	1.3
	43 Hazardous Waste	0.6	0.8	0.4	0.7	0.4	0.6
	44 Brown Goods	0.9	1.1	1.8	0.8	1.0	1.1
	45 Composite Bulky Items	0.4	1.3	1.5	8.1	10.2	4.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0

## Appendix B

### Table ES.8

**Summary of 1995 Estimated Quantities Landfilled by Generator Sector (Tons) –  
Alameda County**

	<b>Material Categories</b>	<b>Single-Family</b>	<b>Multi-Family</b>	<b>Commercial</b>	<b>Roll Off</b>	<b>Self Haul</b>	<b>Total</b>	
Paper		<b>109,552</b>	<b>35,961</b>	<b>97,587</b>	<b>85,265</b>	<b>44,672</b>	<b>373,037</b>	
	1	Corrugated	10,702	4,895	16,454	29,128	9,704	70,883
	2	High Grade	7,364	2,952	12,194	8,609	3,954	35,073
	3	Text Books	449	559	962	542	3,001	5,513
	4	Newspaper	16,001	7,254	10,895	2,223	3,161	39,534
	5	Magazines	8,091	1,857	4,406	1,407	2,333	18,094
	6	Phone Books	1,290	700	1,260	412	372	4,034
	7	Mixed Paper	18,317	5,200	13,817	18,302	11,082	66,718
	8	Other Paper	47,337	12,544	37,599	24,642	11,066	133,188
Plastic		<b>34,994</b>	<b>11,238</b>	<b>31,798</b>	<b>56,533</b>	<b>25,065</b>	<b>159,628</b>	
	9	HDPE-narrow	1,817	931	1,343	348	403	4,842
	10	HDPE-wide	690	355	971	618	480	3,114
	11	PET-narrow	1,449	639	692	300	123	3,203
	12	PET-wide	128	58	179	63	50	478
	13	Film Plastics	16,433	4,435	12,552	19,742	3,914	57,076
	14	Other Plastics	14,476	4,821	16,061	35,463	20,094	90,915
Glass		<b>13,616</b>	<b>5,818</b>	<b>7,872</b>	<b>5,397</b>	<b>6,824</b>	<b>39,527</b>	
	15	CRV Glass	3,873	1,545	2,338	789	675	9,220
	16	Other Recyc-clear	5,962	2,526	3,140	2,479	805	14,912
	17	Other Recyc-color	2,413	1,238	889	1,059	545	6,144
	18	Other Non-recyclable	1,369	509	1,505	1,071	4,799	9,253
Metals		<b>12,319</b>	<b>5,310</b>	<b>13,990</b>	<b>15,801</b>	<b>18,508</b>	<b>65,928</b>	
	19	Aluminum Cans	1,160	565	808	529	258	3,320
	20	Other Non-Ferrous	1,997	494	1,192	1,010	2,488	7,181
	21	Steel Food and Bev	4,686	1,511	1,785	1,309	474	9,765
	22	Other Ferrous	4,474	2,397	9,208	11,550	14,219	41,848
	23	White Goods	0	343	997	1,406	1,069	3,815
Yard Waste		<b>42,859</b>	<b>8,971</b>	<b>13,002</b>	<b>17,539</b>	<b>95,555</b>	<b>177,926</b>	
	24	Leaves & Grass	29,156	7,645	8,192	8,106	40,612	93,711
	25	Branches & Brush	13,703	1,326	4,810	9,433	54,944	84,216
Other Organics		<b>107,785</b>	<b>36,158</b>	<b>84,214</b>	<b>102,184</b>	<b>140,572</b>	<b>470,913</b>	
	26	Food Waste	70,494	18,708	39,485	18,966	12,470	160,123
	27	Tires	3	653	1,771	175	1,551	4,153
	28	Other Rubber	812	477	2,733	4,984	1,948	10,954
	29	Wood-unpainted	1,916	1,165	14,700	45,107	61,231	124,119
	30	Wood-painted	1,752	1,997	5,461	15,872	29,548	54,630
	31	Textiles & Leather	14,024	8,768	12,893	13,833	28,548	78,066
	32	Diapers	15,613	3,183	3,389	1,293	1,708	25,186
	33	Other Organics	3,172	1,208	3,783	1,954	3,269	13,386
Other Waste		<b>11,900</b>	<b>8,631</b>	<b>16,067</b>	<b>56,527</b>	<b>134,365</b>	<b>227,490</b>	
	34	Crushable Inerts	1,438	723	3,784	10,378	25,427	41,750
	35	Other Inerts	5,972	1,607	3,358	9,247	27,609	47,793
	36	Gypsum Wallboard	74	90	961	10,409	13,353	24,887
	37	Asphalt Roofing	43	55	196	9,022	24,948	34,264
	38	HHW	1,856	1,135	1,362	343	863	5,559
	39	Brown Goods	2,316	1,043	3,902	3,357	8,321	18,939
	40	Comp. Bulky Items	199	3,980	2,505	13,770	33,843	54,297
	<b>Total</b>	<b>333,025</b>	<b>112,087</b>	<b>264,531</b>	<b>339,246</b>	<b>465,561</b>	<b>1,514,45</b>	

## Appendix B

**Table ES.9**  
**Summary of 2000 Estimated Quantities Landfilled by Generating Sector (Tons) –**  
**Alameda County**

	<b>Material Categories</b>	<b>Single-Family</b>	<b>Multi-Family</b>	<b>Commercial</b>	<b>Roll Off</b>	<b>Self Haul</b>	<b>Total</b>
Paper		<b>110,895</b>	<b>39,917</b>	<b>110,976</b>	<b>73,322</b>	<b>20,206</b>	<b>355,288</b>
	1 Uncoated Corrugated	8,737	4,384	24,827	29,412	9,249	76,602
	2 High Grade Paper	6,352	3,213	15,566	7,834	1,911	34,869
	3 Text Books	1,067	364	1,249	508	724	3,911
	4 Newspaper	19,417	6,846	10,776	3,705	1,446	42,189
	5 Magazines	8,273	2,807	4,940	1,435	811	18,267
	6 Phone Books	1,187	471	667	310	360	2,996
	7 Mixed Paper	17,414	5,556	12,970	14,820	3,210	53,969
	8 Other Paper	48,447	16,277	39,979	15,298	2,495	122,485
Plastic		<b>40,896</b>	<b>14,008</b>	<b>49,088</b>	<b>45,879</b>	<b>14,865</b>	<b>164,725</b>
	9 HDPE Bottles-Natural	911	408	927	492	147	2,884
	10 HDPE Bottles-Colored	1,348	353	1,123	671	199	3,692
	11 HDPE-Wide	615	203	1,871	2,124	987	5,800
	12 PET-Slim	2,071	798	1,767	848	327	5,810
	13 PET-Wide	374	58	269	380	73	1,153
	14 Film Plastics	21,378	7,086	21,276	14,894	2,124	66,753
	15 Other Plastic Containers	1,630	640	1,403	1,254	411	5,338
	16 Mixed Plastics	12,569	4,461	20,453	25,216	10,599	73,294
Glass		<b>10,473</b>	<b>4,505</b>	<b>8,203</b>	<b>3,728</b>	<b>2,847</b>	<b>29,754</b>
	17 CRV Glass	4,282	2,131	4,511	850	305	12,078
	18 Other Recyclable Glass-Clear	3,172	1,276	1,776	246	108	6,578
	19 Other Recyclable Glass-Color	1,652	742	959	113	126	3,592
	20 Other Non-Recyclable Glass	1,366	356	956	2,520	2,308	7,506
Metals		<b>10,529</b>	<b>4,636</b>	<b>19,593</b>	<b>37,365</b>	<b>23,149</b>	<b>95,274</b>
	21 Aluminum Cans	1,103	440	1,413	957	163	4,075
	22 Other Non-Ferrous Metals	2,108	817	2,109	3,601	1,954	10,589
	23 Steel Food and Beverage Cans	3,721	1,143	2,591	873	325	8,652
	24 Other Ferrous Metals	3,484	2,177	12,589	29,711	18,274	66,238
	25 White Goods	113	59	890	2,224	2,433	5,720
Yard Waste		<b>16,939</b>	<b>8,558</b>	<b>14,806</b>	<b>11,388</b>	<b>57,692</b>	<b>109,393</b>
	26 Leaves and Grass	10,817	5,735	7,593	5,922	24,256	54,328
	27 Branches and Stumps	1,403	594	1,416	2,023	8,157	13,595
	28 Prunings and Trimmings	4,719	2,229	5,797	3,443	25,279	41,469
Other Organics		<b>128,088</b>	<b>44,604</b>	<b>124,894</b>	<b>143,255</b>	<b>105,032</b>	<b>545,873</b>
	29 Food Waste	78,274	25,708	57,429	21,708	1,612	184,717
	30 Tires	434	451	3,282	570	901	5,637
	31 Other Rubber	2,058	788	3,749	1,987	834	9,414
	32 Wood-Unpainted	2,970	2,443	22,624	70,232	38,465	136,741
	33 Wood-Painted	2,853	1,587	14,134	30,335	36,442	85,357
	34 Textiles and Leather	12,481	4,464	9,247	5,773	4,109	36,073
	35 Carpet	3,154	1,383	6,406	9,093	18,370	38,408
	36 Diapers	15,066	4,329	4,577	405	317	24,695
	37 Other Organic Waste	10,798	3,450	3,446	3,152	3,982	24,829
Other Waste		<b>14,883</b>	<b>6,646</b>	<b>26,839</b>	<b>91,530</b>	<b>112,452</b>	<b>252,378</b>
	38 Crushable Inerts	2,289	752	7,847	20,160	25,449	56,503
	39 Other Inerts	4,725	1,762	3,298	14,507	19,062	43,359
	40 Gypsum Wallboard – Painted	580	122	398	4,708	9,991	15,801
	41 Gypsum Wallboard –Unpainted	397	162	1,312	6,018	7,027	14,918
	42 Asphalt Roofing	247	5	611	7,258	12,079	20,203
	43 Hazardous Waste	2,139	980	1,578	2,785	1,228	8,710
	44 Brown Goods	3,112	1,297	6,538	3,180	3,220	17,346
	45 Composite Bulky Items	1,394	1,564	5,258	32,915	34,396	75,538
	Total	332,703	122,872	354,397	406,468	336,243	1,552,683

## Appendix B

### Comparisons with Previous Study Results

**Table ES.10** compares the total tons of waste disposed in 1990, 1995 and 2000. **Figure ES.4** presents this data graphically, thereby highlighting some relatively significant changes to the County's waste flow since the 1995 Study.

**Table ES.10**  
**Countywide Comparison of Disposed Solid Waste Materials**

Material Groups <sup>1</sup>	Disposed Solid Waste (Tons)		
	1990	1995	2000
Paper	561,175	373,037	355,288
Plastic	112,810	159,628	164,725
Glass	112,370	39,528	29,754
Metals	95,671	65,928	95,274
Yard Waste	289,631	177,926	109,393
Other Organics	447,414	470,913	545,873
Other Waste	318,897	227,490	252,378
Special Waste	66,199	0	0
<b>Total</b>	<b>2,004,167</b>	<b>1,514,450</b>	<b>1,552,683</b>

<sup>1</sup> Although the definition of major material groups has differed slightly in each study, the annual results shown above are believed to be relatively consistent across years. This is especially true for the 1995 and 2000 Studies, which have been closely aligned to allow an "apples to apples" comparison. The 1990 Study results are less consistent with the 1995 and 2000 Studies (e.g., the "Special Waste" category), but are still useful to provide a macro-level comparison across years.

These exhibits highlight some significant changes that have taken place in the County's waste stream. Although determining the precise cause of these changes is beyond the scope of this study, it is likely that the following trends contributed to the changes that have occurred since the 1995 Study.

- **Economic Expansion**—Especially in the latter half of the 1990s, economic prosperity fueled increases in activities that influence waste stream composition. It is likely that heightened construction and renovation in the East Bay economy caused an increase in the construction and demolition-type waste that appears in the disposed waste stream. This results in an increase in Other Organic waste such as painted and unpainted wood and carpet; an increase in Other Waste such as gypsum, asphalt roofing and inerts; and an increase in Metal (scrap). It is likely the increase in Other Organic waste is due at least in part to the economic expansion.
- **Increased Recycling/Diversion**—Since 1995, a number of communities have instituted additional recycling and diversion programs. It is likely that the reductions in paper and yard waste can be at least in part attributed to these new recycling and diversion programs.
- **Increase in Plastics Applications**—Applications for plastics, in both packaging and durable goods production, has increased steadily throughout the 1990s. It is likely that at least some of the increase in Plastics, as well as the decrease in Glass, can be attributed to this change in the manufactured product mix.

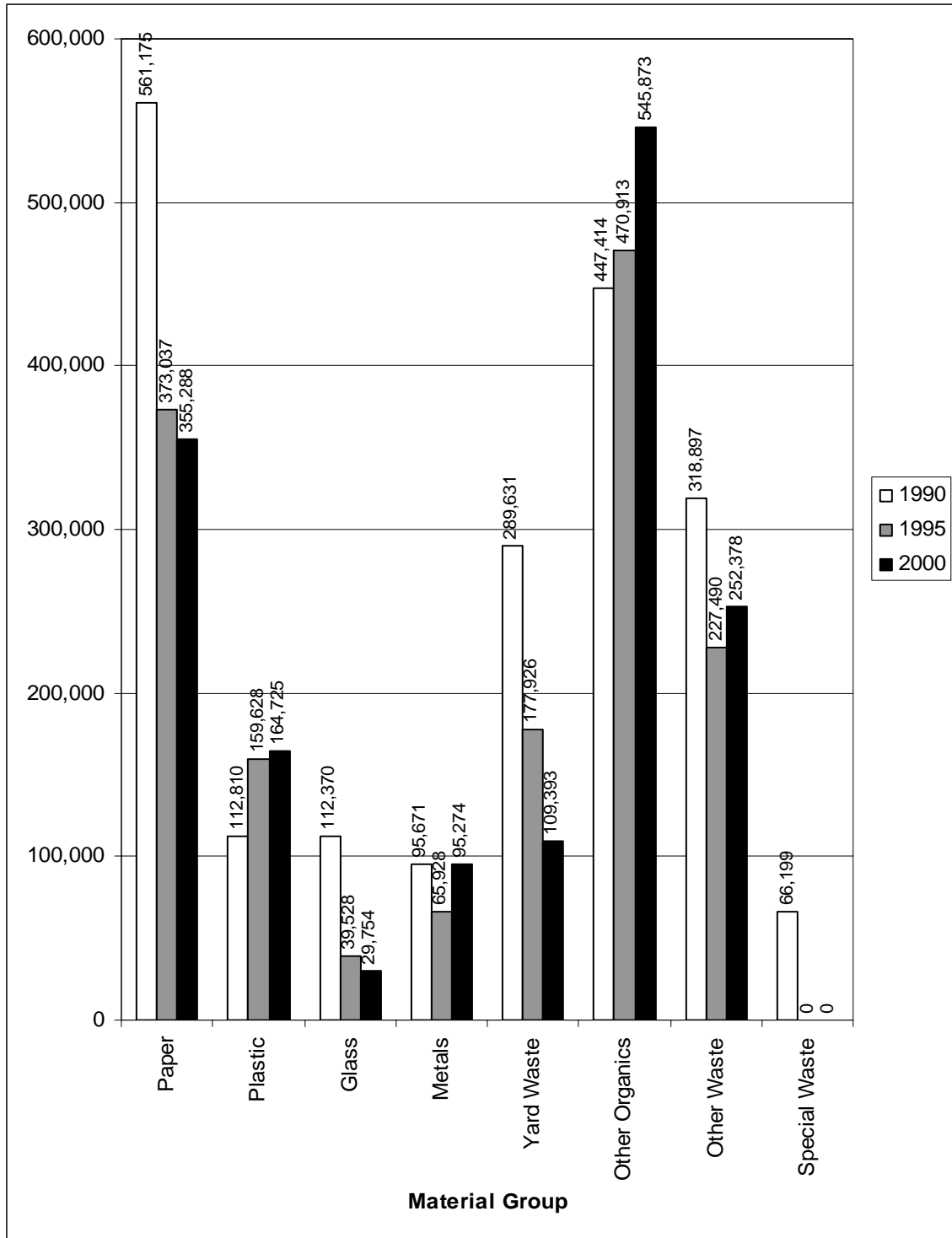
## **Appendix B**

- **Self-haul Waste**—Self haul waste continues to be an extremely significant component of the County waste stream. Self haulers, both residential and commercial, tend to dispose of large and bulky items, including durable goods and construction and demolition material, that have traditionally been difficult to recycle or source reduce. Self-haulers continue to contribute to the Metals, Other Organics, and Other Waste categories.

## Appendix B

Figure ES.4

Comparison of 2000, 1995, and 1990 Aggregate Composition by Material Group (Tons)<sup>1</sup>



<sup>1</sup> See footnote to Table ES.10 for more information about comparing results from these three studies.

## Appendix B

**Table ES.11** summarizes the 1990, 1995 and 2000 split between residential and non-residential tons disposed.

**Table ES.11**  
**In-County Waste Disposal Comparison 1990, 1995, 2000 (Annual Tons)**

Jurisdiction	1990			1995			2000		
	Residential	Non-	Total	Residential	Non-	Total	Residential	Non-	Total
Alameda	31,806	64,577	96,383	24,861	33,537	58,398	21,434	26,987	48,421
Albany	7,024	11,459	18,483	5,953	5,490	11,443	4,749	5,153	9,902
Berkeley	33,094	67,191	100,285	42,251	41,732	83,983	35,904	56,898	92,802
Castro	19,416	36,059	55,475	11,644	19,970	31,614	12,618	18,318	30,936
Dublin	7,924	33,783	41,707	6,964	28,877	35,841	8,520	27,260	35,780
Emeryville	2,682	24,134	26,816	1,833	14,301	16,134	1,987	22,164	24,151
Fremont	77,037	208,287	285,324	58,446	126,865	185,311	52,013	147,909	199,922
Hayward	47,484	168,353	215,837	29,925	114,166	144,091	37,393	141,125	178,518
Livermore	23,380	57,241	80,621	18,139	65,165	83,304	30,694	95,489	126,183
Newark	15,740	42,558	58,298	10,183	41,678	51,861	9,975	42,583	52,558
Oakland	163,323	419,975	583,298	148,449	351,918	500,367	137,493	254,963	392,456
Oro Loma	27,490	70,688	98,178	16,849	22,345	39,194	19,517	18,241	37,758
Piedmont	3,889	5,597	9,486	3,975	2,646	6,621	3,703	1,708	5,411
Pleasanton	24,309	81,383	105,692	23,667	74,853	98,520	27,798	97,407	125,205
San Leandro	49,274	91,508	140,782	23,963	74,047	98,010	34,257	92,149	126,406
Union City	22,510	50,103	72,613	15,725	41,405	57,130	16,060	39,221	55,281
Uninc.	3,585	11,352	14,937	2,285	10,343	12,628	1,460	9,533	10,993
County Total	559,967	1,444,248	2,004,215	445,112	1,069,338	1,514,450	455,575	1,097,108	1,552,683

For each material in each generating sector, Tables ES.12 and ES.13 present the percentage of all disposed waste that that particular material/generating combination comprises for the 1995 and 2000 studies, respectively. For example, in Table ES.12 the Uncoated Corrugated Cardboard disposed in the single-family residential waste stream represented only 0.71 percent of all waste disposed.

## Appendix B

### Table ES.12

#### Summary of 1995 Material Proportions of Total Waste Stream (Weight Percent) - Alameda County

	Material Categories	Single-Family	Multi-Family	Commercial	Roll Off	Self Haul	Total
Paper		<b>7.23</b>	<b>2.37</b>	<b>6.44</b>	<b>5.63</b>	<b>2.95</b>	<b>24.63</b>
	1 Corrugated	0.71	0.32	1.09	1.92	0.64	4.68
	2 High Grade	0.49	0.19	0.81	0.57	0.26	2.32
	3 Text Books	0.03	0.04	0.06	0.04	0.20	0.36
	4 Newspaper	1.06	0.48	0.72	0.15	0.21	2.61
	5 Magazines	0.53	0.12	0.29	0.09	0.15	1.19
	6 Phone Books	0.09	0.05	0.08	0.03	0.02	0.27
	7 Mixed Paper	1.21	0.34	0.91	1.21	0.73	4.41
	8 Other Paper	3.13	0.83	2.48	1.63	0.73	8.79
Plastic		<b>2.31</b>	<b>0.74</b>	<b>2.10</b>	<b>3.73</b>	<b>1.66</b>	<b>10.54</b>
	9 HDPE-narrow	0.122	0.06	0.09	0.02	0.03	0.32
	10 HDPE-wide	0.05	0.02	0.06	0.04	0.03	0.21
	11 PET-narrow	0.10	0.04	0.05	0.02	0.01	0.21
	12 PET-wide	0.01	0.00	0.01	0.00	0.00	0.03
	13 Film Plastics	1.09	0.29	0.83	1.30	0.26	3.77
	14 Other Plastics	0.96	0.32	1.06	2.34	1.33	6.00
Glass		<b>0.90</b>	<b>0.38</b>	<b>0.52</b>	<b>0.36</b>	<b>0.45</b>	<b>2.61</b>
	15 CRV Glass	0.26	0.10	0.15	0.05	0.04	0.61
	16 Other Recyc-clear	0.39	0.17	0.21	0.16	0.05	0.98
	17 Other Recyc-color	0.16	0.08	0.06	0.07	0.04	0.41
	18 Other Non-recyclable	0.09	0.03	0.10	0.07	0.32	0.61
Metals		<b>0.81</b>	<b>0.35</b>	<b>0.92</b>	<b>1.04</b>	<b>1.22</b>	<b>4.35</b>
	19 Aluminum Cans	0.08	0.04	0.05	0.03	0.02	0.22
	20 Other Non-Ferrous	0.13	0.03	0.08	0.07	0.16	0.47
	21 Steel Food and Bev Cans	0.31	0.10	0.12	0.09	0.03	0.64
	22 Other Ferrous	0.30	0.16	0.61	0.76	0.94	2.76
	23 White Goods	0.00	0.02	0.07	0.09	0.07	0.25
Yard Waste		<b>2.83</b>	<b>0.59</b>	<b>0.86</b>	<b>1.16</b>	<b>6.31</b>	<b>11.75</b>
	24 Leaves & Grass	1.93	0.50	0.54	0.54	2.68	6.19
	25 Branches & Brush	0.90	0.09	0.32	0.62	3.63	5.56
Other Organics		<b>7.12</b>	<b>2.39</b>	<b>5.56</b>	<b>6.75</b>	<b>9.28</b>	<b>31.09</b>
	26 Food Waste	4.65	1.24	2.61	1.25	0.82	10.57
	27 Tires	0.00	0.04	0.12	0.01	0.10	0.27
	28 Other Rubber	0.05	0.03	0.18	0.33	0.13	0.72
	29 Wood-unpainted	0.13	0.08	0.97	2.98	4.04	8.2
	30 Wood-painted	0.12	0.19	0.36	1.05	1.97	3.63
	31 Textiles & Leather	0.93	0.58	0.85	0.91	1.89	5.15
	32 Diapers	1.03	0.21	0.22	0.09	0.11	1.66
	33 Other Organics	0.21	0.08	0.25	0.13	0.22	0.88
Other Waste		<b>0.79</b>	<b>0.57</b>	<b>1.06</b>	<b>3.73</b>	<b>8.87</b>	<b>15.02</b>
	34 Crushable Inerts	0.09	0.05	0.25	0.69	1.68	2.76
	35 Other Inerts	0.39	0.11	0.22	0.61	1.82	3.16
	36 Gypsum Wallboard	0.00	0.01	0.06	0.69	0.88	1.64
	37 Asphalt Roofing	0.00	0.00	0.01	0.60	1.65	2.26
	38 HHW	0.12	0.07	0.09	0.02	0.06	0.37
	39 Brown Goods	0.15	0.07	0.26	0.22	0.55	1.25
	40 Comp. Bulky Items	0.01	0.26	0.17	0.91	2.23	3.59
	Total	21.99	7.4	17.47	22.40	30.74	100.0



## Appendix B

**Table ES.13**

### Summary of 2000 Material Proportions of Total Waste Stream (Weight Percent)- Alameda County

	Material Categories	Single-family	Multi-family	Commercial	Roll Off	Self Haul	Total
Paper		<b>7.14</b>	<b>2.57</b>	<b>7.15</b>	<b>4.72</b>	<b>1.30</b>	<b>22.88</b>
	1 Uncoated Corrugated	0.56	0.28	1.60	1.89	0.60	4.93
	2 High Grade Paper	0.41	0.21	1.00	0.50	0.12	2.25
	3 Text Books	0.07	0.02	0.08	0.03	0.05	0.25
	4 Newspaper	1.25	0.44	0.69	0.24	0.09	2.72
	5 Magazines	0.53	0.18	0.32	0.09	0.05	1.18
	6 Phone Books	0.08	0.03	0.04	0.02	0.02	0.19
	7 Mixed Paper	1.12	0.36	0.84	0.95	0.21	3.48
	8 Other Paper	3.12	1.05	2.57	0.99	0.16	7.89
Plastic		<b>2.63</b>	<b>0.90</b>	<b>3.16</b>	<b>2.95</b>	<b>0.96</b>	<b>10.61</b>
	9 HDPE Bottles-Natural	0.06	0.03	0.06	0.03	0.01	0.19
	10 HDPE Bottles-Colored	0.09	0.02	0.07	0.04	0.01	0.24
	11 HDPE-Wide	0.04	0.01	0.12	0.14	0.06	0.37
	12 PET-Slim	0.13	0.05	0.11	0.05	0.02	0.37
	13 PET-Wide	0.02	0.00	0.02	0.02	0.00	0.07
	14 Film Plastics	1.38	0.46	1.37	0.96	0.14	4.30
	15 Other Plastic Containers	0.10	0.04	0.09	0.08	0.03	0.34
	16 Mixed Plastics	0.81	0.29	1.32	1.62	0.68	4.72
Glass		<b>0.67</b>	<b>0.29</b>	<b>0.53</b>	<b>0.24</b>	<b>0.18</b>	<b>1.92</b>
	17 CRV Glass	0.28	0.14	0.29	0.05	0.02	0.78
	18 Other Recyclable Glass-Clear	0.20	0.08	0.11	0.02	0.01	0.42
	19 Other Recyclable Glass-Color	0.11	0.05	0.06	0.01	0.01	0.23
	20 Other Non-Recyclable Glass	0.09	0.02	0.06	0.16	0.15	0.48
Metals		<b>0.68</b>	<b>0.30</b>	<b>1.26</b>	<b>2.41</b>	<b>1.49</b>	<b>6.14</b>
	21 Aluminum Cans	0.07	0.03	0.09	0.06	0.01	0.26
	22 Other Non-Ferrous Metals	0.14	0.05	0.14	0.23	0.13	0.68
	23 Steel Food and Beverage	0.24	0.07	0.17	0.06	0.02	0.56
	24 Other Ferrous Metals	0.22	0.14	0.81	1.91	1.18	4.27
	25 White Goods	0.01	0.00	0.06	0.14	0.16	0.37
Yard Waste		<b>1.09</b>	<b>0.55</b>	<b>0.95</b>	<b>0.73</b>	<b>3.72</b>	<b>7.05</b>
	26 Leaves and Grass	0.70	0.37	0.49	0.38	1.56	3.50
	27 Branches and Stumps	0.09	0.04	0.09	0.13	0.53	0.88
	28 Prunines and Trimmings	0.30	0.14	0.37	0.22	1.63	2.67
Other Organics		<b>8.25</b>	<b>2.87</b>	<b>8.04</b>	<b>9.23</b>	<b>6.76</b>	<b>35.16</b>
	29 Food Waste	5.04	1.66	3.70	1.40	0.10	11.90
	30 Tires	0.03	0.03	0.21	0.04	0.06	0.36
	31 Other Rubber	0.13	0.05	0.24	0.13	0.05	0.61
	32 Wood-Unpainted	0.19	0.16	1.46	4.52	2.48	8.81
	33 Wood-Painted	0.18	0.10	0.91	1.95	2.35	5.50
	34 Textiles and Leather	0.80	0.29	0.60	0.37	0.26	2.32
	35 Carpet	0.20	0.09	0.41	0.59	1.18	2.47
	36 Diapers	0.97	0.28	0.29	0.03	0.02	1.59
	37 Other Organic Waste	0.70	0.22	0.22	0.20	0.26	1.60
Other Waste		<b>0.96</b>	<b>0.43</b>	<b>1.73</b>	<b>5.89</b>	<b>7.24</b>	<b>16.25</b>
	38 Crushable Inerts	0.15	0.05	0.51	1.30	1.64	3.64
	39 Other Inerts	0.30	0.11	0.21	0.93	1.23	2.79
	40 Gypsum Wallboard - Painted	0.04	0.01	0.03	0.30	0.64	1.02
	41 Gypsum Wallboard -	0.03	0.01	0.08	0.39	0.45	0.96
	42 Asphalt Roofing	0.02	0.00	0.04	0.47	0.78	1.30
	43 Hazardous Waste	0.14	0.06	0.10	0.18	0.08	0.56
	44 Brown Goods	0.20	0.08	0.42	0.20	0.21	1.12
	45 Composite Bulky Items	0.09	0.10	0.34	2.12	2.22	4.86
	<b>Total</b>	<b>21.43</b>	<b>7.91</b>	<b>22.82</b>	<b>26.18</b>	<b>21.66</b>	<b>100.00</b>



## **Appendix C: Executive Summary of Five Year Programmatic Audit**

### **Overview**

The Programmatic Review (Review) is a broad overview and evaluation of recycling, source reduction, market development, and public education waste reduction programs within Alameda County. The Review is one of two components of the periodic “audit” required by Subsection 64.040(C) of the Alameda County Source Reduction and Recycling Initiative Charter Amendment (Measure D) to determine compliance and degree of progress with the recycling policy goals of the initiative. The second component, to be completed later in 2002 and printed under separate cover, is a comprehensive financial review of funds raised and spent in fiscal years 1996/1997 through 2000/2001 through Measure D, with monitoring and reporting on compliance with the mandates of Measure D. An initial “4 Year Measure D Audit” was completed in 1997, covering fiscal years through 1995/1996.

### **Measure D**

Measure D was adopted by the voters in November 1990. Measure D sets forth countywide goals for the reduction and diversion of non-hazardous solid wastes from landfill; creates a framework for comprehensive source reduction and recycling programs; imposes a surcharge (which increased to \$6.59 per ton effective January 1, 2002) on wastes landfilled in the unincorporated county to fund these programs; and establishes a Source Reduction and Recycling Board (Recycling Board) to oversee the distribution of funds and the conduct of countywide programs. Pursuant to Measure D, the Recycling Board is mandated to establish recycling programs necessary to meet the recycling policy goals set forth in the initiative that parallel and then exceed those mandated by State law.

### **About the Recycling Board**

The 11-member Recycling Board is made up of five elected public officials from the Alameda County Waste Management Authority and six professional experts in specified areas of waste reduction, who are appointed by the Alameda County Board of Supervisors. 50 percent of the landfill surcharge revenues are distributed to participating municipalities for the maintenance and expansion of municipal recycling programs, and 50 percent are budgeted and spent by the Board in the prescribed areas of grants to non-profit organizations, source reduction, market development, recycled product procurement, and administration.

### **About the Agency**

The Alameda County Waste Management Authority and the Alameda County Recycling Board are an integrated agency, with a staff that assists both entities. The Authority, established in 1976, is governed by a 17-member board composed of elected officials appointed by each member agency. Primary funding for the Authority is derived from waste import mitigation fees and facility fees (AB 939 fees)

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at several landfills. Together, the Authority and the Recycling Board offer a wide range of programs in the areas of waste reduction, public education, home composting, recycled product procurement, technical assistance, market development, low-interest loans, and grants to non-profit organizations. Although the Review is managed by the Recycling Board and mandated by Measure D, many of the programs reviewed in this report are funded through the Authority. Thus, the term “Agency” is used throughout the Review to refer collectively to both entities.

### **The 2002 Review**

The primary focus of the Review is “forward-looking”, seeking opportunities for improved effectiveness and efficiency within and between municipal and regional waste reduction efforts, and on reaching a goal of 75 percent diversion by 2010. The Review also draws on comparisons of programs with model programs from other jurisdictions. The completion of the Review, and several other recent related Agency studies is timed to coincide with revision of the Source Reduction and Recycling Plan, the Agency’s primary mid- and long-term planning document.

Brown, Vence and Associates (BVA) is under contract to the Recycling Board to conduct both parts of the audit. Ecodata, Inc. and Steve Brekke-Brownell are subcontractors assisting with the Review.

### **Getting to 75 Percent**

Measure D provides that the Recycling Board establish a date for reaching a county wide landfill diversion of 75 percent. The Recycling Board established 2010 as the target date. For this reason, the Recycling Board requested that this Review focus on the steps that will be needed to reach 75-percent diversion by 2010 and identify “best practices” in program design and implementation needed to achieve the goal.

The Recycling Board requested that the Review address the following broad questions:

- Are there major, significant programs that are not in-place in Alameda County, but should be?
- What types of programs and program designs work, and which do not?
- What are the new and/or modified programs necessary to reach 75-percent diversion?

### **Report Organization**

Sections 2 through 5 present factual information regarding the member agency programs (Section 2), countywide programs (Section 3), the private sector recycling industry (Section 4), and comparative programs from around the country (Section 5). Sections 2 through 5 are used in Section 6 Program Analysis, Evaluation and Recommendations.

### **Primary Findings**

The following are the primary findings of the Review. Due to space considerations a broad range of programs discussed in Section 6 are not summarized below. More detailed findings may be submitted to the Agency separate from this report.

### Overview

Broad summary findings include:

1. Member agency and countywide programs, together with the private sector recycling infrastructure constitutes one of the most extensive waste diversion efforts in the country.
2. From a countywide perspective, there are no significant program gaps, in the sense that a waste stream or generator segment is largely or completely unaddressed. The Agency's current blend of programs, coupled with those of the various member agencies focus on what will be necessary to reach 75 percent diversion. Many of these programs are relatively new and the full potential is far from realized.
3. The countywide diversion for 2000 as reported to the State is approximately 55 percent. Member agency diversion rates as reported to the State vary from 48 to 65 percent.
4. It will be a substantial challenge to meet the 75 percent diversion goal by 2010, and will require an extensive and coordinated effort by the Agency and the member agencies. In our opinion, that effort will require all of the following pieces:
  - a. Agency leadership in defining objectives, identifying interim goals and milestones, and tracking progress toward reaching the 75-percent goal
  - b. Member agency commitment to the 75-percent goal, and to staffing programs at a level sufficient to reach it.
  - c. Specific targeted efforts to increase diversion from mature programs
  - d. A broad range of efforts to divert current low-diversion materials from disposal
  - e. Increased source reduction efforts to shrink the generated waste stream
5. Alameda County has a large and robust private sector and not-for-profit recycling industry, with an approximate estimate of 280 entities generating almost \$500 million in annual revenues and about 3,200 jobs.
6. As shown below in Exhibit ES-2 there are a range of materials that must be specifically targeted to reach 75 percent diversion. Existing capacity to process and market these materials can to some extent expand to meet increased demand. Many of the Agency's newer programs are focused either on developing new capacity or on encouraging increases in existing capacity. Availability of affordable land may prove to be a physical barrier to large-scale capacity development. Ordinances to preserve manufacturing zoning and infrastructure may be one means of providing for future in-county growth in capacity.
7. From a technical perspective, the ability to process the remaining waste stream (once collected and delivered) varies but generally is "high". The exceptions are film plastic, for which the capability might be considered "medium"; and painted wood, composite bulky items, and mixed plastics for which there are no foreseeable markets.

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### The Agency's Countywide Programs

1. Like many other “model” regional agencies, the Agency has a wide range of programs directed at reducing waste generation and disposal and increasing waste reduction and recycling, such as schools programs, home composting, advertising and promotion. These more “traditional” programs are supplemented by newer programs such as the Stop Wa\$te large employer program, green building practices, on-site mulching and composting, and construction and demolition (C&D) waste model ordinances. The Agency's programs are recognized as among the best in the country.
2. Most other “model” regional agencies own and/or operate waste management facilities, direct some or all of the waste flow, and have high tip fees that further encourage recycling. The Agency does not own or operate facilities, does not directly influence the flow of material and in-county facilities have moderate tip fees. Thus the Agency has developed a broad array of programs focused on influencing the behavior of the private sector through the use of incentives and subsidies. These programs currently address food waste processing diversion and capacity development, C&D recovery, and materials recovery facility capacity.
3. The Agency's incentive and subsidy programs appear to be well targeted with regard to the types of diversion efforts needed to reach 75 percent, and are beneficial and probably crucial to meeting the 75 percent diversion goal.
4. The Agency's incentive and subsidy programs involve significant amounts of public monies, and steps should be taken to ensure that incentives and subsidies paid to private sector entities do not constitute gifts of public funds.

### Member Agency Programs

1. There are wide variations in per capita recycling and plant debris diversion rates (pounds per person per day) reflecting both community and climate variations, and differences in program design.
2. Despite mature municipally sponsored programs (such as residential recycling and plant debris), for most member agencies a large percentage of diversion is not from municipal programs, but through other efforts such as those of the commercial sector.
3. Member agency residential recycling programs have a wide range of “capture rates”, the percentage of the targeted material removed from the target waste stream (e.g., newspaper removed from the single-family stream). The capture rates for most recycling programs indicate room for improvement through program modification, improved public education, etc.
4. Capture rates for residential plant debris programs are consistently high, mostly above 80 percent with many programs in excess of 90 percent capture.
5. The variability of customer service rate structures does not appear to have an apparent effect on per capita disposal and diversion, but this warrants further study with relation to customer distribution by service level and more detailed review of comparative program data.

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6. Wide variations in how data is reported, as well as a lack of data for a number of member agencies make it difficult to identify quantitative findings regarding multi-family and commercial diversion programs.

Best practices are summarized in Exhibit ES-1. Note that correlation does not equal causation; as discussed in Section 6, variations in the data, how it is collected, community demographics, and other factors may explain apparent correlations or differences between programs.

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### Exhibit ES-1 Best Practices

Program Area	Best Practice	Comments
Single-family recycling	<ul style="list-style-type: none"> <li>▪ Weekly programs tend to result in higher diversion than bi-weekly programs.</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ For most member agencies there is a significant opportunity to increase diversion from existing municipal programs.</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Single stream programs may provide for higher recovery than source separated programs.</li> </ul>	There are currently only four programs in the county, with mixed results. Information from comparative programs indicates a range from low- to high-performing programs, with the former experiencing substantial contamination.
Plant debris diversion	<ul style="list-style-type: none"> <li>▪ Weekly programs tend to result in higher diversion than bi-weekly programs.</li> </ul>	
Commercial recycling		There is insufficient in-county data to determine if open market is preferable to exclusive, and to comment on small business programs. However, of the five comparative programs, four are open market, one is municipal, and all five are mandatory.
Bulky waste pick-ups	<ul style="list-style-type: none"> <li>▪ Provide on-call pickups rather than city-wide collection days.</li> </ul>	On-call pickups allow the user to schedule when the pickup is most needed, reduce costs for service providers, and result in lower disposal.
	<ul style="list-style-type: none"> <li>▪ Limit the volume per set-out to one or two cubic yards.</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Promote reuse.</li> </ul>	For city-wide pick-ups provide a “first pass” collection of reusable items.
	<ul style="list-style-type: none"> <li>▪ Prohibit plant debris.</li> </ul>	Plant debris should be collected through the regular collection program rather than mixed with disposed material on pick-up days.



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### Getting to 75 Percent

Exhibit ES-2 draws on the 2000 Waste Characterization data and the reported county wide 2000 diversion rate to provide one possible scenario for reaching 75 percent diversion, illustrating in general terms the broad roles for source reduction and for recovery of remaining disposed materials. Exhibit ES-2 is presented for illustrative rather than planning purposes and does not constitute a recommendation for target diversion.

Exhibit ES-2 assumes that there is currently a county wide diversion rate of 55 percent, and that of the remaining 45 percent of the waste stream that is disposed (1,552,687 tons) 20 percent of total generation or almost half of the 45 percent (or 690,083 tons) must be diverted to reach 75 percent total diversion.<sup>1</sup> Reaching 75 percent will require many building blocks, and looking at the role of each of these waste streams from each generator category in each member agency.

### Exhibit ES-2 Major Material Categories of the 2000 Waste Stream—One Scenario for Reaching 75 Percent

Rank	Material Categories	Total Disposed (in Tons)	Total Disposed (%)	Needed New Diversion (in Tons)	New Diversion (% of Category)
N/A	Source reduction & waste minimization	n/a	n/a	69,008	10
1	Food waste	184,717	11.9	110,830	60
2	Wood—unpainted	136,741	8.8	95,719	70
3	Other paper	122,485	7.9	61,243	50
4	Plant debris <sup>2</sup>	109,393	7.0	65,636	60
5	Wood—painted	85,357	5.5	0	0
6	Uncoated corrugated cardboard	76,602	4.9	38,301	50
7	Composite bulky items	75,538	4.9	0	0
8	Mixed plastics	73,294	4.7	0	0
9	Film plastics	66,753	4.3	10,013	15
10	Other ferrous metals	66,238	4.3	39,743	60
11	Crushable inerts	56,503	3.6	33,902	60
12	Mixed paper	53,969	3.5	32,381	70
13	Newspaper	42,189	2.7	21,095	50
-	All other materials	402,908	25.9	112,212	28
		<b>1,552,687</b>	<b>100%<sup>3</sup></b>	<b>690,083</b>	<b>n/a</b>

<sup>1</sup> Please see Section 6.6.3 for a detailed discussion of this exhibit and assumptions regarding it.

<sup>2</sup> Plant debris is a composite of three material categories: leaves and grass, branches and stumps, and pruning and trimmings.

<sup>3</sup> Due to rounding, the sum of all percentage is not exactly 100%.

## Recommendations

The following are the primary recommendations of the Review. Additional detailed recommendations may be submitted to the Agency separate from this report.

### Policy Recommendations

1. Key to reaching the 75-percent goal will be the commitment of each member agency. Commitment begins with the governing body of each member agency. We recommend that the Agency:
  - a. Formally request that member agency governing boards commit to making a strong good-faith effort to meet the 75-percent goal on an individual basis and to contribute to success in reaching a countywide diversion rate of 75 percent.
  - b. Develop and distribute sample 75-percent resolution language for member agency use.
  - c. Assist member agency staff in developing work plans to accompany the resolutions targeting the activities that will be most appropriate for each.
  - d. Seek to have 50 percent of member agencies adopt a 75-percent resolution and work plan by January 1, 2004.
  - e. Seek to have the remaining 50 percent of member agencies adopt a 75-percent resolution and work plan by January 1, 2005.
  - f. Monitor progress and update the two Agency boards quarterly regarding the status of member agency 75-percent resolutions and work plans.
2. The upcoming Recycling Plan revision should focus on policies and programs for reaching 75- percent. The Plan should address best practices; define objectives, interim goals and milestones; identify means for tracking progress; and define the types of assistance that the Agency can provide to the member agencies. The Recycling Plan should examine a range of scenarios (as discussed with relation to ES-2) for diverting amounts of specific materials from the remaining disposal stream adequate to achieve 75-percent diversion.
3. The Agency should develop a target timetable for initiating member agency food waste collection programs, and continue to provide or expand provision of assistance to those agencies. Several member agencies are now in the process of adding food waste programs as part of procurements for new collection service. Current collection agreements of two other agencies will terminate by the close of 2004, and those of another five member agencies will terminate by the close of 2007. In each case food waste should become part of the new service package through the procurement, if not sooner through contract amendment. Member agencies with longer contracts should negotiate program modifications to begin food waste collection within the next several years.

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4. The Agency should continue to work diligently with member agencies to develop C&D ordinances, and other member agency activities that can assist with diversion of debris box and self-haul streams.
5. The Agency should assist each member agency in identifying specific means for targeting the other major remaining categories of disposed materials, including:
  - a. Increasing the capture rate for existing programs.
  - b. Expanding materials collected through, or sectors served by, current programs.
  - c. Developing new programs if and as appropriate.
6. Member agencies should commit to providing the level of staffing necessary to reach the 75 percent goal. Following are examples of the types of periodic and ongoing activities that all member agencies will likely need to engaged in if the 75 percent goal is to be met, noting specific areas in which Agency staff can assist:
  - a. Contracting for Services. Adding programs to new and existing collection agreements will be a major focus for reaching 75 percent.
  - b. Public Education. Agency staff can provide more direct assistance in planning and developing education efforts tailored to individual member agency needs.
  - c. Data Collection. Agency staff can assist in data collection including defining data needs, coordinating data collection projects of value for multiple member agencies, etc.
  - d. Performance Reviews. Conducting service provider performance reviews.
  - e. Contract Compliance. Monitoring contract compliance on the part of service providers.
  - f. Ordinance Adoption. Agency staff is working with member agencies to encourage and facilitate adoption of C&D and green building ordinances.

### ***Additional Recommendations***

1. The Agency should conduct further analysis of the member agency data contained in Appendix A and discussed in Section 2, and of the comparative program data contained in Appendices B through D and discussed in Section 5.
2. Best practices recommendations should be refined based on the more detailed review of data cited in the above recommendation, and other available information.
3. The Agency should periodically evaluate each private sector incentive and subsidy program against a list of criteria to minimize risk that the funded activities would occur without the funding, and to ensure that Agency goals are being met. Section 6 contains an “incentives checklist” as a starting point for such evaluations.

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4. The Agency should further examine the potential role of variable customer service rate structures for residential and commercial service in influencing generator decisions regarding diversion.
5. The Agency should seek to standardize the collection of diversion data by the member agencies so that diversion results can be more directly and meaningfully compared and analyzed. Data collection and analysis should not become an end in itself, however accurate data becomes increasingly important for making diversion program choices “on the margin”.
6. Information regarding the in-county recycling infrastructure should be updated and expanded as a means of identifying any bottlenecks before they occur.

### **Acknowledgements**

We wish to thank the following for taking time to assist us in making the Review a reality within a tight schedule:

1. The staff of the 17 member agencies that provided detailed information on programs to facilitate our review and analysis.
2. Agency staff that provided information on the programs in the seven focus areas.
3. Staff of several of the private service haulers serving member agencies.
4. Staff of programs from around the country that provided comparative insight.

Last, but definitely not least, BVA’s project manager wishes to thank everyone at BVA and each of our subcontractors that worked so hard to conduct the Review.

## **Appendix D: Executive Summary of the Waste Production Measurement Study**

### ***Seeking Waste Prevention Opportunities in Alameda County Businesses and Institutions***

#### ***Background and Approach***

In December 2000, the Source Reduction and Recycling Board (SRRB) engaged the team of Environmental Science Associates, Skumatz Economic Research Associates, and Natural Logic to perform this Waste Production Measurement Study. The initial phase of study planning and research, to identify best practices and major opportunities, is summarized herein. Phase II will provide a comparative analysis of these opportunities to indicate those most suitable for active support and promotion by the SRRB.

#### ***Purpose***

The primary purpose of this project has been to gain a detailed understanding of the ways that non-residential establishments produce solid wastes, and to seek the most effective ways to prevent those wastes from occurring. A further purpose has been to identify and prioritize the waste prevention methods that will be most effective if applied throughout Alameda County.

#### ***Objectives***

In defining this Study, the SRRB stated several Objectives, which may be broadly summarized as follows:

- ❑ On an Activity and Business Type basis, provide data on waste production that can be generalized and used for program planning and modeling.
- ❑ Based on estimates of waste prevention potential and related cost savings, identify workplace practices to be targeted for SRRB programs and outreach.

The detailed report summarizes the data gathered to date, for 90 scheduled site visits and interviews at a wide range of Alameda County businesses.

#### ***The “activities” concept***

Since its formation, the SRRB has had the goal of preventing wastes. For non-residential wastes, the SRRB and the Alameda County Waste Management Authority have undertaken a variety of efforts, including the StopWa\$te Partnership, to work with non-residential establishments on environmental performance improvement at their facilities. From these efforts, it has become clear that at most establishments, several distinct activities take place continually within the organization.

For example, consider a hypothetical factory with 150 employees on site. The production line is operated by 100 of these employees; another 15 perform product testing and research; 10

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more handle shipping and receiving; 20 have administrative duties (sales, management, accounting, etc.); and five handle plant maintenance. This factory is a cluster of five waste-producing units, each requiring a distinct approach to waste prevention. For study purposes these units are termed “Activities.”

Most non-residential sources of waste are like this factory: they have a core operation plus several distinct support functions, all operating in one facility. Each activity produces waste, and each requires its own approach to waste prevention. Tactics that work well in the administrative office (e.g. training to copy double-sided) will be ineffective on the factory floor – and vice versa. An “Activity”-based approach was used for this study to enable participants to quickly identify and apply waste prevention techniques from comparable settings.

The relationships between types of businesses (typically defined by Standard Industrial Classification (SIC) Code) and types of Activities are fundamental to this study. Because most businesses house several Activities, it may seem that the Activity-based approach complicates the waste prevention problem. In fact, the Activity-based approach provides a real advantage: many types of businesses have Activities in common (e.g., Sales), so waste prevention tactics keyed to particular Activities should be broadly applicable. Field work for this project has borne this out.

### Targets

This study was designed to include most commercial, industrial and institutional Activities taking place in the County. Certain Activities were intentionally excluded because they have unique features or are already being adequately addressed. Primarily, those were landscaping, construction, demolition, and resource extraction (agriculture, mining, etc). Several other Activities were deemed to be too narrow for detailed treatment in this study. These were performance production (theater, film, etc.), pollution control, laundry / dry cleaning, and managing byproducts.

Early in this study, available data indicating the rates at which various types of businesses generate wastes were used to identify major waste producing categories of businesses in the County. This led to a preliminary list of the “top ten” categories. From largest to smallest, they are:

Retail trade	Business and Professional Services
Manufacturing	Construction
Accommodation / Food Services	Health Care / Social Assistance
Scientific / Technical Services	Wholesale Trade
Transportation / Warehousing	Educational Services

### Methods

The first step of the study was to develop a useful **list of Activities**. No such list existed, but several lists of business types provided a useful starting point. Team members’ experience in assessing resource use and solid waste production at businesses supported the construction of the Activity list that was used for study work. At this stage, the Activities list is considered to be a living document, useful for study purposes and subject to further refinement.

The next step was a **telephone survey** of businesses, which served three purposes:

- ❑ It provided a statistically valid means of extending information gathered from specific businesses back across the County as a whole.

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- ❑ It established a matrix of relationships between Business Types (as defined with SIC codes) and Activities, and it identified key materials, so the study team would know which Activities to pursue, where to find them, and how to extrapolate the data.
- ❑ It explored issues regarding businesses' receptiveness to incentives, waste audits and other technical assistance.

In the matching of Major Activities (the two predominant Activities at each site) to Business Types, it was found that:

- ❑ Administrative and Shipping / Transportation Activities occurred as Major Activities among a wide variety of business types (as defined by SIC Codes).
- ❑ Manufacturing, Retail and Patient Care Activities were tightly focused within certain business types.
- ❑ The Facilities Maintenance and Food Service Activities occurred in a number of distinct business types but were only Major Activities in a few of those.

Using the Activities x Business Types matrix, **site visits** were scheduled to study specific Activities. Because of the wide range of types of businesses in the County, the 90 visits were spread across approximately 20 categories or types of Activities. As a result, specific Activities were examined using from two to eight site visits. Activities known to be more diverse and more widespread (e.g., manufacturing) were assigned a greater number of visits.

### **Highlights of Findings**

Several waste prevention issues were found to occur across a wide range of Activities:

1. Corporate Control – Many establishments are simply one branch of a corporate structure that directly controls, or sets standards for, practices that affect waste production. Can an auto dealership limit the amount of protective material that is shipped with their new cars? Can a store manager convince their distribution center to use less stretch wrap?
2. Existing Values – With regard to waste prevention issues, establishments and their employees exhibit a wide range of values. Some facilities welcomed this study, showed their facilities and waste diversion programs with pride, and asked what more they could do to prevent waste. Others willingly participated but stated that they felt that little or no additional waste prevention was possible. Future waste prevention efforts should anticipate a broad spectrum of attitudes and values, from positive to negative.
3. Complexities due to Specific Materials or Methods – Composite materials are often more difficult to recycle, and their use is increasing. Also, in some industries a waste can be “prevented” by redirecting the material into wastewater, packaging, or some other output stream. This approach differs from waste prevention that is accomplished by reducing the use of materials, but it is viewed as an option in these industries, and this can be a challenge for waste prevention outreach efforts to overcome.
4. Site Related Constraints – The inconsistent availability of programs from City to City is a problem for multi-site businesses and for the SRRB, because differing limitations arise site by site. Also, site specific constraints, including limited space for process changes or for storage of containers, materials, etc., were often found during site visits.

Other issues arose repeatedly with regard to certain Activities:

- ❑ For manufacturers, there is a continuing need for technical assistance to determine the cost-effectiveness of specific waste prevention measures.

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- ❑ Local retailers and some other businesses have little or no control over packaging materials that they receive. Until this is changed, the cardboard carton will continue to be in general use, and other problematic materials will remain in circulation.
- ❑ It appears that the efforts made by most administrative offices to reduce paper use have been minimal or temporary. Paper *recycling* programs are widespread and may be viewed as “the solution” by the companies implementing them.
- ❑ There are inconsistent levels of recycling service among Alameda County cities. Ideally, in the future, waste prevention measures will reduce the need for these services to a much lower level. However, for the present, the city-by-city variation in service levels complicates waste prevention efforts, especially for companies that operate branches in several cities.

### **Trends**

The following trends were noted across many of the Activities studied:

The ongoing downturn in business activity complicates efforts to measure waste production, and it also complicates business management in general, limiting the attention that managers could give to this study. The business cycle is never completely stable, but it may be advisable to await a more stable period than the present one before attempting to work with business managers on waste prevention issues.

The use of reusable packaging (such as totes) is spreading, at least for certain product lines. More and more retailers recognize this concept and are learning to plan for reusable containers, which require storage space and minor changes to ordering, tracking and stocking procedures.

The conversion of local retailers (and restaurants) to chains has had a mixed effect in terms of waste prevention. Local owners’ decision-making has been supplanted with corporate policy, which may not recognize waste prevention needs and methods. However, the more efficient stock-handling systems employed by larger chain stores can serve to prevent waste in several ways. If waste prevention messages can be raised with these large corporations by County-level agencies, there is the potential for significant further reduction of wastes.

### **Importance of Waste Prevention to Businesses**

#### **Response rates**

Although the phone survey was able to obtain the planned number of responses, the low response rate (350 responses from several **thousand** sites contacted) was a cause for some concern and extra effort. The large number of businesses available in the County enabled the planned number of surveys to be completed. However, this serves as a warning signal that most businesses do not automatically take an interest in responding to waste prevention queries raised by others.

Like the phone survey, the refusal rate for site visits was high enough to serve as a cautionary note: most businesses are not willing to devote management time to an unsolicited effort to assist with waste prevention. Roughly one out of six businesses participated willingly, with higher participation from some types of businesses than from others.



## Appendix D

### Prior Efforts By Businesses

The telephone survey posed a series of questions about current waste prevention practices and barriers. The most general finding from this portion of the survey was that about 30% of all responding firms were able to identify specific waste reduction measures that they had instituted. Reducing the use of office paper was the most commonly cited single measure (16% of respondents). Also, most respondents categorized waste management costs as “of moderate importance” in relation to their other operating costs. Except for the largest firms, few firms had performed any kind of process or resource use audit.

### Opportunities for Waste Prevention and Reduction

Key opportunities found at the Activity level during site visits are described below. Phase II of this project will identify the opportunities most suitable for support by the SRRB.

#### Waste Prevention

- ❑ The most widespread opportunities exist with regard to administrative work. Single-sided copying, the printing of reports simply for filing purposes, and other such practices consume far more paper than appears to be necessary.
- ❑ Both the Administrative and Printing Activities would prevent significant materials use if they made broader use of electronic documents.
- ❑ Many local manufacturers are independent and can implement recommendations without lengthy review; hence they can benefit immediately from technical assistance. Manufacturers often simply lack the time to conduct a cost-benefit analysis of a process change that could prevent waste. Also, a cost-benefit analysis often finds that a waste prevention measure reduces some general costs, such as transportation or labor, thereby making that measure more worthwhile.
- ❑ Patient Care Activities incorporate a useful mechanism into their selection of products: the “Value Assessment Team” evaluates a range of potential new devices or products and chooses the most suitable one for their system. This presents the opportunity to add waste prevention to the decision criteria, and it also provides a useful model for discussion with other types of businesses.
- ❑ The establishments that conduct scientific research tend to use more sophisticated management practices, such as ISO 14000 standards, that call for the minimization of wastes. Consequently, these places have a number of recycling and waste prevention measures in place. (This was first indicated in the telephone survey and was confirmed during visits.) Their management practices provide a useful real-world example for discussion with other types of businesses.

#### Additional Recycling

- ❑ Most Food Service and Food Manufacturer locations that are using food waste composting services are experiencing a net benefit. There are many more potential food waste sources for these programs among the restaurants, cafeterias and food manufacturers in the County.
- ❑ Similarly, for manufacturers and transporters, there appear to be many more opportunities for film plastic recycling than there are current participants, although contamination and composite-material issues can cause problems at some locations.
- ❑ As noted above, there are fewer commercial recycling programs in some Alameda County cities, and this limits the options for businesses in those locations.

## **Appendix D**

- ❑ In the phone survey, more than 30% of establishments reported that they did not have a recycling program. Business types with the lowest presence of recycling program included “wholesale and retail trade” and “social and medical care.”

## Appendix E: Executive Summary of Weight Based Generation Study

### Introduction

The Weight Based Disposal Research Study, the first of its kind in the United States, was designed to collect weight, composition and business type data from the Alameda County commercial sector to assist in the development of new recycling initiatives focused on commercial waste. The study collected a non-random sample of the Alameda County commercial waste to identify trends and opportunities in recycling.

### Project Objectives

The objectives of this research included:

Putting National Type Evaluation Program (NTEP) approved scales on front-loaders and weigh commercial waste for a period of one year

- ❑ Developing an average weekly disposal weight by business type for businesses studied
- ❑ Developing weight and density data specific to business type
- ❑ Obtaining composition data specific to business type
- ❑ Identifying normalizing factors to assist in targeting businesses

### The Study

The study selected four commercial front-loaders from the Waste Management of Alameda County fleet operating in Oakland and Hayward. The front-loaders were retrofitted with LTS Inc. NTEP approved front fork scales and in-cab recording units. Routes were randomly selected from available routes that had a high density in commercial establishments and transferred their waste at the Davis Street Transfer Station. One week each month for a period of 12 months, all bins serviced by the routes were weighed. The scales recorded the gross, tare, net weights and a bar code that represented the business name and address.

The driver would periodically download the data collected to a computer located at the fuel-island at the Davis Street Transfer Station. Downloaded data was compiled and held for further analysis.

During the course of the weight collection effort, R.W. Beck, in conjunction with the 2000 Waste Characterization Study (WCS), sorted 300 commercial loads from the routes being audited for weight.

The route auditing was conducted from June 2000 to May 2001. Environmental Science Associates (ESA) was awarded a contract to coordinate and analyze the data collected. The results of the ESA review and RW Beck composition study are reported below.

## Appendix E

### Results

#### Composition Study Results

A total of 300 individual composition sorts were conducted in this portion of the study. The results of the composition study very closely reflect those of the 2000 WCS for the commercial sector with only a couple of exceptions. The composition study reported Foodwaste, Carpet, Diapers and Bulky items lower than the 2000 WCS. Mixed Paper, Film Plastics, Other Ferrous Metals, and Crushable Inerts were reported slightly higher.

The lower value for foodwaste was expected because only a few food related business were selected for sorting due to the abundance of composition data already available from that business type.

This portion of the study provided unique composition information about specific business type waste. It also confirmed the reliability of the WCS results for the commercial waste sorts.

The composition results were used by ESA in the analysis to identify synergies between business types that generate similar wastes.

#### Key Finding

- ❑ Paper and organics were the largest fractions of the commercial waste stream at 35% and 26% respectively in the study.
- ❑ Other paper at 12% was the largest component of the paper type and foodwaste at 11% was the largest component of the organics category
- ❑ Film plastic was the most abundant material from the plastic category at almost 8%.
- ❑ The study provided 300 business specific waste sorts to assist in targeting recycling programs.
- ❑ In general there is good correlation between the Weight Based Disposal Study and the 2000 Waste Characterization Study on a material category basis. See table below.

**Table 1 Most Frequently Disposed Materials**

Material	1995 WCS	2000 WCS	Weight Based Study
Foodwaste	1	1	2
Other Paper	2	2	1
Uncoated Corrugated	3	3	4
Film Plastics	8	5	3
Other plastics	4		6
Wood Unpainted	5	4	5
Mixed paper	6	9	7

Table 1 compares the most frequently disposed material types in the commercial waste stream between the 1995 WCS, 2000 WCS and the Weight Based Disposal Study composition

## Appendix E

analysis. The variability in the ranking can be attributed to an intentional skew away from restaurants.

### **Weight Based Disposal Data Analysis Results**

ESA performed the weight data analysis. The objective of the analysis was to conduct a statistical evaluation of the weight data and draw conclusions that could be applied to new recycling efforts. Due to limitations in logistics and budget, the study did not collect a random sampling of all of Alameda County. Despite this limitation however, the research, the first of its kind in the nation, produced a data set that will serve to better understand the commercial waste stream in both composition, weight and generator type.

The first step in the analysis was to assign Standard Industrial Classification (SIC) codes to the businesses in the study and validate the weights from each route/business. A total of 1,512 commercial establishments were identified in the study. From the 1,512 businesses 12,763 weight records were confirmed valid which represented 6,442,762 pounds of waste (3,221 tons). Once SIC codes were assigned, the businesses were sorted into four broad groups based upon their SIC code assignment. The groups, Manufacturing (Mfg.), Miscellaneous (Misc.), Retail (Ret), Service (Srv.) each had between 11 and 14 types of businesses in them.

Examples of the business type within each of the four business groups are shown in Table 2.

**Table 2 Business Types within Business Groups**

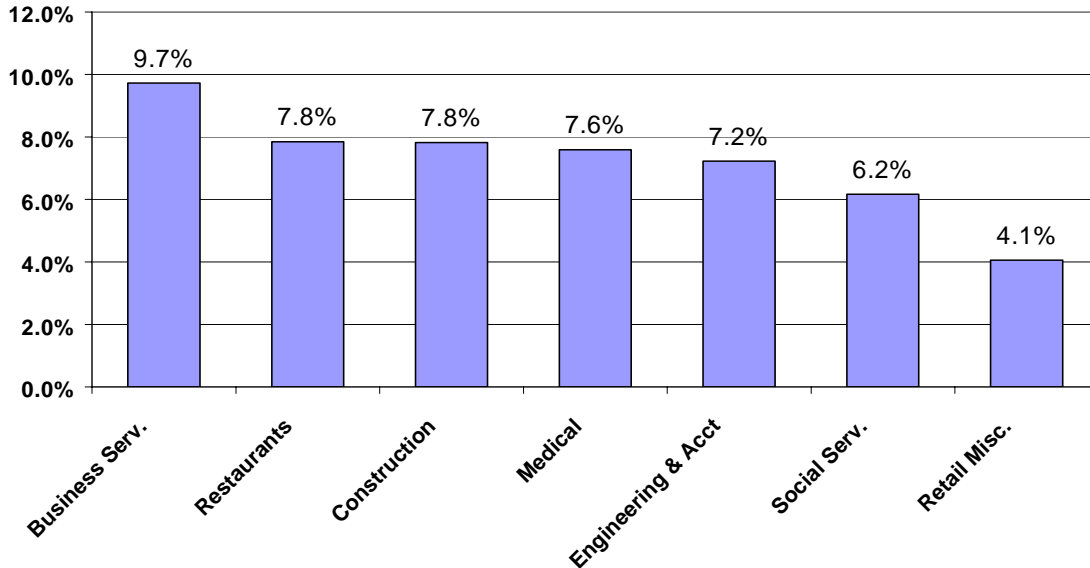
<b>Manufacturing</b>	<b>Miscellaneous</b>	<b>Retail/Wholesale</b>	<b>Services</b>
Chemical, Food, Furniture, Paper Products, Stone/brick, Lumber, Electronics	Agriculture, Amusements, Construction, Public Admin., Education Transportation	Apparel Automotive Food stores, Furniture & Equipment stores, Restaurants, Wholesale	Auto Repair, Business, Engineering & Accounting, Health, Hotels, Real Estate,

The average weekly weight across all business types was 538 lbs. while the maximum weekly for a single business type was 1,147 in the Manufacturing Group in the business type of food manufacturing. The lowest weekly weight was 209 lbs. in the Services group in the Personal service type (barbers, salons). The importance of knowing the average weekly weight disposed by business type can assist recycling coordinators target specific commercial establishments that have a high potential for waste reduction and/or recycling.

On an annualized basis, seven business types generated 50% of the waste in the study. The seven business types represent 47% of the businesses and 39% of the employees when extrapolated to the whole county. Business Services, Restaurants, Construction and health were the top four generators by business type. The cause for these businesses being identified was either there are a large number of these types of businesses in the county and/or their waste is higher in density or both. Having data that shows how much waste is generated by each business type in a community will help jurisdictions develop programs that are specific to their particular mix of business types.

## Appendix E

**Heaviest Generators by Business Type  
(50% of Commercial Waste Generated)**



These results of the study were limited in that the study only surveyed front loader bin accounts and did not include debris box rental, compactors and waste that is self hauled. However, businesses that are serviced by front loader accounts represent approximately 70% of the waste services provided in WM waste shed.

The weight information, when combined with the composition data, will give member agencies knowledge of which businesses are generating the most waste in their community and what that waste is composed of.

### **Key Findings**

Two key findings from this element of the study was identifying average weekly weight of waste disposed by business type and annual waste generation by business type. Table 3 and 4 tabulate the findings.

**Table 3 Average Weekly weight disposed by Business type**

Business Group	Business Type	Average Weekly Weight
Manufacturing	Food Mfg.	1,147 lbs./week
Retail/Wholesale	Stone & Clay	965 lbs./week
Miscellaneous	Agriculture	949 lbs./week
Miscellaneous	Transportation by Air	882 lbs./week
Service	Hotels	842 lbs./week

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**Table 4 Annual Waste Generators by Business Type**

<b>Business Group</b>	<b>Business Type</b>	<b>Annual Tons Disposed</b>
Service	Business	67,986 tons/yr.
Retail	Restaurants	54,848 tons/yr.
Miscellaneous	Construction	54,655 tons/yr.
Service	Medical	53,047 tons/yr.

Table 4 was developed by annualizing the weekly waste generation figure for each business type and multiplying that result by the number of businesses in that business type.

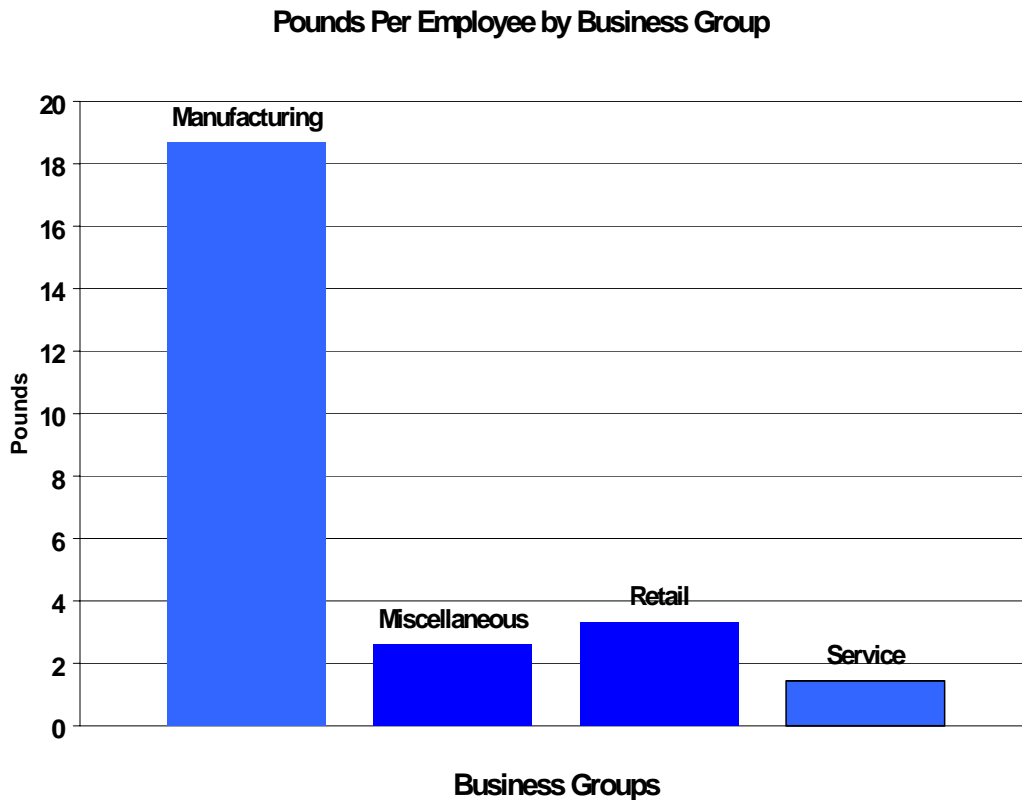
### ***Other findings include:***

- ❑ Number of employees is a generally good indicator of waste generation in most business types.
- ❑ Business type can be a good indicator of waste composition and generation.
- ❑ The 35 of 48 business types were adequately represented by the study data set to make extrapolations to the rest of the county.
- ❑ The average weekly weight of commercial waste disposed is 538 pounds.
- ❑ A specific profile of each community can be developed commercial waste generators for recycling program development.





## Appendix E



The chart above shows pounds of waste generation per employee by business group. It is obvious from the chart that manufacturing offers great opportunities for targeting based upon pounds per employee; however, the total numbers of businesses in the service category require that the business type not be ignored when developing recycling programs for the commercial sector.

### **Conclusion**

It is evident from this work that service and retail businesses generate the most amount of waste in the county. It also reinforces that foodwaste and other paper remain opportunities for recycling in the commercial sector. It is also apparent that restaurants and food manufacturers should be a target to reduce foodwaste materials from the waste stream.

More importantly, however, is that a data set is now available that can be tailored for use in developing jurisdiction-specific recycling programs for the commercial waste stream that gives business type, weight frequency, and composition of the waste stream.



## Appendix F: Incentive Program Checklist

1. Does the incentive program have a clear goal(s)?
2. Does the program as designed have a high probability of achieving that goal(s)?
3. Was consideration given to alternate means of achieving the goal(s), with clear weighing of the pros and cons of each?
4. Are there clearly defined, logical steps for achieving the goal(s)?
5. What is the likelihood or the conditions under which the private sector will undertake the desired activity without the use of public monies?
6. Has full consideration been given to the type, form, and design of the incentive or subsidy to maximize the chance of success with the least expenditure of public funds?
7. Can it be assessed whether the marketplace or regulatory environment has changed or will change prior to or during implementation such that the private sector would now, on its own, undertake an activity that it would not have previously undertaken?
8. Do the relative risks inherent in a partnership reflect the parties' relative investment (monetary or otherwise)?
9. What factors are of most importance to the Agency in an ongoing partnership? Does the contractual or other partnership arrangement provide the Agency with adequate control over these factors?
10. Do partnership arrangements specify clear performance standards for measuring all aspects of private sector compliance with the arrangement?
11. Do partnership arrangements encourage and reward private sector efficiency?
12. Will capital funding of private facilities result in a relative comparable degree of public ownership unless specifically waived?
13. Are there clear milestones at which progress can be measured and means for measuring progress?
14. Is the program flexible? Can it be modified, redesigned or ended as circumstances change?
15. Does the program have a finite life, with an affirmative action required to extend it?





## Appendix G: Sustainability Inventory

ICLEI has developed the Sustainability Inventory to assist municipalities in maintaining the integrity of their natural resources over the long term while enhancing economic vitality and social well-being within a community.

### ***What is the Sustainability Inventory?***

The Sustainability Inventory asks guided questions about the quality of a community's natural, social and economic resources and their management strategies to assess whether the resources are being managed in a sustainable manner.

### ***Why conduct a Sustainability Inventory?***

Compiling responses to the guided questions establishes a factual profile of community resources from which goals and targets can be set in order to move towards a more sustainable community.

Sample targets include:

- Increase procurement of “environmentally and sustainable friendly” equipment by 20%
- Increase the stock of affordable housing by 15% in 5 years

### ***The Benefits***

- Provides accurate information to municipal staff on the state of a community's environmental quality, to enable them to evaluate the impacts of their policy decisions on the local natural resource base.
- Identifies indicators that the local government can use to track progress and benchmark with other cities.
- Forms the foundation for a plan of action to move local government toward more sustainable practices that result in reduced consumption and more sensible use of resources.

## **Appendix G**

- ❑ Serves as a learning tool about the current state of a community's resources.
- ❑ Assists in identifying where the public can take action to create a more sustainable community.
- ❑ Promotes the development of efficient, collaborative management strategies.

### **What does it take to conduct a Sustainability Inventory?**

- ❑ tailoring the inventory to the municipality's character
- ❑ collecting data in 16 categories
- ❑ evaluating the collected data and identifying priority action areas
- ❑ setting sustainability targets (targets to reflect a sustainable rate of resource consumption)
- ❑ preparation of an action plan with specific recommendations and designated implementation parties and
- ❑ presentation of the report to the community and local government.

### **The resources that are surveyed include:**

Water	Health
Air	Economy
Land	Housing
Waste	Safety
Energy	Education
Transportation	Recreation
Biological Resources	Civic & Municipal Involvement
Municipal Policies & Practices	

For case study examples, visit ICLEI's website at <http://www.iclei.org/us/communities21.html> or email Allison Quaid at [aquaid@iclei.org](mailto:aquaid@iclei.org).

## Appendix H: Multi-Year Fiscal Forecasts



### MEMORANDUM

DATE: October 10, 2001  
TO: Recycling Board Committee of the Whole  
FROM: Pat Cabrera, Administrative Services Director  
Gina Peters, Finance Officer  
Meghan Starkey, Program Manager  
RE: Multi-Year Fiscal Forecasts

#### Background

In conjunction with the Recycling Plan updates, staff has prepared for Board review multi-year revenue and expenditure forecasts based on three different “disposal” scenarios. Fiscal forecasts can be a valuable tool in determining the financial direction of an entity and can aid in the decision making process, particularly when the revenue base is stable and relevant historical data is available to help support the methodology used in the projections. However, forecasting in the best of circumstances is still based on assumptions that may or may not materialize. In this case, the disposal assumptions are speculative and have the greatest impact on revenue (and consequently on funding available for projects). Rather than using this forecast to make long term decisions, it is recommended that this forecast be used to establish a baseline and that staff compare forecasted figures to the actual figures on an annual basis to determine the accuracy of our assumptions.

The three fiscal forecast scenarios are:

- Both the Agency and the private sector will meet the 75% diversion goal by fiscal year 2009/10
- The Agency will meet its goal and the private sector will meet half of the remaining diversion goals
- The Agency will meet its goal and the private sector will not meet any additional diversion goals. These assumptions are discussed in greater detail on page three of this report.

In addition, the forecasts are all based on several common assumptions discussed below.

#### Assumptions

##### Tonnage

Actual disposal is known for 1990-2000. An estimated countywide diversion rate of 50% in 2000 and 12% in 1990 was used to determine estimated generation. Historical growth in

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generation, 1990-2000, was used to calculate the estimated growth in generation 2000-2010. The total growth rate was annualized at 3.6% (see Attachment A).

The annual disposal estimates are calculated by using estimated generation for each year, then subtracting several figures:

- ❑ extension of current diversion efforts, adjusted to grow proportionately with generation
- ❑ scheduled projects (such as OPD, MRF, C&D, StopWa\$te)
- ❑ further jurisdiction efforts
- ❑ new projects
- ❑ private sector efforts

These figures, when a schedule for implementation was known, were subtracted from the appropriate years. Otherwise, the needed diversion to get to the 75% goal was spread across all years, increasing evenly to the total amount needed.

San Francisco tonnage was based on information provided by San Francisco staff, from their project implementation schedule, as well as aligned with our 75% goal in 2010.

### Revenue

In addition to revenue derived from disposal, the Agency currently earns approximately \$2.0 million in interest revenue. Much of this revenue is based on the Agency's various reserves. As indicated in Attachment V, many of these reserves are projected to be spent as follows with interest revenue adjusted accordingly:

- ❑ The Organic Processing Development (OPD) reserve is projected to be spent approximately \$3,071,000 annually starting in fiscal year 2002/03 through fiscal year 2004/05
- ❑ The remaining Incentives Fund reserve (\$960,000) is projected to be spent in fiscal year 2002/03
- ❑ The MRF –Davis Street reserve is projected to spend \$750,000 annually starting in fiscal year 2002/03 through fiscal year 2005/06 and \$300,000 in fiscal year 2006/07
- ❑ The remaining Eco-Park reserve (\$1,300,000) is projected to be spent in fiscal year 2002/03
- ❑ The Material Recovery/Diversion (C&D) Program is projected to spend \$249,000 annually starting in fiscal year 2002/03 through fiscal year 2006/07

More importantly, implementation of these projects is projected to reduce tonnage disposed, which in turn reduces revenue.

The Measure D cost of living adjustment was included in the fiscal forecast consistent with the inflation factor used in baseline expenditure calculation discussed below.

It is assumed that Tri-Cities waste will not pay the Measure D fee.

In addition, the yearly mandated transfer of \$811,000 from Mitigation monies to the Transportation Improvement Fund (TIP) sunsets in fiscal year 2004/05 (see Attachment IV).



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### Expenditures

In order to determine what funding would be available for projects a baseline or fixed cost budget has been established for fiscal years 2001/02 to 2009/10. This budget is comprised of staff costs and other “fixed” costs such as rent, supplies, equipment replacement, etc. Personnel costs are based on the current staffing levels and are adjusted at approximately 5% annually to capture salary step increases, health benefit cost increases, retirement costs and cost of living adjustments. Other overhead costs are adjusted for rent and equipment replacement increases.

As shown in each scenario, after deducting the projected baseline costs and other mandated disbursements (e.g., member agency funding) from the projected revenues, the remaining balance represents the estimated funds available for projects.

### Fiscal Forecast Scenarios

Private sector diversion is the key variable in the three scenarios presented. The assumption made in setting the 500,000 ton goal by 2010 was that ACWMA and the jurisdictions have limited control over the waste stream and currently influence about one-third of all diversion activity occurring with the remainder (2/3) occurring due solely to private sector initiative. The one-third is based on actual diversion tonnages that can be documented from Agency and member agency sponsored programs compared to total calculated diversion occurring.

It is assumed in all three scenarios that the Agency will meet its goal of 500,000 tons of new diversion.

#### Scenario I (Attachment I)

In Scenario I the private sector meets all goals (targeted diversion). Specifically, the needed 1,000,000 tons of private sector diversion is distributed across all years, increasing evenly. Beginning in fiscal year 2002/03 funds available for projects total approximately \$7.6 million and are projected to drop to approximately \$5.2 million by fiscal year 2009/10.

#### Scenario II (Attachment II)

In Scenario II the private sector meets half its goals, which translates to 500,000 tons of diversion distributed across all years. Beginning in fiscal year 2002/03 funds available for projects total approximately \$8.1 million and are projected to total approximately \$7.6 million in fiscal year 2009/10.

#### Scenario III (Attachment III)

In Scenario III the private sector diverts no new material (meets no goals) and as such, no additional diversion is subtracted. Beginning in fiscal year 2002/03 funds available for projects total approximately \$8.3 million and are projected to total \$9.7 million fiscal year 2009/10.

These three fiscal forecast scenarios are presented because the largest impact on disposal and diversion will be from forces outside our control (economic growth and/or recession, global markets, national and local flow control, etc.). Historically, both disposal and diversion have increased in the five years for which we have data.

## **Appendix H**

### **Current Budgetary Impacts**

As previously discussed, these forecasts are highly speculative and should not be used for long term decision making at this time. However, they are useful in the short term to aid in the development of the fiscal year 2002/03 budget. The estimated funds available for projects in fiscal year 2002/03 for the three scenarios range between \$7.6 million and \$8.3 million, which is consistent with previous spending patterns, minus any one-time projects as explained below.

Unaudited project expenditures for fiscal year 2000/01 total approximately \$6.8 million, whereas fiscal year 2001/02 project costs total approximately \$9.9 million, which includes one time or limited term expenditures and prior year carryovers. The three one-time projects (Incentives Fund, The Recycling Board Five Year Audit, CoIWMP Five Year Revision and the Recycling Plan Update) total approximately \$1.3 million. The remainder of this difference between fiscal year 2000/01 and 2001/02 budgets was due primarily to prior year carryovers. Therefore, after deducting the one-time costs, taking an average of the two fiscal year budgets gives a clearer picture of the Agency's spending patterns. The average of these two years totals approximately \$7.7 million.

Staff is aware of the need to balance ongoing annual expenditures to ongoing annual revenues and will do so with the upcoming budget. Decisions to supplement additional expenditures with fund balances or designated reserves will continue to be made at the board level.

### **Recommendation**

Review the three fiscal forecasts. Direct staff to monitor current year revenues and revise as appropriate. Further direct staff to prepare the fiscal year 2002/03 budget based on the most monetarily conservative fiscal forecast scenario and to present revised fiscal forecasts on an annual basis.

**Appendix H**

**Attachment A to Appendix H**

<b>WASTE MANAGEMENT AUTHORITY &amp; SOURCE REDUCTION AND RECYCLING BOARD</b>									
<b>Multi-Year Projection</b>									
<b>SCENARIO 1 (ASSUMES PRIVATE SECTOR MEETS ALL GOALS)</b>									
	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	
<b>TONNAGES:</b>									
County Waste at Altamont/Vasco	1,077,417	1,026,622	965,062	909,796	857,547	842,336	830,378	821,799	
County Waste - Disposed Out-of County	233,402	222,398	209,062	197,090	185,771	182,476	179,885	178,027	
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323	
Tri-Cities Disposal	278,122	265,010	249,119	234,853	221,365	217,438	214,352	212,137	
San Francisco Tonnages disposed in County	653,903	617,749	573,268	552,279	542,000	532,000	522,000	512,955	
<b>SCENARIO 2 (ASSUMES PRIVATE SECTOR MEETS 50% of GOAL)</b>									
County Waste at Altamont/Vasco	1,185,721	1,167,887	1,139,289	1,116,985	1,097,698	1,115,448	1,136,452	1,160,836	
County Waste - Disposed Out-of County	256,864	253,000	246,805	241,973	237,795	241,641	246,191	251,473	
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323	
Tri-Cities Disposal	306,079	301,476	294,093	288,336	283,357	287,939	293,361	299,655	
San Francisco Tonnages disposed in County	653,903	617,749	573,268	552,279	542,000	532,000	522,000	512,955	
<b>SCENARIO 3 (ASSUMES PRIVATE SECTOR DOES NOT MEET ANY GOAL)</b>									
County Waste at Altamont/Vasco	1,228,100	1,252,646	1,266,427	1,286,503	1,309,596	1,369,725	1,433,109	1,499,872	
County Waste - Disposed Out-of County	266,044	271,362	274,347	278,696	283,699	296,725	310,456	324,919	
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323	
Tri-Cities Disposal	317,019	323,355	326,913	332,095	338,056	353,578	369,939	387,173	
San Francisco Tonnages disposed in County	653,903	617,749	573,268	552,279	542,000	532,000	522,000	512,955	

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### Attachment I to Appendix H

WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD Multi-Year Projection		SCENARIO 1 (ASSUMES PRIVATE SECTOR MEETS ALL GOALS)								
AVAILABLE FOR PROJECTS	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>Revenue Source:</b>										
Tonnages	\$ 13,818,859	\$ 13,585,052	\$ 14,001,220	\$ 13,764,269	\$ 13,374,954	\$ 13,124,466	\$ 12,934,515	\$ 13,116,945	\$ 13,332,452	\$ 13,609,388
Interest	2,169,976	1,903,000	1,198,464	1,083,589	964,119	962,724	979,272	1,018,444	1,059,181	1,101,549
Property Income	475,416	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177
Other	436,839	431,947	-	-	-	-	-	-	-	-
<b>Total Revenue</b>	<b>\$ 16,901,090</b>	<b>\$ 16,485,176</b>	<b>\$ 15,764,861</b>	<b>\$ 15,413,035</b>	<b>\$ 14,904,250</b>	<b>\$ 14,652,367</b>	<b>\$ 14,478,964</b>	<b>\$ 14,700,566</b>	<b>\$ 14,956,810</b>	<b>\$ 15,276,114</b>
<b>Contractual allocation to Member Agencies:</b>										
Municipalities(50%) - Measure D	\$ (3,820,539)	\$ (3,804,008)	(3,947,599)	(3,970,931)	(3,949,513)	(3,935,618)	(3,923,637)	(4,056,274)	(4,201,898)	(4,327,720)
Recycled Price Preference - Measure D	(378,609)	(377,201)	(392,203)	(394,434)	(392,185)	(390,685)	(389,372)	(402,516)	(416,954)	(429,407)
<b>Available Revenue</b>	<b>\$ 12,701,942</b>	<b>\$ 12,303,967</b>	<b>\$ 11,425,059</b>	<b>\$ 11,047,670</b>	<b>\$ 10,562,552</b>	<b>\$ 10,326,064</b>	<b>\$ 10,165,955</b>	<b>\$ 10,241,776</b>	<b>\$ 10,337,958</b>	<b>\$ 10,518,987</b>
<b>Fixed Cost:</b>										
Labor Cost (salary + benefits)	\$ 2,374,120	\$ 2,751,709	\$ 2,862,934	\$ 3,018,832	\$ 3,167,425	\$ 3,332,256	\$ 3,501,885	\$ 3,680,323	\$ 3,863,783	\$ 4,053,985
Administrative/Non-Project - Hard Cost	822,644	964,700	1,009,805	1,025,363	1,041,388	1,057,894	1,074,895	1,092,406	1,110,442	1,129,019
<b>Total Fixed Cost</b>	<b>\$ 3,196,764</b>	<b>\$ 3,716,409</b>	<b>\$ 3,872,739</b>	<b>\$ 4,044,195</b>	<b>\$ 4,208,813</b>	<b>\$ 4,390,150</b>	<b>\$ 4,576,780</b>	<b>\$ 4,772,729</b>	<b>\$ 4,974,225</b>	<b>\$ 5,183,004</b>
<b>Project Cost:</b>	<b>\$ 6,810,435</b>	<b>\$ 9,908,468</b>								
<b>Available for Projects: ****</b>			<b>\$ 7,552,320</b>	<b>\$ 7,003,475</b>	<b>\$ 6,353,739</b>	<b>\$ 5,935,914</b>	<b>\$ 5,589,175</b>	<b>\$ 5,469,047</b>	<b>\$ 5,363,733</b>	<b>\$ 5,335,983</b>
**** Available for projects = Available revenue less fixed cost										
NOTE: Scenario 1 assumes that the private sector meets all targeted diversion goals.										
The tonnage revenue increases from FY 07/08 through FY 09/10 is due to higher Measure D rate which outpaces the decrease in tonnage as a result of additional diversion programs.										

**Appendix H**

**Attachment I to Appendix H**

<b>WASTE MANAGEMENT AUTHORITY &amp; SOURCE REDUCTION AND RECYCLING BOARD</b>		<b>SCENARIO 1 (ASSUMES PRIVATE SECTOR MEETS ALL GOALS)</b>							
<b>Multi-Year Projection</b>									
		02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>TONNAGE REVENUE DETAIL:</b>									
Tonnes:									
County Waste at Altamont/Vasco		1,077,417	1,026,622	965,062	909,796	857,547	842,336	830,378	821,799
County Waste disposed Out-of-County		233,402	222,398	209,062	197,090	185,771	182,476	179,885	178,027
Out of County - Disposed In-County		118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
Tri-Cities Disposal		278,122	265,010	249,119	234,853	221,365	217,438	214,352	212,137
<b>Total</b>		<b>1,707,264</b>	<b>1,632,353</b>	<b>1,541,566</b>	<b>1,460,062</b>	<b>1,383,006</b>	<b>1,360,573</b>	<b>1,342,938</b>	<b>1,330,286</b>
<b>Facility Fee Rate</b>	<b>\$</b>	<b>1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>	<b>\$ 1.50</b>
<b>Total Facility Fees (A)</b>	<b>\$</b>	<b>2,560,896</b>	<b>\$ 2,448,530</b>	<b>\$ 2,312,349</b>	<b>\$ 2,190,093</b>	<b>\$ 2,074,509</b>	<b>\$ 2,040,860</b>	<b>\$ 2,014,407</b>	<b>\$ 1,995,429</b>
Measure D Tonnes:									
County Waste at Altamont/Vasco		1,077,417	1,026,622	965,062	909,796	857,547	842,336	830,378	821,799
Out of County - Disposed In-County		118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
<b>Total</b>		<b>1,195,740</b>	<b>1,144,945</b>	<b>1,083,385</b>	<b>1,028,119</b>	<b>975,870</b>	<b>960,659</b>	<b>948,701</b>	<b>940,122</b>
<b>Measure D Rate</b>	<b>\$</b>	<b>6.56</b>	<b>\$ 6.89</b>	<b>\$ 7.24</b>	<b>\$ 7.60</b>	<b>\$ 7.98</b>	<b>\$ 8.38</b>	<b>\$ 8.79</b>	<b>\$ 9.23</b>
<b>Measure D Revenue (B)</b>	<b>\$</b>	<b>7,844,054</b>	<b>\$ 7,888,671</b>	<b>\$ 7,843,707</b>	<b>\$ 7,813,704</b>	<b>\$ 7,787,443</b>	<b>\$ 8,050,322</b>	<b>\$ 8,339,082</b>	<b>\$ 8,677,326</b>
Mitigation Tonnes:									
Out of County - Disposed In-County		118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
<b>Mitigation Rate</b>	<b>\$</b>	<b>4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>	<b>\$ 4.53</b>
<b>Mitigation Revenue (C)</b>	<b>\$</b>	<b>536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>
San Francisco Tonnes disposed in County:									
		653,903	617,749	573,268	552,279	542,000	532,000	522,000	512,955
<b>San Francisco Rate</b>	<b>\$</b>	<b>4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>	<b>\$ 4.68</b>
<b>San Francisco Revenue (D)</b>		<b>3,060,266</b>	<b>2,891,065</b>	<b>2,682,894</b>	<b>2,584,666</b>	<b>2,536,560</b>	<b>2,489,760</b>	<b>2,442,960</b>	<b>2,400,629</b>
<b>Total Revenue from Tonnes (A+B+C+D)</b>	<b>\$</b>	<b>14,001,220</b>	<b>\$ 13,764,269</b>	<b>\$ 13,374,954</b>	<b>\$ 13,124,466</b>	<b>\$ 12,934,515</b>	<b>\$ 13,116,945</b>	<b>\$ 13,332,452</b>	<b>\$ 13,609,388</b>

## Appendix H

### Attachment II to Appendix H

SCENARIO 2 ( ASSUMES PRIVATE SECTOR MEETS 50% OF GOAL)										
WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD										
Multi-Year Projection										
AVAILABLE FOR PROJECTS	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>Revenue Source:</b>										
Tonnages	\$ 13,818,859	\$ 13,585,052	\$ 14,951,278	\$ 15,050,084	\$ 15,021,773	\$ 15,157,435	\$ 15,382,170	\$ 16,009,791	\$ 16,699,926	\$ 17,488,701
Interest	2,169,976	1,903,000	1,198,464	1,083,589	964,119	962,724	979,272	1,018,444	1,059,181	1,101,549
Property Income	475,416	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177
Other	436,839	431,947	-	-	-	-	-	-	-	-
<b>Total Revenue</b>	<b>\$ 16,901,090</b>	<b>\$ 16,485,176</b>	<b>\$ 16,714,919</b>	<b>\$ 16,698,850</b>	<b>\$ 16,551,069</b>	<b>\$ 16,685,336</b>	<b>\$ 16,926,619</b>	<b>\$ 17,593,412</b>	<b>\$ 18,324,284</b>	<b>\$ 19,155,427</b>
<b>Contractual allocation to Member Agencies:</b>										
Municipalities(50%) - Measure D	\$ (3,820,539)	\$ (3,804,008)	\$ (4,302,836)	\$ (4,457,588)	\$ (4,580,214)	\$ (4,722,936)	\$ (4,881,840)	\$ (5,200,613)	\$ (5,547,093)	\$ (5,502,242)
Recycled Price Preference - Measure D	(378,609)	(377,201)	(427,726)	(443,099)	(455,256)	(469,417)	(485,192)	(516,950)	(551,474)	(546,859)
<b>Available Revenue</b>	<b>\$ 12,701,942</b>	<b>\$ 12,303,967</b>	<b>\$ 11,984,357</b>	<b>\$ 11,798,163</b>	<b>\$ 11,515,599</b>	<b>\$ 11,492,983</b>	<b>\$ 11,559,587</b>	<b>\$ 11,875,849</b>	<b>\$ 12,225,717</b>	<b>\$ 13,106,326</b>
<b>Fixed Cost:</b>										
Labor Cost (salary + benefits)	\$ 2,374,120	\$ 2,751,709	\$ 2,862,934	\$ 3,018,832	\$ 3,167,425	\$ 3,332,256	\$ 3,501,885	\$ 3,680,323	\$ 3,863,783	\$ 4,053,985
Administrative/Non-Project - Hard Cost	822,644	964,700	1,009,805	1,025,363	1,041,388	1,057,894	1,074,895	1,092,406	1,110,442	1,129,019
	\$ 3,196,764	\$ 3,716,409	\$ 3,872,739	\$ 4,044,195	\$ 4,208,813	\$ 4,390,150	\$ 4,576,780	\$ 4,772,729	\$ 4,974,225	\$ 5,183,004
<b>Project Cost:</b>	<b>\$ 6,810,435</b>	<b>\$ 9,908,468</b>								
<b>Available for Projects: ****</b>			<b>\$ 8,111,618</b>	<b>\$ 7,753,968</b>	<b>\$ 7,306,786</b>	<b>\$ 7,102,833</b>	<b>\$ 6,982,807</b>	<b>\$ 7,103,120</b>	<b>\$ 7,251,492</b>	<b>\$ 7,923,322</b>
**** Available for projects = Available revenue less fixed cost										
NOTE: Scenario II assumes that the private sector meets half its targeted diversion goal (500,00 tons). Increase in tonnage revenue from FY 07/08 is the result of higher tonnages as the impact of new programs level off and without the private sector's full diversion contribution. In addition revenue is affected favorably in FY 05/06 through FY 9/10 due to higher Measure D rate.										

Appendix H

Attachment II to Appendix H

SCENARIO 2 (ASSUMES PRIVATE SECTOR MEETS 50% of GOALS)								
WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD								
Multi-Year Projection								
	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>TONNAGE REVENUE DETAIL:</b>								
Tonnes:								
County Waste at Altamont/Vasco	1,185,721	1,167,887	1,139,289	1,116,985	1,097,698	1,115,448	1,136,452	1,160,836
County Waste disposed Out- of- County	256,864	253,000	246,805	241,973	237,795	241,641	246,191	251,473
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
Tri-Cities Disposal	306,079	301,476	294,093	288,336	283,357	287,939	293,361	299,655
<b>Total</b>	<b>1,866,987</b>	<b>1,840,686</b>	<b>1,798,510</b>	<b>1,765,617</b>	<b>1,737,173</b>	<b>1,763,351</b>	<b>1,794,327</b>	<b>1,830,287</b>
Facility Fee Rate	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50
<b>Total Facility Fees (A)</b>	<b>\$ 2,800,481</b>	<b>\$ 2,781,029</b>	<b>\$ 2,697,765</b>	<b>\$ 2,648,426</b>	<b>\$ 2,605,760</b>	<b>\$ 2,645,027</b>	<b>\$ 2,691,491</b>	<b>\$ 2,745,431</b>
Measure D Tonnes:								
County Waste at Altamont/Vasco	1,185,721	1,167,887	1,139,289	1,116,985	1,097,698	1,115,448	1,136,452	1,160,836
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
<b>Total</b>	<b>1,304,044</b>	<b>1,286,210</b>	<b>1,257,612</b>	<b>1,235,308</b>	<b>1,216,021</b>	<b>1,233,771</b>	<b>1,254,775</b>	<b>1,279,159</b>
Measure D Rate	\$ 6.56	\$ 6.89	\$ 7.24	\$ 7.60	\$ 7.98	\$ 8.38	\$ 8.79	\$ 9.23
<b>Measure D Revenue (B)</b>	<b>\$ 8,554,529</b>	<b>\$ 8,861,987</b>	<b>\$ 9,105,111</b>	<b>\$ 9,388,341</b>	<b>\$ 9,703,848</b>	<b>\$10,339,001</b>	<b>\$11,029,472</b>	<b>\$11,806,638</b>
Mitigation Tonnes:								
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
Mitigation Rate	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53
<b>Mitigation Revenue (C)</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>
San Francisco Tonnes disposed in County:								
San Francisco Rate	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68
<b>San Francisco Revenue (D)</b>	<b>3,060,266</b>	<b>2,891,065</b>	<b>2,682,894</b>	<b>2,584,666</b>	<b>2,536,560</b>	<b>2,489,760</b>	<b>2,442,960</b>	<b>2,400,629</b>
<b>Total Revenue from Tonnes (A+B+C+D)</b>	<b>\$ 14,951,278</b>	<b>\$ 15,050,084</b>	<b>\$15,021,773</b>	<b>\$15,157,435</b>	<b>\$15,382,170</b>	<b>\$16,009,791</b>	<b>\$16,699,926</b>	<b>\$17,488,701</b>

## Appendix H

### Attachment III to Appendix H

SCENARIO 3 ( ASSUMES PRIVATE SECTOR DOES NOT MEET ANY GOAL)										
WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD										
Multi-Year Projection										
AVAILABLE FOR PROJECTS	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>Revenue Source:</b>										
Tonnages	\$ 13,818,859	\$ 13,585,052	\$ 15,323,033	\$ 15,821,574	\$ 16,223,502	\$ 16,820,772	\$ 17,541,868	\$ 18,703,132	\$ 19,963,791	\$ 21,368,003
Interest	2,169,976	1,903,000	1,198,464	1,083,589	964,119	962,724	979,272	1,018,444	1,059,181	1,101,549
Property Income	475,416	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177	565,177
Other	436,839	431,947								
<b>Total Revenue</b>	<b>\$ 16,901,090</b>	<b>\$ 16,485,176</b>	<b>\$ 17,086,674</b>	<b>\$ 17,470,340</b>	<b>\$ 17,752,798</b>	<b>\$ 18,348,673</b>	<b>\$ 19,086,317</b>	<b>\$ 20,286,753</b>	<b>\$ 21,588,149</b>	<b>\$ 23,034,729</b>
<b>Contractual allocation to Member Agencies:</b>										
Municipalities(50%) - Measure D	\$ (3,820,539)	\$ (3,804,008)	\$ (4,441,839)	\$ (4,749,583)	\$ (5,040,454)	\$ (5,367,105)	\$ (5,727,313)	\$ (6,266,034)	\$ (6,850,901)	\$ (6,538,208)
Recycled Price Preference - Measure D	(378,609)	(377,201)	(441,627)	(472,299)	(501,280)	(533,834)	(569,740)	(623,492)	(681,854)	(650,456)
<b>Available Revenue</b>	<b>\$ 12,701,942</b>	<b>\$ 12,303,967</b>	<b>\$ 12,203,208</b>	<b>\$ 12,248,458</b>	<b>\$ 12,211,064</b>	<b>\$ 12,447,734</b>	<b>\$ 12,789,264</b>	<b>\$ 13,397,227</b>	<b>\$ 14,055,394</b>	<b>\$ 15,846,065</b>
<b>Fixed Cost:</b>										
Labor Cost (salary + benefits)	\$ 2,374,120	\$ 2,751,709	\$ 2,862,934	\$ 3,018,832	\$ 3,167,425	\$ 3,332,256	\$ 3,501,885	\$ 3,680,323	\$ 3,863,783	\$ 4,053,985
Administrative/Non-Project - Hard Cost	822,644	964,700	1,009,805	1,025,363	1,041,388	1,057,894	1,074,895	1,092,406	1,110,442	1,129,019
	\$ 3,196,764	\$ 3,716,409	\$ 3,872,739	\$ 4,044,195	\$ 4,208,813	\$ 4,390,150	\$ 4,576,780	\$ 4,772,729	\$ 4,974,225	\$ 5,183,004
<b>Project Cost:</b>	<b>\$ 6,810,435</b>	<b>\$ 9,908,468</b>								
<b>Available for Projects: ****</b>			<b>\$ 8,330,469</b>	<b>\$ 8,204,263</b>	<b>\$ 8,002,251</b>	<b>\$ 8,057,584</b>	<b>\$ 8,212,484</b>	<b>\$ 8,624,498</b>	<b>\$ 9,081,169</b>	<b>\$ 10,663,061</b>
**** Available for projects = Available revenue less fixed cost										
NOTE: Scenario III assumes that the private sector does not meet any of the targeted diversion goals.										
Tonnage revenue is higher starting with FY 06/07 due to increased tonnages resulting from no diversion effect from the private sector and as the impact of diversion programs lessen. Also, additional revenue is generated from higher Measure D rate.										



Appendix H

Attachment III to Appendix H

SCENARIO 3 (ASSUMES PRIVATE SECTOR DOES NOT MEET ANY GOAL)								
WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD								
Multi-Year Projection								
	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>TONNAGE REVENUE DETAIL:</b>								
Tonnes:								
County Waste at Altamont/Vasco	1,228,100	1,252,646	1,266,427	1,286,503	1,309,596	1,369,725	1,433,109	1,499,872
County Waste - Disposed Out-of-County	266,044	271,362	274,347	278,696	283,689	296,725	310,456	324,919
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
Tri-Cities Disposal	317,019	323,355	326,913	332,095	338,056	353,578	369,939	387,173
<b>Total</b>	<b>1,929,486</b>	<b>1,965,686</b>	<b>1,988,010</b>	<b>2,015,617</b>	<b>2,049,674</b>	<b>2,138,351</b>	<b>2,231,827</b>	<b>2,330,287</b>
Facility Fee Rate	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50
<b>Total Facility Fees (A)</b>	<b>\$ 2,894,229</b>	<b>\$ 2,948,529</b>	<b>\$ 2,979,015</b>	<b>\$ 3,023,426</b>	<b>\$ 3,074,511</b>	<b>\$ 3,207,527</b>	<b>\$ 3,347,741</b>	<b>\$ 3,495,431</b>
Measure D Tonnes:								
County Waste at Altamont/Vasco	1,228,100	1,252,646	1,266,427	1,286,503	1,309,596	1,369,725	1,433,109	1,499,872
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
<b>Total</b>	<b>1,346,423</b>	<b>1,370,969</b>	<b>1,384,750</b>	<b>1,404,826</b>	<b>1,427,919</b>	<b>1,488,048</b>	<b>1,551,432</b>	<b>1,618,195</b>
Measure D Rate	\$ 6.56	\$ 6.89	\$ 7.24	\$ 7.80	\$ 7.98	\$ 8.38	\$ 8.79	\$ 9.23
<b>Measure D Revenue (B)</b>	<b>\$ 8,832,535</b>	<b>\$ 9,445,976</b>	<b>\$ 10,025,590</b>	<b>\$ 10,676,678</b>	<b>\$ 11,394,794</b>	<b>\$ 12,469,842</b>	<b>\$ 13,637,087</b>	<b>\$ 14,935,940</b>
Mitigation Tonnes:								
Out of County - Disposed In-County	118,323	118,323	118,323	118,323	118,323	118,323	118,323	118,323
Mitigation Rate	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53	\$ 4.53
<b>Mitigation Revenue (C)</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>	<b>\$ 536,003</b>
San Francisco Tonnes disposed in County:								
	653,903	617,749	573,268	552,279	542,000	532,000	522,000	512,955
San Francisco Rate	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68	\$ 4.68
<b>San Francisco Revenue (D)</b>	<b>3,060,266</b>	<b>2,891,065</b>	<b>2,682,894</b>	<b>2,584,666</b>	<b>2,536,560</b>	<b>2,489,760</b>	<b>2,442,960</b>	<b>2,400,629</b>
<b>Total Revenue from Tonnes (A+B+C+D)</b>	<b>\$ 15,323,033</b>	<b>\$ 15,821,574</b>	<b>\$ 16,223,502</b>	<b>\$ 16,820,772</b>	<b>\$ 17,541,888</b>	<b>\$ 18,703,132</b>	<b>\$ 19,963,791</b>	<b>\$ 21,368,003</b>

Appendix H

Attachment IV to Appendix H

	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>WASTE MANAGEMENT AUTHORITY &amp; SOURCE REDUCTION AND RECYCLING BOARD Multi-Year Projection</b>										
<b>FUND BALANCE:</b>										
Beginning Balance 7/1	8,444,510	8,163,588	3,937,084	3,126,419	2,315,754	1,505,089	1,505,089	1,505,089	1,505,089	1,505,089
Less: Recycling Board Fund Balance:**		(695,029)								
Excess (Deficiency) of Revenues over Expenditures	2,694,743	(1,320,810)								
Transfer to Reserves:										
Incentives	(1,920,000)									
TIP	(810,665)	(810,665)	(810,665)	(810,665)	(810,665)					
Revolving Loan Fund	(250,000)									
Eco-Park		(400,000)								
C&D		(1,000,000)								
Transfer from Reserves:										
C&D	5,000									
Ending Fund Balance 6/30	8,163,588	3,937,084	3,126,419	2,315,754	1,505,089	1,505,089	1,505,089	1,505,089	1,505,089	1,505,089
<b>Recycling Board Fund Balance</b>		695,029	695,029	695,029	695,029	695,029	695,029	695,029	695,029	695,029

Appendix H

Attachment V to Appendix H

WASTE MANAGEMENT AUTHORITY & SOURCE REDUCTION AND RECYCLING BOARD Multi-Year Projection										
	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>RESERVES:</b>										
<b>Beginning Balance 7/1:</b>										
OPD	9,214,000	9,214,000	9,214,000	6,142,667	3,071,334					
MRF Capacity Expansion-Davis Street		3,750,000	3,300,000	2,550,000	1,800,000	1,050,000	300,000			
Incentives		1,920,000	960,000							
Eco-Park	900,000	900,000	1,300,000							
Material Recovery/ Diversion Program	4,000,000	245,000	1,245,000	996,000	747,000	498,000	249,000			
Land Acquisition	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
TIP	3,391,260	4,201,925	5,012,590	5,823,255	6,633,920	7,444,585	7,444,585	7,444,585	7,444,585	7,444,585
Recycling Board	856,854	856,854	856,854	856,854	856,854	856,854	856,854	856,854	856,854	856,854
<b>Transfer In:</b>										
OPD										
MRF Capacity Expansion-Davis Street	3,750,000									
Incentives	1,920,000									
Eco-Park		400,000								
Material Recovery/ Diversion Program	45,000	1,000,000								
TIP	810,665	810,665	810,665	810,665	810,665					
Recycling Board										
<b>Transfer Out:</b>										
OPD			(3,071,333)	(3,071,333)	(3,071,334)					
MRF Capacity Expansion-Davis Street		(450,000)	(750,000)	(750,000)	(750,000)	(750,000)	(300,000)			
Incentives		(960,000)	(960,000)							
Eco-Park			(1,300,000)							
Material Recovery/ Diversion Program	(3,800,000)		(249,000)	(249,000)	(249,000)	(249,000)	(249,000)			
TIP										
Recycling Board										
<b>Ending Balance 6/30:</b>										
OPD	9,214,000	9,214,000	6,142,667	3,071,334	-	-	-	-	-	-
MRF Capacity Expansion-Davis Street	3,750,000	3,300,000	2,550,000	1,800,000	1,050,000	300,000	-	-	-	-
Incentives	1,920,000	960,000	-	-	-	-	-	-	-	-



**Appendix H**

**Attachment V to Appendix H**

<b>WASTE MANAGEMENT AUTHORITY &amp; SOURCE REDUCTION AND RECYCLING BOARD</b>										
<b>Multi-Year Projection</b>										
	Unaudited 00/01	Budget 01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
<b>PROJECTS FUNDED FROM RESERVES:</b>										
Incentives		960,000	960,000							
MRF Capacity Expansion-Davis St.		450,000	750,000	750,000	750,000	750,000	300,000			
OPD			3,071,333	3,071,333	3,071,334					
Eco-Park			1,300,000							
Material recovery/Diversion Program			249,000	249,000	249,000	249,000	249,000			
<b>Total</b>	-	1,410,000	6,330,333	4,070,333	4,070,334	999,000	549,000	-	-	-



## Appendix I: Cost and Revenue Comparisons

This appendix details the cost projections that underlie the discussion in the Funding Section of the Recycling Plan.

### Background

As part of the Recycling Plan process, multi-year fiscal forecasts were developed that outlined the range of estimated revenue available in future years.<sup>4</sup> (See Appendix H.) To accompany the revenue forecasts, this memo outlines project cost estimates over the same time period, to determine whether there appears to be enough money in the future to fund the projects contained in the Plan. In order to simplify the discussion, the cost projections contained here deal only with ongoing costs and ongoing revenues. This section does not attempt to discuss how fund balances and reserves are used. In reality, however, the use of reserves and fund balances gives the Agency substantial flexibility in dealing with potential shortfalls.

For the purposes of this cost estimate, projects with specific anticipated variables in cost were adjusted individually. Those projects are highlighted and discussed below. All other projects were estimated to grow at an up to 3% annual increase rate. Furthermore, this discussion excluded those project costs funded from reserves. Since reserve-funded projects are in effect "pre-paid", and the objective of this analysis is to compare ongoing income to ongoing projects, it was best to exclude these costs.

These cost estimates should not be taken as a substitute for the more specific project cost planning during the annual budget process, or during multi-year project planning. Too many variables exist for this cost estimate to be used for long-term decision making regarding projects or funding levels at the Agency. Rather these cost estimates should be used to determine whether the projects, as outlined in this Plan, appear to be in range with the multiyear fiscal forecast, and whether (or when) significant shortfalls appear.

### Discussion

The attached table outlines, by project, projected ranges of cost annually through FY2010. These costs are compared to the revenue forecasts developed in Appendix H under Scenarios I and III.

The baseline used was the FY02/03 budget. Only hard costs are used in the projections of costs. All labor and overhead costs were adjusted separately in the multiyear fiscal forecasts and are included at the bottom of the spreadsheet under the "fixed costs" category. Projects with "one time funding" justifications were excluded from certain projects either in the baseline or in future years.

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<sup>4</sup> There is a legal issue in using the facility fee for implementing recycling plan diversion goals of 75%. This issue is under review. See Appendix J.

## Appendix I

Certain projects use funding designated for specific activities under Measure D. The three projects most directly tied to Measure D allocations were estimated based on revenue available (7090-Mandated Allocation to Municipalities, 7034-GSA Liaison, and 9001-Recycling Product Central) and appear separately.

Several programs are considering additional staff for increased project delivery. While no new positions are requested at this time, it is anticipated that new positions may be added to the Agency in the future. The cost of these positions would be directly offset by a decrease in consulting expenses.

By and large, most projects are fairly mature and are expected to incur fairly stable costs over time. This cost estimate does not attempt to outline the synergies between projects that will occur in the future, as projects are combined at key points or aligned better with others. Specific projects, however, do have some significant variability in cost projections, and those issues are identified below. These issues are highlighted to demonstrate the potential deviation of projected costs to actual costs over time. In addition, the range of revenue projections also indicates the need to further refine the forecasting tool.

### **Business Group**

#### 0009 - C&D Diversion Program

This project has a designated reserve, to be used in the case of facility development. Whether or not a feasible facility project develops may lead to greater variations in cost, in either direction, than these projections indicate.

#### 0126 - Incentives Fund

This project was funded from reserves. Money for next year's project is also in a designated reserve. Depending on project outcomes, additional money may be budgeted in future years, but no forecast was developed at this time.

#### 7052 - Mini Grants

This project was flat-lined, as demand for this project appears manageable within its existing budget.

#### 9005 - MRF Capacity Expansion

Costs for this project were adjusted downward, reflecting anticipated decreased activity once the MRF is fully operational. Subsidy is funded from an existing reserve.

#### 9999 - Revolving Loan Fund Pool

This project was flat-lined due to the revolving nature of the Loan Fund. Additional capitalizations may be budgeted in the future, but are not anticipated now.

### **Organics Group**

#### 0005 - Organics Technical Assistance

While this project was projected over time at its current funding level, it will undoubtedly see fairly large variations, both up and down, in specific fiscal years. This project will depend on which cities, over time, add residential and commercial organics to their collection system for composting.



## Appendix I

### 7019 - Organics Processing Development

This project assumes at least one and perhaps two facilities will be built in the next few years. The project costs drop off into a "maintenance mode" at that time. Subsidy will be paid from the designated reserve for this project. If less than two projects are funded, there would be a substantial amount of funding available for other projects.

### **Planning and Research**

#### 0015 - Altamont Hills Property Acquisition/Litigation

Land acquisitions would be funded out of the designated reserve.

#### 0018 - Waste Production Measurement

This was a one-time project that will finish in FY03.

#### 0201 - RB Five Year Audit

This project is scheduled to be funded again in FY 07.

#### 0202 - CoIWMP Five Year Revision

This is a one-time project that will finish in FY03.

#### 7030 - Countywide Hazardous Waste Management Plan

This project contains one-time costs associated with the grant application to the CIWMB. Costs are scheduled to go down after FY03.

#### 7067 - Transportation Improvement Program

This project is funded from fund balance, and will sunset in FY05.

#### 7092 - Property Management

This project contains one-time costs related to upgrades to the property. Costs are scheduled to go down after FY03.

#### Waste Characterization Study

This project has been tentatively allocated a budget in FY05. The need for another study and date it would be carried out will be determined by the Agency.

### **Public Education Services**

#### 0121 - School Infrastructure & 8028 - Educational Partnerships

Although significant changes in service delivery are planned for these two projects, total costs are expected to remain relatively stable over the next few years.

#### 8003 - Multimedia Support - Member & Regional Agencies and 9016 - Multimedia Support – Agency

These two projects have a high degree of budgetary discretion, and depend on specific promotional campaigns. Costs were estimated at current levels, but may change in the future.

### **Member Agency**

#### 7042 - Mitigation Fund Disbursement to Municipalities

Although commitment to the municipalities extends only through FY04, this project was flat-lined through FY10.

**Measure D "Direct" Projects**

These three projects are tied directly to revenue estimates based on Measure D allocations. In the Multi-Year Fiscal Forecasts, these costs were subtracted from the "Revenue Available for Projects" and are presented separately here for that reason.

***Analysis of Projections***

When comparing the range of revenue available to the range of expenses projected, there does appear to be a gap in certain years. Nevertheless, it would be premature to come to the conclusion that immediate steps are needed to raise revenue, for several reasons.

- 1) The revenue projections were developed with a new methodology, and include some very aggressive assumptions. A few years out, there is a range of \$3 million dollars between the low and high estimates. That alone indicates there is not a sufficient degree of precision on which to base immediate decisions. More realistic short-term revenue projections are developed based more on history than forecasting, and these revenue projections indicate a stable base of funding for the Agency.
- 2) In the short term, the Agency's fund balances can be used, as they have in past years, to fund certain projects. Other innovative ways of handling cash flow and financing of projects are under investigation, and could yield increased flexibility.
- 3) The cost projections do not indicate very well the degree of potential compression in expenses. There is a great deal of discretion in certain projects, and combined with some uncertainties in future expenses (e.g., whether only one organics facility is built versus two), there is a great deal more flexibility inherent in costs than might appear. In a city, ongoing fixed costs can represent up to 80% of the budget. For the Agency, the fixed costs are generally around 20-25% of the total. That low proportion of fixed costs enables creative management of expenses without compromising essential services.
- 4) Historically, the Agency has spent about 90% of its budget annually. Since the difference between the low estimate of revenue and the high estimate of revenue is about 15% of the total budget, the potential revenue shortfall could be as low as 5%. Combined with the factors above, this shortfall could be eliminated.

The Agency will monitor revenue and costs, and compare them to these forecasts to refine these tools. Ongoing monitoring will ensure ample warning of a future shortfall, and the Agency can take steps to address it.

**Appendix I**

	FY03	FY04	FY04	FY05	FY05	FY06	FY06	FY07	FY07	FY08	FY08	FY09	FY09	FY10	FY10
	Budget	low	high	low	high	Low	high	low	high	low	high	low	high	low	high
<b>BUSINESS</b>															
0009 C & D Diversion Program	\$77,900	\$77,900	\$80,237	\$77,900	\$82,644	\$77,900	\$85,123	\$77,900	\$87,677	\$77,900	\$90,307	\$77,900	\$93,017	\$77,900	\$95,807
0010* Market Development Assistance	\$180,300	\$180,300	\$185,709	\$180,300	\$191,280	\$180,300	\$197,019	\$180,300	\$202,929	\$180,300	\$209,017	\$180,300	\$215,288	\$180,300	\$221,746
0126 Incentives Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7013 StopWaste Partnership	\$545,000	\$545,000	\$561,350	\$545,000	\$578,191	\$545,000	\$595,536	\$545,000	\$613,402	\$545,000	\$631,804	\$545,000	\$650,759	\$545,000	\$670,281
7025 Green Business Program	\$24,250	\$24,250	\$24,978	\$24,250	\$25,727	\$24,250	\$26,499	\$24,250	\$27,294	\$24,250	\$28,112	\$24,250	\$28,956	\$24,250	\$29,824
7050* Grants to Non-Profits	\$705,250	\$705,250	\$726,408	\$705,250	\$748,200	\$705,250	\$770,646	\$705,250	\$793,765	\$705,250	\$817,578	\$705,250	\$842,105	\$705,250	\$867,369
7052 Mini-Grants	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
7055 Green Building-Member Agencies	\$572,500	\$572,500	\$589,675	\$572,500	\$607,365	\$572,500	\$625,586	\$572,500	\$644,354	\$572,500	\$663,684	\$572,500	\$683,595	\$572,500	\$704,103
7057 Revolving Loan Fund Administration	\$107,750	\$107,750	\$110,983	\$107,750	\$114,312	\$107,750	\$117,741	\$107,750	\$121,274	\$107,750	\$124,912	\$107,750	\$128,659	\$107,750	\$132,519
9005 MRF Capacity Expansion	\$20,500	\$20,500	\$21,115	\$20,500	\$21,115	\$20,500	\$21,115	\$20,500	\$21,115	\$20,500	\$21,115	\$20,500	\$21,115	\$20,500	\$21,115
9007 Green Building Guidelines-Residential	\$245,500	\$245,500	\$252,865	\$245,500	\$260,451	\$245,500	\$268,264	\$245,500	\$276,312	\$245,500	\$284,602	\$245,500	\$293,140	\$245,500	\$301,934
9999* Revolving Loan Fund - Pool	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
<i>Sub-Total</i>	<i>\$3,028,950</i>	<i>\$3,028,950</i>	<i>\$3,103,319</i>	<i>\$3,013,450</i>	<i>\$3,163,170</i>	<i>\$3,013,450</i>	<i>\$3,241,565</i>	<i>\$3,013,450</i>	<i>\$3,322,312</i>	<i>\$3,013,450</i>	<i>\$3,405,481</i>	<i>\$3,013,450</i>	<i>\$3,491,145</i>	<i>\$3,013,450</i>	<i>\$3,579,380</i>
<b>ORGANICS</b>															
0005 Organics Technical Assistance	\$376,550	\$376,550	\$387,847	\$376,550	\$399,482	\$376,550	\$411,466	\$376,550	\$423,810	\$376,550	\$436,525	\$376,550	\$449,620	\$376,550	\$463,109
0119 On-Site Composting/Mulching in Non-Res. Sector	\$170,000	\$170,000	\$175,100	\$170,000	\$180,353	\$170,000	\$185,764	\$170,000	\$191,336	\$170,000	\$197,077	\$170,000	\$202,989	\$170,000	\$209,079
0120 Residential Grasscycling	\$140,500	\$140,500	\$144,715	\$140,500	\$149,056	\$140,500	\$153,528	\$140,500	\$158,134	\$140,500	\$162,878	\$140,500	\$167,764	\$140,500	\$172,797
7019 Organics Processing Development	\$384,500	\$384,500	\$396,035	\$100,000	\$100,000	\$100,000	\$103,000	\$100,000	\$106,090	\$100,000	\$109,273	\$100,000	\$112,551	\$100,000	\$115,927
7038 Master Composter Program	\$36,500	\$36,500	\$37,595	\$36,500	\$38,723	\$36,500	\$39,885	\$36,500	\$41,081	\$36,500	\$42,314	\$36,500	\$43,583	\$36,500	\$44,890
8032 Home Compost Education & Outreach	\$68,020	\$68,020	\$70,061	\$68,020	\$72,162	\$68,020	\$74,327	\$68,020	\$76,557	\$68,020	\$78,854	\$68,020	\$81,219	\$68,020	\$83,656
9010 Compost & Worm Bin Distribution	\$425,000	\$425,000	\$437,750	\$425,000	\$450,883	\$425,000	\$464,409	\$425,000	\$478,341	\$425,000	\$492,691	\$425,000	\$507,472	\$425,000	\$522,696
9012 Waste Reduction Outreach Landscape & Turf Professionals	\$106,000	\$106,000	\$109,180	\$106,000	\$112,455	\$106,000	\$115,829	\$106,000	\$119,304	\$106,000	\$122,883	\$106,000	\$126,570	\$106,000	\$130,367
<i>Sub-Total</i>	<i>\$1,707,070</i>	<i>\$1,707,070</i>	<i>\$1,758,282</i>	<i>\$1,422,570</i>	<i>\$1,503,115</i>	<i>\$1,422,570</i>	<i>\$1,548,208</i>	<i>\$1,422,570</i>	<i>\$1,594,654</i>	<i>\$1,422,570</i>	<i>\$1,642,494</i>	<i>\$1,422,570</i>	<i>\$1,691,769</i>	<i>\$1,422,570</i>	<i>\$1,742,522</i>
<b>P &amp; R (Planning &amp; Research)</b>															
0001 Disaster Debris Management Plan - Implementation	\$48,000	\$48,000	\$49,440	\$48,000	\$50,923	\$48,000	\$52,451	\$48,000	\$54,024	\$48,000	\$55,645	\$48,000	\$57,315	\$48,000	\$59,034
0013 ColWWP Amendments	\$22,000	\$22,000	\$22,660	\$22,000	\$23,340	\$22,000	\$24,040	\$22,000	\$24,761	\$22,000	\$25,504	\$22,000	\$26,269	\$22,000	\$27,057
0014 Countywide Hazardous Waste MOU	\$15,000	\$15,000	\$15,450	\$15,000	\$15,914	\$15,000	\$16,391	\$15,000	\$16,883	\$15,000	\$17,389	\$15,000	\$17,911	\$15,000	\$18,448
0015 Altamont Hills Property Acquisition/Litigation	\$10,000	\$10,000	\$10,300	\$10,000	\$10,609	\$10,000	\$10,927	\$10,000	\$11,255	\$10,000	\$11,593	\$10,000	\$11,941	\$10,000	\$12,299
0018 Waste Production Measurement	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
0125	\$32,000	\$32,000	\$32,960	\$32,000	\$33,949	\$32,000	\$34,967	\$32,000	\$36,016	\$32,000	\$37,097	\$32,000	\$38,210	\$32,000	\$39,356
0201 RB Five Year Audit	\$31,000	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0
0202 ColWWP Five Year Revision	\$42,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7017 Disposal/Diversion Reporting System	\$53,000	\$53,000	\$54,590	\$53,000	\$56,228	\$53,000	\$57,915	\$53,000	\$59,652	\$53,000	\$61,442	\$53,000	\$63,285	\$53,000	\$65,183
7030 Countywide Hazardous Waste Management Plan	\$47,000	\$25,000	\$25,000	\$25,000	\$25,750	\$25,000	\$26,523	\$25,000	\$27,318	\$25,000	\$28,138	\$25,000	\$28,982	\$25,000	\$29,851
7033 Legislation	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
7067 Transportation Improvement Program	\$1,100	\$1,100	\$1,133	\$1,100	\$1,167	\$1,100	\$1,202	\$1,100	\$1,238	\$1,100	\$1,275	\$1,100	\$1,313	\$1,100	\$1,353
7092 Property Management	\$93,000	\$53,000	\$55,790	\$13,000	\$57,464	\$13,000	\$59,188	\$13,000	\$60,963	\$13,000	\$62,792	\$13,000	\$64,676	\$13,000	\$66,616
8021 Recycling/Solid Waste Rates & Services Database	\$2,500	\$2,500	\$2,575	\$2,500	\$2,652	\$2,500	\$2,732	\$2,500	\$2,814	\$2,500	\$2,898	\$2,500	\$2,985	\$2,500	\$3,075
Waste Characterization Study				\$500,000	\$550,000										
9017 Recycling Plan Update	\$71,500	\$0	\$0	\$0	\$0	\$0	\$0	\$75,000	\$75,000	\$0	\$0	\$0	\$0	\$0	\$0
<i>Sub-Total</i>	<i>\$538,100</i>	<i>\$281,600</i>	<i>\$289,898</i>	<i>\$741,600</i>	<i>\$847,995</i>	<i>\$241,600</i>	<i>\$306,335</i>	<i>\$541,600</i>	<i>\$639,925</i>	<i>\$241,600</i>	<i>\$323,773</i>	<i>\$241,600</i>	<i>\$332,886</i>	<i>\$241,600</i>	<i>\$342,272</i>

**Appendix I**

	FY03	FY04	FY04	FY05	FY05	FY06	FY06	FY07	FY07	FY08	FY08	FY09	FY09	FY10	FY10
	Budget	low	high	low	high	low	high	low	high	low	high	low	high	low	high
<b>PES (Public Education Services)</b>															
0012 Building Industry Outreach	\$24,000	\$24,000	\$24,720	\$24,000	\$25,462	\$24,000	\$26,225	\$24,000	\$27,012	\$24,000	\$27,823	\$24,000	\$28,657	\$24,000	\$29,517
0121 School Infrastructure	\$202,500	\$202,500	\$208,575	\$202,500	\$214,832	\$202,500	\$221,277	\$202,500	\$227,916	\$202,500	\$234,753	\$202,500	\$241,796	\$202,500	\$249,049
0123 Multi Family Unit Assistance	\$191,000	\$191,000	\$196,730	\$191,000	\$202,632	\$191,000	\$208,711	\$191,000	\$214,972	\$191,000	\$221,421	\$191,000	\$228,064	\$191,000	\$234,906
7001 Agency Seminar	\$7,500	\$7,500	\$7,725	\$7,500	\$7,957	\$7,500	\$8,195	\$7,500	\$8,441	\$7,500	\$8,695	\$7,500	\$8,955	\$7,500	\$9,224
8003 Multimedia Support - Member and Regional Agencies	\$230,500	\$230,500	\$237,415	\$230,500	\$244,537	\$230,500	\$251,874	\$230,500	\$259,430	\$230,500	\$267,213	\$230,500	\$275,229	\$230,500	\$283,486
8028 Educational Partnerships	\$909,795	\$909,795	\$937,089	\$909,795	\$965,202	\$909,795	\$994,158	\$909,795	\$1,023,982	\$909,795	\$1,054,702	\$909,795	\$1,086,343	\$909,795	\$1,118,933
8031 School Education and Outreach	\$45,000	\$45,000	\$46,350	\$45,000	\$47,741	\$45,000	\$49,173	\$45,000	\$50,648	\$45,000	\$52,167	\$45,000	\$53,732	\$45,000	\$55,344
8034 Media Relations – General Information	\$27,000	\$27,000	\$27,810	\$27,000	\$28,644	\$27,000	\$29,504	\$27,000	\$30,389	\$27,000	\$31,300	\$27,000	\$32,239	\$27,000	\$33,207
9014 Promotional Marketing Household Hazardous Waste	\$160,000	\$160,000	\$164,800	\$160,000	\$169,744	\$160,000	\$174,836	\$160,000	\$180,081	\$160,000	\$185,484	\$160,000	\$191,048	\$160,000	\$196,780
9016 Multimedia Support - Agency	\$607,000	\$607,000	\$625,210	\$607,000	\$643,966	\$607,000	\$663,285	\$607,000	\$683,184	\$607,000	\$703,679	\$607,000	\$724,790	\$607,000	\$746,533
9029 Recycling Information Services	\$177,000	\$177,000	\$182,310	\$177,000	\$187,779	\$177,000	\$193,413	\$177,000	\$199,215	\$177,000	\$205,192	\$177,000	\$211,347	\$177,000	\$217,688
<i>Sub-Total</i>	<i>\$2,581,295</i>	<i>\$2,581,295</i>	<i>\$2,658,734</i>	<i>\$2,581,295</i>	<i>\$2,738,496</i>	<i>\$2,581,295</i>	<i>\$2,820,651</i>	<i>\$2,581,295</i>	<i>\$2,905,270</i>	<i>\$2,581,295</i>	<i>\$2,992,428</i>	<i>\$2,581,295</i>	<i>\$3,082,201</i>	<i>\$2,581,295</i>	<i>\$3,174,667</i>
<b>NON-PROJECT</b>															
7064 Technical Advisory Committee	\$2,000	\$2,000	\$2,060	\$2,000	\$2,122	\$2,000	\$2,185	\$2,000	\$2,251	\$2,000	\$2,319	\$2,000	\$2,388	\$2,000	\$2,460
7093 Accounting - Mitigation Fund	\$2,500	\$2,500	\$2,575	\$2,500	\$2,652	\$2,500	\$2,732	\$2,500	\$2,814	\$2,500	\$2,898	\$2,500	\$2,985	\$2,500	\$3,075
7197 WMA Administration	\$103,000	\$103,000	\$106,090	\$103,000	\$109,273	\$103,000	\$112,551	\$103,000	\$115,927	\$103,000	\$119,405	\$103,000	\$122,987	\$103,000	\$126,677
7198 RB Administration	\$82,000	\$82,000	\$84,460	\$82,000	\$86,994	\$82,000	\$89,604	\$82,000	\$92,292	\$82,000	\$95,060	\$82,000	\$97,912	\$82,000	\$100,850
<i>Sub-Total</i>	<i>\$189,500</i>	<i>\$189,500</i>	<i>\$195,185</i>	<i>\$189,500</i>	<i>\$201,041</i>	<i>\$189,500</i>	<i>\$207,072</i>	<i>\$189,500</i>	<i>\$213,284</i>	<i>\$189,500</i>	<i>\$219,682</i>	<i>\$189,500</i>	<i>\$226,273</i>	<i>\$189,500</i>	<i>\$233,061</i>
<b>Member Agencies</b>															
7042* Mitigation Fund Disbursement to Municipalities	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
8015* Unincorporated County per Capita Equivalent Measure D Funding	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>	<i>\$1,070,000</i>
<b>TOTAL RANGES FOR PROJECTS</b>	<b>\$9,114,915</b>	<b>\$8,858,415</b>	<b>\$9,075,417</b>	<b>\$9,018,415</b>	<b>\$9,523,815</b>	<b>\$8,518,415</b>	<b>\$9,193,830</b>	<b>\$8,818,415</b>	<b>\$9,745,445</b>	<b>\$8,518,415</b>	<b>\$9,653,858</b>	<b>\$8,518,415</b>	<b>\$9,894,274</b>	<b>\$8,518,415</b>	<b>\$10,141,902</b>
<b>REVENUE PROJECTIONS RANGES</b>		<b>\$7,003,475</b>	<b>\$8,204,263</b>	<b>\$6,353,739</b>	<b>\$8,002,251</b>	<b>\$5,935,914</b>	<b>\$8,057,584</b>	<b>\$5,589,175</b>	<b>\$8,212,484</b>	<b>\$5,469,047</b>	<b>\$8,624,498</b>	<b>\$5,363,733</b>	<b>\$9,081,169</b>	<b>\$5,335,983</b>	<b>\$10,663,061</b>
<b>MEASURE D DIRECT PROJECTS</b>															
7090 Mandated Allocation of Funds to Municipalities (50%)		\$3,970,931	\$4,749,583	\$3,949,513	\$5,040,454	\$3,935,618	\$5,367,105	\$3,912,637	\$5,727,313	\$4,056,274	\$6,266,034	\$4,201,898	\$6,850,901	\$4,327,720	\$6,538,208
7034 GSA Liaison & 9001 - Recycling Product Central		\$394,434	\$472,299	\$392,185	\$501,280	\$390,685	\$533,834	\$389,372	\$569,740	\$402,516	\$623,492	\$416,954	\$681,854	\$429,407	\$650,456
<b>FIXED COST</b>		<b>\$4,044,195</b>	<b>\$4,044,195</b>	<b>\$4,208,813</b>	<b>\$4,208,813</b>	<b>\$4,390,150</b>	<b>\$4,390,150</b>	<b>\$4,576,780</b>	<b>\$4,576,780</b>	<b>\$4,772,729</b>	<b>\$4,772,729</b>	<b>\$4,974,225</b>	<b>\$4,974,225</b>	<b>\$5,183,004</b>	<b>\$5,183,004</b>
<b>TOTAL (Fixed Costs Plus Project Costs)</b>		<b>\$17,267,975</b>	<b>\$18,341,494</b>	<b>\$17,568,926</b>	<b>\$19,274,362</b>	<b>\$17,234,868</b>	<b>\$19,484,919</b>	<b>\$17,697,204</b>	<b>\$20,619,278</b>	<b>\$17,749,934</b>	<b>\$21,316,113</b>	<b>\$18,111,492</b>	<b>\$22,401,254</b>	<b>\$18,458,546</b>	<b>\$22,513,570</b>

## Appendix J: Analysis of Revenue Raising Options



### Memorandum

To: Recycling Board Committee of the Whole  
From: Pat Cabrera, Administrative Services Director  
Meghan Starkey, Program Manager  
Re: Continuation of Multi-Year Fiscal Forecasts:  
Analysis of Options to Raise Revenue  
Date: February 14, 2002

#### BACKGROUND

As requested by the Committee of the Whole, this memo outlines the various means by which the Agency could raise more revenue. This request grew out of the meeting of October 10, 2001, on the topic of the multi-year fiscal forecasts. Two of the possible scenarios did show declining revenues in future years, and raised some concern that there might be, at some point in the future, less money for programs. Subsequently, the Committee clarified the request to analyze specifically how the agency could raise an additional \$1,000,000 of annual revenue.

To provide additional context, Attachment A of this memo contains a description of all the revenue sources for the Authority and Recycling Board, how fees are applied to waste, and possible variables in these fees. In addition, legal analysis of how and whether we can raise certain fees is also included as Attachment B to this memo.

#### DISCUSSION

As previously discussed, multi-year projections are inherently speculative given the assumptions used, which may or may not materialize. The assumptions behind the multi-year fiscal forecasts included increased diversion from ongoing programs; increased diversion due to several large projects still in their infancy; increased efforts by individual jurisdictions; new projects; and a significant contribution by the private sector to diversion. Those projections predicted less landfill tonnages over time, even though the past five years has seen both increased diversion and increased disposal.

In regards to raising revenue, apart from the variability of the assumptions above, there are three main variables that will directly affect the amount of revenue raised by any fee increase.

1. Waste flow changes due to new contracts. For example, if a city decides to contract with a new hauler, it may directly affect which fees will be collected. A city may contract to direct-haul waste out-of-county, no longer using the Davis St. Transfer Station and

## Appendix J

Altamont Landfill, thereby by-passing the Measure D Fee (currently \$6.59 per ton). Some cities may require Measure D to be paid regardless of where waste is disposed, but not all are doing so now.

2. Waste flow changes due to changes in the business climate. Due to the increasing number of purchases, consolidations, and acquisitions in the waste industry, waste flow out-of-county has increased. Out-of-county landfills are relatively cheaper. In-county operators have more access to those landfills because of mergers, and bigger projects that directly self-haul often choose the out-of-county landfills. This situation affects both franchised waste and non-franchised waste.
3. Landfill management practices, specifically in regard to Alternative Daily Cover (ADC). Were the Measure D fee to be levied on ADC, then operators may use significantly less of this material.

The analysis on this memo is based on the tonnage assumptions for FY04/05, as presented in the multi-year fiscal forecast. According to the most aggressive projections, this would be the first year that a decrease in revenue directly attributable to increased diversion would be felt.

The following chart summarizes the fee raising options that the Recycling and Waste Management Authority Boards could consider. As per the Committee of the Whole request, the target amount of revenue to the agency is \$1,000,000.

Fee	Increase/ Extension	Net Revenue Increase (Assumes no changes to waste flow/landfill management)	How	Sensitivity to changes in waste flow and landfill management
Facility	\$.60	\$1,000,000	<ul style="list-style-type: none"> <li>• Vote of Authority</li> <li>• Consistent with CoIWMP</li> </ul>	Low
Measure D (capped at 20% increase every five years)	\$1.50	\$725,000 to agency  \$725,000 to cities	<ul style="list-style-type: none"> <li>• Vote of Recycling Board</li> <li>• Vote of Authority or double majority of Cities</li> <li>• Vote of Board of Supervisors</li> <li>• Vote of People</li> </ul>	Medium- High
Measure D 1990-1998 "Catchup"	\$1.44	700,000 to agency  700,000 to cities	<ul style="list-style-type: none"> <li>• Vote of Recycling Board</li> <li>• Vote of Board of Supervisors</li> </ul>	Medium- High
Extension of Measure D to ADC	Applying current fee of \$6.59 to ADC	\$500,000 to agency  \$500,000 to cities	<ul style="list-style-type: none"> <li>• Vote of Recycling Board</li> <li>• Vote of Board of Supervisors</li> <li>• Counsel also recommends concurrence of the Authority Board</li> </ul>	Medium- High

### Sensitivity to Changes in Waste Flow and Landfill Management Practices

Facility Fee. This source of revenue is the least sensitive to changes in waste flow and landfill management practices. All franchised waste generated in-county is subject to this fee, regardless of whether disposal is in or out-of-county. Self-haul waste handled at in-county facilities is also subject to this fee. The only waste not covered by this fee is self-hauled waste directly taken by the generator to an out-of-county facility. Raising this particular fee would most likely generate the estimated amount.

Measure D Increase and Measure D "Catch-up." Measure D revenues, as they are generated only from landfills in unincorporated Alameda County, are fairly sensitive to changes in waste flow. Out-of-county disposal has increased in the past four years. Jurisdictions, when negotiating new franchises, could choose to request payment of a fee like Measure D on franchised waste, even if waste is disposed out-of-county. Piedmont has chosen this route. There is no ability to control flow of self-haul waste to landfills in or out-of-county.

Measure D on ADC. This potential source of revenue appears to be the most sensitive to changes in landfill management and waste flow. According to landfill operators, competition for material used as ADC is very high, often within pennies per ton.<sup>5</sup> Adding a \$6.59 fee may mean that this material will then flow to out-of-county landfills for use as ADC there, and in-county landfills will increase their use of Daily Cover (DC), typically soil. Fees are not currently levied on DC materials.

### Other Fee Options

Staff also examined whether there was the ability to offset the limitations of the Measure D Fee, which can be applied only on landfills in unincorporated Alameda County. Unlike Measure D, the Facility Fee is levied on much of the material flowing out-of-county. Staff examined whether the Authority could charge an "in lieu" Measure D fee, through the Facility fee; whether a fee could be charged solely on material flowing out-of-county; or whether there could be a differential fee for jurisdictions hauling out-of-county. The rationale for examining these options is that jurisdictions still have the responsibility to divert their waste, regardless of where it is disposed, and that disposal out-of-county may hinder recycling efforts.

Measure D does contain a provision that the Authority could choose to levy a fee "in lieu" of the Measure D fee. Legal counsel has advised that, despite this provision of Measure D, the Authority cannot do so at this time. It could do so only if the Countywide Integrated Waste Management Plan (CoIWMP) was amended to incorporate all the Measure D requirements. (See Attachment B.) The analysis above shows the fiscal impact of raises in the Facility Fee, which is how this "in lieu" fee would be levied.

Staff also requested a legal opinion as to whether fees could be levied solely on material currently flowing out-of-county, or if a differential fee could be applied to jurisdictions that haul out-of-county. Legal counsel has advised that this is not appropriate. (See Attachment B.) Recycling Board counsel has concurred with the opinions in Attachment B.

The San Francisco fee cannot be changed, as it contractually established. The Mitigation Fee would need to be tripled to reach \$1,000,000, so that is not presented as an option.

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<sup>5</sup> Conversation between Tom Padia and Eric Horton, Republic Industries, February 6, 2002 and conversation between Tom Padia and Ken Lewis, Waste Management, February 13, 2002

## **Appendix J**

### **Property Revenue**

The Agency receives revenue from wind farms, rentals, cattle grazing, and communications towers on the property in the Altamont. After a preliminary review of the various leases and easements, staff has determined that there may be some ability to raise additional revenue in the future. Wind leases were negotiated with the previous owners of the land, and the terms are not very flexible. Despite this, the Agency may be able to negotiate more favorable terms on one parcel, if a re-powering scheme goes forward. There is quite a bit of uncertainty in the power market, but this is certainly an area for further research. Staff plans to review all plans with regards to the property to determine if more revenue can be generated. While this revenue will probably not be in the \$1,000,000 per year range, it is still worth pursuing, as it could offset the size of a future rate increase.

### **Timing of Fee Increases**

The concern that this memo addresses is the potential for decreased revenue due to increased diversion. Revenue has not yet shown any decrease, and in fact, under certain scenarios, may actually increase over time. Therefore, discussion about fee increases should include a discussion of timing.

Certain "trigger" factors could be considered. Specific programmatic needs are certainly one of the most important factors to consider. Another trigger factor could be sustained tonnage and/or revenue decreases, over two or more years. Agency fund balances and reserves also need to be part of the analysis. Additionally, significant changes in waste flow could trigger consideration of fee changes.

Any fee increases should also contain ample time for public feedback from affected parties, including jurisdictions, haulers, facility operators, and ratepayers.

### **RECOMENDATION**

That the Committee of the Whole receives this report, and discusses the various funding options above.



**Appendix J**

**Attachment A: Summary of Fees and Other Revenues**

<b>Fee Name</b>	<b>Rate</b>	<b>Estimated Tons FY02</b>	<b>Estimated Revenue FY02*</b>	<b>Description</b>	<b>Where Applied &amp; Restrictions</b>
Facility Fee (WMA)	\$1.50/ton	1,564,653	\$2,346,980	AB939 fee applied on all waste handled at Alameda County landfills, and all franchised waste disposed of out-of-county. Also applied to all wastes generated in Alameda County, handled by an in-county transfer station, and disposed out-of-county.	All in-county facilities: Davis St. Transfer Station, Pleasanton Transfer Station, Berkeley Transfer Station, Vasco Rd. Landfill, Altamont Landfill, and Tri-Cities Landfill. All franchised waste hauled directly to out-of-county facilities. Out-of-county facilities handling franchised waste. Fee does not apply to waste self-hauled out of county by the generators.
Mitigation Fee	\$4.53/ton	72,685	\$329,263	Authority fee levied on all out-of-county waste disposed of in-county, to offset negative environmental impacts.	Altamont and Vasco Rd. Landfills. TriCities Landfill is restricted by its Conditional Use Permit to accept only waste from Fremont, Newark, and Union City.
S.F. Fee	\$4.68/ton	678,697	\$3,176,302	Fee on San Francisco Waste disposed of in the Altamont. Established in the contract to between the WMA and the City and County of San Francisco.	Altamont Landfill. Contract is up to a certain total tonnage, estimated to last through 2010-2012.
Measure D Fee	\$6.59/ton As of 1/1/02. Previous rate was \$6.25. Average for the year is \$6.45.	1,159,594	\$7,481,886	Fee established by Measure D/County Charter Amendment. Court action determined that this fee applies only to landfills in the unincorporated county.  See Attachment B for analysis of whether the Authority could charge an "in-lieu" Measure D fee through the Facility Fee.	Altamont and Vasco Rd. Landfills. Does not apply to San Francisco waste disposed of at Altamont or waste at the Tri-Cities Landfill.  The following formula must be applied for expenditures: 50% Directly to cities 15% Discretionary (For other categories & admin) 10% Grants to Non-Profits 10% Source Reduction 10% Market Development 5% Recycled Product Preference

\*Revenue shown is only that revenue directly from tonnages disposed, and not interest, property income, or other miscellaneous revenue.

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**Summary of Property Revenue (Estimated, FY02)**

	<b>Parcel 1</b>	<b>Parcel 2</b>	<b>Parcel 3</b>	<b>Parcel 4</b>	<b>Parcel 5</b>	<b>Parcel 6</b>	<b>Restrictions</b>	<b>Total</b>
<b>Residential Rentals</b>	\$0	\$0	\$0	\$10,020	\$16,200	\$16,200		\$42,420
<b>Wind Farming</b>	\$587,290	\$0	\$21,502	\$0	\$127,100	\$0	Easements and leases negotiated with prior owners. Parcel 1 has a limited renegotiation provision	\$735,892
<b>Grazing</b>	\$21,251	\$0	\$2,565	\$2,268	\$0	\$2,520		\$28,604
<b>Towers</b>	\$14,226	\$0	\$0	\$0	\$0	\$8,231		\$22,457
<b>Total</b>	\$622,767	\$0	\$24,067	\$12,288	\$143,300	\$26,951		\$829,373

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PRACTICE IN CALIFORNIA

February 13, 2002

VIA MESSENGER

Karen A. Smith, Executive Director  
Debra Kaufman, Senior Program Manager  
Alameda County Waste Management Authority  
777 Davis Street, Suite 100  
San Leandro, CA 94577

Re: Opinion Letter

Dear Karen and Debra:

You have requested a written opinion from this office on the following questions:

1. Can the Authority levy a fee solely on solid waste which is collected in Alameda County and deposited in landfills outside of the County?
2. May the Authority use the Facility Fee to fund the Recycling Board under conditions where the Facility Fee would be raised to provide the funding and the Measure D fee would be reduced correspondingly?
3. May the Authority levy a different Facility Fee on solid waste generated in particular jurisdictions?

Our conclusions are as follows:

1. A fee to be levied solely on solid waste which is collected in Alameda County and deposited in landfills outside of the County is not authorized under the Joint Exercise of Powers Agreement for Waste Management (JPA) and therefore may not be levied by the Authority.

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2. The Authority may spend the funds generated by the Facility Fee only on implementation of the Alameda County Integrated Waste Management Plan (CoIWMP). The Recycling Board must spend its funds in very specific ways which are not contemplated in the CoIWMP. Therefore, under the current CoIWMP the Authority may not use the Facility Fee to fund the Recycling Board. We point out the mechanisms available which theoretically make it possible for the Facility fee to be so used.

3. There is no prohibition in state law or the JPA which prevents the Authority from levying different fees on solid waste from particular jurisdictions but, under general principles of equal protection, there must be a rational basis for such differential fees. Since the CoIWMP currently calls for programs which are intended to benefit the entire County, no rational basis exists for differential fees. The Authority may not levy higher fees on jurisdictions whose solid waste is exported for landfilling.

### **Background**

We have been asked to evaluate the possibility of levying a fee on the export of solid waste which is collected in Alameda County but deposited in landfills outside of the County. The basis for considering such a fee is the loss of revenue, particularly the Measure D fee which can only be imposed on solid waste deposited in the unincorporated area of Alameda County. See Alameda County Waste Reduction and Recycling Act of 1990 (Measure D), County Charter §§ 64.020D, 64.050A-E; City of Dublin v. County of Alameda, 14 Cal.App.4th 264, 274-75 (1993). In discussing this option, staff noted that since the responsibility for diversion from landfills remains with the jurisdiction where the solid waste was generated, funding for recycling programs and facilities is necessary no matter what landfill is used. The Recycling Board has no power to levy such a fee ( see id.), and therefore we have been requested to determine whether the Authority may levy this proposed fee (question 1).

We have also been asked to evaluate whether the Authority may use its power to levy fees on all solid wastes, no matter where deposited, and use some of the proceeds from those fees to fund the Recycling Board. The Measure D fee would be reduced correspondingly and the Recycling Board might recover the funds it is otherwise losing because the Measure D fee can not be levied on exported solid wastes. We deal with the legal issues raised by this proposal in our answer to question 2.

Finally, we have been asked whether the Authority could levy a Facility Fee of differing amounts on solid waste generated in particular jurisdictions. While we address this as a general matter, it is apparently being asked because of the loss of Measure D fees due to the increased export of solid waste for landfilling. We deal with this subject in our answer to question 3.

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We approach all three questions strictly from the perspective of whether the Authority has the legal power to implement any of the proposals which have been made. The wisdom of whether to impose any of the fees which have been suggested is not for us to consider.

**Legal Analysis Pertaining to Question 1**

We start with the JPA which created and empowered the Authority. Unlike a city or county which has the legal power to enact laws to protect the health, safety and welfare, see Cal.Const., art. XI, § 7; City of Rancho Cucamonga v. Warner Consulting Services, Ltd., 213 Cal.App.3d 1338, 1344 (1989); People ex rel. Deukmejian v. County of Mendocino, 36 Cal.3d 476, 483-84 91984), a joint powers agency has only those powers delegated to it by the contracting public agencies. See Gov. Code § 6508; People v. Parmar, 86 Cal.App.4th 781, 799 (2001); see also Gov. Code §§ 6502, 6503. The JPA contains two relevant provisions.

First, in Paragraph 13(d) the member agencies have delegated to the Authority the power they otherwise would have to impose fees under Public Resources Code sections 41901 and 41902.<sup>1</sup> Those sections allow a local agency to levy a fee sufficient to provide funding for implementation of the required integrated waste management plan.<sup>2</sup> The Authority and local agencies have adopted the components of the required plan which is known as the CoIWMP. The Authority levies a Facility Fee and a Household Hazardous Waste fee as authorized by these sections. These fees are collected on wastes deposited in landfills in Alameda County, wastes processed through transfer stations in the County for landfilling outside the County and on wastes collected and directly transported outside of the County.<sup>3</sup>

There is a point worth noting: These fees are levied uniformly on all solid wastes generated in Alameda County. Since the jurisdictions in the County are responsible to meet State diversion requirements no matter where the waste is landfilled, see Pub. Res. Code §

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<sup>1</sup> The member agencies did reserve some ability, through the JPA, to levy fees under these code sections in limited circumstances which are not relevant to this analysis. See JPA at Paragraph 13d and the discussion, infra, at page 6.

<sup>2</sup> The key language authorizing the fee is found in Public Resources Code section 41901 and states: "A city, county, or city and county may impose fees in amounts sufficient to pay the costs of preparing, adopting and implementing a countywide integrated waste management plan ...." As stated above, the cities in Alameda County and the County have delegated this power to the Authority.

<sup>3</sup> See Staff Report to Planning Committee dated June 11, 2001 and Ordinance 01-01.

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41781, funding for reuse, recycling and diversion programs and facilities are legitimately levied even on wastes exported for landfilling. But there is no authorization in the JPA or state law for a selective fee on the export of waste (see discussion immediately below regarding the Authority's import fee).

In addition to the fees authorized by Paragraph 13(d) and Public Resources Code sections 41901 and 41902, Paragraph 5(l) of the JPA allows the Authority to levy and collect fees as allowed by "by law". This is a general grant of fee power to the Authority but the basis for levying a fee must be found in a "law". For example, the Authority levies a fee on the importation of waste which is brought from elsewhere and deposited in a landfill in Alameda County. Resolution No. 94-6 passed on January 26, 1994 (establishing mitigation fee of \$4.53 per ton). This is expressly authorized by Public Resources Code section 41903 which states that "a city or county may assess special fees of a reasonable amount on the importation of waste from outside of the county". No similar provision exists authorizing fees on the export of waste.

The Court of Appeal decision upholding Measure D is instructive. See Dublin, 14 Cal.App.4<sup>th</sup> 264. There the court held that the legal basis for the Measure D fee is not Public Resources Code sections 41901 and 41902. See id. at 285. Rather, according to the court, Measure D "is intended primarily to support its own recycling programs and goals". Id. The only inference which can be drawn is that the Measure D fee can properly be levied by Alameda County as a general purpose government. The Authority does not enjoy that status and can only levy fees as authorized by the JPA.

In conclusion on this question, the Authority is not empowered to levy a fee on exported solid waste other than the fees it does levy under the authorization of the JPA and Public Resources Code sections 41901 and 41902. We note that even if this conclusion is incorrect, any such fee selectively levied solely on exported solid waste must satisfy the constitutional requirement of "nexus" which requires a relationship between the harm the fee is intended to address and the amount of the fee. See San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist., 203 Cal.App.3d 1132, 1146 (1988); see also Dublin, 14 Cal.App.4<sup>th</sup> at 282-83. We have not been made aware of any harm to Alameda County or its residents caused by the export of solid waste for landfilling other than the lost Measure D revenue. That is not a sufficient basis for satisfying the nexus requirement. Otherwise, a city could levy fees on businesses solely because the city is losing revenue from other fees or taxes imposed.

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### Legal Analysis Pertaining to Question 2

Subsection 64.050D(2) of the Alameda Charter provides:

The Authority may pay monies within its jurisdiction to the Recycling Fund with the intent of mitigating said surcharge. Should the Authority vote to do so, the Board of Supervisors shall adjust said surcharge accordingly, provided that no such adjustment shall result in a net loss to the total receipts to the Recycling Fund within a given year.

In effect, this section authorizes the Measure D fee authorized by Subsection 64.050A to be reduced or eliminated if it is offset by funding provided by the Authority from its sources.

First, we note that while the provision purports to authorize the Authority to pay monies to the Recycling Board, a mandate of the Alameda County Charter can not unilaterally empower the Authority. As an agency created by a joint powers agreement, the Authority has only those powers given in common to it by all of the signatories. See Gov. Code § 6508; Parnar, 86 Cal.App.4th at 799. To our knowledge, the 14 cities and two sanitary districts which constitute the membership of the Authority (together with Alameda County) have no similar provisions in their laws allowing the Authority to provide funding to the Recycling Board. Nevertheless, Paragraph 5(c) of the JPA does allow the Authority to provide funding “for the conduct of programs under the general purview of the Authority”. This is a grant of power to spend funds on programs adopted by the Authority and we will assume for purposes of answering this question that the Authority would adopt the proposed funding mechanism as an Authority program. Nevertheless, the Authority may not spend its funds except as otherwise authorized by the law.

In response to Question 1, we pointed out that the Authority is empowered to levy a fee to fund the cost of implementing the CoIWMP. The Authority calls this its Facility Fee and in fact, the question we have been asked assumes that the Facility Fee would be used to provide the substitute funding that otherwise comes from the Measure D landfill surcharge. For the Authority to provide substitute funding to the Recycling Board in lieu of the landfill surcharge, there would have to be complete compatibility between how the Recycling Board would spend the Authority’s funds and how the Authority could spend those funds. In other words, the Recycling Board would be limited to spending the funds on implementing the CoIWMP. See generally, CoIWMP at Article VII for waste reduction programs approved by the Authority.

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The requirement that the Recycling Board spend its funds only to implement the CoIWMP appears to be at odds with its legal duties under its enabling legislation. For example, under Subsection 64.060B(1), the Recycling Board is now required to distribute 50% of the monies from the Recycling Fund to municipalities for the continuation and expansion of municipal recycling programs. The CoIWMP has no similar requirement. Further, Subsection 64.060B(2) through 64.060B(5) contain specific percentages of the Recycling Fund which must be distributed for specific purposes such as to the Recycled Product Market Development Program. The CoIWMP does not require these specific percentages of the Facility Fee to be spent in the same manner. In short, the specific ways in which the Recycling Board must spend its funds do not correspond with the funding needs identified in the CoIWMP.<sup>4</sup>

While it may be theoretically possible for the CoIWMP to be written so that it tracks the requirements of Section 64 the Alameda County Charter, it is not now written that way. Furthermore, the provisions of Section 64.060F have not been implemented to have Recycling Board funding requirements track the CoIWMP. Therefore, currently the Facility Fee can not be used as a substitute for the landfill surcharge.

### **Legal Analysis Pertaining to Question 3**

As discussed above, the Authority levies a Facility Fee under the auspices of Public Resources Code section 41901. The fee has always been the same amount throughout the County no matter the source of the waste or where it is being landfilled. We have been asked whether the Facility Fee could vary in amount depending on the jurisdiction where the waste is generated or the jurisdiction where it is landfilled. We see no prohibition in state law on levying a fee of varying amounts. However, under equal protection principles, there must be a rational basis for charging different amounts in different jurisdictions. See e.g., Kasler v. Lockyer, 23 Cal.4th 472, 482 (2000); FCC v. Beach Communications, Inc., 508 U.S. 307, 313 (1993).

Such a rational basis must be found not only in the abstract but also in relation to implementation of the CoIWMP, the purpose for which the Facility Fee is levied. It may be possible to demonstrate that the cost of particular programs or facilities is higher in one city than elsewhere in the County thereby justifying a higher fee to be levied on waste generated from that city. In fact, the JPA contemplates that a local agency, or a group of local agencies, may levy fees to implement programs or facilities identified in their Source Reduction Recycling Elements. JPA at Paragraph 13(d). Such a fee would be in addition to the Facility

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<sup>4</sup> Section 64.060F allows the Recycling Board, with the concurrence of the Board of Supervisors and a double majority of the cities, to "adjust" the distribution of funds under Section 64.060B in order to further progress toward the recycling goal then in effect. To our knowledge, this section has not been utilized to adjust any of the funding requirements in Section 64.060B.



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Fee levied by the Authority with the result that the total fees levied under the auspices of Public Resources Code section 41901 would be higher in those jurisdictions.

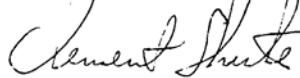
But, for the Authority to establish a rational basis for a differential fee would be very difficult given the structure of the CoIWMP which generally contemplates programs and facilities to benefit the entire County and not a particular city or cities. That is, the Authority has not approached its planning on the basis of one area receiving more benefits or incurring more costs than another area. Therefore, there is no factual basis for adopting different fees for different parts of the County.

Aside from equal protection considerations, the Authority can not establish a differentiated fee based on the Recycling Board's loss of Measure D revenues because it has no power under state law or the JPA to levy fees for this purpose which is not related to implementation of the CoIWMP and is not authorized by any law. See, JPA at Para. 13(d) and 13(l). The Measure D fees are levied under the Alameda Charter and have been determined by judicial precedent not to be Public Resources Code section 41901 fees subject to Authority jurisdiction. See Dublin, 14 Cal.App.4th at 285. The Authority is not a general purpose government and does not have the power vested in Alameda County to enact fees for the general public welfare.

If you have questions, please contact us.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



E. Clement Shute, Jr.  
Authority Counsel

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## Appendix J



### Memorandum

To: Recycling Board Committee of the Whole  
From: Pat Cabrera, Administrative Services Director  
Meghan Starkey, Program Manager  
Re: Analysis of In-Lieu Measure D Fee and CoIWMP Changes  
Date: March 14, 2002

#### BACKGROUND

At its February 21, 2002, meeting, the Committee of the Whole discussed the various fee options presented by staff. Part of that analysis contained discussion of an "in-lieu" Measure D fee, in effect, raising the Facility Fee and reducing the Measure D fee. The benefits would be that the Agency fee base is spread over a larger amount of tonnage disposed, thereby increasing the security of the Recycling Fund, as well as potentially translating to reduced fees for franchised waste rate payers.

The committee requested further analysis of this option. Authority Legal Counsel presents the logistical and legal considerations separately in a memo. (Appendix A.) This memo contains a summary of the options and potential issues, and a financial analysis of impacts of changes to the fees.

Both Clem Shute (Authority Legal Counsel) and Eric Chambliss (Recycling Board Legal Counsel) will be at the meeting on March 21.

#### DISCUSSION

##### Summary of Options

1. Change the CoIWMP so that includes the same programs at the same funding levels as required by Measure D.
2. Change Measure D so that it is compatible with the CoIWMP.
3. Keep the status quo and raise fees, if needed, through existing processes.

The issues raised by options 1 and 2 above include:

- Direct funding to cities as currently done through Measure D may be more challenging.
- The Tri-Cities could not be excluded from the new fee on the basis that they do not benefit from Measure D. (See page 5 of Appendix A.)
- "Sub-regional" planning would be a new direction for the Agency.
- The standard for raising CoIWMP/Facility Fees may require much tighter planning and implementation of programs to withstand challenge, including updates to the cities Source Reduction and Recycling Elements (SRRE's).

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- Respective roles of the two Boards would need to be defined.
- Even the "status quo" option raises some issues when it comes to raising fees. Any increase in the facility fee, as is, would require justification within the CoIWMP.

Legal analysis. Legal opinion is attached in Appendix A.

### Financial Analysis

The first scenario examined assumes that there would be no differential fee for Tri-Cities.

In order to maintain a revenue-neutral funding level, the Facility Fee could be raised to \$6.11 (from \$1.50), while the Measure D fee would drop to zero. Distribution to cities would be reduced to 25% of total, thereby maintaining the current level of revenue to cities and the agency.<sup>6</sup> Most cities' franchised waste would see a decrease of \$2.08 per ton of total fees. However, the Tri-Cities would see an increase of \$4.61 per ton of garbage, including both franchised and self-haul to the Tri-Cities landfill. Cities besides Newark, Union City, and Fremont could expect to see a potential decrease in residential rates by about \$0.19 per month, while the Tri-Cities residential rate payers could expect to see about a \$0.41 increase in their monthly rates.<sup>7</sup> Residential rates are set in negotiations between the hauler and the jurisdiction, and vary widely in terms of what costs and fees are included, and so it is not possible to translate exactly the impact of decreased fees on rate payers by city. Depending on their franchise, many jurisdictions may be able to keep the costs savings themselves.

The waste that is handled through transfer stations in-county but disposed out-of-county would now capture a higher fee, generating an additional \$700,000. This, combined with the Tri-Cities waste, would contribute to the lower total fees paid by some cities. Because of the shifts in distributions of the fee, the major waste hauler, Waste Management Inc., would pay higher fees and Republic and ACI would pay lower fees.

The second scenario concerns holding Tri-Cities neutral in terms of fee. Were it possible to differentiate the Tri-Cities, the financial analysis shows that the Facility Fee would be \$7.01 (an increase of \$5.51), while Measure D would drop to zero. Most cities would see a decrease of \$1.18 per ton of garbage fees (\$0.11 less in monthly rates), while the Tri-Cities would see no increase in fees.

There could also be a "sliding scale" by which Measure D is reduced by some amount, but not all the way to zero, to maintain completely separate funds, but still increasing the Facility Fee. There would be many options to pursue, but the financial analysis would require more information as to the respective roles and responsibilities contemplated by each Board, proposed funding distributions, and future programmatic needs.

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<sup>6</sup> Although there are significant issues about maintaining a direct grant to cities through the Facility Fee, this analysis assumes there could be a vehicle for doing so.

<sup>7</sup> Based on analysis of the impact of Measure D fee increases in the City of Oakland. Given that all cities outside Fremont, Newark, and Union City bear the same fee burden, it is reasonable to assume a similar fee reduction would apply to all.

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**RECOMMENDATION**

That the Committee of the Whole discuss this report, and direct staff to include an analysis of fees and funding options into the Recycling Plan.



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MEMORANDUM

TO: Meghan Starkey  
Program Manager  
  
Debra Kaufman  
Senior Program Manager

FROM: E. Clement Shute, Jr.  
Authority Counsel

DATE: March 14, 2002

RE: Follow-up to Our Opinion Letter of February 13, 2002

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On February 13, 2002 we provided the Authority with an opinion letter (Opinion Letter) answering three questions dealing generally with Authority and Recycling Board fees (copy attached). You have asked us to elaborate on several of the subjects covered in our letter which we do in this memorandum. A summary of our points follows:

1. The Facility Fee can be levied only for purposes of administering the CoIWMP. There is no legal prohibition on using the Facility Fee to replace the Measure D fee but actually implementing this change would be challenging because of needed changes in the CoIWMP and the difficulty under state law of increasing the Facility Fee.
2. The Facility Fee could be used to achieve a 75% diversion rate if the source reduction and recycling elements, which are part of the CoIWMP, are amended.

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3. There is no legal prohibition on levying a differential Facility Fee in different parts of the County but the higher fee in particular areas would have to be justified in terms of the benefits of particular programs and facilities identified in the CoIWMP for those areas which would not be of general countywide benefit. A differential Facility Fee could not be levied to provide replacement revenue to the Recycling Board.

A detailed discussion of these points is set forth below along with some general observations concerning the concept of using the Facility Fee as a substitute for the Measure D fee.

### **Replacement of the Measure D fee by the Facility Fee**

If the Facility Fee were to replace the Measure D fee as the mechanism for funding Measure D programs, it would mean that the Board of Supervisors would eliminate the Measure D fee and the Authority would increase its Facility Fee to provide the replacement revenue.<sup>1</sup> If this were to occur, the Board of Supervisors would not be called upon to make cost of living increases in the Measure D fee because there would be no such fee. Measure D at 64.050D(3). Instead, the Authority Board would have the discretion, but not the duty, to increase the Facility Fee as necessary to keep pace with the cost of living.

But, this fee replacement could only be legal if there were complete compatibility between the CoIWMP and the programs administered by the Recycling Board for which Measure D requires specific funding. See Opinion Letter at p. 6. This can be accomplished either of two ways:

(1) amend the CoIWMP so that it includes the same programs at the same funding levels as required by Measure D. Specifically, the expenditure mandates of Measure D set forth in Measure D, Section 60.060B would have to be incorporated into the CoIWMP or

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<sup>1</sup> Of course, it is possible that the Measure D fee could be reduced and not eliminated with a comensurate increase in the Facility Fee. For purposes of this memorandum, we are assuming that the Facility Fee would completely replace the Measure D fee.

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(2) Amend the Measure D programs with approval of the Board of Supervisors and a majority of cities so that the Measure D programs are completely compatible with the CoIWMP. See Id. at p. 6. Specifically, this would require that the expenditure mandates of Measure D, Section 64.060B be modified to require that the Recycling Board spend the funds it would receive from the Authority to implement the CoIWMP.

There is a major issue if option 1 above is selected. Public Resources Code section 41901, which authorizes the Authority to levy the Facility Fee, incorporates another provision of state law (Government Code section 66016) which requires that any agency which attempts to levy a fee or raise a fee thoroughly demonstrate that the amount of the fee is no more than necessary to carry out the purposes for which the fee is levied (in this case, implementation of the CoIWMP). We believe that some of the funding requirements of Measure D are not easily justified in terms of how money is spent in relation to the landfill diversion obtained. For example, Measure D, Subsection 64.060B(2) requires that 50% of the Measure D fee be distributed to municipalities to continue and expand recycling programs. It could be a challenge to justify a Facility Fee increase for what is in effect a mandated grant program.

Legally, we believe that option 2 is the easier way to create a system whereby the Recycling Board can utilize the Facility Fee to fund implementation of the CoIWMP. This is because it would be easier to conform the spending mandates of Measure D to the programs and facilities in the CoIWMP than to incorporate the spending mandates of Measure D into the CoIWMP. Of Course, this approach would require the approval of the Board of Supervisors and a majority of the cities.

In this regard, we have been asked whether it would be possible to have two components to the Facility Fee. One component would provide funding to the Authority and the other would provide substitute funding to the Recycling Board. This could be accomplished so long as the duties of the two bodies in relation to implementing the CoIWMP are clearly delineated so as to avoid overlapping expenditures. If this is not done, it would be difficult to justify an increase in the Facility Fee because of the requirements of Government Code section 66016 mandating that the fee increase be no higher than necessary to fund the identified programs.



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**Use of Facility Fee to Achieve 75% Diversion**

Under State law, each city and county is required to adopt a source reduction and recycling element which details the means by which the local agency will divert waste from landfilling. See Pub. Res. Code §§ 41000 et. seq and 41750 et. seq. These individual source reduction and recycling elements are included as part of the CoIWMP. See Pub. Res. Code §§ 41750 and 41750.1.

This is relevant because the level of diversion from landfilling is governed in part by State law which required 25% diversion by 1995 and 50% diversion by 2000. Cities and counties are required to achieve these levels of diversion through programs and facilities included in their source reduction and recycling elements. However, these diversion requirements are a floor, not a ceiling. In mandating these provisions, the Legislature included language allowing cities and counties to establish their own standards to divert waste at a higher rate. After establishing the 1995 and 2000 diversion goals, the Act states:

“Nothing in this part prohibits a city or county from implementing source reduction, recycling, and composting activities designed to exceed these goals.”

Pub. Res. Code § 41780(b). Accordingly, diversion requirements can be set in source reduction and recycling elements at a higher percentage than established by State law. Because the source reduction and recycling elements are part of the CoIWMP, the Authority can use the Facility Fee to implement the higher diversion goals. See Pub. Res. Code § 41901. Thus, to formally establish a 75% diversion requirement and use the Facility Fee for support would require that the source reduction and recycling elements be amended. See Pub. Res. Code § 41780.1.

**Establishment of a differential Facility Fee in Particular Areas of the County)**

We have been asked whether the Facility Fee charged can vary by member jurisdiction and whether doing so could compromise the integrity of the CoIWMP. In our Opinion Letter we concluded that it would be very difficult for the Authority to establish a rational basis for a differential fee since the existing CoIWMP contemplates programs and facilities which benefit the entire County and not a particular city or

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cities.<sup>2</sup> To justify a differential fee would require that programs and facilities would have to be identified in an amended CoIWMP which benefit only a particular area where the fee is to be higher. The amount of the differential fee would have to be closely linked to the cost of implementing the programs and facilities which are planned to benefit this particular area.

It appears to us from the language of the JPA that the member agencies contemplated that if they, individually or as a group of less than all of the members, chose to have their own programs and facilities, they could levy a fee to fund them. Opinion Letter at pp. 6-7. This is an efficient way to have a county-wide plan through the Authority and sub-regional plans implemented by some of the members at their discretion. While it is not impossible or illegal for the Authority to undertake such sub-regional planning, we think that in reality it would pose a substantial burden on the Authority's planning process and potentially rankle some members who believe that under the JPA such planning is within their prerogative. However, if sub-regional planning is accomplished in a way so as to separately identify the costs of implementing sub-regional facilities and programs, a differential fee could be justified and the integrity of the CoIWMP would not be compromised.

It has been suggested that a rational basis for a differential fee would be that the Facility Fee could be lower in areas not subject to the Measure D fee because those areas don't currently benefit from Measure D funding. If revenue neutrality is the standard, this suggestion has merit. But, legally the test is whether the cost of implementing the CoIWMP is different in particular areas of the County. To amend the CoIWMP to identify programs and facilities of less benefit in areas not receiving Measure D funding so as to achieve revenue neutrality would not survive judicial scrutiny. The legal basis for a differential fee (different costs) and the actual basis (revenue neutrality) would be different.

#### **General Observations**

As we have discussed, the lynch pin of any effort to use the Facility Fee to replace the Measure D fee is full compatibility between the substance of the CoIWMP and the power of the Recycling Board to spend funds. This is because by law the basis

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<sup>2</sup> We also concluded that the Authority had no legal power to levy a differential fee for the purpose of replacing lost Measure D fee. *Id.* at p. 7.

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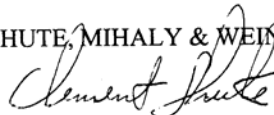
for the Facility Fee is implementation of the CoIWMP. Since the Authority Board and the Recycling Board currently use different criteria for expenditures, some changes in the current practices of the two boards would be likely if the replacement revenue concept were to be implemented. This seems apparent because both boards would be charged with the duty to implement the CoIWMP. To avoid overlapping expenditures, they would have to establish methods for dividing the responsibility of implementing the CoIWMP. A key policy question for the Authority Board, if this concept goes forward, is whether it wishes to relinquish any of its current prerogatives concerning the CoIWMP. A key question for the Recycling Board is whether it wishes to give up its independent funding source and have its funding tied to implementation of the CoIWMP. In this regard, the power to prepare the CoIWMP lies with the Authority and the local agencies. JPA at paragraph A5.

Finally, we note that the funding for the Recycling Board would come from the Authority if the replacement concept were to be adopted. Measure D contemplates that the Recycling Board would suffer no loss of revenue in this circumstance. Measure D, Section 64.050D(2). If the Authority did not provide full substitute revenue for the Measure D fee, the Board of Supervisors is charged with levying enough of a surcharge to leave the Recycling Board whole. In any given year, if the Authority Board determined not to provide the Recycling Board with 100% replacement revenue from what the Recycling Board would otherwise have obtained from the Measure D fee, the Board of Supervisors would be called upon to make up the difference by imposing a sufficient surcharge.

If you have any questions, please contact me.

Very truly yours,

SHUTE, MIHALY & WEINBERGER, LLP



E. Clement Shute, Jr.  
Authority Counsel

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## Appendix K: Strategies by Project Number

### Green Building

#### Strategies

#### I. Technical and Financial Assistance

*Short term (2003-2005)*

**Provide member agencies with the following assistance:**

- 7055 - Continue to provide model language and help with adoption and implementation of a civic Green Building Ordinance, a policy to require that green building practices are employed in publicly owned and funded buildings.
- 7055/9007- Continue to develop and refine green building ordinances for commercial and residential buildings.
- 7055 - Continue to work with member agencies to incorporate green building language into general plans.
- 7055 - Continue to promote USGBC's LEED™ green building rating systems to member agencies and provide training scholarships, memberships and project registration assistance.
- 9007 - Continue to promote the regional use of Alameda County Green Building Guidelines for new residential construction and remodeling projects.
- 7055 - Continue to provide member agencies' planning and building officials, architect and public works staff with green building workshops and trainings.
- 7055 - Develop green building guidelines for multi-family affordable housing.
- 7055 - Continue to provide green building design assistance through technical assistance and grants.
- 7055/0009 - Continue to require a construction and demolition debris plan for at least 50% diversion requirement as a condition of grant funding for any building.
- 0009 - Continue to assist cities with development, adoption, and implementation of ordinances requiring contractors to recycle their construction and demolition debris.

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- 0009 - Analyze construction and demolition debris data from waste management plans submitted to cities.
- 7055/9007/0009 - Assist cities in developing requirements in their building and design review process that maximize recycling after the project is built (i.e., design for recycling).

### **Provide residents with the following assistance:**

- 9007 - Distribute residential green building guidelines for remodeling and new home construction.
- 9007 - Continue to present workshops and presentations to the general public on the remodeling guidelines at appropriate venues such as home and garden shows.
- 9007 - Develop case studies.

### **Provide builders with the following assistance:**

- 9007 - Continue to work with production home builders on using the new home construction guidelines.
- 9007 - Continue to assist developers in promoting green features of new homes.
- 9007 - Continue to develop and promote green model homes.
- 9007 - Continue trainings for home builders and architects.
- 0009/7055/9007 - Continue to develop and foster relationships with building industry organizations and construction and demolition debris trade associations.
- 9007 - Continue to develop and promote a green builder certification program.
- 7055 - Provide design and financial assistance to non-profit multi-family housing developers.
- 9007 - Work with suppliers to increase the number of green building materials they offer.
- 7055 - Continue to develop case studies for commercial projects.
- 7055/0009 - Continue to provide workshops for builders on how to effectively manage construction and demolition debris.
- 7055/0009/9007 - Continue to evaluate strategies to determine effectiveness.

### *Medium term (2006-2008)*

- 7055/0009/9007 - Assist cities in fine tuning construction and demolition debris ordinances and green building ordinances.
- 7055 - Determine whether to prioritize access to green building grants and technical assistance for cities who have implemented

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construction and demolition debris and civic green building ordinances.

- 7055/9007 - Continue green building trainings.
- 7055/0009 - Continue to provide technical assistance to member agencies to develop construction and demolition debris and green building policies.
- 9007 - Continue to provide technical assistance to production home builders to incorporate guidelines into communities.
- 7055/0009/9007 - Evaluate success of strategies to date.

### *Long term (2009-2010)*

- 7055/0009/9007 - Continue to assist cities in updating construction and demolition debris and green building ordinances.
- 7055/0009/9007 - Explore the feasibility of increasing construction and demolition debris recycling requirements to 75%.
- 7055/0009/9007 - Continue to provide technical assistance on waste management and recycled content materials use.
- 7055/0009/9007 - Evaluate effectiveness of strategies to date.

## 2. Infrastructure

### *Short term (2003-2005)*

- 0009 - Identify appropriate parameters for land for a mixed construction and demolition recycling facility (e.g., size of parcel, zoning requirements).
- 0009 - Research whether appropriate land parcels exist for a mixed construction and demolition facility in Alameda County.
- 0009 - Pursue development of a construction and demolition debris facility (if determined to be needed, feasible and cost-effective, and if appropriate land parcels exist).
- 0009 - Continue to support and promote construction and demolition debris recycling capacity by continuing subsidy for contractors who use qualified facilities for mixed construction and demolition debris. This subsidy will be reviewed annually.
- 0009 - Continue to establish new or expanded construction and demolition debris recycling capacity at existing facilities through the Material Recovery Facility (MRF) program.
- 0009 - Continue to assist existing facilities by continuing to print *Builders' Guide to Reuse and Recycling* and promoting the availability of these facilities.

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- 0009 - Evaluate strategies used at end of short-term period to determine success in increasing construction and demolition debris recovery.

### *Medium term (2006-2008)*

- 0009 - Continue to work on facility development, if not completed in the short term.
- 0009 - Evaluate continuing need for subsidies/financial incentives.
- 0009 - Update Builders' Guide to Reuse and Recycling.
- 0009 - Evaluate strategies used at end of medium term period to determine success in increasing construction and demolition debris recovery and need for revisions.

### *Long term (2009-2010)*

- 0009 - Continue to promote existing facilities through the *Builders' Guide to Reuse and Recycling*.
- 0009 - Evaluate continuing need for subsidies and financial incentives.
- 0009 - Evaluate strategies used to determine success.

## 4. Collection Programs

### *Short term (2003-2005)*

- 0125 - For cities that are going out to bid for a new waste hauler and recycler, continue to provide sample contract language requiring haulers to provide construction and demolition debris recycling service and encouraging an open competitive environment for these materials.

### *Medium term (2006-2008)*

- 0125 - Continue to assist cities that are going out to bid for a new hauler and recycler with contract language to maximize construction and demolition debris diversion.

### *Long term (2009-2010)*

- 0125 - Continue to assist cities that are going out to bid for a new hauler and recycler with contract language to maximize construction and demolition debris diversion.

## 4. Market Development

### *Short term (2003-2005)*

- 7055/9007 - Continue to promote the use of recycled content products to builders, architects, designers, and contractors.



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- 7055/9007 - Continue to distribute green building guidelines, with information on purchasing materials locally.
- 7055/9007 - Continue to hold workshops on green building.
- 7055 - Continue to subsidize cost of LEED™ trainings for city engineers, architects and capital project managers.
- 7055/9007 - Continue to partner with suppliers and distributors to carry more recycled content products.
- 7055/9007 - Partner with utilities such as PG&E and EBMUD to cross-promote each other's concepts.
- 7055/9007/0012 - Continue to develop presentation tools to promote recycled content products, including hands-on building materials displays such as the existing trailer.
- 0009 - Continue to encourage recycling of unpainted wood for the highest and best use.
- 0009 - Continue to encourage non-ADC use for construction and demolition debris materials.
- 9007 - Establish a Green Building Suppliers Council, a collaborative group of manufacturers, suppliers and users that will work to accelerate the penetration of green building products in the marketplace. Green sustained yield rural forest products and urban forest products would be included.
- 7055/9007/0009 - Evaluate strategies to determine effectiveness.

### *Medium term (2006-2008)*

- 7055/9007/0009 - Continue existing partnerships and develop new ones as appropriate.
- 0009 - Continue to encourage non-ADC use for construction and demolition debris materials.
- 7055/9007/0009 - Evaluate strategies to determine effectiveness.

### *Long term (2009-2010)*

- 7055/9007/0009 - Focus on job site recycling and materials selection if the other aspects of green building are institutionalized and incorporated by architects, builders and contractors.
- 7055/9007/0009 - Continue to identify local sources of green building materials.
- 7055/9007/0009 - Promote expanded collection of targeted materials.

## **5. Waste Prevention and Sustainability**

### *Short term (2003-2005)*

- 7055/9007/0009 - Support new, innovative and cost effective technologies for diverting the targeted materials, particularly unpainted wood (e.g., finger jointing machine, reusable aluminum form boards).
- 7055/9007 - Promote construction techniques that efficiently use materials, such as Optimum Value Engineering and Advanced Framing Techniques.
- 7055/9007/0009 - Continue to research and promote material substitutions that will reduce the amount of materials being landfilled (e.g., plastic lumber and engineered lumber in place of old growth wood, aluminum form boards, linoleum instead of vinyl, carpet leasing).
- 7055 - Promote appropriate aspects of California Main Street program which links economic viability with building reuse.
- 7055 - Continue to promote LEED™ credit for building reuse.
- 7055/9007 - Provide cities with model general plan language to promote building reuse, where appropriate.
- 7055/9007 - In coordination with member agencies, continue to promote green building concepts (including building reuse) at military base closures, as allowable under building codes.
- 0009 - Sponsor job site construction site audits to determine waste prevention efforts that could be promoted to others.
- 7055/9007/0009 - Continue to support deconstruction and salvage activities.
- Continue to support centrally located building reuse retail stores.
- 7055 - Conduct up to two Building Reuse Forums to discuss barriers, opportunities and strategies to promote the use of existing buildings.

### *Medium term (2006-2008)*

- 7055/9007/0009 - Continue to research and promote material substitutions and construction techniques that promote waste prevention.
- 7055/9007 - Continue to work with base redevelopment.
- 7055/9007/0009 - Continue to support deconstruction and salvage activities.
- 7055/9007/0009 - Evaluate strategies to determine effectiveness.

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- 7055/9007/0009 - Continue to promote building reuse and evaluate strategies to determine effectiveness of program.

### *Long term (2009-2010)*

- 7055/9007/0009 - Evaluate strategies to determine effectiveness.

## **Business and Public Agencies**

### **Strategies**

#### **I. Technical and Financial Assistance**

##### *Short term (2003-2005)*

- 7013 - Continue to evaluate StopWa\$te client targeting and marketing plan biennially.
- 7013 - Continue to offer multi-media assessments of businesses and public agencies, providing a core focus on waste prevention and recycling and additional expertise in energy and water conservation and reduction of wastewater discharges.
- 7013 - Continue to work with StopWa\$te clients to have them adopt resource efficient practices and especially waste prevention practices.
- 7013 - Continue to provide financial incentives including mini-grants, waste prevention funding and incentives for businesses adopting best environmental practices.
- 7013 - Continue to track diversion successes of StopWa\$te clients and report those back to clients and member agencies.
- 7013 - Continue to develop case studies of the most resource efficient clients.
- 7013 - Continue to develop web-based “best practices” database.
- 7013 - Target multi-tenant facilities for coordinated implementation of services.
- 7013 - Continue member agency training, two-way referrals for services and consulting on business best practices.
- 7042 - Continue to provide mitigation funds to member agencies for commercial programs.
- 7050 - Continue to fund non-profits on specific diversion projects.
- 7013 - Continue to provide public recognition to exemplary clients.

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### *Medium term (2006-2008)*

- 9005 - Evaluate whether to continue using mitigation funds to divert commercial waste and, if so, whether to establish more specific guidelines for using these funds.
- All - Evaluate program results using program data and relevant study results, and revise strategies as needed.

### *Long term (2009-2010)*

- New/TBD - Evaluate the need to encourage cities to incorporate sustainability requirements into business license process.
- New/TBD - Evaluate the need to encourage cities to consider developing requirements for institutions and/or businesses of a certain size to develop and implement recycling plan (for city adoption and implementation).
- New/TBD - Encourage cities to require recycling/waste prevention plan for multi-tenant projects in building permit process.
- All - Evaluate results and revise program as needed.

## **2. Infrastructure**

### *Short term (2003-2005)*

- 9005 - Continue to provide funding for MRF sorting of recyclable rich debris box and roll off loads.

### *Medium term (2006-2008)*

- 9005 - Evaluate the effectiveness of the MRF in diverting significant quantities from recyclable rich debris box and roll off loads.
- 9005 - If expanded MRF approach seems effective, consider helping other transfer stations in-county employ this approach.

### *Long term (2009-2010)*

- 9005 - Continue to help all transfer stations in Alameda County to have the appropriate infrastructure for maximizing diversion of targeted materials.

## **3. Collection Programs**

### *Short term (2003-2005)*

- 0125 - Continue to provide cities with model franchise language maximizing business recycling services.

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- 7013 - Provide businesses with contract language to include in their custodial contracts that maximize recycling efforts.
- 7013 - Enhance work with janitorial staffs to promote acceptance of recycling programs.
- 7013 - Continue to offer mini-grants for one-time purchases such as recycling bins.
- 7013 - Continue to provide signage, collection bins and recycling program kickoff assistance to large generators of targeted materials.
- 7013 - Continue to promote the use of effective and appropriate employee incentives.
- 7013 - Continue to encourage businesses to assign recycling point people.

### *Medium term (2006-2008)*

- All - Using results of relevant studies, revise strategies as needed.
- 0125 - Continue to provide cities with model franchise language that maximize business recycling services.
- 7013/0126 - Continue to provide businesses contract language to include in their custodial contracts that offer incentives for additional diversion.
- 7013 - Provide janitorial staff training about recycling, as needed, to StopWa\$tte clients.
- New/TBD - Explore specialized routing for recyclable-rich customer loads, and consider assisting haulers to develop these.

### *Long term (2009-2010)*

- All - Evaluate and refine strategies.

## 4. Market Development

### *Short term (2003-2005)*

- 0010 - Monitor the markets for all Agency targeted materials.
- 0010 - Continue to help establish durable, economically viable markets for targeted materials.
- 0010 - Coordinate data on materials use by business type through use of state research, Weight Based Study and Waste Production Measurement Study.
- 0010 - Continue to offer financial and technical assistance to businesses interested in market development activities through

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the Revolving Loan Fund and the Market Development Assistance Project.

- 0010 - Continue to support and develop Eco-Industrial Park.
- 0010 - Develop an integrated brochure for all business-focused programs.
- 7013/9029 - Continue to research recovery options for hard to recycle materials found in working with clients.
- 9001/7013 - Promote recycled content products to member agencies and employers.
- 9001/7013 - Promote the incorporation of Environmental Preferable Purchasing practices into purchasing policies to member agencies and employers.
- 0010 - Consider providing financial and technical assistance to product developers whose products will prevent the creation of waste and strengthen end markets for targeted materials.
- 0010 - Determine current market capacity for plastic film and research assisting businesses in converting to marketable and recyclable plastics.
- 0010 - Continue to support and promote existing plastic film end users.
- 0010/7013 - Target and educate generators of plastic film to divert this material.
- 0010 - Provide financial assistance for generators of plastic film to bale or consolidate the material.
- 0010 - Continue to identify and support potentially viable fiber end users who wish to site in the region.
- 0010 - Continue to support mattress and furniture recycling efforts.
- 7013/9001 - Work higher up the supply chain to get national chains to incorporate waste prevention practices, recycled procurement practices, and promote recycling programs not only to their stores but also to suppliers and distributors.

### *Medium term (2006-2008)*

- 9001/7013 - Increase Buy Recycled efforts with large employers.
- 9001 - Increase Buy Recycled outreach to member agencies.
- 7013/9001 - Continue to work higher up the supply chain to get national chains to incorporate waste prevention practices, recycled

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procurement practices, and promote recycling programs not only to their stores but also to suppliers and distributors.

- 9001 - Use focus groups and other qualitative research to provide data regarding the formation of recycled content product buyers groups.
- 9001/7013/7025 - Distribute Guide to Cooperative Purchasing of Recycled Products to larger companies and institutions through the StopWa\$te Partnership and to several smaller industries through the Green Business Program.
- 0010/7013 - Sponsor roundtable discussion(s) with industry representatives to identify ways to improve the commercialization process for companies who use or want to use recycled materials in their manufacturing processes. Discuss the industrial design process and the role of research and development laboratories in new, viable technologies.
- 0010 - Work with the CIWMB to convene a regional Market Development Forum. Design this to build on experience gained in siting end-use businesses, primarily in Recycling Market Development Zones. Address issues including: overcoming barriers, lack of appropriately zoned land, high cost of traditional utilities, availability of appropriate financing and ways to improve the commercialization process. Objectives of this process to include: enhanced outreach efforts to businesses and “inventors”, better understanding of business planning barriers for this niche, and improved capacity to provide services on a local as well as a regional basis.

### *Long term (2009-2010)*

- All - Evaluate and revise strategies as needed.

## 5. Waste Prevention and Sustainability

### *Short term (2003-2005)*

- 7013 - Continue to provide comprehensive resource efficiency assessments that result in recommendations to reduce materials use and waste, energy consumption and wastewater.
- 7013 - Include product suppliers and distributors as a part of the comprehensive environmental assessment process, when advantageous.
- 0018 - Identify the most useful measurements of waste prevention.
- 7013 - Gain a better understanding through client work of costs and cost savings, including labor efficiencies associated with waste prevention activities, to share with others.

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- 7013 - Continue to develop and share best recycling and waste prevention practices.
- 7013 - Document and produce case studies that chronicle successful waste prevention projects.
- 7013 - Focus waste prevention efforts on activities with high waste prevention potential including administrative activities, food service, patient care, food production, and non-food raw material manufacturing.
- 7013 - Hold business-oriented focus groups on effective incentives for and barriers to specific waste prevention activities.
- 7013 - Promote reusable shipping/transportation containers.
- 7013/9029 - Encourage businesses to get vendors to take back and reuse pallets.
- 7013 - Target a few large chains to change their practices.
- 7013 - Conduct a paper reduction campaign, focusing on equipment, practices, software solutions, cost savings, and best practices.
- 7025 - Continue to engage member agencies in sustainability inventory project, a profile of a community's current environmental, economic and social conditions and resources. Appendix G provides a description of this inventory.
- 7013 - Continue to recognize business successes in resource efficiency.

### *Medium term (2006-2008)*

- 0018/7013 - Focus waste prevention efforts on the following activities: Shipping/Transportation; Retail - Department and Specialty Stores; Retail - Grocery Stores; Other Retail businesses; Mail Distribution; Housekeeping; Printing; and Building and Equipment Maintenance in some industries.
- 7013 - Continue to promote reusable shipping/transportation containers and paper use reduction strategies when practical and cost-effective.
- 0010 - Work with member agencies, regional groups, non-profits and industry to encourage practical manufacturer responsibility efforts.
- 0010/7013 - Work with packaging designers to create more efficient, less wasteful packaging.
- 7025 - Evaluate use of sustainability inventory to determine whether to engage more member agencies in the development of such an inventory.



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- All - Evaluate and refine strategies as needed.

### *Long term (2009-2010)*

- 7013 - Continue to promote reusable shipping/transportation containers.
- 7013/0010/9029 - Continue to encourage vendor take-back.
- 0010/7013 - Continue to work with packaging designers to create more efficient, less wasteful packaging.
- 7025 - If determined useful, engage additional member agencies in development of a sustainability inventory.

## **Organics**

### **Strategies**

#### **I. Technical and Financial Assistance (Combined with Waste Prevention and Sustainability)**

##### *Short term (2003-2005)*

- 9010 - Continue to provide low cost compost bins to county residents.
- 7038 - Continue to recruit and educate master composter trainers in compost education and expand curriculum to include sustainable landscaping concepts.
- 9012 - Promote sustainable landscaping concepts to residents, e.g., mulching, plant choice to minimize waste and water conservation.
- 9012/0120 - Document and promote best sustainable landscaping practices.
- 9012/7038 - Continue providing outreach and education on best practices to landscapers.
- 9012/0120 - Continue formation of panel of experts from landscaping industry to provide program direction, technical assistance, speakers and trainers.
- 9012/0120 - Continue to document case studies from local landscapers that successfully reduce and reuse plant debris.

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### *Medium term (2006-2008)*

- 9012 - In coordination with member agency staff, develop and promote model landscape efficiency ordinances.
- 7038 - Continue to recruit and train master composters and include sustainable landscaping concepts in the training.
- 9012 - Evaluate existing policies and identify obstacles for promoting best practices in sustainable landscaping.
- 9012/0119 - Link the message of sustainable landscaping to the need for healthy soils, storm water management and healthy urban environments.
- 9012 - Train nursery staff and other appropriate professions on compost and sustainable landscaping practices.
- 7038/8032 - Maintain compost demonstration gardens and determine whether to expand or change their use.
- 8032 - Reduce overall number of compost workshops and hold more involved, targeted workshops.
- 9010 - Evaluate saturation of home compost bin sales and whether demand is continuing or waning.
- 8032 - Distribute sustainable landscaping information such as lists of native plants with compost bins.
- 9012 - Provide grants to member agencies to install landscapes with natural and sustainable design features that minimize waste, irrigation and storm water runoff.
- 9012 - Develop trainings and workshops for landscapers and landscape architects that embrace sustainable landscaping practices and designs.

### *Long term (2009-2010)*

- Evaluate and refine strategies.
- 0120 - Promote residential landscape efficiency ordinances.
- 0120 - Continue to distribute information and hold trainings and workshops for residents and landscapers in sustainable landscaping practices.
- 9010/0005 - Evaluate how residential food waste collection affects home compost bin sales and home composting practices.

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### 2. Infrastructure

#### *Short term (2003-2005)*

- 7019 - Continue to negotiate contracts with proposers in conformance with the Compost Facility Development Guidelines for up to two in-county composting facilities.
- 7019 - Evaluate progress of above to determine feasibility of next stage.
- 7019 - Monitor quality of compost products and markets.

#### *Medium term (2006-2008)*

- 7019 - Monitor contract with in-county compost facility(ies), if built.
- 7019 - If facility is not successful, work to ensure other capacity for Alameda County organic waste.
- 7019 - Monitor quality of compost products and markets.

#### *Long term (2009-2010)*

- 7019 - Monitor contract with in-county compost facility(ies), if built.
- 7019 - Monitor quality of compost product and markets.

### 3. Collection Programs

#### *Short term (2003-2005)*

- 0005 - Continue to provide technical assistance and financial subsidies for residential and commercial organics collection.
- 0005 - Continue to encourage jurisdictions to include residential and commercial food waste collection programs in new and negotiated contracts.
- 0005 - Evaluate the incentives and subsidy program against a list of criteria to minimize risk that the funded activities would occur without the funding and to ensure that Agency goals are being met.
- 0005 - Encourage recycling of unpainted wood for compost feedstock and mulch.
- 7019 - Discourage chemically treated, painted wood from inclusion in compost processing or mulch use.
- 0005 - Continue to promote countywide edible food waste recovery through mass media.

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- 0005/9012 - Promote use of “clean green” discounts to self haulers and landscapers at transfer stations.

### *Medium term (2006-2008)*

- 7019 - Accept unpainted wood as a feedstock at county compost facility and monitor for contamination.
- 9012 - Continue to distribute information and hold trainings and workshops for residents and landscapers in sustainable landscaping practices.
- 0005/0009 - Provide incentives to transfer stations to recycle unpainted wood.
- 0005 - Investigate the feasibility of promoting a statewide yard waste landfill ban with the support of neighboring counties.
- All - Monitor and evaluate programs. Revise as needed.

### *Long term (2009-2010)*

- 0005 - Advocate for statewide yard waste ban.
- 7019/0009 - Investigate markets and processes for the recovery of painted wood.
- All - Monitor and evaluate programs. Revise as needed.

## **4. Market Development**

### *Short term (2003-2005)*

7019 - Promote use of compost to residents, landscapers, and municipalities.

7019 - Develop market development plans for in-county purchase of compost.

7019 - Create a logo and or slogan for Alameda County produced compost so that residents can recognize and purchase locally produced compost.

7019 - Promote the home composting program, master composter program and sustainable landscaping practices through the marketing and bagging of locally produced compost.

7019 - Promote compost quality standards.

0125 - Encourage member agencies to include a provision in new plant debris processing contracts for a percentage of compost/mulch in give back for community projects.

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0125/9001 - Examine local government ordinances and purchasing guidelines to increase preferences for locally produced compost and mulch that meet established quality standards.

9012/0119 - Continue to promote chipping plant debris for mulch.

9010 - Coordinate composting outreach and compost bin sales with green building outreach.

7019 - Target greenwaste currently used as Alternative Daily Cover (ADC) for composting.

### *Medium term (2006-2008)*

- 7019 - Implement market development plan for compost.
- All - Evaluate and revise strategies as needed.

### *Long term (2009-2010)*

- 7019 - Continue to evaluate markets and promote uses of compost.
- All - Evaluate and revise strategies as needed.

## **Schools**

### **Curriculum Strategies**

#### *Short term (2003-2005)*

0121 - Prioritize program support for schools in districts that have committed to a recycling collection program.

8028 - Continue and expand upon collaborative partnerships with groups with complimentary goals and with groups that train teachers.

8028 - Develop an after-school, experiential educational component in partnership with existing programs offered by non-profits, youth groups, cities, and YMCAs.

8028/8031 - Continue to educate teachers to integrate “4Rs” message into their standards based curriculum.

8031/7038 - Recruit teachers for master composter training.

8028/8031 - Continue to support facilities that provide long term environmental education such as the Davis Street Education Center and Camp Arroyo.

8028/8031 - Continue providing Davis Street Transfer Station visits to eligible students.

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8028 - Continue support for service learning.

8031 - Continue to contact all schools at least twice per year with different media such as Agency newsletters, promotional flyers, and announcements.

0121 - Develop a tool kit of resources and plan for distributing it to private schools to help them teach recycling/waste prevention concepts.

8028/8031 - Develop a list of resources and plan for distributing it to college level instructors to teach recycling/waste prevention concepts.

8028 - Add 4Rs to education programs offered during the summer and after schools.

0121/8028/8031 - Develop specific goals for behavior modification including suggestions from community based social marketing or its equivalent.

0121/8028/8031 - Begin designing a tool that could be used to evaluate the effectiveness of our messages (e.g., focus groups to determine whether students are getting the recycling message).

8028 - Work with other environmental education providers to identify costs and strategies for adequate funding for environmental education, including recycling and waste prevention.

### *Medium term (2006-2008)*

0121/8028/8031 - Continue teacher education efforts.

8028/8031 - Continue Davis Street tours.

8028 - Continue service learning.

8028/8031 - Evaluate whether to develop a new tour.

0121/8028/8031 - Evaluate additional ways to link curriculum to school recycling programs.

0121/8028/8031 - Evaluate effectiveness of all school programs and six-pronged approach in schools through surveys and focus groups.

### *Long term (2009-2010)*

0121/8028/8031 - Continue teacher education efforts.

8028/8031 - Continue tours.

8028 - Continue service learning.

0121/8028/8031 - Search for new methods to involve teachers, students and new constituents.

0121/8028/8031 - Evaluate effectiveness of programs.

**School Infrastructure Strategies**

*Short term (2003-2005)*

0121 - Develop outreach strategy to school districts, with the goal being a district-supported waste reduction and recycling program with school board and upper management support.

0121 - Develop best practices models for school recycling and waste reduction programs.

0121 - Develop standard agreement to foster commitment from districts for a school recycling program.

0121 - Sign letters of commitment and institute school site recycling in school districts.

0121 - Offer technical and financial assistance and incentives to schools with an adopted recycling policy with an eye to district sustainability of program.

0121 - Develop and conduct relevant trainings for non-teaching staff including custodial, kitchen and administration.

0121/8021 - Continue and expand upon educational materials to support recycling and composting programs in schools.

0121/8028 - Conduct assembly programs at half the schools that start a recycling program.

0121 - Provide school districts with model hauler contract language for school recycling collection.

0121/0125 - Continue to encourage cities that are negotiating food waste collection programs to include schools.

0121/0125 - Continue to work with haulers and cities to improve collection services to schools.

0121/0009/7055 - Help school districts adopt construction and demolition debris recycling policies (city policies don't apply to schools).

7055/0121 - Work with school districts to adopt green building measures in accordance with the California High Performance Schools program in school renovations and new school construction.

0121/0005 - Continue to develop appropriate off-site composting options for districts and/or coordinate plant debris recycling with food waste recycling.

0121/0005 - Continue to provide technical and financial assistance to implement on-site food scraps composting.

0121/0119 - Continue to encourage chipping of plant debris on-site by school districts where appropriate.

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0121 - Promote food rescue programs.

0121/8028/8031 - Promote waste free lunch programs for kids who bring lunch to school. Encourage students to use reusable containers and cloth napkins.

0121/7013 - Promote purchasing techniques for waste prevention. Encourage double sided copying machines.

0121 - Develop a recycling collection program tool kit and plan for distribution to private schools.

### *Medium term (2006-2008)*

0121 - Continue to work with school districts to get letters of commitment for classroom recycling.

0121 - Continue to provide technical assistance to institute school site recycling.

0121 - Continue to provide technical assistance on recycled content purchasing and environmentally preferable purchasing.

0121 - Encourage school purchasers to attend state education purchasing organization event and incorporate waste prevention principles into that event.

0121/0119 - Develop district strategies for effective waste prevention of plant debris.

0121 - Work with school districts to provide more student choice of food items vs. automatic servings (offer vs. serve programs) to help reduce food waste within state and federal mandated nutrition guidelines.

0121/0009/7055 - Continue to provide school districts with assistance in adopting construction and demolition debris recycling policy.

7055/0121 - Work with school districts to adopt green building measures in accordance with the California High Performance Schools program in school renovations and new school construction.

0121/7055/9012 - Encourage school districts to use sustainable landscaping principles and plantings.

### *Long term (2009-2010)*

0121/0005/0119 - Support implementation of school site recycling, including an organic waste reduction strategy, in every school district in Alameda County by 2010.

0121/0009/7055 - Help all remaining schools districts adopt construction and demolition debris policy by 2010.

0121/9012 - Encourage school districts to use sustainable landscaping principles and plantings.



## **Public Education**

### **Strategies**

#### *Short term (2003-2005)*

- 9016 - Continue to provide multi-media support to a wide range of Agency programs.
- 8003 - Continue to promote increased participation and capture rates in current programs.
- 8034 - Continue to provide same day response to all media inquiries.
- 9016 - Incorporate results of Agency studies and plans, including Waste Characterization Study 2000, the Source Reduction and Recycling Plan, the Five-Year Audit and others into public education materials.
- 9014/8003 - Continue to provide specialized promotion and outreach campaigns, including Household Hazardous Waste (Alameda County Environmental Health Department), Used Oil Recycling (participating member agencies), and regional Buy Recycled campaigns (Bay Area Recycling Outreach Coalition).
- 9016 - Expand upon existing radio and television commercials, print advertising, guides, brochures and other materials in support of Agency goals and objectives.
- 9029 - Continue to provide live operator assistance to the public through the countywide Recycling Hotline and the Compost Information "Rotline."
- 9029 - Continue to provide translation services in Spanish, Mandarin and Vietnamese languages through the Recycling Hotline.
- 7050/9016 - Continue to work with non-profits to deliver recycling education to under served or hard to reach populations.
- 0123 - Develop outreach strategy to multi-family complexes.
- 0123 - Develop multi-family outreach materials.
- 0123 - Conduct outreach to rental homeowner organizations.
- 0123 - Develop and promote best management recycling practices for multi-family complexes and managers.

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### *Medium term (2006-2008)*

- 0123 - Evaluate success of multi-family outreach program and revise program as needed.
- 9016 - Expand research capabilities through use of focus groups, scientific research and other polling.
- 9029 - Increase translation services; make information available on a multi-lingual basis.
- 9016 - Expand use of internet, email and related technologies.
- 9016 - Provide continuous expansion in quantity and quality of television and radio commercials.
- 9016 - Make continuous improvements to website.

### *Long term (2009-2010)*

- 9016 - Expand use of technology.
- 9016 - Continuously expand feedback loops to provide analysis and measurement of programs.

## Appendix L: The Alameda County Waste Reduction & Recycling Initiative

THE ALAMEDA COUNTY WASTE REDUCTION AND RECYCLING  
INITIATIVE CHARTER AMENDMENT:  
(FINAL TEXT: NOVEMBER 13, 1989)

### SECTION 64: WASTE REDUCTION AND RECYCLING

#### SUBSECTION 64.010: NAME

This Section of the Alameda County Charter shall be known and may be cited as the Alameda County Waste Reduction and Recycling Act of 1990 (hereinafter the "Act").

#### SUBSECTION 64.020: PURPOSE

The purpose of this Act is to:

- A. Provide for an Alameda County Source Reduction and Recycling Plan (hereinafter the "Recycling Plan") in conformance with new state law requiring all California cities and counties to plan, fund and implement a comprehensive source reduction and recycling program (Paragraph 64.040(B));
- B. Meet, by January 1, 1995, the state-mandated goal of reducing by at least twenty-five percent the refuse landfilled in Alameda County, then meet by January 1, 2000, the further state-mandated goal of fifty percent, and set longer-term goals starting at seventy-five percent (Paragraph 64.040(A));
- C. Ensure that the Recycling Plan provides for at least the following essential elements:
  - 1. An Alameda County-wide Source Reduction Program (Subsection 64.080) to minimize the generation of refuse;

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2. Residential Recycling Programs (Subsection 64.090) to provide each Alameda County residence with curbside pick-up of recyclable materials;
  3. Commercial Recycling Programs (Subsection 64.100) to reduce the refuse disposal costs of businesses and government agencies;
  4. An Alameda County-wide Recycled Product Market Development Program (Subsection 64.110) to create and strengthen stable markets for recycled materials; and
  5. A Recycled Product Purchase Preference Program (Subsection 64.120) to further encourage recycled materials markets by maximizing the amount of recycled products purchased by County government agencies;
- D. Fund the Recycling Plan by instituting a six dollar per ton surcharge on materials disposed of in Alameda County landfills (Paragraph 64.050(A));
- E. Create an Alameda County Source Reduction and Recycling Board (hereinafter the "Recycling Board") to coordinate the Recycling Plan (Subsection 64.130);
- F. Prohibit the incineration of refuse within Alameda County (Subsection 64.140).

### SUBSECTION 64.030: FINDINGS

The people of Alameda County find and declare that:

- A. The increasing consumption of single-use and environmentally harmful products depletes natural resources, produces huge quantities of refuse -- most of which is disposed of in ways that damage the environment -- and, ultimately, will injure future generations;
- B. The use of terms such as "garbage" and "solid waste" result from -- and serve to reinforce -- wasteful attitudes; the materials referred to by these terms retain their value as natural resources, and should instead be described and treated as "discarded materials" to be recycled rather than incinerated or landfilled;

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- C. At least ninety percent of the discarded materials generated within Alameda County are landfilled as are vast quantities of discarded materials from neighboring counties; existing landfill capacity in the Bay Area will be exhausted in less than twenty-five years, while new landfills are increasingly difficult and expensive to site; landfill is neither a long-term, nor a sustainable, nor an environmentally safe option for disposal of discarded materials;
- D. Refuse incinerators are a poor alternative to source reduction and recycling: such incinerators damage the environment by wasting natural resources that could instead be recycled, by accelerating the release of greenhouse gasses -- which worsen global warming -- and by generating toxic substances;
- E. Each person discards materials and should therefore be involved in solving the problems caused by the disposal of such materials; this involvement must include changes in individual behavior resulting from each person's awareness of her or his role in creating or finding solutions to environmental problems; only through such changes can sustainable consumption and disposal patterns be established and the biosphere restored:
- F. The County government shares a responsibility with Alameda County cities and sanitary districts to provide a comprehensive source reduction and recycling program which will foster these necessary changes in individual behavior as well as ensure that the goals set by state law are met; and
- G. The best available method for funding the Recycling Plan is a surcharge on materials disposed of at landfills.

### SUBSECTION 64.040: RECYCLING POLICY GOALS AND RECYCLING PLAN

- A. Recycling Policy Goals:
  - 1. Consistent with the California Integrated Waste Management Act of 1990 (hereinafter the "CIWMA"), it shall be County policy to reduce, recycle, and compost, by no later than January 1, 1995, at least twenty-five percent (25%), and by no later than January 1, 2000, at least fifty percent (50%), by weight, of all discarded materials generated within Alameda County.

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2. The Recycling Board shall establish, not later than January 1, 1999, a date to reduce, recycle, and compost at least seventy-five percent (75%), by weight, of all discarded materials generated within Alameda County, and, as necessary to the establishment of sustainable discarded materials management practices, shall subsequently establish a date (or dates) to reduce, recycle and compost further quantities of discarded materials.
- B. The Recycling Board shall develop, within one (1) year of the effective date of this Act, a plan to establish the recycling programs necessary to meet the recycling policy goals set forth in Subparagraph 64.040(A)(1) (all citations contained in this Act are, unless otherwise noted, to this Act), said plan to be known as the Alameda County Source Reduction and Recycling Plan (Recycling Plan). The Recycling Board subsequently shall amend the Recycling Plan as necessary to meet said recycling policy goals, and as necessary to meet the further recycling policy goals established by the Recycling Board pursuant to Subparagraph 64.040(A)(2). The Recycling Plan shall incorporate all Alameda County recycling programs, whether funded by this Act or not. In developing and amending the Recycling Plan, the Recycling Board shall consult with the Alameda County Board of Supervisors (hereinafter the "Board of Supervisors"), the Alameda County Waste Management Authority (hereinafter the "Authority") and Alameda County municipal governing bodies, and furthermore shall seek to maximize public input as to the contents of the Recycling Plan by holding public hearings and establishing public advisory committees.
- C. The Recycling Board shall contract, not more than four (4) years after the effective date of this Act, and then every five (5) years thereafter, for an audit to determine compliance with the Recycling Plan and the degree of progress toward the recycling policy goal then in effect. Said audits shall be conducted by an independent auditor (or auditors) with experience in source reduction and recycling. The reports of said audits shall be completed within one (1) year and issued to each municipality, the Board of Supervisors and the Authority. Said reports shall include at least the following:
1. A narrative and analytical evaluation of all recycling programs within Alameda County, whether funded through this Act or not, both Alameda County-wide and within each municipality;
  2. A statistical measure of the progress toward the recycling policy goal then in effect;

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3. An evaluation of the Recycling Board's activities, including, but not limited to, an accounting of the monies spent by the Recycling Board; and
4. Recommendations to the Recycling Board, the Board of Supervisors, the Authority and the municipal governing bodies for the maintenance and expansion of recycling programs, and any necessary resulting amendments to the Recycling Plan.

### SUBSECTION 64.050: RECYCLING FUND

- A. Commencing not later than three (3) months after the effective date of this Act, each landfill or incinerator in Alameda County shall collect a surcharge of six dollars (\$6.00) per ton on all refuse accepted for landfilling or incineration at said landfill or incinerator. All monies collected through said surcharge shall be paid by the operators of each landfill or incinerator into a fund, to be known as the Alameda County Recycling Fund (hereinafter the "Recycling Fund"), established for the purpose of receiving and disbursing monies pursuant to this Act. The Board of Supervisors shall ensure the collection of said surcharge, either by modifying the use permits of said landfills and incinerators or by any other necessary means.
- B. Should the collection of said surcharge be found to be in violation of an existing contract or agreement to import refuse generated outside of Alameda County for landfilling or incineration within Alameda County, the Board of Supervisors may vote to waive collection of said surcharge for the refuse described within said contract or agreement. However, any future contract or agreement for the importation of refuse for landfilling or incineration within Alameda County, executed or negotiated after the effective date of this Act, shall provide for the collection of said surcharge for the refuse described within said contract or agreement.
- C. Any necessary costs of collection of said surcharge incurred by landfill or incinerator operators shall not be subtracted from said surcharge but, consistent with Subsection 64.070, shall be passed through to refuse generators by means of the refuse collection rates set by each municipality.
- D. Said surcharge may be adjusted only as follows:

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1. The Board of Supervisors may place a ballot measure on the Alameda County ballot for an alternative or additional funding mechanism for the Recycling Fund. Said funding mechanism may levy a surcharge or disposal fee on types of discarded materials. Said ballot measure may also include a provision to adjust said surcharge in direct correlation to the funding resultant from the proposed surcharge or disposal fee.
  2. The Authority may pay monies within its jurisdiction to the Recycling Fund with the intent of mitigating said surcharge. Should the Authority vote to do so, the Board of Supervisors shall adjust said surcharge accordingly, provided that no such adjustment shall result in a net loss to the total receipts to the Recycling Fund within a given year.
  3. The Board of Supervisors may vote at any time to adjust said surcharge in direct accordance with changes in the Consumer Price Index.
  4. Commencing January 1, 1995, and once every five years thereafter, the Board of Supervisors may vote, with the advice of the Authority and/or a double majority of the cities, to pass an ordinance adjusting said surcharge by up to twenty percent (20%). Said ordinance may take effect immediately, but shall be subject to approval or repeal by a vote of the people at the next regularly scheduled Alameda County election.
  5. The Board of Supervisors may vote, with the concurrence of a double majority of the cities, to adjust said surcharge, if either the federal government or the State of California institutes recycling programs that duplicate and fund the recycling programs established by this Act.
- E. The Recycling Board shall administer the Recycling Fund in accordance with the provisions of this Act. Recycling Fund monies that are not immediately expended may be temporarily invested, under the direction of the Recycling Board and in accordance with accepted principles of financial management, in financial instruments that encourage, to the extent possible, source reduction and recycling while discouraging non-sustainable uses of natural resources. Any interest or other income resulting from such investments shall accrue to the Recycling Fund.



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### SUBSECTION 64.060: SUPPORT FOR RECYCLING PROGRAMS

- A. During the first twenty-seven (27) months after the effective date of this Act, the Recycling Board shall support recycling programs and otherwise fulfill the provisions of this Act by disbursing monies from the Recycling Fund as follows:
1. Eighty percent (80%) of the total shall be apportioned on a per capita basis to municipalities for the planning and implementation of Residential Recycling Programs and/or Commercial Recycling Programs, for new or expanded recycling programs, and for the preparation of the city source reduction and recycling elements, pursuant to the CIWMA. Funds so disbursed shall be used exclusively for supporting municipal recycling programs.
  2. Twenty percent (20%) of the total shall be applied to the following:
    - a. The development and implementation of the Source Reduction Program, the Recycled Product Market Development Program and the Recycled Product Purchase Preference Program;
    - b. The Recycling Board's expenses for the administration of this Act; and
    - c. The preparation of the Alameda County source reduction and recycling element, pursuant to the CIWMA.
- B. Commencing twenty-eight (28) months after the effective date of this Act, the Recycling Board shall support recycling programs and otherwise fulfill the provisions of this Act by disbursing monies from the Recycling Fund as follows:
1. Fifty percent (50%) shall be disbursed on a per capita basis to municipalities for the continuation and expansion of municipal recycling programs.
  2. Ten percent (10%) shall be applied to a grant program for nonprofit organizations engaged in maximizing recycling, composting, and reducing waste within Alameda County. The Recycling Board shall be an organization eligible to receive funds under this Subparagraph, for the purposes of conducting planning,

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research, and studies directed at furthering the purposes of this Act.

3. Ten percent (10%) shall be applied to the Source Reduction Program.
  4. Ten percent (10%) shall be applied to the Recycled Product Market Development Program.
  5. Five percent (5%) shall be applied to the Recycled Product Purchase Preference Program.
  6. Fifteen percent (15%) shall be disbursed on a discretionary basis by the Recycling Board to support any of the activities described within this Paragraph. A portion of said fifteen percent (15%) may be retained by the Recycling Board to cover the necessary costs of administering the Recycling Fund, provided, however, that said portion shall not exceed three percent (3%) of the total funds paid to the Recycling Fund in a given year.
- C. For the purpose of apportionment of funds under the provisions of this Subsection, and for the purpose of sound discarded materials management, the Recycling Board shall cause accurate, reliable, and up-to-date estimates to be maintained of the amounts and kinds of recycling and refuse generation occurring in each municipality. For the purpose of ensuring comparability of data, any composition study or waste characterization study performed with Recycling Fund monies shall comply with standards to be established by the Recycling Board. Said standards shall include, but shall not be limited to, both methodology and categories of discarded materials. In establishing said standards, the Recycling Board should utilize the categories for discarded materials outlined in Paragraph 64.150(0).
- D. Contracts using Recycling Fund monies shall be made for periods of not more than five (5) years, except that, upon a finding of the Recycling Board that a longer period is necessary in order to capitalize a specific project, the Recycling Board may vote to allow a particular contract to be made for a period of not more than ten (10) years. No contract using Recycling Fund monies shall provide for an option to renew or any similar provision that would result in the extension of a contract, on a less than fully competitive basis, for a cumulative period of more than five (5) years or, in the case of a contract which the Recycling Board has authorized to be made for a longer period for purposes of capitalization, more than ten (10) years.

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- E. Nothing in this Act shall prevent any municipality, other jurisdiction, or other organization within Alameda County from raising or expending additional funds or taking other actions in support of recycling programs.
- F. Commencing January 1, 1995, the Recycling Board may vote, with the concurrence of the Board of Supervisors and a double majority of the cities, to adjust the distribution of funds under Paragraph 64.060(B) in order to further progress toward the recycling policy goal then in effect.

### SUBSECTION 64.070: MUNICIPAL RATE STRUCTURES

- A. In order to be eligible to receive monies from the Recycling Fund, each municipality must, either by adjusting local refuse collection rates or by instituting a product disposal fee, provide for full reimbursement to its local refuse hauler(s) for the costs of the surcharge established by Paragraph 64.050(A).
- B. Upon request of a municipality, the Recycling Board shall cooperate with said municipality, the Alameda County Joint Refuse Rate Review Committee and the refuse hauler(s) serving said municipality to design an incremental refuse collection rate structure which will:
  - 1. Fully reimburse said hauler(s) for the increased costs resulting from the surcharge established by Paragraph 64.050(A);
  - 2. Encourage source reduction and recycling among residents by charging successively higher amounts for each garbage can collected; and
  - 3. Provide residents with the option to use smaller garbage cans at a decreased rate in order to reward source reduction and recycling.
- C. Upon request of a municipality, the Recycling Board shall cooperate with said municipality, the Alameda County Joint Refuse Rate Review Committee, and the refuse hauler(s) serving said municipality to design a product disposal fee, to be levied on purchases of products, with emphasis on those products that either are non-recyclable or are environmentally harmful, which will:

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1. Allow said municipality to fully reimburse, in lieu of or in addition to an increase in refuse collection rates, said hauler(s) for the increased costs resulting from the surcharge established by Paragraph 64.050(A);
2. Encourage source reduction among residents; and
3. Discourage the purchase of environmentally harmful products.

### SUBSECTION 64.080: SOURCE REDUCTION PROGRAM

The Recycling Board shall disburse monies allocated in Subparagraphs 64.060(A)(2) and 64.060(B)(3), on a discretionary basis, for the development of an Alameda County-wide Source Reduction Program. Funded components of the Source Reduction Program shall include, but shall not be limited to, the following:

- A. A county waste minimization program with a goal of reducing the weight of County purchases, and with a specific goal of reducing the weight of County purchase of paper products by ten percent (10%) by January 1, 1995, and by fifteen percent (15%) by January 1, 2000. Said program shall emphasize the conservation of paper products by means of a comprehensive employee education program. The Recycling Board may establish further goals for reduction in County purchases.
- B. An annual non-monetary award program for businesses which demonstrate a significant reduction in the use of packaging materials or the use of materials in manufacturing processes, or waste reduction through the durability and/or recyclability of their products.
- C. An industry and/or university program to research and develop source reduction opportunities and incentives.
- D. An intensive public education campaign to promote alternative individual consumer habits and in-house source reduction programs for businesses and institutions.

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- E. Disposal cost reduction studies and waste audit services to demonstrate to businesses and institutions the efficacy of recycling programs.

### SUBSECTION 64.090: RESIDENTIAL RECYCLING PROGRAMS

Within two (2) years of the initiation of the Recycling Fund, each municipality receiving monies from the Recycling Fund shall provide a Residential Recycling Program to every resident to whom refuse collection service is offered on a regular schedule which is as frequent as said refuse collection. However, it shall not be mandatory to provide said program to residents more than once a week.

### SUBSECTION 64.100: COMMERCIAL RECYCLING PROGRAMS

Within two (2) years of the initiation of the Recycling Fund, each municipality receiving monies from the Recycling Fund shall make an adequate Commercial Recycling Program available to every business, government, and public or private institution to which refuse collection is offered, on a regular schedule. Municipalities may determine that a Recyclable Materials Recovery Program is an appropriate means of satisfying a part of this requirement.

### SUBSECTION 64.110: RECYCLED PRODUCT MARKET DEVELOPMENT PROGRAM

The Recycling Board shall disburse monies allocated in Subparagraphs 64.060(A)(2) and 64.060(B)(4) of this Act, on a discretionary basis, for a program to develop and expand markets for recycled products. Funded components of the Recycled Product Market Development Program shall include, but shall not be limited to, the following:

- A. A regional cooperative marketing strategy;
- B. Grants for demonstration projects targeted at new uses of recycled materials and new techniques for recycling materials;
- C. An Alameda County-wide information exchange which targets potential users and sources of recycled products; and

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D. Municipal programs to administer permit assistance to recycling industries.

### SUBSECTION 64.120: RECYCLED PRODUCT PURCHASE PREFERENCE PROGRAM

- A. The County shall purchase Recycled Products where they are comparable in function and equal in cost to products manufactured from virgin materials.
- B. The County shall apply, to the extent made possible by the availability of monies under Subparagraphs 64.060(A)(2) and 64.060(B)(5), a price preference of ten percent (10%) to its purchases of Recycled Products where said Recycled Products are comparable in function to products manufactured from virgin materials.
1. Price preferences shall be applied to a full range of recycled product categories, including, but not limited to, recycled paper products, compost and co-compost products, recycled glass, recycled oil, and recycled solvents and paints.
  2. The Recycling Board may establish a price preference which is greater than ten percent (10%) for certain recycled product categories, if it is demonstrated that the manufacturing costs for said recycled product categories are higher than the manufacturing costs for similar products produced with virgin materials such that a ten percent (10%) preference is insufficient for said recycled products to be competitive.
  3. Commencing January 1, 1995, the Recycling Board may reduce the price preference for certain recycled product categories, if it is demonstrated that the manufacturing costs for said recycled product categories are competitive with the manufacturing costs for similar products produced with virgin materials, and that any such reduction will not result in a substantial decrease in the percentage of recycled products purchased in the category affected by the reduction.
  4. Any monies remaining after fulfilling the other requirements of this Paragraph in a given year shall be apportioned by the

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Recycling Board to municipalities which have established similar price preferences and recycled product specifications.

- C. Consistent with Paragraphs 64.120(A) and (B), the County shall modify its purchasing forms and procedures to ensure that, beginning no later than one (1) year after the effective date of this Act, information as to the recycled content, including both postconsumer discards and secondary discards, of all supplies and materials purchased by the County is available and taken into account during the purchasing process. Said information shall also be obtained for the supplies and materials portions of all public works contract bids that are received by the County.
- D. Any County agency which has responsibility for drafting or reviewing specifications for procurement items shall be required to revise said specifications, within one (1) year of the effective date of this Act, to eliminate exclusions of recovered materials and requirements that said items be manufactured from virgin materials.
- E. To the extent that the practice of accepting bids for multiple products inhibits the purchase of recycled products, the County shall accept bids for individual products and/or bids for fewer products.
- F. The Recycling Board may establish standards for a recycled product category which exceed the levels of postconsumer and secondary discard content established by this Act, provided, however, that said standards will not result in a substantial decrease in the percentage of recycled products purchased in said category.
- G. Notwithstanding any other provision of this Charter, this Subsection shall apply to the supplies and materials portions of all public works contracts made by the County. The County may set minimum amounts of recycled products, both by quantity and by category, to be utilized in the execution of said contracts; and shall contract separately for the supplies and materials portions of said contracts where such separate contracting would result in more complete compliance with this Act while not significantly increasing the cost of a given contract, except as allowed by Paragraph 64.120(B).
- H. It shall be a County policy goal to purchase recycled paper products such that, by January 1, 1995, at least fifty percent (50%) of the total dollar amount of paper products purchased or procured by the County shall be purchased or procured as recycled paper products. Not later than January 1, 1999, the Recycling Board shall recommend to the

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Board of Supervisors further policy goals for County purchases of all types of recycled products.

### SUBSECTION 64.130: RECYCLING BOARD

- A. The Board of Supervisors and the Authority shall appoint an eleven (11) member board, to be known as the Alameda County Source Reduction and Recycling Board (Recycling Board), to administer this Act as well as to carry out any other tasks consistent with the purposes of this Act that may subsequently be given to the Recycling Board by the voters or the Board of Supervisors.
  
- B. To avoid unnecessary administrative duplication, the Board of Supervisors shall seek the consent of a double majority of the cities for the Recycling Board to serve as the local task force mandated by California Public Resources Code Section 40950 (as enacted by the CIWMA). A failure to obtain such consent shall not be construed to inhibit the establishment of the Recycling Board. In the event that the Recycling Board is not named as said local task force, the Recycling Board shall review any recommendations of a local task force regarding source reduction and recycling.
  
- C. To further avoid unnecessary administrative duplication, the Authority may, within ninety (90) days of the effective date of this Act, accept the Recycling Board as a subsidiary body of the Authority. Should the Authority not so accept the Recycling Board, or if the Authority at any time ceases to exist, the Recycling Board shall be established as a separate entity within the structure of County government. However, notwithstanding an initial failure by the Authority to so accept the Recycling Board, the Board of Supervisors may at any time, upon request of the Authority, make the Recycling Board a subsidiary body of the Authority.
  
- D. Members of the Recycling Board shall be appointed in accordance with the following:
  - 1. The Authority may appoint five (5) of its members to sit on the Recycling Board. Should any or all of said five (5) Recycling Board members not be appointed by the Authority within four (4) months of the effective date of this Act, the Board of Supervisors shall cooperate with a double majority of the cities to appoint said member or members, except that a member appointed under such



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circumstances need not be a member of the Authority, but must be a member of the governing body of a municipality.

2. The Board of Supervisors shall appoint six (6) Alameda County residents to the Recycling Board as follows:
  - a. A representative of an organization engaged primarily in operating recycling programs within Alameda County;
  - b. A source reduction specialist with substantial experience as such;
  - c. A representative of the recyclable materials processing industry;
  - d. A representative of the solid waste industry;
  - e. A representative of an environmental organization with a significant membership active in recycling issues within Alameda County; and
  - f. An environmental educator employed as such on a full-time basis.
3. The membership of the Recycling Board shall reflect expertise in the field of source reduction and recycling.
4. No for-profit corporation, including its divisions, affiliates, parents and subsidiaries, wholly or partially owned, may have more than one (1) employee or representative on the Recycling Board at any one (1) time.
5. All members of the Recycling Board shall be appointed within four (4) months of the effective date of this Act. Members of the Recycling Board shall serve a term of two (2) years, and may be reappointed for one (1) successive term, except that, for the purpose of ensuring continuity in the administration of this Act, the initial terms of two (2) of the members appointed by the Authority and three (3) of the members appointed by the Board of Supervisors shall be one (1) year. Should a Recycling Board member appointed by the Authority cease to be a member of the

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Authority, or if a Recycling Board member who is a member of the governing body of a municipality should cease to be a member of said governing body, or if a Recycling Board member ceases to be a resident of Alameda County, her or his seat on the Recycling Board shall be immediately deemed to be vacant.

6. Should a Recycling Board member for any reason vacate her or his seat, the governing body (or bodies) that appointed said member shall appoint a new member within two (2) months of the date the seat is vacated, except that if the appointing body is the Authority and the Authority has either ceased to exist or has failed to appoint a new member within said two (2) month period, the Board of Supervisors shall cooperate with a double majority of the cities to make the appointment. All such appointments to the Recycling Board shall otherwise be made in compliance with the requirements that applied to the original appointments.
  7. In the event of temporary incapacity or other inability to attend Recycling Board meetings, a Recycling Board member may request that the governing body (or bodies) that appointed said member appoint an interim Recycling Board member to serve, for a period of no more than three (3) months, in the place of said member.
- E. The Recycling Board shall schedule and conduct regular meetings at least once each calendar month, and shall schedule special meetings and committee meetings as necessary to the business of the Recycling Board. Regular meetings shall be scheduled with at least one (1) month advance notice to the public. Special meetings and committee meetings shall be scheduled with at least one (1) week advance notice to the public.
- F. Recycling Board members shall attend at least three fourths (3/4) of the regular meetings within a given calendar year. At such time as a member has been absent from more than one fourth (1/4) of the regular meetings in a calendar year, or from two (2) consecutive such meetings, her or his seat on the Recycling Board shall be considered vacant.
- G. Consistent with the principle of maximizing public participation in all Recycling Board activities, the Recycling Board may establish advisory committees and shall provide for full participation of the public in the functions of such bodies.

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- H. The Recycling Board shall hold its meetings, hearings, public hearings, and other proceedings in such places and at such times as are likely to maximize access to said proceedings by as broad a range of Alameda County residents as is reasonably possible. To this end, the Recycling Board shall hold at least one (1) regularly scheduled evening meeting per year in each supervisorial district in a location accessible by public transit and shall ensure full access to all Recycling Board meetings by the physically disabled.
- I. All hearing, meetings, proceedings or other discussions of the Recycling Board, or of any committee or other subsidiary body of the Recycling Board, shall be open to the public, as shall the minutes, records of proceedings or documents received or discussed by the Recycling Board or its subsidiary bodies. Access to meetings or documents of the Recycling Board may be restricted only in circumstances authorized by those provisions of the Ralph M. Brown Act (California Government Code Sections 54950 et seq.), or of the California Public Records Act (California Government Code Sections 6250 et seq.), or of any successor legislation to either said act, relating to actual or imminent litigation or to evaluation of an employee of the Recycling Board. No such restriction shall be lawful unless it is first justified in the relevant written notice of meeting by specific identification of the actual or anticipated litigant or by specific identification of the position of the Recycling Board employee to be evaluated. All Recycling Board documents shall be made available for copying by members of the public for the direct cost of the copies only, not to exceed a limit of ten (10) cents per page. Said limit may be adjusted by the Recycling Board in direct proportion to the Consumer Price Index.
- J. The Recycling Board shall formulate rules for its own procedures and other rules as necessary to facilitate the implementation of the provisions of this Act.
- K. Each Recycling Board member shall have one (1) vote. A quorum for decisions of the Recycling Board shall be a majority of its members, except that a smaller number may vote to adjourn meetings.
- L. The members of the Recycling Board shall elect from their number a chair to be the presiding officer of said Recycling Board. The term of office of said chair shall be no more than one (1) year and shall expire at the end of the calendar year in which the chair sits.
- M. Each Recycling Board member shall receive compensation not to exceed three thousand dollars (\$3,000.00) for one (1) calendar year,

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not to exceed one hundred dollars (\$100.00) for each regular meeting of the full Recycling Board, or each special meeting or committee meeting of at least two (2) hours duration, which said member has attended.

- N. The Recycling Board shall hire such staff as are required to implement the provisions of this Act. Staff salaries and benefits shall be paid out of the monies allocated for the administration of this Act, pursuant to Subparagraphs 64.060(A)(2) and 64.060(B)(6).
- O. The Recycling Board may apply for, receive and expend supplementary funding grants from private and public sources.
- P. Conflicts of Interest:
1. No Recycling Board member shall participate in any Recycling Board action or attempt to influence any decision or recommendation by any employee of or consultant to the Recycling Board which involves herself or himself, or which involves any entity with which the member is connected as a director, officer, elected official, consultant, or full-time or part-time employee, or in which the member has a direct personal financial interest within the meaning of California Government Code Section 87100, or any successor statute thereto.
  2. No Recycling Board member shall participate in any proceeding before any agency of either the County or a municipality as a consultant or in any other capacity on behalf of any solid waste handler, recycling organization, or other person or organization which actively participates in matters before the Recycling Board. Nothing in this Subsection shall be construed to prohibit a representative from a municipality from fully participating in the deliberations of her or his own governing board.
  3. For a period of one (1) year after leaving her or his seat on the Recycling Board, a former Recycling Board member shall not act as an agent or attorney for, or otherwise represent, any other person before the Recycling Board by making any formal or informal appearance or by making any oral or written communication to the Recycling Board.
- Q. Ex Parte Communications:

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1. No Recycling Board member, or person who serves as a consultant or in any other capacity on behalf of a solid waste handler, recycling organization, or other public or private entity which actively participates in matters before the Recycling Board, or other person who intends to influence the decision of a Recycling Board member on a matter before the Recycling Board, excepting a staff member of the Recycling Board acting in her or his official capacity, shall conduct an ex parte communication unless the following steps are taken:
    - a. The Recycling Board member shall notify the person who engaged in the ex parte communication that a full disclosure of said communication must be entered in the Recycling Board's record; and
    - b. Either the Recycling Board member or the person who engaged in said communication shall, prior to the next regularly scheduled meeting of the Recycling Board, submit a full written disclosure of said communication which shall be entered in the Recycling Board's official record.
  2. For the purposes of this Paragraph, "ex parte communication" shall mean any oral or written communication concerning matters, other than purely procedural issues, under the jurisdiction of the Recycling Board which are subject to a vote of the Recycling Board, but shall not mean any such communication performed before the Recycling Board, or any subsidiary body thereto.
- R. Violations of Paragraphs 64.130(P) or (Q) shall be punishable as a misdemeanor.
- S. Upon request of any person or on her or his own initiative, the Alameda County District Attorney may file a complaint in Alameda County Superior Court alleging that a Recycling Board member has knowingly violated Paragraphs 64.130(P) or (Q), including the facts upon which said allegation is based, and asking that said Recycling Board member be removed from office. If, after trial, the court finds that the Recycling Board member has knowingly violated either of said Paragraphs, it shall enter a judgement removing said member from office.
- T. All documents issued by or in the name of the Recycling Board shall be printed double-sided on recycled paper with the highest postconsumer content available.

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### SUBSECTION 64.140: PROHIBITION OF INCINERATION

It shall be unlawful to operate any incinerator within Alameda County. Furthermore, it shall be unlawful to landfill within Alameda County the ash or residue from any incinerator, regardless of the location of said incinerator.

### SUBSECTION 64.150: DEFINITIONS

The following words and phrases used in this Act shall have, for the purposes of interpreting and applying this Act, the following meanings:

- A. "Act" shall mean this Section, Section 64 of the Alameda County Charter as enacted by the Alameda County Waste Reduction and Recycling Act of 1990.
- B. "Alameda County" shall mean the geographic entity, including both the incorporated and unincorporated areas.
- C. "Authority" shall mean the Alameda County Waste Management Authority.
- D. "Board of Supervisors" shall mean the Alameda County Board of Supervisors.
- E. "Buy-Back Program" shall mean a program to purchase recyclable supplies, materials or goods from the public.
- F. "Charter" shall mean the Alameda County Charter as amended by this Act.
- G. "CIWMA" shall mean the California Integrated Waste Management Act of 1989, presently codified as California Public Resources Code Sections 40000 et seq.
- H. "Commercial Recycling Program" shall mean a program to collect, purchase, receive, process, and/or market discarded materials

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generated by businesses or institutions, public or private, for the purpose of recycling said discarded materials; and shall include a Recycling Education Program to encourage the participation of said businesses or institutions.

- I. "Compostable materials" shall mean nontoxic materials collected for composting, including, but not limited to, plant debris, putrescibles, wood and soils.
- J. "Composting" means the controlled biological decomposition of organic materials that are separated from the discarded materials stream.
- K. "Composting Program" shall mean a program to collect, purchase, receive, process, and/or market compostable materials, or co-compost said compostable materials with manures, dairy discards, or fish processing discards, with the aim of producing a nontoxic finished product usable as a compost, soil amendment, landfill cover, or potting soil.
- L. "Construction and Demolition Debris Recycling Program" shall mean a program to collect, purchase, receive, process, and/or market discarded materials generated in the construction and/or demolition of improvements to real property.
- M. "Consumer Price Index" shall mean the index for the San Francisco Bay Area issued by the United States Department of Labor.
- N. "County" shall mean the government of Alameda County, including any department, board, commission, agency or duly authorized official thereof.
- O. "Discarded materials," "discarded materials supply" and "discards" shall mean materials that a person, business, industry, or institution has delivered to a disposal facility, or has set in or next to a receptacle that is regularly emptied for disposal, or has abandoned in a public place, but shall not be construed to mean materials that must be handled as hazardous or infectious waste; and shall be composed of the following categories:
  - 1. "Chemicals," including, but not limited to, recyclable and/or reusable solvents, paints, motor oil, and lubricants;

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2. "Crushables," including, but not limited to, rock, ceramics, concrete, and nonreusable brick;
3. "Glass," including, but not limited to, glass containers and window glass;
4. "Manures," including, but not limited to, sewage sludge that has been dewatered, treated or chemically fixed, and livestock and horse manure;
5. "Metals," both ferrous and nonferrous, including cans, parts from abandoned vehicles, plumbing, fences, metal doors and screens, and any other discarded metal objects;
6. "Paper," including, but not limited to, newsprint, ledger paper, computer paper, corrugated cardboard and mixed paper;
7. "Plant debris," including, but not limited to, leaves, cuttings, and trimmings from trees, shrubs and grass;
8. "Plastics," including, but not limited to, beverage containers, plastic packaging, tires, and plastic cases of consumer goods such as telephones or electronic equipment;
9. "Putrescibles," including, but not limited to, garbage, offal, and animal, fruit and vegetable debris;
10. "Reusable goods," including intact or repairable home or industrial appliances, household goods, and clothing; intact materials in demolition debris, such as lumber or bricks; building materials such as doors, windows, cabinets, and sinks; business supplies and equipment; lighting fixtures; and any other item that can be repaired or used again as is;
11. "Soils," including, but not limited to, excavation soils from barren or developed land, and excess soils from yards;
12. "Textiles," including, but not limited to, nonreusable clothing, upholstery and pieces of fabric; and



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13. "Wood," including, but not limited to, nonreusable lumber and pallets.
- P. "Disposal facility" shall mean a facility to receive, purchase, process, incinerate and/or landfill discarded materials.
- Q. "Double majority of the cities" shall mean a majority of the cities representing a majority of the population in the incorporated areas of Alameda County.
- R. "Drop-Off Program" shall mean a program to accept the donation of recyclable materials at a fixed site for the purpose of recycling said materials.
- S. "Hazardous waste" shall mean any material defined as hazardous waste by California Health and Safety Code Section 25117, or by any successor statute thereto, but notwithstanding said section or successor statute shall include ash and/or residue from an incinerator.
- T. "Incinerator" shall mean a facility that burns, as a means of disposal and/or energy production, refuse, refuse-derived fuel, any material recovered from a mixed supply of discarded materials, any type of plastic, and/or any type of hazardous waste, but shall not mean a facility dedicated to burning infectious waste or potentially infectious waste.
- U. "Infectious waste" shall mean any material defined as infectious waste by California Health and Safety Code Section 25117.5, or by any successor statute thereto.
- V. "Landfill" shall mean a facility that buries discards as a means of disposal.
- W. "Municipal recycling programs" shall mean recycling programs within a municipality, or recycling programs administered as a joint effort between municipalities.
- X. "Municipality" shall mean a city or sanitary district located in Alameda County.

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- Y. "Postconsumer discards" shall mean finished materials which would have been disposed of as discarded materials, having completed their life cycle as consumer items, and does not include manufacturing discards.
- Z. "Recyclable Material Recovery Program" shall mean a program to receive, separate, and process mixed discarded materials for the purpose of removing materials which will later be used in the fabrication or manufacture of recycled products.
- AA. "Recycle" or "recycling" shall mean a process by which any good, material, supply or other object, which otherwise would be wasted, is recycled, reused, salvaged, or otherwise retrieved, collected, processed and/or marketed for return to use by society, either in its original form or in a new form; but shall not mean, with the exception of compost used for landfill cover, a program for landfilling or incinerating.
- BB. "Recycled product" shall mean a product, good, material, or supply, no less than fifty percent (50%) of the total weight of which consists of secondary and postconsumer discards with not less than ten percent (10%) of its total weight consisting of postconsumer discards; or any product, good, material or supply which has been diverted from the supply of discarded materials by refurbishing and marketing said product, good, material or supply without substantial change to its original form.
- CC. "Recycled Product Market Development Program" shall mean a program to create or improve markets for recycled products, including, but not limited to, one that facilitates the exchange of information between potential sources and users of recycled products; supports the development of techniques, systems, and practices of incorporating recycled materials into finished products; encourages enterprises that use recycled materials in place of non-recycled materials; and/or assists in the establishment of cooperative arrangements or organizations for marketing or purchasing recycled products.
- DD. "Recycling Board" shall mean the Alameda County Source Reduction and Recycling Board established pursuant to this Act.
- EE. "Recycling Education Program" shall mean a program to promote participation in recycling programs and/or disseminate information about the benefits of recycling; and encouraging sound consumption and disposal practices by using language and concepts consistent with achieving a sustainable environment.

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- FF. "Recycling Fund" shall mean the Alameda County Recycling Fund established pursuant to this Act.
- GG. "Recycling Plan" shall mean the Alameda County Recycling Plan established pursuant to this Act.
- HH. "Recycling programs" shall mean Buy-Back Programs, Commercial Recycling Programs, Composting Programs, Construction and Demolition Debris Recycling Programs, Drop-Off Programs, Recyclable Material Recovery Programs, Recycled Product Market Development Programs, Recycled Product Purchase Preference Programs, Recycling Education Programs, Residential Recycling Programs, Salvage Programs, Source Reduction Programs, and/or research and planning to implement any of said programs.
- II. "Refuse" shall mean mixed discarded materials that are disposed of by landfilling or incineration, including, but not limited to, discarded materials that have been contaminated and thus rendered non-recyclable during the disposal process, either by being mixed during compaction or by any other process, and discarded products of a manufacturing process which combines natural resources in a manner which renders said resources unrecoverable.
- JJ. "Residential Recycling Program" shall mean a program to collect at least three (3) different kinds of materials, from at least two (2) different categories of discarded materials, by means of one (1) or more containers, separate from conventional garbage containers, where said recyclable materials are placed by residents at the curb or an equivalent location; and shall include a Recycling Education Program to encourage the participation of residents.
- KK. "Salvage Program" shall mean a program to collect, purchase, receive, process and/or market any fabricated good, material, and/or supply for reuse.
- LL. "Secondary discards" shall mean finished products, or fragments of finished products, of a manufacturing process which has converted a resource into a commodity of real economic value, and includes postconsumer discards; but shall not include excess virgin resources of said manufacturing process, such as fibrous wood discards generated during the manufacturing process, including fibers recovered from waste water, trimmings of paper machine rolls (mill broke), wood slabs, chips, sawdust, or other wood residue.

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MM. "Source Reduction Program" shall mean a program that results in a net reduction in the generation of discarded materials, including, but not limited to, a program to reduce the use of non-recyclable materials and hazardous waste; replace disposable materials and products with reusable materials and products; reduce packaging; reduce the amount of plant debris generated; reduce the amount of household hazardous waste generated; establish refuse collection rate structures with incentives to reduce the amount of refuse that generators produce; increase the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials in the manufacturing process; and/or maintain public education programs to accomplish any of these ends; but shall not be construed to include any steps taken after the material is discarded.

NN. "Waste" shall mean discarded materials that have been rendered valueless by being incinerated, buried, contaminated, or otherwise destroyed; or the act of incinerating, burying, contaminating, or otherwise destroying the value of discarded materials.

### SUBSECTION 64.160: EFFECTIVE DATE

Unless otherwise specified in this Act, the provisions of this Act shall take effect on the date it is accepted for filing by the California Secretary of State.

### SUBSECTION 64.170: EFFECT ON OTHER COUNTY LAWS

No provision of this Act shall be construed to bar the enforcement of any existing County ordinances or regulations where the subject matter of said ordinances or regulations is wholly or partly the same as that of this Act, or to bar the enactment of any future such County ordinances and regulations. All County ordinances or regulations involving the subject matter of this Act shall be construed to further the purposes of this Act.

### SUBSECTION 64.180: STATUS OF EXISTING CHARTER PROVISIONS

Any provision of the Alameda County Charter in effect prior to the effective date of this Act which conflicts in any way with any provision of this Act is hereby declared to be amended by implication. No such existing provision of said charter shall be construed to affect the application of any provision of this Act in a manner inconsistent with the purposes of this Act.

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### **SUBSECTION 64.190: SEVERABILITY**

If any subsection, paragraph, subparagraph, sentence, clause, or word of this Act is held unconstitutional or otherwise invalid, either on its face or as applied, the invalidity of said part or application thereof shall not affect the validity of the other parts of this Act, or the applications thereof; and to that end the parts and applications of this Act shall be deemed severable. It is hereby declared, notwithstanding any finding that a part or application of this Act is unconstitutional or otherwise invalid, that each of the parts of this Act would have been enacted separately.