

5. Maui County Project Approach

Note: The Addendum dated December 22, 2006, has been merged with the original Approach to form a restated version for contractual purposes. The additional and revised text from the Addendum is indicated by underlining.

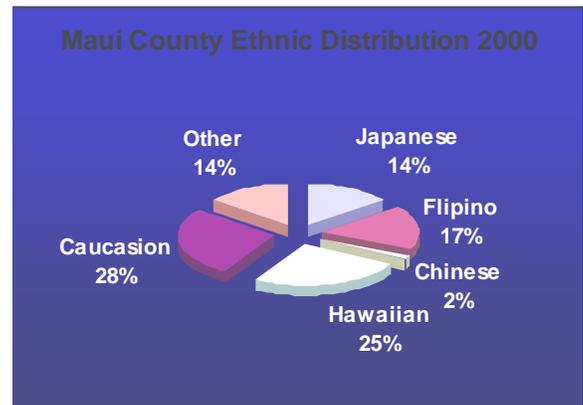
5.1 - Understanding of Assignment

Readers of the prestigious “Conde Nast Traveler” named Maui County the “Best Island in the World” for twelve consecutive years. Over 2.5 million tourists visit the County every year, spending over \$3 billion. . The tourist economy makes up nearly 39 percent of the jurisdiction’s gross County product.¹ By 2015, there is projected to be nearly 3 million visitors to Maui County each year. In January 2006, the median cost of a single-family home in Maui reached \$700,000, yet, the median household income was only \$49,000. Many lifelong local residents feel priced out of the local market, whereas new home owners are looking for world-class services from local government that match the prices of their homes. The natural beauty that draws families to the County’s shores also underscores the importance of progressive solid waste policies to keep the roads, walkways, parks, and commercial centers clean of debris, trash, and litter.

Maui County is the only jurisdiction in the State of Hawai’i comprising of three inhabited islands – Maui, Moloka’i, and Lana’i – as well as the uninhabited island Kaho’olawe. The County is home to Haleakala, the largest dormant volcano in the world, as well as Honokohau Falls, the second largest waterfall in the United States. The island of Lana’i sports some of the best diving in the world, whereas Moloka’i has the world’s highest sea cliffs. These diverse natural sights are packed into a land size of only 1,162 square miles equivalent to the State of Rhode Island.

The beautiful vistas and comfortable lifestyle have helped Maui County grow at a faster rate than the State of Hawai’i as a whole. Between 2000 and 2004, the County’s population grew at 9.2 percent compared to the State’s 5.3 percent. This trend is not new. Between 1990 and 2000, Maui County’s population increased by 26.2 percent compared to a statewide increase during the same period of 8.9 percent. The County’s projection of population growth between 1998 and 2025 is 30 percent, while the State is expected to grow at 22.8 percent.² The increases in residential population and number of tourists mean greater strain on the County’s waste management system.

Maui County is home to numerous ethnic groups speaking different languages and practicing different cultural traditions. The following table illustrates data from the 2000 census showing the distribution among the populace. Given this fairly even distribution of groups, educational



¹ Maui County Tourism Strategic Plan 2006 – 2015: pp. 8 – 10.

² Maui County Profile, Hawai’i State Health Planning, May 2003: pg. 110.

messages must take into account these targeted audiences. What resonates with one group may not with another.³

Maui County, as with many desirable communities, confronts several challenges in the management of solid waste and recyclables. As yet, the County has not achieved the 50 percent recycling rate as mandated by the State of Hawai'i's revised statutes, Chapter 342G, Integrated Waste Management (HRS 342G-2), established the goals of 25 percent diversion to be met in January 1995 and 50 percent by January 2000. The following table shows that Maui County has not reached its 50 percent goal and has seen its diversion rate declining consistently since 2003.⁴

Maui County Annual Diversion Rates					
	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Diversion Percent	33.2	26.9	34.3	31.8	30.8

The decrease in the County's diversion rate brings to the surface the obvious problem that the County is not meeting the State's mandated goal and that diversion is going in the wrong direction. Maui County's recycling infrastructure may not be meeting the growing demand of its citizens to have a recycling service that people come to associate with the kind of desirable location that Maui is known for. It also indicates a lack of solid waste infrastructure to handle the increased tourist economy; and, finally, the less that is diverted, the greater the burden on the County's landfills.

The County operates four landfills as listed in the following table. Central Maui Sanitary Landfill is by far the largest of these and recently opened the Phase IV-A expansion. This additional space was to have provided another two or more years of disposal capacity at the Central Landfill. But over the past year, the average quantity disposed has jumped from 400 tons per day (TPD) to 600-650 TPD truncating by half the time the expansion was designed to provide.

Maui County Landfill Tonnage⁵		
Landfill	FY 2005	Projected FY 2007
Central Maui Sanitary	124,356	135,000
Molokai ISWF	6,540	6,500
Lanai	2,567	2,500
Hana	1,470	1,500
Total	134,933	145,500

³ ibid. pp. 118-119.

⁴ Report To The Twenty-Third Legislature State Of Hawai'i, 2006 Solid Waste Management: pg. 3

⁵ Proposed Budget, Fiscal Year 2007 Department Of Public Works & Environmental Management

A decline in diversion percentage plus an increase in tons disposed creates a situation where County officials have to prepare and implement plans to meet the State's goal, lower the unit cost of solid waste disposal to the County, and create a clean and green environment for the residents and tourists of Maui County. The Integrated Solid Waste Management Plan (ISWMP) Maui County is about to prepare must include specific action steps to be taken to accomplish the 50 percent diversion goal.

The County provides collection service for 22,500 residential accounts in Fiscal Year 2006. These collections occur twice a week, with a County goal of moving to a once-a-week collection. Over the past few years, Maui County has begun to automate its trash collection. It provided 96-gallon wheeled carts to its customers as they were placed on an automated collection route. Customers with manual collection use containers that are no greater than 32gallons in size. Recent problems have occurred regarding this operation. On occasion, when some of the forty-three workers of this business unit have fallen ill or are on vacation, there is a struggle to complete the routes, most notably the Thursday trash collection in several North Kihei subdivisions. An examination of routing, once-a-week collection, and cross-training practices will help raise the efficiencies of the collection routes, lower dependence on human resources, and reduce per-unit costs.

Public collection is, without a doubt, a public service. The management of the data, equipment, human resources, and accounts are necessary responsibilities to fulfill when serving the public. There have been recent problems in tracking and keeping abreast of billing with these accounts. Approximately 2,000 residential accounts fell delinquent to the aggregate sum of \$184,000. The County's Department of Public Works and Environmental Management⁶ has mailed out final invoices to these residential accounts with a notice that if not paid by November 15th, service will be cut off as of November 20, 2006. Developing managerial safeguards and data tracking systems is important to solid waste management so that such things as carrying nearly 9 percent of delinquent accounts do not occur.

Maui County's organizational structure is about to change. The solid waste issues enumerated above, as well as others, have led to an unusual ballot referendum where the people of Maui County voted on November 7th of this year to separate the solid waste activities from the Department of Public Works and create the Department Of Environmental Management (DEM) to handle all solid waste and diversion matters. The timing of this change coincides with the County's resolve to move forward to fulfill the State's ISWMP. These two activities provide an opportunity for Maui's solid waste program to start anew by developing best practices and building consensus among its stakeholders on policies and programs which may not have found support previously.

Maui County is delinquent in submitting its revised ISWMP to the State of Hawai'i. Since 1991, the State's Department of Health has administered the Hawai'i Solid Waste Management Act, Chapter 342G, Hawai'i Revised Statutes (HRS). The Department of Health oversees and promotes the development of coordinated statewide solid waste management and is responsible for permitting, monitoring, and enforcement of regulations of landfills and solid waste disposal systems under Chapter 342H, HRS.

The Act mandates that each County must consider the following solid waste management practices and processing methods in their order of priority:

1. Source reduction

⁶ The Department of Public Works and Environmental Management is made up of the divisions of Solid Waste, Wastewater, Highways, and General Activities, e.g., engineering, special maintenance. The requested FY 2007 budget is \$82,315,196 with an additional \$21,464,636 in grant monies.

2. Recycling and bioconversion, including composting
3. Landfilling and incineration

In 2000, the State reviewed its solid waste situation and found its diversion infrastructure incomplete. By 2000, the State had hoped to be at 50 percent diversion but, instead, had a recycling ethic that had, as yet, not rooted into the community; user fees (e.g., pay-as-you-throw) were rare; the inherent costs of operating a recycling business on an island were high, if not altogether prohibitive; and, as a consequence, local recycling markets were underdeveloped.⁷

These and other issues must be taken into account as the ISWMP for Maui County is developed. The State's procedure to create this ISWMP is to have the Mayor of the jurisdiction appoint members to an advisory panel, the Solid Waste Advisory Committee (SWAC), and the ISWMP is built through that panel (342G-22). This process is done in conjunction with the State's regulators, so that there are review opportunities. After this takes place, there is a minimum of one public review and comment period on the ISWMP, and then it returns to the SWAC panel.

The solid waste management system is integrated with the other activities that occur in the County. A solid waste plan must take into account the myriad of forces affecting the solid waste management system, such as population and economic growth, tourism, service needs, public health and the environment, full-cost management, human resources, data management, and organizational structure if it is to be a realistic document that, with effective implementation, can increase waste diversion, decrease per-unit cost, be environmentally responsible, and help sustain other critical needs, such as tourism and quality of life, in Maui County.

The GBB Project Team for Maui County understands that Maui's policymakers are at an advantageous point in time. Through the fulcrum of the State's required ISWMP, it is a good time to be examining how best to integrate the County's waste management system with the commercial, environmental, and cultural interests of the County. The objectives of this Project are:

1. Investigate the reasonable alternatives and best practices in the collection, processing, disposal, and education on post-consumer waste
2. Develop a consensus among stakeholders
3. Create a practical blueprint for solid waste management that will guide Maui County policymakers into the future
4. Comply with the State's requirement by submitting a quality ISWMP
5. Identify immediate improvements to current administrative and operational activities for consideration in the forthcoming fiscal planning

5.2 - Scope of Work

The Scope of Work to achieve these objectives has been divided into seven tasks as follows:

Task 1 Project Management

Objectives: A key objective of this task is to provide coordination of the ISWMP process for Maui County. Also, to assure the GBB Officer-in-Charge and the Project Manager(s) effectively oversee and manage all work including that of subconsultants, provide timely progress/activities reporting, establish accountability for and monitor quality, work closely with the County's new Department of Environmental Management (DEM) through a series of formal/informal communication approaches

⁷ Hawai'i 2000 Plan for Integrated Solid Waste Management, July 2000.

and meetings/work sessions, coordinate with other offices and agencies as necessary, and keep the Project on schedule and within budget.

Work Plan: The methodology for accomplishing these objectives is discussed in the following paragraphs. The GBB Project Manager(s) will plan, coordinate, monitor, and control all of the tasks of this project in concert with all other appropriate GBB Project Team members. A key function will be to keep the activities coordinated so that the team can adhere to the Project Schedule provided in Section 2.2 of our proposal.

All draft work products will be internally reviewed by GBB's Officer-in-Charge. All work product submissions will be reviewed to ensure consistency of professional quality and performance prior to final submission to the County, recognizing that some documents will be "Drafts" by their nature. An established format for work products will be uniformly applied and agreed upon by the County at the beginning of the effort. GBB will review previous County documents to help establish the parameters for this "look and feel."

A combination of formal and informal communications with the County will be essential components of project management. Minutes will be taken and distributed for all meetings. Formal communication will include brief written monthly progress reports to the County summarizing the percentage of work completed to date and, where applicable, any problems/difficulties encountered and a forecast of activities for the coming month based on the GBB Project Schedule. These monthly reports will be generated by the GBB Project Team using Microsoft Word and delivered to the County by email. The email, with an invoice, will be delivered by the tenth day of the month following the reporting period. A hard copy will follow by mail. In addition, the designated GBB Assistant Project Manager, Chace Anderson, will attend each Solid Waste Advisory Committee (SWAC) meeting to maintain consistency and information flow.

GBB will develop a monthly invoice and send to the Maui County Project Manager based on a percent of the Scope of Work completed that month. The percent completion will be applied against the fixed price for the entire Scope of Work to compute the amount due to GBB for the month.

As shown in the Organization Chart, the GBB Project Team will be led by Harvey Gershman, President, and he and/or the Project Manager(s) and subconsultant managers, as necessary, will also be available for other strategic briefings with DEM management and other County officials during the course of the work.

Review of the needs for each specific task will be assigned by the Project Manager in consultation with other Team members. The location of the Team members in Virginia, Oregon, California, and Hawai'i creates the need to facilitate face-to-face meetings when essential. Otherwise, using the Internet, email, phone conferencing services, cell phones will be the norm. These meetings and/or other means of communications will be scheduled as needed to augment the normal communications, e.g., telephone, facsimile and email. GBB staff on the Project Team will conduct its field work in Maui County. Informal communications with the County will typically include contact only by GBB's Officer-in-Charge and/or Project Managers. Use of the Internet to electronically convey to GBB Project Team members data concerning meetings with the County or other parties will, as deemed appropriate, include updates on the status of the Project, data needs, policy issues, and other pertinent information.

The Project Management task also includes oversight in the production of the deliverable Reports and Presentations and will be the coordination tool used by the GBB Project Team to ensure a successful and timely Project.

Outputs: The deliverables from this task include monthly progress/activities reports (e-mail and hard copy), an invoice for work completed in the previous month (e-mail and hard copy), and other communications, typically as e-mail and/or phone calls, as necessary to convey certain information, findings, notices, or issues that would be of interest or concern to DEM and/or that are important to facilitate work by the Project Team.

Task 2 Data Gathering

Objective: The objective of this task is to research and analyze existing available planning related data and information which are pertinent to the alternatives development process.

Work Plan: This task will involve the collection of data and information including socio-economic forecasts, land use projections and the 1994 ISWMP and other documents to help define facility design criteria. This Task 2 is divided into the following three work elements.

- a. Develop Data Needs List – GBB will utilize its in-house database and publicly available documents to develop a draft data needs list for the development of collection, diversion, data management, disposal, full-cost management, education, specialty waste, and facilities comparison and analysis. This list will be delivered to the County and discussed with them. GBB will look to County staff to identify other data sources and contacts.
- b. Data Collection – GBB will collect and categorize documents necessary for the operational and financial reviews. Examples of the documents to be collected include: collection areas and routes, including stop counts for each route; staff assignments and pay rates; daily trip reports; equipment maintenance logs; direct cost elements; indirect costs, including overhead; current budget; public information pieces for citizens and businesses; and tonnage reports. Capital budget and financing data for solid waste equipment and facilities will be requested. GBB will contact, by telephone, email, and visits, the sources identified by County staff to obtain the documents, and GBB will look to the County staff to facilitate document collection. At least three community information meetings will be conducted to collect information and views on solid waste management on the three islands, Moloka'i, Lana'i, and Maui, including Hana.
- c. Review with County – GBB will review the data obtained in the documents provided by the County and evaluate it in the perspective of the needs of the ISWMP. The results of this evaluation will be discussed with the County staff, and a joint decision will be made on how to proceed: obtain additional documents from the County or utilize industry standards to estimate missing data.
- d. Legislative Review - This work element is to research and analyze existing Maui County Legislation as it pertains to solid waste matters and to identify potential changes, additions, deletions to the current laws and regulations. This work element will involve the following:
 - a) Gathering of all current solid waste legislation, regulations, and legal interpretations thereof from the Division of Environmental Management, Maui County's legal department, and other appropriate departments of Maui County.
 - b) The material gathered will be read and analyzed with the purpose of integrating the all codes, regulations, and department rules with the County of Maui's Integrated Waste Management Plan.
 - c) Review pertinent material gathered with County if changes need to be made.

Outputs: The outputs of this Work Element d. will be a memorandum on any legislation, codes, regulations, or department rules that the GBB Project Team recommends changing. The

memorandum will state and cite the existing language, provide an analysis of it that includes the reasons such language should be changed, and proposed language or other such options to be taken by Maui County. Provide five (5) complete sets of all rules, regulations, and codes in a three ring binder for staff's use.

Outputs: The outputs of this task will be an annotated bibliography of all pertinent documents and databases that will be used in the development of the ISWMP. GBB will write a technical memorandum documenting the evaluation of the data and information to be used in the ISWMP and the joint decision made by the GBB Project Team and County staff regarding missing data. GBB intends to assist the County staff with developing the best practices to service the needs of the County. Beyond the limits of the ISWMP, GBB will analyze the data to help the County make the best operational, budgetary, and organizational changes it can going forward.

Task 3 Evaluate Program Elements

Objective: The objective of this task is to evaluate all applicable solid waste management program elements and provide detailed information and recommendations in accordance with the Hawaii Revised Statutes.

Work Plan: In this task, the GBB Project Team will evaluate the various program elements that comprise integrated solid waste management. This will be done utilizing the SWAC to assess the merits of each program element researched and quantified by the GBB Project Team. The technical staff of the GBB Project Team will act as resources to the SWAC by the completing the following work activities for each program element:

- Background research
- Prepare technical memoranda
- Develop cost data on individual program elements and alternatives
- Develop environmental impact information on program elements and alternatives
- Prepare presentation materials
- Present technical materials at SWAC meetings and answer questions

Each program element presented below will be researched, analyzed, and discussed by SWAC. The GBB Project Team will serve as technical guides for the SWAC in the development of the ISWMP as the SWAC considers and evaluates each program element and alternative.

a) Disposal Capacity

Disposal capacity would include any County landfills for MSW, C&D, and other inert wastes. In evaluating the existing facilities, the GBB Project Team will review the key aspects of the existing facilities and requirements for future facilities. These evaluations will include:

- Site plan and boundary
- Ownership and acreage
- Special Use Permit (land use) and solid waste facility permit conditions
- Approved waste limits under existing permit limits and currently planned expansions
- Design base grades or pre-landfill topography
- Existing topography and conditions
- Approved final grades
- Refuse quantity disposed to date
- Current / recent disposal rate

Capacity estimates will be provided for all four of the existing active Maui County landfills, by computerized computations using three topographic surfaces:

- Pre-landfill or base grading plans;
- Existing topographic grades; and
- Permitted final grades.

A preliminary evaluation will be made of engineering alternatives for extending the currently projected life of each landfill, including:

- Horizontal expansion on adjacent property, within or outside property currently owned by the County;
- Vertical expansion;
- Revising existing fill plans to modify fill slope grades and configuration of landfill top decks; and
- Implementation of alternative landfill technologies including, but not limited to, bioreactors and landfill mining.

b) Alternative Energy and Emission Standards

SWAC will review the waste-to-energy technologies and their applicability to Maui. This will include evaluation of local alternative energy facilities, such as Pacific Biodiesel Inc., which creates biodiesel from recycled cooking oil and whose facility on Oahu produces 400,000 gallons a year; and HPower, which processes 2,000 tons of municipal waste to produce 6 percent of Oahu's power needs. An overview of the Waipahu WTE and its 2003 problems with the State and subsequent settlement payment of \$425,000 will be included. Los Angeles County and City and the City of New York are currently evaluating alternative energy and processing technologies for MSW, and the GBB Project Team will review these studies and provide Maui County and the SWAC with the analysis and conclusions applicable to Maui. This will allow Maui to benefit from the evaluation work of these jurisdictions. Methods to increase energy efficiency for the solid waste process will be evaluated. Frank Bernheisel will then provide an overview of the alternative processing regimes, focusing on cost-efficient throughput, environmental health, and risk management.

c) Construction and Demolition Waste (C&D)

Bob Brickner will examine the current C & D operations in Maui County, review the material currently going into the waste stream for possible C&D alternatives, and provide an evaluation of options for material to be diverted, processed, and marketed to the County. Evaluation will include how it can be done, cost efficiencies, best practices around the nation, environmental impacts and potential markets. It will also be reviewed as a means of reducing volume of material requiring landfilling.

d) Yard and Food Waste Processing

This subtask will include a review of current yard waste and food waste activity, including sludge processing. The GBB Project Team will provide an overview of the different operations being practiced and to what extent they divert waste, products produced and markets for these products and at what cost/revenue. This shall include, but not be limited to, 20,260 tons of sludge and grit from public facilities and an additional 737 tons of sludge from private facilities which, the EKO Compost operations at the Central Landfill process, the commercial wood, and private/public greenwaste that EKO processes. Approximately 54,000 tons of sludge and yard waste is handled by EKO at the Central Landfill. GBB will review technologies currently available ranging from composting to methane generation. The GBB Project Team will apply its analysis to the County's waste stream and overall tonnage and facility options to provide projections as to how such operations would work given Maui's situation.

e) Waste Collections

Currently, Maui County is transitioning to an automated collection system with 96-gallon carts in Wailuku, Makawao, and Lahaina, with the remainder being collected manually in 32-gallon or less containers. Collection currently occurs twice weekly and a move to once a week for the 23,500 residential accounts projected for 2007-2008 will be evaluated as an option along with recycling and other collection enhancements. This work element will involve members of the GBB Project Team examining the current collection routes and equipment on all three islands, Moloka'i, Lana'i, and Maui. The GBB Project Team will personally review areas that are not currently being collected to determine equipment needs and examine the financial impact on the County of a universal collection program. The GBB Project Team will review and analyze:

1. Routing efficiencies
2. Equipment selection and utilization
3. Operator activity
4. Time checks
5. Comparisons with collection systems in other selected communities
6. Operational options
7. System structure options (e.g., franchising)

A memorandum will be developed to explain and recommend the operational changes (if any) to achieve efficiencies in operations and to provide universal collection of all residential units. Such recommendations will include realistic implementation timelines. This memorandum will also include the implications to finances, staffing, and equipment to Maui County of such policy decisions.

f) Recycling Systems

GBB will review the current County system and will analyze the quantity data on tons collected and potential tons available (data from Task 2). Members of the GBB Project Team will visit all three islands, Moloka'i, Lana'i, and Maui during this effort. Options for change will be identified including, but not limited to, materials collected, reuse exchange, curbside collection, pay-as-you-throw for garbage, processing alternatives, markets and a review of best practices around the country. Changes in the collection system for recyclable materials can potentially increase the amount of material diverted. For example, set-out of recyclables in wheeled carts has been shown to achieve this increase. Also, single-stream collection has provided a number of communities with an increase in diversion. The GBB Project Team will provide its evaluation of collection options for material to be diverted, processed, and marketed to the County. Different processing options to prepare materials for specific markets, including materials recovery facilities (MRF), C&D processing facilities, and innovative technologies, will be evaluated and provided to the County. A variety of management structures will be evaluated including: private operations, public/private partnerships and public operations. A review of possible alternatives for yard and food waste collection and processing will be presented, as well as an analysis of commercial recycling alternatives that exist and are possible. A recycling memorandum will be provided to Maui County describing this investigation, providing a cost/benefit analysis, and a recommendation.

g) Bulk Item Collection

In October of this year, SOS Metals Island Recycling began a contract with Maui County to recycle derelict vehicles. These vehicles are then taken to SOS' yard at the Maui Baseyard in Puunene where SOS processes the metal for recycling. Bulk items are collected by Maui County and taken to SOS to be recycled. The Solid Waste Division has mandated that appliance retailers take back old appliances when selling new ones, implemented an appliance take-back center at the Central Maui Landfill and surveillance of dumping hot spots to catch and prosecute illegal dumpers of these and other items. The GBB Project Team will provide an overview of the consultant's findings as well as compare Maui County's program with other similar operations.

h) Household Hazardous Waste

A review of what Maui County currently does to collect and dispose of HHW will be provided. This will include the Hawai'i Materials Exchange program that matches businesses and individuals who have materials they no longer need with businesses and individuals who can use the materials. A review of best practices around the country that looks at both collection operations and costs will be conducted by the GBB Project Team. This review will include sharps and will address source reduction and reuse of material.

i) E-Waste and Other Specialty Waste

Maui began its CompuSwap five years ago. The program makes an effort to reuse the material to assist schools and nonprofit organizations. A review of these activities and possible additions will be presented and discussed.

j) Organizational Structure

Understanding the recent parameters voted on by residents of Maui County regarding the disposition of DEM, the GBB Project Team will review organizational structures for this new department and provide a best practices presentation to be given to the SWAC. The current Department of Environmental Management is divided among the following business units: Administration, Landfill Disposal, Residential Collection, and Diversion.

Requested full-time employees (FTEs) allocated along activities or business units are the following: Administration = 9, Landfill Disposal = 30, Residential Collection = 43, Diversion = 4. The impact on the organizational structure and staffing of the alternatives considered under each program element will be evaluated. Recommendations will be provided on organizational structure based on work efficiencies, existing and mandated programs, and expected ISWMP implementation needs.

k) Facilities

The GBB Project Team will review existing facilities owned and or operated by Maui County and those available from private industry, to assist the County in its solid waste management, considering capacity and service needs for waste and recyclables to be managed. For example, there is no need for the County to duplicate the capability of SOS Metals Island Recycling. The review shall include, but not be limited to, transfer stations, recycling facilities, large equipment shop, parts operation, roll call facilities, and supervisor and dispatcher offices. The review of these facilities will include location, ability to perform work, volume capacity, cost efficiency, customer usage, and safety. The GBB Project Team will also review off-island public and private facilities when appropriate. Recommendations to address needs will be provided.

l) Data Management

The tracking of data is necessary to understanding the productivity of an operation. At a minimum, the data to be tracked are quantities of all material, expenses, human resources, equipment usage, and performance measures. Understanding how the equipment and labor pool is being used and connecting it to productivity can afford managers with insight as to where changes can and should be made in order to raise productivity and lower per-unit costs, thereby giving the taxpayer a greater "bang for the buck." The GBB Project Team will review the County's existing system and recommend modifications or alternative management strategies for data tracking, as needed.

m) Full-Cost Management

The solid waste fund was established to receive collection fees from residents and tipping fees at the landfills. These monies are used, in part, to operate and maintain Maui County's collections and disposal program. The proposed FY 2007 budget designates a staff of 83.6 FTEs under

County personnel and 2.4 FTE under grant employees.⁸ Expenses for sanitation are expected to be the following:

- Salaries \$3,637,894
- Operations \$15,813,216
- Equipment \$405,000

These same expenditures split among the four business units are allocated in the following manner for the 2007 requested budget:

- Administration \$7,272,253
- Landfill Disposal \$8,125,519
- Residential Collection \$2,534,424
- Diversion \$1,923,914

Revenues for sanitation are projected to be:

- LF Tipping and Permit Fees \$6,979,000⁹
- Refuse Collection Fee \$3,260,000¹⁰
- Diversion Grants \$1,864,636

GBB will analyze the operations in term of cost and revenue and review possible revenue enhancements.

n) Education

The members of SWAC will review past and current educational programs and then develop a critical path for future educational activities that integrates with the operational recommendations made by SWAC. An increase in diversion through the curbside program will need a revised public awareness program to be effective. The GBB Project Team will assist the SWAC and Staff to analyze the tools needed, the messages, the targeted audiences, and the budget required to meet the critical path goals.

o) Grant Projects

A review will also be undertaken as to how grant monies are currently utilized and how future grants may be allocated to support the needs and critical path of the ISWMP.

p) Source Reduction

Source reduction saves natural resources, reduces toxicity in the waste stream by substituting less hazardous materials, reduces cost to consumers, and is the first priority on the national solid waste management hierarchy. Source reduction refers to changes in the design, manufacture, purchase, or use of materials to reduce their amount or toxicity. A simple example would be mandating two-sided copying of all documents. In HHW programs, there are educational activities to promote the substitution of hazardous with non-toxic material. It also refers to responsible purchasing of durable goods that last longer and are environmentally responsible.

⁸ Requested FTEs allocated along business units are the following: Administration = 9, Landfill Disposal = 30, Residential Collection = 43, Diversion = 4.

⁹ The per-ton tipping fee is expected to increase from \$43 to \$47.

¹⁰ This amounts to a \$12 per unit, per month, refuse collection fee whether the collection occurs once or twice a week.

GBB will review source reduction policies within the government and those promoted to the public. It will provide case studies of successful source reduction programs in other selected locales, such as Berkeley, California, for instance, which has implemented an environmental education curriculum and teacher training program to help foster this reuse ethic in the schools. In Illinois, a non-profit environmental group called The Central States Education Center has developed a Model Community Program to guide institutions to reduce waste, eliminate toxins, recycle more, and purchase material with recycled content. These and other programs will be considered for possible implementation in Maui County.

q) Reuse

Reusing material is a practical, productive, and accountable program to reduce waste. Reuse is defined as using an item multiple times in its current form without significant processing that alters its material structure. Non-profit organizations, such as Goodwill, Salvation Army, and Habitat for Humanity, actively participate in this activity. HHW programs are increasingly facilitating the reuse of materials brought in during collections rather than incurring the expense of traditional disposal. Medical supplies that are perfectly good but, because of stringent policies were disposed of, are increasingly being sent to countries in need of such supplies.

Outputs: The outputs of this task will be the technical memoranda, presentation materials and other support documentation developed by the GBB Project Team for the program elements and provided to the SWAC. In addition, the GBB Project Team will document the selections of the SWAC that are proposed for inclusion in the ISWMP. It is planned that these outputs will form the basis of chapters to be used in the ISWMP.

Task 4 Facility Capacity and Siting

Objectives: The objective of this task is to evaluate the existing capacities of all the landfills in Maui County and to determine the capacity required for landfills and other facilities during the planning period.

Work Plan: Landfill capacity is discussed in Task 3 a) "Disposal Capacity" which will be documented as a capacity study taking into account the impacts of source reduction, diversion and recycling programs on the projected waste streams for disposal. The landfill capacity needs will be altered by processing and recycling facilities discussed in Task 3 and recommended by the SWAC. All proposed facilities will need to be sited. Possible landfill alternative sites and other facility sites will be reviewed by the GBB Project Team through a technical screening process following these criteria or guidelines:

- Site identification and selection;
- Environmental studies, preparation of an environmental impact statement; environmental review;
- Land use approval;
- Design criteria;
- Time frame for site selection, permitting, design and construction; and
- Range of development costs and resulting impact on disposal fees.

Outputs: The outputs of this task will be technical memorandum in the form of a capacity study and preliminary siting studies for identified sites for alternative landfills, processing facilities and other support solid waste facilities required. Siting studies will address the individual sites and specified criteria, as required.

Task 5 Advisory Committee

Objectives: Establishing the Solid Waste Advisory Committee (SWAC) is the key component of the community outreach program for the ISWMP. The SWAC will help focus issues and provide the GBB Project Team with a solid connection to the broad base of interests in the community.

Work Plan: The hub of a successful solid waste plan is a SWAC that the State requires the Mayor to appoint. The GBB Project Team envisions an invitation to a large and diverse group of stakeholders drawn from:

1. Professional waste handlers in the private sector
2. Members from the tourist and farming industries
3. The commercial sector
4. Environmentally concerned individuals
5. Representatives from non-profit organizations
6. Group representing traditional homeowners
7. Native groups
8. Public Works representatives
9. Other key members of the local infrastructure
10. Maui County elected officials; at least one member of Maui County Council

GBB proposes to develop a draft schedule of meetings and an initial solid waste background document for the Mayor to discuss with the people who are considered for the SWAC, so that they have an understanding of the level of commitment required.

The importance of the SWAC is such that Mediation Services of Maui (MSM) has been selected as a member of the GBB Project Team. MSM is a non-profit, community-based organization established in 1982 that has a trained pool of facilitators who will help minimize contention and maximize consensus. MSM representatives will attend most, if not all, of the meetings to record and to facilitate discussion.¹¹ The same staff will attend each and every SWAC meeting to maintain consistency with the process and develop a consistent relationship with SWAC members. The GBB Project Team Assistant Project Manager will be assisted by technical specialists, as needed.

A kick-off meeting will follow the invitational meeting. This meeting will consist of introductions, protocol setting, the development of a decision matrix that helps the members of the committee juxtapose the numerous, and sometimes competing, objectives of diversion, economic feasibility, environmental stewardship, community/client service, human and equipment resources, and more. The GBB Project Team proposes to invite the Mayor to address the committee to express his hopes of a fruitful outcome as well as a State regulator to address the committee on the State's view of the goal(s) and the process to reach said goal(s). The State representative will then give the committee an overview of the status of the State's solid waste situation. A syllabus will be given to each committee member, previously reviewed and accepted by staff, by GBB which outlines the forthcoming sections and each of the planned meetings.

The SWAC meetings will be grouped together into five sections:

1. Disposal/Alternative Processing
2. Collection
3. Specialty Waste

¹¹ Because MSM is a volunteer-based organization, there may be times that the GBB Project Team will have to augment with a firm recommended by MSM and agreed to by County staff.

4. Organization/Facilities
5. Cultural Transitions

At the end of the tour or shortly after, the GBB Project Team will conduct an overview briefing for the SWAC of various best practices occurring in the field of waste management. The goal will be not only for the overview but to place the systems/facilities from the tour in context. The schedule of SWAC meetings is shown in the following table.

<u>SWAC Meeting Activity or Subject</u>	<u>Date</u>
<u>Mayor Appoints</u>	<u>Late Jan.</u>
<u>Invitational Meeting</u>	<u>Early Feb</u>
<u>Confirmed Members</u>	<u>Mid Feb</u>
<u>Tour: Seattle/San Francisco</u>	<u>3/4 -3/9/07</u>
<u>During tour the following two meetings held:</u>	
<u>Organizational Meeting held in San Francisco</u>	<u>3/8/2007</u>
<u>Overview of Maui SW & SW Best Practices</u>	<u>3/9/2007</u>
<u>SWAC Meetings: Section 1</u>	
<u>Waste, Recycling, Bulk Item infrastructure</u>	<u>3/23/2007</u>
<u>C&D / Yard & Food Waste</u>	<u>4/6/2007</u>
<u>Disposal/Alternative Energy</u>	<u>4/20/2007</u>
<u>Section 2:</u>	
<u>HHW & E-waste</u>	<u>5/4/2007</u>
<u>Section 3:</u>	
<u>Organizational, Finances & Data Management</u>	<u>5/18/2007</u>
<u>Lisa Skumatz: Pay as you throw/Revenue Rate</u>	<u>6/1/2007</u>
<u>Section 4:</u>	
<u>Education, Grant programs, Reuse & Reduction</u>	<u>6/15/2007</u>
<u>Draft Report (Sub Committee via internet)</u>	<u>August 2007</u>
<u>Final Draft (Whole Committee)</u>	<u>September 2007</u>

Under each section will be one or more topic that closely follows the program elements in Task 3, as shown in Table 5-1. In addition, a Pay As You Throw (PAYT) or variable rate workshop will be conducted that identifies most appropriate case studies and provides supporting data and exhibits. This will be conducted by Dr. Lisa Skumatz, see resume in Attachment 1.

The timing of these meetings will be worked out with County staff but they should be held no less than once a month. The GBB Project Team is flexible in accommodating the timing needs of Maui

County and the participants of SWAC. In addition, at least one information meeting will be held in suitable locations in each of the following communities, Moloka'i, Lana'i, and Hana.

At each meeting, a GBB representative will provide reading material to SWAC members so they may become familiar with the topic for the next meeting. GBB will also provide a Web site for SWAC members and County staff which will include the handouts provided at the meetings as well as links to further reading material and updates, thereby acting as a bulletin board of all past material for committee members to' review at their leisure.

Outputs: The outputs of this task will be the recorded transcripts of the SWAC meetings, which the GBB Project Team will convert into technical memoranda, draft chapters and other support documentation for the program elements required for the ISWMP. In addition, the GBB Project Team will document the evaluations made by the SWAC with respect to each program element. These program element documentations and draft chapters of the ISWMP will conform to the requirements of Chapter 342 G, as revised.

Table 5-1 Sectional and Program Elements

Section: Disposal / Alternative Processing
Disposal Capacity (MSW and C&D, Bioreactors, landfill mining, pre-processing, etc.)
Waste to Energy
Alternative energy
Construction & Demolition Debris Processing
Yard & Food Waste Processing
Section: Collections
Waste Collection Technology
Collection Fee Systems – Uniform fees, PAYT or variable rate,
Recycling System
Bulk Item
Section: Specialty Waste
HHW
E-Waste, Tires,
Section: Organizational / Facilities
Organizational Structure
Data Management
Finances
Section: Cultural Transition
Education
Grant Programs
Source Reduction
Reuse

Task 6 Financial Plan / Rate Plan

Objective: The objective of this task is to gather all pertinent information regarding the current County financial options and finance mechanisms and to provide projected financial impacts on the residential and commercial customers and the County resulting from implementing selected alternatives including but not limited to enterprise zones.

Work Plan: This task will include the evaluation of the County’s current solid waste finances and rates and the identification and evaluation of alternative methods of structuring services and rates

that are compatible with the technical alternatives proposed in the ISWMP. This task is divided as follows:

- a. Financial Data Review – The GBB Project Team will review DEM’s budget and financial data collected in Task 1 will be reviewed for completeness and substance. In addition to the cost elements mentioned previously, revenues attributable to the DEM, specifically, user fees and others, such as recyclable material sales, will be evaluated. The goal is to have a complete activity-based cost data base for the most recent fiscal year to serve as the basis for the Rate Model.
- b. Develop Rate Model – The GBB Project Team will develop a financial model for Maui County’s DEM. The rate model will generally follow the EPA guidelines for Full-Cost Accounting for solid waste management and will include material tonnage and user counts for each activity so that rates can be calculated. During the development of the Rate Model, interaction with the County staff is anticipated to answer questions that arise, such as allocation of personnel and equipment among activities when they are assigned to more than one activity. A sample summary output from GBB’s rate study for Santa Monica, California, is shown in Exhibit 5-1. The Maui Rate Model will be developed using Microsoft Excel and will consist of a single workbook with multiple spreadsheets providing allocations of revenues, labor, equipment, and other costs. After discussion with, and concurrence by, the County and the SWAC, the GBB Project Team will issue a technical memorandum documenting the Maui Rate Model.
- c. Analyze Baseline Rates – The initial Rate Model run will be done using the most recent County fiscal year data. The results will also be analyzed in the light of the operational evaluation conducted in Task 3.
- d. Select Rate Options – The GBB Project Team will meet with the County staff and with the SWAC to review the results of the baseline rate analysis and discuss the options for alternative management approaches. The GBB Project Team will suggest several options, including privatization, to be evaluated using the Rate Model, and the alternatives for each program element selected by the SWAC will be evaluated using the model. After discussion with, and concurrence by, the County and the SWAC, the GBB Project Team will issue a technical memorandum outlining the options to be analyzed and the major parameters of each. A total of five (5) scenarios will be evaluated and rates developed.
- e. Analyze Rate Options – The Rate Model will be modified to incorporate the parameters for each of the options selected in Subtask d. Runs of the Rate Model will be made to determine the impact on customer rates for each option. These results will be discussed with County staff and the SWAC. In addition to the financial analysis, operational advantages and disadvantages of each option will be addressed.

Outputs: A summary report of findings, both from the baseline, Subtask c., and the options, Subtask e., will be developed in Microsoft PowerPoint and presented to and discussed with the SWAC and the County. Suggestions by the SWAC and County staff for modifications to the report will be addressed. The PowerPoint will be supplemented with appendices, including the detail spreadsheets of the Rate Model.

Task 7 Project Deliverables

Objective: The objective of this task is to prepare a high-quality ISWMP for submission to the State of Hawai‘i. The ISWMP will present the various facilities, programs, and projects comprising

a 20-year horizon; describing their financial impacts; setting forth their phasing and scheduling; showing their funding requirements and proposed sources of funding and financing; and providing an overview of the policy changes, needs, and strategy for their successful implementation. In effect, this ISWMP will be essentially the roll-up of the work and outputs from Tasks 1, 2, 3, 4, 5 and 6 into a comprehensive document, with appropriate tables, flow charts, and other graphics.

Work Plan: This task will integrate all the products of the preceding task into a draft ISWMP for review by DEM. This will ensure that the project maintains its forward direction and that the ISWMP captures all the information developed by the SWAC, DEM and the GBB Project Team. The GBB Project Team will present the ISWMP and its process of development to the County's elected officials, prepare responses to public comments per 342-22 (c). These previous outputs include:

1. Recorded transcripts of the SWAC meetings, which the GBB Project Team will convert into technical memoranda, draft chapters and other support documentation for the program elements required for the ISWMP. These will include all reports on our examination of the County's operations. Any PowerPoint presentation made for the SWAC will be provided to the County for its use.
2. An annotated bibliography of all pertinent documents and databases that will be used in the development of the ISWMP. Also, a technical memorandum documenting the evaluation of the data and information to be used in the ISWMP and the joint decision made by the GBB Project Team and County staff.
3. For each program element, there will be a brief summary of our findings provided to County staff sent by email. At the end of each section of the SWAC meetings, a report will be written based on the findings of the GBB Project Team and the recommendations of SWAC. These sectional reports will become the basis for the ISWMP which Maui County will submit to the State of Hawai'i.
4. An implementation plan will be developed for the solid waste management alternatives recommended in the ISWMP and slated to be put in place during the planning period. This implementation plan will include a detailed schedule in Microsoft Project and associated cost analysis showing financial requirements over time.
5. GBB will produce the Technical Memoranda, summaries, transcripts and other documents preliminary to the draft ISWMP. These documents are called for under the various tasks and will be produced as a draft with a final when appropriate based on County staff comments. Each of these documents will be produced in electronic form and five (5) hard copies will be delivered to the County and/or SWAC.
6. Five (5) hard and one disk (Microsoft Word) of draft ISWMP to County staff. A face-to-face meeting between County Staff and GBB to review the document for final changes.
7. Five (5) hard and one disk (Microsoft Word) of the second draft ISWMP to the County Staff for final review. A conference call between County Staff and GBB will be conducted to go over changes, if necessary.
8. Presentation slides in Microsoft PowerPoint to be used by the GBB Project Team for the two (2) County Council presentations.
9. One original, twelve hard copies, and one disk of the final ISWMP will be provided to County Staff.

Deliverables: The outputs of this task will be five (5) paper copies of each of two Draft ISWMP documents, submitted to DEM for review. Following review/comment and approval from the DEM team, one (1) original, one (1) reproducible, and twelve (12) bound paper copies of the Final ISWMP will be submitted to DEM. At DEM's option, the GBB Project Team will provide the Final ISWMP on electronic disk. Throughout this process, these documents will be posted on the special web site developed for this project.

Task 8 Assist with State Review and Approval Process

The GBB Project Team will assist Maui County to gain State of Hawaii approval of the ISWMP. Once the County Council has approved the initial ISWMP through the process and schedule, taking an estimated 9 months in 2007, the document must be reviewed by the State and then undergo a Public Comment period. GBB acknowledges Section 342G outlines this process, and we have provided in the following Task 8 Timeline, the key activities and a preliminary month-by-month schedule for this effort.

The approval process involves eight steps as shown on the schedule. In addition, the GBB Project Team would have an overall project management subtask for this approval process with monthly reports as described in Task 1.

As required by the County, the GBB Project Team will support the County in this endeavor by attending meetings, helping to explain the plan, and as needed, provide written responses to the issues raised by the State and comments received from the general public. GBB Project Team representatives would also be available to support the County staff in public hearings during this approval process, including any County Council meetings where our attendance is deemed necessary.

Task 8 -- Maui County ISWMP -- "Preliminary" State Review/Approval Timeline

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
Task and Activity for Optional Task 1 (Months after Drafted Plan)										
Maui County Approval of Final Drafted Plan (end of Initial ISWMP Drafting Process)										
Task 1a. Project Management Monthly reports, as necessary	X	X	X	X	X	X	X	X	X	X
Task 1b. Proposed ISWMP Submitted by Maui County to State										
Task 1c. State Review and Comments Provided to Maui County (up to 90-day period for State comments)										
Task 1d. Maui County Public Review Process (Not less than 60 days, to include at least 1 public hearing)										
Task 1e. Maui County SWAC Meetings, as necessary (Currently drafted to coincide with end of comment periods)										
Task 1f. Negotiations with State on any "Infeasible" components (See Note 1 below for comment on schedule estimate)										
Task 1g. Update ISWMP as needed, based on State and Public Comments (See Note 2 below for comment on schedule estimate)										
Task 1h. County Formal Adoption of the ISWMP with comment responses										
Task 1i. Adopted ISWMP to State for Review (Up to 60 days, unless more time for review requested by State)										

NOTES:

1. The length of time depends on the number of issues to be negotiated with the State
2. The length of time depends on the number of comments received and time to address them in writing.

Task 9 Equipment Review

Objective: The objective of this task is to supplement Task 3 work elements b, d, e, f, g, and k by specifically looking the life expectancy of all rolling stock associated with solid waste collection and disposal activities.

Work Plan:

- a) Obtain from the County a list of all rolling stock related to collection and disposal activities with purchase, operations and maintenance data;
- b) Review mechanical history of equipment;
- c) Review age, hours, efficiency, and cost-benefit of equipment

Output: A memorandum will be developed providing an overview of activities and an evaluation of equipment along with a recommendation.

NOTE: The following addendum continues with the numbering in Section 5 of the GBB proposal to Maui County. In some instances these tasks are complete and distinct from the previous seven tasks. In other cases, they are additions or changes to the seven Tasks in the proposal. In the case of the latter, the new work element will reference the appropriate Task in the initial proposal.

Task 10 Technical Tour (Addition)

Objective: This task provides the SWAC to experience some communities that practice best practice integrated solid waste management.

Work Plan: GBB will conduct and provide logistics for a tour by the SWAC of at least three solid waste systems/facilities on the west coast, including a food composting program, waste to energy facility, transfer station, household hazardous waste facility, C&D processing facility and a MRF. The purpose of this task is to allow the SWAC to gain hand on experience with recycling and solid waste facilities that are known as maintaining unique and/or best practices. GBB will arrange and directly pay for all transportation and boarding, up to the expenses budgeted in the task, necessary to complete this task for the Maui SWAC, which will not exceed sixteen (16) members. GBB personnel will develop educational materials and accompany the SWAC throughout their travels.

Outputs: GBB will provide background material for each SWAC member in the form of a workbook with one tab for each system/facility visited. GBB staff will also provide guidance for the SWAC during the tour.

Task 11 FleetRoute Purchase & Implementation (Addition - Approved but not funded)

Objective: This task provides Maui County the option to purchase a FleetRoute™ route optimization software license for Maui routing the residential collection vehicles, and to have the GBB Project Team initiate implementation and training of County staff on the use of the system.

Work Plan: GBB will provide one (1) FleetRoute™ license to Maui County for use by County staff and provide data setup assistance as well as initial training for Maui County personnel. FleetRoute™ can be used to design new routes. FleetRoute™ can then be used for route upkeep as new developments require county servicing and as new homes are developed in new or

existing neighborhoods. The technology should be considered as a support device for the implementation of new routes for your automated side loaders and wheeled carts. The effort is planned to coordinate with the new collection vehicle delivery as shown on the Project Schedule.

It is critical that the County street data be current and that certain routing mapping parameters are included in the data's attributes, including street speed limits and directional information for one-way streets, for example. The address location of your collection customers is also a key attribute that must be able to be integrated into the database.

In compiling the routes, specific performance information on the ability of the collection crews as well as the uniqueness of the collection vehicles and dispatch start- and end-points, as well the location of the dumping locations, e.g., the Central Landfill, will also need to be mapped.

Decisions regarding (1) the continued use of the Hana Landfill and (2) the waste collection vehicle(s) used on that part of Maui to support the residences may be analyzed with the program. The primary focus of FleetRoute™ would be the more dense residential neighborhoods. Also, the County clearly needs to identify areas of Maui where gated communities exist with private haulers or new developments are still populated where roads and access has not yet been turned over to the County for trash collection so that these areas are not included in the initial optimization of the service opportunities.

Outputs: FleetRoute software, initial assistance with data review and setup, assessment of need to have the County use their own street data or buy commercial street data with more attributes, and personnel training on the software.

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