

CITY OF KEY WEST, FLORIDA

**TASK ORDER 1
STRATEGIC SOLID WASTE MANAGEMENT PLAN**

**PREPARED BY
KESSLER CONSULTING, INC.**

August 17, 2010

Kessler Consulting, Inc. (KCI) is pleased to submit this task order to the City of Key West (City) to assist with developing a strategic solid waste management plan. The scope of work outlined below follows the elements included in the City's RFQ #10-008.

All work will be conducted with an awareness of the City's unique geographic and demographic attributes. These include, but are not limited to, the following:

- Distance to the mainland and unique island environment;
- Limited availability and high cost of land;
- High volume of visitors;
- Transient nature of many residents;
- Tourism-based businesses, many with space limitations;
- Historic Old Town, which is listed in the National Register of Historic Places; and
- Relationships with Monroe County and neighboring cities.

SCOPE OF WORK

Task 1 Analysis of the City's Current Solid Waste/Recycling Streams

Purpose: Analyze the quantities of solid waste and recyclable materials generated within the City to determine waste generation and flow patterns. Conduct a two-season Waste Composition Study (WCS) to determine the types and amounts of residential and commercial solid waste currently disposed.

Subtask 1.1 – Kick off Project; Evaluate Available and Relevant Information

Activities:

1. Meet with City staff to initiate the project.
2. Site visit to solid waste facilities and meet with the City's solid waste contractor(s).
3. Meet with Monroe County staff to explore opportunities to partner and achieve economies of scale.
4. Review and evaluate all information and data provided by the City, and prepare a summary of the City's current waste flow and management.

Deliverables:

Summary of current waste flow and management.

Assumptions:

1. City to provide relevant and available information upon request, in electronic form where possible, including but not limited to the following:
 - a. Tonnage of solid waste, yard waste, recyclable materials, C&D debris, white goods, household hazardous waste (HHW), etc. received at City facilities during FY 2008, 2009 and 2010 to date. Where available, tonnage data should be broken down by type (e.g., garbage, yard waste, recyclable materials, HHW, white goods, tires, C&D debris, etc.), hauler, and generator type (e.g., residential rear-load or side-load, commercial front-load, commercial compactors, residential self-haul, commercial self-haul, etc.).
 - b. Tonnage of all materials leaving City facilities during FY 2008, 2009 and 2010 to date, broken down by type.
 - c. Similar data from private or public facilities receiving City waste, if available.
 - d. A list of licensed waste haulers that provide service within the City with contact names and numbers.
 - e. Route information from the City's contracted collection service provider.
 - f. Database of commercial customers serviced by the City's contracted hauler, including business name, address, telephone number, container type and size, and frequency of collection.
 - g. City collection, processing and disposal contracts for solid waste, yard waste, recyclable materials, C&D debris, HHW, etc.
2. Assumes one site visit for initial kickoff meeting, meetings with contractor(s) and Monroe County staff, and visit City solid waste facilities.

Subtask 1.2 – Develop Parameters, Protocols and Schedules for WCS

Activities:

1. Define the list of material categories for the WCS.
2. Meet with collection service providers to garner support and cooperation during the WCS.
3. Meet with City staff and facility operators to coordinate equipment needs and plans for mobilization, and to identify an appropriate sampling and sorting area bearing in mind the City's agreement with the adjacent Naval Air Station that all operations must be indoors.
4. Develop a sampling schedule, sampling and sorting protocol, site safety plan, and data recording form for the WCS.

5. Develop information packets and truck placards to be distributed to haulers in advance of the sorting events.

Deliverables:

Material categories list, information packets and truck placards, and site safety plan.

Assumptions:

1. WCS will target three generator sectors: single-family residential, multi-family residential, and commercial/institutional.
2. Two sorting events will be conducted, one during peak tourist season and the other off-season, each event lasting one week in duration.

Subtask 1.3 – Conduct Sorting Events

Activities:

1. Obtain or prepare equipment for conducting the WCS events, including a portable scale, safety equipment, protective gear, sorting tools and containers, tarps, and other supplies.
2. Provide a Sort Supervisor, Sampling Supervisor and up to six day laborers to conduct the WCS events.
3. Conduct two WCS events following industry-accepted methodology as outlined in ASTM Designation D5231-92 (Reapproved 2003): *Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste*. Representative samples of at least 200 pounds will be pulled from selected loads of waste as outlined in the sampling schedule developed in Subtask 1.2. Samples will be sorted into the material categories identified in Subtask 1.2 and weighed, and all data will be recorded.

Deliverables:

No deliverables are anticipated for this subtask.

Assumptions:

1. City will provide a covered area or 20' x 20' tent to protect workers from the elements during the WCS, a bobcat (or small loader) and operator, roll-off containers in which to place sorted waste and recyclables (or other means of transferring samples and sorted materials from sort site for disposal), four sorting tables (approximately 5' x 8' and waist high), and nine folding chairs.
2. City may wish to provide its own responsible workers in lieu of KCI's contracted day laborers, which would reduce the budget accordingly. In the past, KCI has worked with government staff, inmate labor, and/or government contracted laborers. Although 8-hour workdays are desired, workers should be available for extended hours when necessary. Workers are responsible for wearing appropriate boots and attire; safety gear will be provided by KCI.

Subtask 1.4 – Analyze Data from Sorting Events and Prepare Report

Activities:

1. Analyze the data from the first sorting event to calculate the percent by weight of each material category for each generator sector, as well as for all generator sectors combined.
2. Develop summary tables and charts of the results of the first study event.
3. Analyze the data from the second sorting event.
4. Combine the data from the two study events to determine year-round waste composition and commercial waste generation rates.
5. Prepare a final report summarizing the results of each sorting event and of the two events combined, as well as overall findings of the WCS.

Deliverables:

1. Summary tables and charts of the results of the first sorting event (transmitted electronically).
2. Draft WCS report (transmitted electronically).
3. Final WCS report (two hard copies and an electronic copy).

Task 2 Analysis of Current Solid Waste/Recycling Contracts

Purpose: Recommend adjustments/modifications to existing solid waste/recycling contracts, as well as recommend approaches to future procurements.

Activities:

1. Review and analyze the City's existing collection, processing and disposal contracts, with a focus on minimizing costs, maintaining quality service, and maximizing material recovery and waste diversion.
2. Based on market conditions, review of contracts in other jurisdictions, and KCI industry knowledge, develop recommendations for adjustments/modifications to existing contracts and approaches to future contract procurements.

Deliverables:

Summary of recommendations.

Task 3 Comparison of Solid Waste/Recycling Fees and Services to Other Locales

Purpose: Determine how the City's solid waste fees and services compare with those in other Florida jurisdictions, bearing in mind the City's size and unique geographic location.

Activities:

1. Identify Florida jurisdictions for comparison purposes.
2. Survey and obtain relevant data from these jurisdictions.
3. Compare the City's service levels and fee structures for solid waste collection, processing and disposal with those in the selected jurisdictions.

Deliverables:

Results of this comparison will be incorporated into the summary of recommendations developed in Task 2.

Task 4 Analysis of the City's Current Operations and Staffing Levels

Purpose: Analyze City-run solid waste operations and staffing levels to determine appropriateness of staffing levels and identify opportunities to increase efficiency.

Activities:

1. Review and analyze operational and financial information related to City solid waste operations.
2. Compare staffing levels with those of similar solid waste operations in Florida.
3. Identify opportunities to reduce costs and/or increase efficiency.

Deliverables:

Summary of operational and staffing level analysis and recommendations.

Assumptions:

City to provide relevant information, including solid waste budgets and actual revenues and expenditures for the last three years, organizational chart, staffing levels, salaries and job descriptions.

Task 5 Analysis of the City's Recycling and Solid Waste Ordinances

Purpose: Provide a technical review of City ordinances with an aim toward maximizing materials recovery and waste diversion.

Activities:

1. Review and evaluate City ordinances to identify existing provisions that might create a disincentive for waste diversion and make recommendations regarding provisions to encourage waste diversion.
2. Following review by City staff, draft ordinance language.
3. Provide technical assistance during public meetings and hearings.

Deliverables:

1. Summary of ordinance recommendations.
2. Draft ordinance language.

Task 6 Analysis of Options to Increase Material Recovery and Establish Best Management Practices

Purpose: Evaluate the feasibility of various solid waste system modifications to maximize recycling and improve system efficiencies.

Activities:

1. Identify operational, policy and programmatic options to maximize material recovery and enhance current solid waste management, which will also assist the City in achieving new state recycling goals. Meet with City staff to review these options and identify those having the greatest materials recovery potential and most appropriate for the City. Such options include, but are not limited to, the following:
 - a. Organics reuse and recycling.
 - b. Pay-As-You-Throw collection.
 - c. Residential and commercial recycling program improvements and incentives.
 - d. Alternative uses and markets for recovered materials, such as glass.
 - e. C&D debris recycling.
 - f. HHW and E-waste recovery and processing.
 - g. Effective public outreach programs.
 - h. Overall best management practices.
 - i. Broader green community and sustainability initiatives such as green building, environmentally preferable procurement, and source reduction activities.
2. Analyze those options determined to be most viable and having the greatest materials recovery potential. Such analysis will include reviewing recognized regional and national programs, evaluating the potential applicability to the City, estimating the potential materials recovery impact, identifying implementation issues, and estimating potential costs and benefits to the City.
3. Present the findings of this analysis to City management and/or elected officials.

Deliverables:

1. List of possible options for consideration.
2. Summary presentation of most viable options.

Assumptions:

1. City to provide population and tonnage forecasts as necessary.

2. Multiple conference calls with City staff and two site visits are anticipated.

Task 7 Pathway to Reach Maximum Recovery/Zero Waste

Purpose: Establish a pathway for the City to maximize materials recovery and achieve zero waste.

Activities:

1. Estimate the total potential materials recovery that could be achieved through the Task 7 recommendations.
2. Identify further system modifications that would be needed to achieve zero waste.

Deliverables:

The recommendations resulting from this task will be incorporated into the Task 6 final deliverable.

Assumptions:

1. This task will be conducted concurrently with Task 6.
2. Supplemental expertise may be provided by two nationally recognized Zero Waste Planners. These subconsultants were included in KCI's proposal to the City and subsequent contract.

Task 8 Commercial Waste Generation Study; Analysis of Commercial Billing

Purpose: Conduct a two-season Commercial Waste Generation Study (CWGS) to determine the quantities of solid waste generated by defined types of commercial businesses. Propose a commercial billing structure based on the results of the CWGS that creates an incentive for recycling.

Activities:

1. Review collection contractor's list of commercial customers and City's commercial tax roll to define a list of commercial business types to target.
2. Contact individual businesses, if necessary, to confirm collection service information (container type, size and frequency of collection) provided by the City's contractor.
3. Develop a protocol and schedule for the CWGS, which will include dedicated routes of specific business types and businesses.
4. Conduct two CWGS events during which waste generation data for businesses on the dedicated commercial routes will be documented.
5. Analyze the data from each CWGS event to calculate waste generation rates for each business type included in the study.

6. Combine the data from the two study events to estimate year-round waste generation rates for each business type.
7. Prepare a final report of the results of the CWGS.
8. Research and compile a list of potential commercial billing options and discuss with City staff to identify the option deemed most appropriate and acceptable to the City.
9. Utilizing information obtained from the CWGS, further define the structure of the selected billing option.
10. Prepare and present the proposed structure to City management and/or elected officials.

Deliverables:

1. List of commercial business types to be targeted by the CWGS and schedule.
2. Draft CWGS report (transmitted electronically).
3. Final CWGS report (two hard copies and an electronic copy).
4. List of potential commercial billing options.
5. Written description of proposed billing structure.
6. Presentation explaining billing structure.

Assumptions:

1. This task is contingent upon the following:
 - a. Receipt of a list of commercial properties within the City on the tax roll, including name, address, owner, telephone number, business type or code, square footage of buildings on the property, and square footage of heated/cooled buildings.
 - b. Receipt of a database of commercial customers serviced by the City's contracted hauler, including business name, address, telephone number, container type and size, and frequency of collection.
 - c. Cooperation of the City's contracted hauler, including running dedicated routes of defined businesses each day of the study events and allowing KCI staff to ride/follow these dedicated routes to document required study information. This task order does not include any fees that might be charged by the City's contractor to provide this service.
2. To account for seasonal variation, two CWGS events are anticipated, each lasting approximately two weeks.
3. Close coordination with City staff is necessary throughout this task to ensure the selected billing option is accepted in concept prior to developing the more detailed structure of this option.
4. Because of the variability in the level of effort required to implement the various billing options that might be considered, this task order does not include a budget for implementation at this time.

Task 9 Solid Waste Management Master Plan

Purpose: Develop a Solid Waste Management Master Plan.

Activities:

1. Utilizing the information and recommendations resulting from the previous tasks, draft a Solid Waste Management Master Plan (Plan) that outlines an implementation plan.
2. Following review by City staff, prepare a final Plan.
3. As the budget allows, assist the City with initiating the Plan.

Deliverables:

1. Draft Plan for City staff review (transmitted electronically).
2. Final Plan (two hard copies and an electronic copy).

Task 10 Outreach and Project Coordination

Purpose: Keep the client and other City officials and organizations apprised of the project status.

Activities:

1. Participate in monthly project team calls.
2. Prepare monthly summary of activities.
3. Participate in meetings with City management, elected officials, and civic organizations as requested by the client.

Deliverables:

Monthly calls, monthly summary of activities, and other deliverables as defined by the client.

BUDGET AND SCHEDULE

Because of the nature of this project and the potential variability in the level of effort required in certain tasks, KCI proposes to conduct this work on a time-and-materials basis for an amount not to exceed \$379,800, without the City's prior approval. A budget breakdown by task is attached. KCI will utilize the rate schedule in its contract with the City. All expenses will be billed at cost without markup.

Also attached is a preliminary proposed timeline, which may need to be altered during the course of the project, based on the City's priorities and the findings of previous tasks.