



**CITY OF KIRKLAND**  
**Department of Public Works**  
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## MEMORANDUM

**To:** David Ramsay, City Manager

**From:** Elaine Borjeson, Solid Waste Coordinator  
Erin Leonhart, Public Works Facilities and Operations Administrative Manager  
Daryl Grigsby, Public Works Director

**Date:** January 25, 2007

**Subject:** REGIONAL SOLID WASTE UPDATE

### RECOMMENDATION

Staff requests that Council provide direction to Councilmember Greenway, the City's Representative on the Metropolitan Solid Waste Management Advisory Committee (MSWMAC), regarding the proposed recommendations and future work program contained in the Governance Report (Attachment 1) and the scope of work outlined in the Comparative Evaluation of Waste Export and Conversion Technologies Disposal Options (Attachment 2).

### BACKGROUND

Governance Report: Proposed Recommendations and Future Work Program: The Governance Report (the Report) is the last remaining work product required by King County Ordinance 14971 which set up the process and timeline for the recently submitted Solid Waste Transfer and Waste Export System Plan currently pending review by the Regional Policy Committee (RPC) and the King County Council. The Report was prepared by the Interjurisdictional Technical Staff Group (ITSG) in consultation with MSWMAC. The ITSG is a group of city and County staff that began meeting in early 2004 as the result of a series of controversial solid waste management decisions that were made by the County. The current role of the ITSG is to be a working staff group dedicated to solid waste issues and to assisting MSWMAC.

The Report outlines four issues and recommendations to the County Council for the future of solid waste planning, policy and management. The issues are:

- Whether or not to replace the Solid Waste Interlocal Forum (SWIF) currently represented by the RPC
- The lack of a dispute resolution process in the Solid Waste Interlocal Agreements between the cities and the County
- Developing detailed financial policies for forecasting, financing, rate setting and grant programs, and
- Outlining host city mitigation standards

The Report also outlines issues relating to the term and possibility of re-opening the Interlocal Agreements which are currently in effect until 2028. Recommendations contained in the Report may require revisions to the King County Comprehensive Solid Waste Management Plan, King County Code, the Interlocal Agreements or state law.

Comparative Evaluation of Waste Export and Conversion Technologies Disposal Options: MSWMAC is working with the Solid Waste Division (Division) on updating the 2001 King County Comprehensive Solid Waste Management Plan which will include an evaluation of how to handle the County's solid waste when the Cedar Hills Regional Landfill reaches permitted capacity around 2016. At that time, solid waste will need to be exported or handled by a conversion technology facility. For this evaluation, conversion technologies are defined as conventional waste incineration with energy recovery as well as thermal gasification, bio-refining, plasma arc, anaerobic digestion that produces energy source byproducts, and composting.

The 2007 King County Budget contained a proviso requiring the analysis of conversion technologies for handling solid waste. The scope of work outlined in the Comparative Evaluation of Waste Export and Conversion Technologies Disposal Options (the Evaluation) will identify potential benefits and impacts of waste export and commercially proven conversion technologies that operate on a scale similar to King County's projected waste stream. The Evaluation will compare the estimated range of costs, energy consumption and generation, and environmental impacts of waste export and conversion technologies. It will also assess the potential impact on recycling programs. The Evaluation will also review the need for planned transfer station system improvements and transportation requirements. The analysis is currently underway, and an initial draft summarizing the findings of the Evaluation will be submitted to the Division by the end of the second quarter of 2007.

Attachments: 1 – Governance Report: Proposed Recommendations and Future Work Program  
2 – Comparative Evaluation of Waste Export and Conversion Technologies Disposal Options

***DRAFT***

***INTERJURISDICTIONAL TECHNICAL STAFF GROUP***

**GOVERNANCE REPORT:  
PROPOSED RECOMMENDATIONS  
AND FUTURE WORK PROGRAM**

**January 12, 2007**

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## EXECUTIVE SUMMARY

The purpose of this document, required by King County Ordinance 14971, is to report on the progress to date of the Interjurisdictional Technical Staff Group (ITSG) and Metropolitan Solid Waste Management Advisory Committee (MSWMAC) on what is generally referred to as “governance issues.” This report is the last work product required to fulfill the directives outlined in Ordinance 14971. Based on policy direction provided by the King County Council, additional work will be needed to fully develop the recommendations outlined in the report.

ITSG and MSWMAC, working in collaboration with the Solid Waste Division, have produced four iterative planning reports that were approved by the Regional Policy Committee (RPC) and adopted by the County Council. These reports culminated in the recent submittal of the *Solid Waste Transfer and Waste Export System Plan*, now pending review by the RPC and the County Council.

This report presents the following four primary issues and recommendations to the County Council that will help guide the future of regional solid waste planning, policy, and management:

### 1. Solid Waste Interlocal Forum

**Issue:** Several options were examined to determine how best to maintain an interlocal forum for providing policy input and ensuring city participation and input in the regional solid waste system early in the planning stages. In addition to engaging the cities, which have signed Interlocal Agreements with the county, the forum was originally intended to represent the interests of customers in the unincorporated areas.

**Recommendation:** This report recommends formally replacing the existing Solid Waste Interlocal Forum, which is currently represented by the RPC of the County Council, with MSWMAC. The RPC would continue to maintain its role as the policy review body for solid waste issues. It is recommended that the interests of the unincorporated areas be represented on the Solid Waste Advisory Committee (SWAC), which currently works closely with MSWMAC.

### 2. Dispute Resolution Process

**Issue:** No formal method for resolving disputes between one or more cities and the county is currently provided for in the Interlocal Agreements or the Solid Waste Interlocal Forum.

**Recommendation:** This report outlines several potential dispute resolution options tailored to the various types of disputes that might arise between multiple cities or host cities and the county.

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**3. Framework for Developing Financial Policies**

**Issue:** The 2001 Comprehensive Solid Waste Management Plan contains eight adopted financial policies, which are very broad in nature. The cities are interested in working with the division to develop more detailed policies.

**Recommendation:** This report recommends four major categories in which more specific financial policies would be developed: 1) financial forecasting and budgets, 2) debt financing and borrowing, 3) rates, and 4) grant programs.

**4. Host City Mitigation**

**Issue:** There are positive and negative impacts to cities that host transfer stations. The impacts can be service related, such as convenience or value to surrounding residents and businesses; physical, such as increased litter, traffic, or noise; and financial, such as potential lost tax revenues to the cities. ITSG developed several mitigation options for consideration.

**Recommendation:** This report recommends continuing mitigation at host city transfer stations, developing mitigation policies, and further considering the establishment of a host city fee.

The report also identifies other issues for further study and discussion, including the term of the Interlocal Agreement and re-opener of the Interlocal Agreement.

Each of the recommendations presented in this report will require guidance or approval from the County Council. In many cases, the recommendations may require some combination of measures to implement, such as the revision or creation of solid waste policies, revisions to county code, updates to the comprehensive solid waste management plan, amendments to contractual documents (such as the ILAs), or a revision to state law.

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## ACRONYMS

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B&O

Business & Occupation Tax

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Division

King County Solid Waste Division

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ILA

Interlocal Agreement

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ITSG

Interjurisdictional Technical Staff Group

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MSWMAC

Metropolitan Solid Waste Management Advisory Group

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RPC

King County Regional Policy Committee

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SWAC

Solid Waste Advisory Group

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SWIF

Solid Waste Interlocal Forum

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UAC

Unincorporated Area Council

## INTRODUCTION

As required by King County Ordinance 14971, since 2004 the Metropolitan Solid Waste Management Advisory Committee (MSWMAC), the Interjurisdictional Technical Staff Group (ITSG), the Solid Waste Advisory Committee (SWAC), the King County Solid Waste Division, and King County Council staff have been collaborating on solid waste planning and policy issues. Initial efforts, as required by the ordinance, focused on the upgrade and modernization of solid waste transfer facilities and system planning for waste disposal once the Cedar Hills Regional Landfill closes. To date, the group has produced four iterative planning reports that culminated in the recent submittal of the *Solid Waste Transfer and Waste Export System Plan*, now pending review by the Regional Policy Committee (RPC) and County Council.

The purpose of the current document, also required by Ordinance 14971, is to report on the progress of ITSG and MSWMAC to date on what is generally referred to as “governance issues.” The intent of the report is two-fold: 1) to suggest conceptual solutions for the tasks identified in Section 2.D.2 of Ordinance 14971 and 2) to address outstanding governance policy issues between the cities and the county.

This report was prepared by ITSG with input and approval from MSWMAC. SWAC has been apprised of the issues and recommendations in the report and will continue to be involved in this work.

Section 2.D.2 of Ordinance 14971 assigned ITSG with providing a report that accomplishes the following:

*2. The interjurisdictional technical staff group report shall address at least the following issues:*

- a. potential modification or replacement of the solid waste interlocal forum, to identify membership, decision-making responsibilities and scope of duties;*
- b. identification of dispute resolution options;*
- c. development of a framework for financial policies and host city mitigation, including compensation agreements;*
- d. evaluation of the impact of the proposed waste export system plan on each of the provisions of the solid waste interlocal agreement between King County and cities; and*
- e. identification of potential amendments to the solid waste interlocal agreement.*

Per the ordinance, ITSG reviewed four key issues, and the report provides the following information for each issue: 1) description and background, 2) the analysis of options completed, in progress, or planned, 3) the proposed conceptual recommendation(s) for

214 resolving the issue, subject to input from ITSG, MSWMAC, SWAC, and the county, and  
215 4) identified steps for follow up and implementation.

216  
217 The four key issues ITSG reviewed are summarized as follows:

218  
219 **1. Solid Waste Interlocal Forum:** In the late 1980s, cities that were part of the  
220 county's solid waste system entered into Interlocal Agreements (ILAs) with the  
221 county. A Solid Waste Interlocal Forum (SWIF) was created to represent the  
222 various parties to the ILAs in solid waste planning. In 1993, with the merger of  
223 Metro and King County, the responsibilities of the SWIF were transferred to the  
224 RPC of the County Council. This transition gave RPC additional responsibility to  
225 function as the SWIF on solid waste management issues.

226  
227 Over time, RPC's responsibilities have covered a wide range of critical regional  
228 services, and the committee has had limited time to focus on the development of  
229 solid waste issues and policy in the planning stages. In addition, the  
230 membership of RPC includes the City of Seattle, which is not a part of the  
231 county's solid waste system. Also, while the cities have four seats on the RPC,  
232 the establishment of MSWMAC created a dedicated forum for all the cities with  
233 ILAs to collaborate with the county in detail on issues of solid waste planning and  
234 policy. This focused participation has enhanced the solid waste planning  
235 process for both the cities and the county.

236  
237 This report discusses whether the responsibilities of the SWIF should reside  
238 within the RPC or become part of another forum. Of the options considered in  
239 this report, ITSG recommends that MSWMAC take over the responsibilities of the  
240 SWIF, and that RPC continue in its role of reviewing and recommending to the  
241 County Council approval of regional solid waste policies and plans.

242  
243 **2. Dispute Resolution Process:** Currently, no process for dispute resolution is  
244 provided for in the ILAs or with the SWIF. In the event that issues cannot be  
245 resolved through the collaborative decision-making process, a formal method for  
246 resolving disputes between one or more cities and the county must be  
247 established.

248  
249 The potential dispute resolution options outlined in this report are tailored to the  
250 various types of disputes that might arise between multiple cities or host cities  
251 and the county.

252  
253 **3. Framework for Developing Financial Policies:** The current financial  
254 policies for the Solid Waste Division are very broad in nature. The cities are  
255 interested in working with the division to develop more detailed financial policies,  
256 perhaps using the policies of other agencies as a model. Four major categories  
257 have been identified in which more specific financial policies would be  
258 developed: 1) financial forecasting and budgets, 2) debt financing and  
259 borrowing, 3) rates, and 4) grant programs.

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261 This report includes the division's current financial policies and recommends  
262 areas in which more specific policies could be developed.  
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**4. Host City Mitigation:** There are positive and negative impacts to cities that host transfer stations. The impacts can be service related, such as convenience or value to surrounding residents and businesses; physical, such as increased litter, traffic, or noise; and financial, such as potential lost tax revenues to the cities. While the county routinely provides mitigation at new and existing transfer stations, such as roadway improvements, litter pickup, sound walls, the addition of sidewalks, and landscaping, to name a few, the host cities are interested in exploring other forms of compensation, including monetary payments, to ensure that hosting a facility is equitable to the city and the ratepayers of King County.

This report recommends studying the various impacts and benefits to host cities, the potential types of mitigation, and their impacts on the regional system and the ratepayer. The report also proposes a modification to state law to allow the Business & Occupation taxes the Solid Waste Division currently pays to the state to be paid to the host cities instead.

In addition to the four key issues that have been addressed in this report, the following issues identified in Ordinance 14971 will be addressed through future work by ITSG, MSWMAC, and the county:

***Section 2d: evaluation of the impact of the proposed waste export system plan on each of the provisions of the solid waste interlocal agreement between King County and cities***

These evaluations will be conducted during the update of the *2001 Comprehensive Solid Waste Management Plan*, which is expected to be completed in 2008.

***Section 2e: identification of potential amendments to the solid waste interlocal agreement***

Potential amendments to the solid waste ILAs between the county and the cities are addressed under *Next Steps* for each of the issues discussed in this report. Amendments to the ILAs or new legislation may be necessary in order to implement some of the report recommendations.

This report is the last work product required to fulfill the directives outlined in Ordinance 14971. Based on direction provided from the County Council, additional work will be needed to fully develop the recommendations in the report. The *Other Issues* section of the report presents several outstanding issues that either require additional analysis or have already been resolved.

Additional work on governance issues will continue in 2007 following the direction provided by the County Council. The appropriate mechanism(s) for implementing recommendations will be developed. These mechanisms could include the revision or creation of solid waste policies, revisions to county code, updates to the comprehensive solid waste management plan, amendments to contractual documents (such as the ILAs), or a revision to state law.

## BACKGROUND

Since the late 1980s, cities participating in the county's solid waste management system have been operating under ILAs (sample ILA contained in **Appendix X**). The term of the ILAs extends through mid-2028. The ILAs set forth the provisions under which the county provides solid waste management services for waste generated and collected within the cities. They outline the county's responsibilities in the operation of transfer, processing, and disposal facilities, as well as providing waste reduction and recycling services and programs, in cooperation with the cities.

In the early 2000s, the county made a number of decisions to which the cities objected, including requiring the division to pay rent to the county's current expense fund for use of the Cedar Hills landfill property and purchasing the Harbor Island site for a potential intermodal facility in the future. The cities were concerned about their lack of early involvement in the planning and decision-making on these issues of regional significance. In addition, there was no process for dispute resolution through the ILAs or the SWIF. As a result, in 2003 several cities exercised the re-opener clause provided for in the ILAs to initiate conversations with the county about their concerns. To articulate their issues, the cities convened a staff work group and developed the *Cities' Principles for Solid Waste Interlocal Agreement Negotiations* in April 2004 (**Appendix X**).

The cities used those principles as the basis for dialog with the Solid Waste Division and County Council staff. These discussions contributed to the development of King County Ordinance 14971 (July 2004). The ordinance directed the county to establish an advisory committee for city input into solid waste planning and to facilitate the resolution of issues. Participation on the advisory committee – MSWMAC – was open to any city with a signed ILA with the county. The ordinance also formalized the city and county staff working group that had already begun meeting. The group was renamed ITSG and tasked with assisting MSWMAC in its first year of operation, and possibly beyond, and producing this governance report.

Since the groups formed and began meeting with Solid Waste Division and County Council staff, significant strides have been made in building a new foundation of trust and cooperation between the cities and the county. The process has helped the groups work together to resolve solid waste planning issues in an atmosphere of consensus-building and to develop the reports required by Ordinance 14971. Along with SWAC, ITSG and MSWMAC will continue to work with division staff and the County Council in developing the next update of the comprehensive solid waste management plan, expected to be completed in 2008.

In addition, ITSG will continue working with the division and County Council on the governance issues outlined in this report. The resolution of these issues will help guide the cities and the county as we move forward with the planning and implementation of many significant changes in the solid waste system.

## SOLID WASTE INTERLOCAL FORUM

### Issue

Three agreements created the foundation for the working relationship between the individual cities and the county in planning for and managing the regional solid waste system. Below is a description of the history and nature of each agreement, followed by a discussion of specific issues and recommendations for the structure of the interlocal forum in the future.

***Solid Waste Interlocal Agreement:*** The earliest and most fundamental of the agreements are the individual ILAs. In the late 1980s, each city that was part of the county's solid waste system signed an ILA with the county that designated the roles and responsibilities of each entity in solid waste planning, collection, and disposal, as well as waste reduction and recycling (sample agreement provided in **Appendix X**). The term of these agreements extends through mid-2028.

***Forum Interlocal Agreement:*** This agreement established the Solid Waste Interlocal Forum (SWIF) and the composition of its membership in 1989. The purpose of SWIF is to provide a venue for parties to the ILAs to participate in resolving issues and contributing policy input on the region's solid waste system. In the original agreement (**Appendix X**), the membership of the interlocal forum is defined as "... representatives of unincorporated King County designated by the King County Council, representatives of the City of Seattle designated by the City of Seattle, and representatives of other incorporated cities and towns-within King County that are signatories to the Forum Interlocal Agreement." Since the ILAs were originally signed, the City of Seattle has withdrawn from the county's regional solid waste system, choosing to operate its own solid waste management system. The city continues to be a member of RPC, which functions as SWIF.

In the original Forum Interlocal Agreement, SWIF's responsibilities are defined as follows:

- Advise the King County Council, the King County Executive and other jurisdictions as appropriate, on all policy aspects of solid waste management and planning.
- Consult with and advise the King County Solid Waste Division on technical issues related to solid waste management and planning.
- Review and comment on alternatives and recommendations for the King County comprehensive solid waste management plan and facilitate a review and/or approval of the plan by each jurisdiction.
- Review subsequent proposed interlocal agreements between King County and Cities for planning, waste recycling and reduction, and waste stream control.
- Review and comment on disposal rate proposals.
- Review and comment on status reports on waste stream reduction, recycling,

- 409 energy/resource recovery, and solid waste operations with interjurisdictional  
410 impact.
- 411 • Promote information exchange and interaction between waste generators,  
412 local government with collection authority, recyclers, and County-planned and  
413 operated disposal systems.
  - 414 • Provide coordination opportunities between the King County Solid Waste  
415 Division, Cities, private operators, and recyclers.
  - 416 • Aid Cities in recognizing municipal solid waste responsibilities, including  
417 collection and recycling, and effectively carrying out those responsibilities.
- 418  
419

420 ***Addendum to Solid Waste Interlocal Agreement and Forum Interlocal***

421 ***Agreement:*** In 1993, with the merger of Metro and King County, the  
422 responsibilities of the SWIF were transferred to the RPC. The change was  
423 implemented through an addendum to the ILAs (**Appendix X**). While the  
424 addendum transferred the additional responsibilities listed above to the RPC,  
425 there were no rule changes or bylaws adopted by the RPC or the County Council  
426 proposing how these additional SWIF responsibilities would be carried out. In  
427 addition, representation on the SWIF mirrored the membership of the RPC,  
428 comprising four representatives from the suburban cities, six members from the  
429 County Council (most of whom represent unincorporated areas in their districts),  
430 and two members from the City of Seattle, which is not a part of the county's  
431 solid waste system.

432

433 Although the RPC meets regularly, the committee has convened infrequently as  
434 the SWIF and has not had the dedicated time to focus on solid waste planning at  
435 the development stages. This is primarily due to the broad purview of the RPC,  
436 which meets monthly to evaluate policies of regional significance in the critical  
437 areas of public health, human services, housing, criminal justice, jails and district  
438 court services, and others.

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441 In response to the cities' concerns about regional solid waste issues, ITSG and  
442 MSWMAC were formed to provide a dedicated forum. Thus far, ITSG and MSWMAC  
443 have established regular meeting schedules with the county, created bylaws for  
444 MSWMAC, and completed a considerable body of work, including collaboration with the  
445 Solid Waste Division and SWAC on four analytical planning (or milestone) reports that  
446 led to the *Solid Waste Transfer and Waste Export System Plan* submitted to the County  
447 Council in September 2006.

448

449 Due to the successful working relationship the current process has fostered between the  
450 cities and the county, ITSG, MSWMAC, and the county are interested in its continuance.  
451 There are several issues to consider, however, in further refining MSWMAC's role in  
452 relation to other forums. The first issue is to determine whether the SWIF should be  
453 modified or replaced by MSWMAC. The second is to consider how to include the  
454 planning and policy interests of the unincorporated areas of the county, some of which  
455 are currently represented by the six Unincorporated Area Councils (UACs).

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459 **Analysis**

460  
461 There have been some recent changes in the regional solid waste system, and will be  
462 significant changes in the future when the Cedar Hills Regional Landfill closes and the  
463 county implements alternate methods of waste disposal. Because these future changes  
464 will affect solid waste services, and may require the construction or siting of new  
465 facilities, an interlocal forum is essential to regional planning, policy discussions, and  
466 consensus-building on issues of importance to the cities, the county, and the region as a  
467 whole.

468  
469 Four options were identified for defining the role of the cities in solid waste management.  
470 The choice of any one of the options presented below will require discussions and  
471 agreement with the county, RPC, and SWAC. There will also need to be discussions  
472 with the UACs to determine their interest in participating in the early stages of regional  
473 planning.

474  
475 Based on this preliminary analysis, Option 2 below – which recommends designating  
476 MSWMAC as the SWIF – is the preferred option. All of the options preserve RPC’s role  
477 as the policy body for reviewing and approving solid waste policies and plans and  
478 MSWMAC’s role in working with the county in the early stages of solid waste planning  
479 and policy development. Each option includes a recommendation for, or the status of,  
480 representation of unincorporated areas.

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482  
483 **1. CURRENT STATUS – Retain the RPC as the Solid Waste Interlocal**  
484 **Forum; maintain MSWMAC as a separate advisory committee**

485  
486 This option would retain RPC in the dual role of regional committee and  
487 SWIF. While this option would not require any changes in current legislation,  
488 it would also not address RPC’s ability to actively participate as the SWIF or  
489 resolve issues raised about city representation on the committee.

490  
491 King County Council members currently represent the unincorporated areas  
492 on the SWIF.

493  
494 **2. PREFERRED OPTION – Designate MSWMAC as the SWIF; retain RPC as**  
495 **the policy body**

496  
497 Under this option, MSWMAC would become the designated replacement for  
498 the SWIF. MSWMAC has become a functional and viable advisory  
499 committee in regional solid waste planning efforts, and its membership is  
500 open to all cities who are party to the ILAs. It has allowed broad participation  
501 and more robust discussions of solid waste issues. Under this scenario, both  
502 MSWMAC and SWAC would maintain their separate but complementary  
503 roles in addressing solid waste planning and policy development. The focus  
504 of RPC’s role on policy issues would be enhanced. This model has proven  
505 successful in working through solid waste issues in the last few years.

506 Further examination would be required to determine the best way to  
507 implement this option – through comprehensive plan amendments, adoption  
508 of legislation, or an addendum to the ILAs.  
509

510 As discussed later in this section, under this option ITSG and MSWMAC  
511 recommend adding representation from the UACs to the membership of  
512 SWAC to better represent the interests of the unincorporated areas.  
513

514  
515 **3. *Replace SWIF with some other representative group, such as SWAC***  
516

517 SWAC was created by state law (RCW 70.95.165) to represent the interests  
518 of local elected officials, the waste management industry, public interest  
519 groups, and citizens of the county on issues of solid waste management.  
520

521 SWAC has been operating in an advisory capacity since 1985. While SWAC  
522 has been a resoundingly successful forum for advising the county on solid  
523 waste issues from a broad range of stakeholder perspectives, it does not  
524 specifically address issues of governance between the cities and the county.  
525 In the last few years, SWAC has worked in concert with MSWMAC to advise  
526 the county in solid waste planning from their unique perspectives. Selection  
527 of this option would not replace the function of MSWMAC in providing each  
528 city with a signed ILA with a voice in future solid waste planning.  
529

530 SWAC includes citizens from unincorporated areas in its membership;  
531 however, King County Code does not require formal representation from  
532 Unincorporated Area Councils on SWAC.  
533

534 **4. *Sunset the SWIF as a formal body; preserve RPC as the policy body and***  
535 ***MSWMAC as the advisory body to the county on issues of solid waste***  
536 ***planning***  
537

538 SWIF's work is currently being carried out primarily by ITSG and MSWMAC  
539 with oversight from the RPC. SWIF does not address critical issues such as  
540 dispute resolution, periodic updating of service contracts, host city issues,  
541 and other concerns. Having an established contractual interlocal forum  
542 provides a venue to discuss conflicts, policies, changing conditions, service  
543 needs, and other issues related to solid waste management.  
544

545 ITSG and MSWMAC recommend adding representation from the UACs to the  
546 membership of SWAC to better represent the interests of the unincorporated  
547 areas.  
548  
549

550 **Representation of Unincorporated Area Councils in Solid Waste Planning**  
551

552 Approximately 29 percent of the population served by the county's solid waste system  
553 resides in unincorporated areas. The unincorporated area of the county has declined  
554 significantly in the last 10 years and will continue to decline as areas become cities  
555 through annexation or incorporation. However, as a significant segment of the current  
556 county population, their interests and needs should be represented in solid waste  
557 planning and policy development.  
558

559 The unincorporated areas are not party to the ILAs; therefore, they are not currently  
560 represented on MSWMAC. They are represented on RPC by County Council members  
561 when the committee deliberates on regional solid waste issues. In the process of  
562 defining where the responsibilities of the SWIF should lie, unincorporated area  
563 representation should be considered.  
564

565 Many citizens of the unincorporated areas of King County are represented by one of six  
566 distinct Unincorporated Area Councils (UACs), defined primarily by geographic area:  
567

- 568 • **Four Creeks Unincorporated Area Council** (representing the area between  
569 Renton, Newcastle, Issaquah, and Maple Valley)
- 570 • **Greater Maple Valley Area Council** (representing the communities of  
571 Hobart, Ravensdale, Francis, and River Heights)
- 572 • **North Highline Unincorporated Area Council** (representing the area  
573 bounded by Seattle, Burien, SeaTac, and Tukwila, including White Center)
- 574 • **Upper Bear Creek Community Council** (representing the area near  
575 Woodinville/Cottage Lake)
- 576 • **Vashon-Maury Island Community Council**
- 577 • **West Hill Community Council, Inc.** (representing the area bordered by  
578 Seattle, Tukwila, and Renton)  
579

580 These UACs are staffed by the county. Individual UACs typically meet monthly, with a  
581 quarterly meeting of all the UACs to discuss issues of common interest. Depending on  
582 the agenda items, individuals from various departments of the county are invited to  
583 attend. Each year, the UACs report on their area's issues of concern in a forum hosted  
584 by the King County Executive. The Solid Waste Division periodically attends UAC  
585 meetings to present and discuss solid waste issues, through processes such as the  
586 development of the comprehensive solid waste management plan.  
587

## 588

### 589 **Recommendation**

## 590

591 ITSG and MSWMAC recommend Option 2, which designates MSWMAC as the SWIF.  
592 Under this recommendation, solid waste policies and plans would continue to be subject  
593 to review and approval by RPC, while SWAC and MSWMAC would continue to  
594 collaborate on solid waste policy and planning in the development stages. Helping to  
595 create a nexus between SWAC and MSWMAC, there are currently members who  
596 participate on both committees.  
597

598 ITSG and MSWMAC also recommend that unincorporated areas be more fully  
599 represented on SWAC. King County Council members on the RPC would continue to  
600 represent the unincorporated areas when RPC deliberates on regional solid waste  
601 issues.  
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### 603

### 604 **Next Steps**

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606 Before proposed recommendations on these issues can be implemented, they must be  
607 approved by the King County Council. If the County Council agrees with this  
608 recommendation, legislation would be developed to designate MSWMAC as SWIF, and

609 an addendum to the ILAs would be required. Once a recommendation on the SWIF is  
610 selected, the county will confirm that the UACs are interested in participating on SWAC  
611 to represent their interests.

## DISPUTE RESOLUTION PROCESS

### Issue and Analysis

Currently, there is no dispute resolution process provided for in the ILAs between the cities and the county. In a process that involves the collaboration of stakeholders with unique perspectives or roles in the solid waste management system, issues may arise that require the resolution of disputes.

This section outlines potential options for dispute resolution, depending on the type of disagreement and the parties involved. What follows are several potential options, with examples of what might trigger one process over another. It must be noted that none of the proposed options precludes any party from taking legal action to resolve a dispute.

### Nature of Dispute and Potential Resolution Options

**Disagreement about operating impacts between one or more cities and the county:** Most disputes will be resolved by cooperative communication between the parties involved. For example, operating impacts of a station, such as litter, noise, traffic impacts, or similar events, may be resolved between the division and the host city. The parties or MSWMAC may also seek to resolve a dispute through discussions.

**Dispute between a host city and the county:** If agreement cannot be reached through cooperative communication – even with involvement by top-level officials of the different jurisdictions – the parties may choose to use an independent third-party mediator to resolve a dispute between the county and a host city with an operating transfer station. Disputes requiring this type of action would most likely involve issues related to impacts on a host city from transfer station operations. The process for selection and payment of a mediator is yet to be determined. As the parties begin to consider the use of an independent third-party mediator, MSWMAC will be notified of the dispute and may choose to discuss the issue. Similarly, MSWMAC would be notified at the conclusion of the mediation process, or when the host city(ies) and the county reach an agreement.

**Dispute between two or more cities and the county:** Disputes could arise between two or more cities and the county over a complex technical issue or policy, such as the interpretation of an existing policy or lack of a specific policy. MSWMAC may develop a recommendation that changes or creates a policy, which would be forwarded to the County for review and adoption.

If MSWMAC determines that independent expertise is required for resolution of an issue, a third-party review process could be initiated, if the cities and the county agree. Additional discussion will be required to determine whether this is a feasible option, because the process can be time-consuming and costly. In particular, ITSG, MSWMAC, and the county will need to clarify the rules

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regarding this option, such as selection of the reviewer, source of funding, and conditions for invoking an independent third-party review.

**Dispute between potential host city and county – facility siting and permitting issues:** The *Solid Waste Facility Siting Plan*, Appendix C of the transfer and waste export system plan, outlines the agreed-upon siting process for facilities, as endorsed by ITSG, MSWMAC, and the county. In addition, each city has its individual land use code and permitting process. If a disagreement occurs between a host city or potential host city and the county in the interpretation of a siting or permitting process, an appeals process can be initiated in accordance with city land use development and zoning codes and consistent with the state’s Growth Management Act.

**Next Steps**

As these options are further clarified, more specific guidelines will be developed to address the following:

- Specific issues that would initiate each resolution process
- A process to determine whether and when to use a third-party mediator, and a process for mediator selection
- A process to determine whether and when third-party review would be warranted
- The funding source(s) for dispute resolution if a third-party mediator or third-party review are implemented

## FRAMEWORK FOR DEVELOPING FINANCIAL POLICIES

### Issue

The 2001 Comprehensive Solid Waste Management Plan contains eight adopted financial policies, as follows:

- FIN-1.** The county shall maintain, conduct, operate and account for the disposal of solid waste as a utility of the county. The solid waste system shall be a self-supporting utility financed primarily through fees for disposal.
- FIN-2.** The county shall charge garbage disposal fees directly to users of the solid waste disposal system to pay for solid waste services.
- FIN-3.** The county shall maintain a rate structure based on tonnage, recognizing that the structure does not provide a self-hauler subsidy, unless the executive demonstrates that a different rate structure would benefit the system as a whole.
- FIN-4.** The county should keep garbage disposal fees as low as possible and should manage the solid waste system to keep rate increases as low as possible while meeting the costs of managing the system and providing service to solid waste customers.
- FIN-5.** The county should provide technical assistance to the cities in developing collection contracts and grants.
- FIN-6.** The county should develop and implement a grant program for the cities that will consolidate grant programs and contracts wherever possible. The county should provide technical assistance to aid the cities in identifying, applying for and administering grants.
- FIN-7.** The county should provide opportunities to expand the role of cities in developing and reviewing regional solid waste policies and rates by establishing a Solid Waste Policy Work Group to work in conjunction with the Solid Waste Advisory Committee to make recommendations regarding system operations to the King County executive. As part of these recommendations, the executive shall evaluate the costs and benefits of alternative rate structures on individual customer classes.
- FIN-8.** The county is committed to working with the cities that are impacted by transfer stations to explore funding to mitigate potential impacts from these facilities. Any statutorily authorized host fees should be in amounts directly attributable to the solid waste facility provided that the cities can establish that the fee is reasonably necessary to mitigate for impacts of the solid waste facility as required in state law.

736 There are a number of issues that are not covered by the current financial policies that  
737 could be further developed in adopted financial policies. This work would involve the  
738 refinement of existing policies or potential new policies in the following areas:

- 739
- 740 • Financial forecast and budget
- 741 • Debt financing and borrowing
- 742 • Rates
- 743 • Grant programs, such as recycling grants
- 744

745 **Appendix X** contains potential policies for consideration that were developed for the  
746 county's Wastewater Treatment Division of the Department of Natural Resources and  
747 Parks.

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### 750 **Analysis**

751  
752 The Solid Waste Division intends to look at current policies in relation to those adopted  
753 by other regional utilities to develop a more comprehensive set of financial policies that  
754 will guide the future of solid waste facilities, programs, and services. The policies in  
755 **Appendix X** provide a starting point for future discussions.

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### 758 **Recommendation**

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760 ITSG and MSWMAC recommend developing a set of proposed financial policies in time  
761 for incorporation in the next comprehensive solid waste management plan. The plan is  
762 expected to be completed in 2008. As the division begins to examine alternatives for  
763 financing upcoming capital projects, future policies will need to consider the affects of  
764 the financing method used, i.e., specific types of bonds will require certain covenants.

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### 767 **Next Steps**

768  
769 The first step will be for ITSG, MSWMAC, SWAC, and the Solid Waste Division to  
770 develop comprehensive financial policies for the division. These newly proposed  
771 policies would be forwarded to the County for review and adoption.

## HOST CITY MITIGATION

### Issue

The construction and operation of solid waste transfer stations has both positive and negative impacts in local communities. The impacts can be service related, such as convenience or value to surrounding residents, businesses, and commercial haulers; physical, such as increased litter, traffic, or noise; and financial, such as potential lost tax revenues to the cities.

The benefits must be balanced with the impacts on the host cities. The *Analysis* section that follows discusses some of the factors that must be considered and options available to the cities for additional mitigation measures, including monetary compensation for the loss of tax revenues. The cost of additional host city mitigation would ultimately be borne by the ratepayer, so options need to balance the measurable impacts and benefits to the host city with the regional equity of additional mitigation.

### Analysis

In general, geographically dispersed transfer stations in the solid waste system provide a regional benefit to the county's ratepayers. With eight transfer stations and two rural drop boxes in King County, the Solid Waste Division operates a well-dispersed network of facilities that decreases travel time to the stations and increases disposal efficiency by consolidating solid waste loads for transport to the landfill. The stations also make disposal and recycling services available to nearby residents and businesses who self haul. In the broader scheme, the regional network helps reduce the overall travel time and costs for commercial collection trucks, resulting in lower fees for solid waste collection services for county ratepayers.

As mentioned earlier, there are physical impacts to cities that host transfer stations, including increases in road wear, traffic, litter, and noise. To a significant degree, these physical impacts are already being mitigated for by the Solid Waste Division. In accordance with state law and county code, the Solid Waste Division performs a wide range of mitigation activities in the operation and construction of facilities to minimize physical impacts on the host cities. These mitigation measures include, but are not limited to, the enclosure of new facilities to contain noise, dust, and odor; incorporation of buffer zones at new facilities; roadway improvements, as necessary; routine litter pickup; and landscaping (more detailed list provided in **Appendix X**). The division also works with cities on specific issues of concern that may warrant additional measures to lessen the impacts of a facility on the community.

Recognizing the impacts to host cities, the division recently submitted a rate study to the County Council that proposes an increase in the solid waste tipping fee beginning in 2008, which includes \$0.75 per ton for host city mitigation. It is yet to be determined how these mitigation funds will be allocated.

In addition to physical impacts, there are also financial impacts to the host cities. For example, county-owned solid waste facilities located in a city are not subject to that city's

822 property tax or Business & Occupation (B&O) tax. This translates to a potential loss in  
823 tax revenue that might otherwise be collected from a private business or industrial  
824 tenant.

825  
826 While the Solid Waste Division employs a wide range of mitigation measures for the  
827 operation and siting of facilities, the division does not have specific policies in place to  
828 guide the establishment of mitigation agreements for host communities.

829  
830 ITSG has developed the following options for consideration.

831  
832 **1. Continue to work with the Solid Waste Division to provide mitigation at**  
833 **host city transfer stations**

834  
835 These mitigation measures primarily address the physical and regional  
836 impacts of the transfer station, including road and traffic modifications,  
837 landscaping, litter control, and similar measures.

838  
839 **2. Develop mitigation policies based on similar policies developed for**  
840 **other utilities, such as the county's Wastewater Treatment Division**

841  
842 ITSG has looked at comparable policies for host community mitigation  
843 developed for the Wastewater Treatment Division and would like to consider  
844 developing similar policies for the Solid Waste Division. Examples of  
845 wastewater policies are provided in **Appendix X**. These and other  
846 comparable policies need to be explored more fully.

847  
848 **3. Establish a host city fee (would require a change in state law)**

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850 This option would provide host cities with a per ton fee to mitigate for ongoing  
851 impacts to the community and to compensate for potential lost tax revenues.  
852 King County currently pays nearly \$1,250,000 in B&O taxes annually to the  
853 State of Washington for transfer station operations (which represents  
854 approximately \$1.25 per ton). One example of how to fund a host city fee  
855 would be to redirect these B&O tax revenues to host communities. Once a  
856 new regional policy was adopted, state law would have to be changed to  
857 allow for redirection of the tax revenues.

858  
859 The state law that would need to be amended to allow the B&O tax to be  
860 redirected to the host cities is as follows:

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862 **RCW 36.58.080**  
863 **County solid waste facilities — Exempt from municipal taxes — Charges to mitigate impacts**  
864 **— Negotiation and arbitration.**

865 **County-owned solid waste facilities shall not be subject to any tax or excise imposed by any**  
866 **city or town. Cities or towns may charge counties to mitigate impacts directly attributable to**  
867 **the solid waste facility: PROVIDED, That any city or town establishes that such charges are**  
868 **reasonably necessary to mitigate such impacts and that revenue generated from such**  
869 **charges is expended only to mitigate such impacts. Impacts resulting from commercial and**  
870 **residential solid waste collection within any city or town shall not be considered to be**

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directly attributable to the solid waste facility. In the event that no agreement can be reached between the city or town and the county following a reasonable period of good faith negotiations, including mediation where appropriate, the matter shall be resolved by a board of arbitrators, to be convened at the request of either party, such board of arbitrators to consist of a representative from the city or town involved, a representative of the county, and a third representative to be appointed by the other two representatives. If no agreement can be reached with regard to said third representative, the third representative shall be appointed by a judge of the superior court of the county of the jurisdiction owning the solid waste facility. The determination by the board of arbitrators of the sum to be paid by the county shall be binding on all parties. Each party shall pay the costs of their individual representatives on the board of arbitrators and they shall pay one-half of the cost of the third representative.  
[1983 c 171 § 1; 1982 c 175 § 8.]  
Notes: Severability -- 1982 c 175: See note following RCW 36.58.100.

### Recommendation

ITSG and MSWMAC recommend continuing to work with the division to provide mitigation at host city transfer stations (Option 1), development of mitigation policies (Option 2), and further consideration of the establishment of a host city fee (Option3). These latter two options will provide the division and the host communities with the flexibility to establish an equitable mitigation package, recognizing that impacts might be caused by the development of large light-industrial facilities, operation of the regional utility, or loss of use caused by taking large properties off of city tax rolls. The cost of additional host city mitigation would ultimately be borne by the ratepayer, so options need to balance the measurable impacts and benefits to the host city with the regional equity of additional mitigation.

ITSG and MSWMAC recommend developing a set of proposed mitigation policies in time for incorporation in the next comprehensive solid waste management plan. The plan is expected to be completed in 2008. Additional analysis and discussion about the establishment of a host city fee will occur, with a recommendation on this mitigation option and development of a policy providing for a host city fee, if this option is recommended for implementation.

### Next Steps

The first step will be for ITSG, MSWMAC, SWAC, and the Solid Waste Division to develop policies for host city mitigation. These newly proposed policies would be forwarded to the County for review and adoption.

## OTHER ISSUES

In 2004, cities identified preliminary solid waste issues they wanted to address with King County in a document titled *Cities' Principles for Solid Waste Interlocal Agreement Negotiations – April 2004 (Appendix X)*. Meetings that occurred with staff from cities, the Solid Waste Division, the King County Executive's Office, and King County Council after the development of this document resulted in the development and subsequent adoption of Ordinance 14971.

In the course of examining the governance issues outlined in *Cities' Principles for Solid Waste Interlocal Agreement Negotiations – April 2004* and Ordinance 14971, a few additional issues have been identified. These issues either require additional analysis and discussion or have already been resolved.

The additional issues are as follows:

***Should a mechanism be established to allow the cities to initiate amendments to the comprehensive solid waste management plan in between formal plan updates?***

Through the collaborative process currently in place with the county, the cities, and other stakeholders, the need for a mechanism to allow cities to initiate amendments to the comprehensive solid waste management plan in between formal updates has been addressed. Technical and policy issues are discussed with cities and stakeholders early in the planning and development of division planning reports, with the opportunity for input in solid waste planning work.

***Should the term of the ILAs be extended to take advantage of reduced borrowing rates to finance the modernization of the solid waste system?***

The current term of the ILAs extends through 2028. The benefits of the solid waste system improvements currently underway will extend beyond the term of the current ILAs. Historically, the division has not entered into bond commitments that extend beyond the term of the ILAs. If the ILA term were extended, longer-term, lower-rate bonds could be used to finance system improvements, thereby reducing the impact on the current ratepayers – recognizing it would also extend the duration of the impact on future ratepayers.

***Should a broader re-opener clause be provided for in the ILAs and what would be appropriate triggers for a re-opener?***

The current ILAs include a provision allowing for limited review and renegotiation of the agreement. This provision provides that either party may request review and/or renegotiation during the six-month period immediately preceding the fifth anniversary of the effective date of this agreement and during the six-month period immediately preceding each succeeding fifth year anniversary thereafter. Review and/or renegotiation shall not include the issues of system rates and charges, waste stream control, or diversion, unless agreed upon by both parties.

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The parties would need to discuss the benefits and drawbacks of establishing a broader re-opener clause, including the triggers for exercising a re-opener.

## CONCLUSION

This report is the last work product required to fulfill the directives outlined in Ordinance 14971. This section summarizes the issues, recommendations, and next steps presented throughout the report. Based on direction provided from the King County Council, additional work will be needed to fully develop and implement the recommendations.

### 1. Solid Waste Interlocal Forum

**Issue:** Several options were examined to determine how best to maintain an interlocal forum for providing policy input and ensuring city participation and input in the regional solid waste system early in the planning stages.

**Recommendation:** This report recommends formally replacing the existing SWIF, currently represented by the RPC, with MSWMAC. It is recommended that the interests of the unincorporated areas be represented on SWAC.

**Next Steps:** If the County Council agrees with this recommendation, legislation would be developed to designate MSWMAC as SWIF, and an addendum to the ILAs would be required. The county will confirm that the UACs are interested in participating on SWAC to represent their interests.

### 2. Dispute Resolution Process

**Issue:** No formal method for resolving disputes between one or more cities and the county is currently provided for in the Interlocal Agreements or the Solid Waste Interlocal Forum.

**Recommendation:** This report outlines several dispute resolution options tailored to the various types of disputes that might arise between multiple cities or host cities and the county.

**Next Steps:** More specific guidelines will be developed to address the following:

- Specific issues that would initiate each resolution process
- A process to determine whether and when to use a third-party mediator, and a process for mediator selection
- A process to determine whether and when third-party review would be warranted
- The funding source(s) for dispute resolution if a third-party mediator or third-party review are adopted

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### 3. Framework for Developing Financial Policies

**Issue:** The cities are interested in working with the division to develop more detailed financial policies than those contained in the *2001 Comprehensive Solid Waste Management Plan*.

**Recommendation:** The report identifies four major categories in which more specific financial policies would be developed: 1) financial forecasting and budgets, 2) debt financing and borrowing, 3) rates, and 4) grant programs.

**Next Steps:** ITSG, MSWMAC, SWAC, and the Solid Waste Division will develop comprehensive financial policies that will be forwarded to the County for review and adoption.

### 4. Host City Mitigation

**Issue:** There are positive and negative impacts to cities that host transfer stations. The impacts can be service related, such as convenience or value to surrounding residents and businesses; physical, such as increased litter, traffic, or noise; and financial, such as potential lost tax revenues to the cities.

**Recommendation:** ITSG recommends continuing to work with the division to provide mitigation at host city transfer stations, development of mitigation policies, and further consideration of the establishment of a host city fee. These options and their impacts on the regional system and the ratepayer will be considered.

**Next Steps:** ITSG, MSWMAC, SWAC, and the Solid Waste Division will develop host city mitigation policies that will be forwarded to the County for review and adoption. Additional analysis and discussion about the establishment of a host city fee will occur, with a recommendation on this mitigation option and development of a policy providing for a host city fee, if this option is recommended for implementation.

### Other Issues

ITSG and MSWMAC will continue to discuss the other issues identified throughout this report.

Each of the recommendations presented in this report will require guidance or approval from the County Council. In many cases, the recommendations may require some combination of measures to implement, such as the revision or creation of solid waste policies, revisions to county code, updates to the comprehensive solid waste management plan, amendments to contractual documents (such as the ILAs), or a revision to state law.

## **King County Solid Waste Division**

### **COMPARATIVE EVALUATION OF WASTE EXPORT AND CONVERSION TECHNOLOGIES DISPOSAL OPTIONS**

#### **SCOPE OF WORK**

Consultant: R.W. Beck, Inc  
Subconsultants: Mainline Management Inc.  
Geomatrix Consultants, Inc.  
Sound Resource Management Group, Inc.  
Herrera Environmental Consultants

SWD Project Manager: Morgan John

#### **Objective**

The consultant will identify potential benefits and impacts of waste export and alternative disposal technologies that recover energy from garbage as disposal options for the King County Solid Waste Division (the Division). The consultant will summarize their findings in a report an initial draft of which will be provided to the Division staff by April 16, 2007 in accordance with the attached project schedule which assumes a notice to proceed is issued on December 18, 2006.

#### **Background**

The Division is updating the 2001 Comprehensive Solid Waste Management Plan (Plan), which will include an evaluation of future solid waste disposal options. Options for future disposal include export of the county's waste to an out-of-county regional landfill or development of an alternative waste management system that would recover energy or other useful product from waste (e.g., a waste-to-energy facility, a compost facility, etc). The Cedar Hills Regional Landfill is expected to reach capacity around 2016, after which point, the Division will need to have in place another system for final disposal of the county's solid waste. Division staff and other interested parties in King County are currently planning for the transition from in-county landfilling to an alternative disposal option. The waste disposal evaluation covered by this work order will provide information for the update to the Plan.

For purposes of this study, the term Conversion Technologies is understood to include conventional waste incineration with energy recovery facilities plus other technologies such as thermal gasification, bio-refining, plasma arc, and anaerobic digestion that produce energy source byproducts and other conversion technologies such as composting. Facilities which employ Conversion Technology will be referred to herein as Conversion Facilities. However, this study will look primarily at those Conversion Technologies that have been constructed and successfully operated (i.e. commercially proven) in the United States at a scale similar to King County's projected waste stream. Reference information will also be included for commercially proven Conversion Technologies at a similar scale outside the United States.

Commercially Proven means at a capacity capable in one or more plants of processing the County's projected waste composition and volumes.

Conversion Facility means any facility that utilizes one of the technologies being considered in this study.

## **Description of Tasks/Services**

This work order authorizes consultant work to be conducted as described below. The Division may determine that additional assistance ("Additional Work") is required to expand upon or more thoroughly complete the tasks described below. Additional Work will be authorized in separate work orders or as an amendment to this work order.

### **Task 1- Project Management**

Consultant will set up and administer Work Order No. 6 including communications, management of the consultant team and coordination of the work with the Division.

#### Assumptions:

The level of effort required for Task 1 services is directly proportional to the duration of the task. For budget purposes, it has been assumed that the duration of Task 1 will be 11.5 months as shown in the schedule attached to and part of this scope of work.

#### Deliverables:

Monthly reports and itemized invoices

#### Meetings:

Consultant will meet in person and/or by phone with the Division not less frequently than weekly throughout the course of the work to coordinate the Consultant's work with work the Division may be doing to support the study and to keep the Division fully informed of the progress of the work.

### **Task 2 – Meet with County to Discuss/Review Project Scope**

Consultant will meet with The Division staff to discuss/review The Division's proposed project scope. Consultant will develop a schedule, to be approved by The Division staff, for completion of this scope. This evaluation is to include but may not be limited to the scope discussed below.

If the Division requires the execution of any Additional Work, such services will be authorized by the Division in a separate work order or as an amendment to this work order.

#### Deliverables:

Draft Scope of Services to be provided via one hard copy and one electronic copy.

### **Task 3 – Revise Project Scope**

Following a meeting with the Division, Consultant will revise the Scope of Services and estimated cost to reflect changes requested by the Division. The Consultant will participate in a briefing of the Metropolitan Solid Waste Management Advisory Committee (MSWMAC) and the Solid Waste Advisory Committee (SWAC) to explain the scope of services being undertaken.

#### Deliverables:

Final Scope of Services to be provided via one hard copy and one electronic copy.

#### Meetings:

Three scope and budget review meetings

Two briefing meetings, for the MSWMAC and SWAC, if requested

### **Task 4 – Undertake Research and Analysis Required to Compare Disposal for Waste Export with Conversion Technologies**

The purpose of Task 4 is to: (1) identify the types of alternative Conversion Technologies, their range of estimated costs, operating characteristics, their commercial application as defined herein, and the supporting transfer station/transportation infrastructure that will be required for each of the alternative Conversion Technologies; and (2) develop information regarding the waste export option. The review will identify the ability of the Conversion Technologies to process a waste stream similar in size and composition to King County's and to compare the estimated range of costs, energy consumption and generation, and environmental considerations of such Conversion Technologies with those of a waste export system.

4.1 **Type and Quantity of Acceptable Waste.** Consultant will submit a data request to the County for information which the County is likely to possess. Based on data to be provided by the Division, the Consultant will identify what components and percent of the municipal solid waste (MSW) from the County would likely be "unacceptable waste" at various types of Conversion Facilities. Components of the waste stream likely to be identified as Unacceptable Waste would include construction and demolition (C&D) material, asbestos, household hazardous waste, yard waste, auto fluff, sludges, hospital waste and any other material which is difficult to handle or could result in problems with either air emissions or environmental permit requirements.

#### Assumptions:

The Division will be able to provide Consultant with a waste characterization study that allows the Consultant to identify MSW that is likely to be Unacceptable for processing at Conversion Facilities. If such study is not available, Consultant may have to utilize national averages.

Input from County:

Waste Characterization Study

Data on types and quantities of waste that Consultant will identify as Unacceptable Waste

Deliverables:

A summary discussion that identifies quantity of waste that could be processed at various types of Conversion Facilities and quantity of Unacceptable Waste that must be disposed by some other means.

Schedule:

Three weeks to complete analysis following County's issuance of the notice to proceed with the work.

Meetings:

Conference call to discuss planning assumptions on waste composition.

- 4.2 **Conversion Technology Review and Selection.** The Consultant will review recent publications and available information which identify various Conversion Technologies including, but not limited to: waste-to-ethanol, plastics to oil, pyrolysis systems that convert waste to a fuel gas in the absence of oxygen, gasification systems that convert solid waste to a fuel gas with the use of some oxygen, plasma systems that use plasma torches to convert solid waste to a fuel gas, aerobic MSW composting, anaerobic digestion, mass burn combustion waste-to-energy (WTE) and refuse-derived fuel ("RDF") combustion waste-to-energy. Following the compilation of the list of Conversion Technologies and available data regarding their commercial application, the Consultant will confer with the Division to discuss criteria to be applied regarding the Conversion Technologies which are to actually be reviewed by the Consultant. Among the criteria to be discussed are the following: (1) previously demonstrated capability of the technology, over a minimum three year period, to process the approximate quantities and composition of waste being managed by the County at the Cedar Hills Regional Landfill; (2) demonstrated capability to produce energy or another byproduct for which there is a proven market and which can be sold in the quantities which the facility will produce; (3) demonstrated capability of the technology, over a minimum three year period, to operate within the permit requirements that will be imposed by the State; and (4) demonstrated capability, over a minimum three year period, to produce a residue product which can be disposed of or reused in accordance with State solid waste handling permit requirements. Based upon the criteria ultimately selected by the Division, the Consultant will provide information on Conversion Technologies which meet such criteria including where the technology has previously been installed, how it is reported to have operated, and the types and quantities of products that have been recovered.

In addition, the Consultant will provide a written evaluation in the report (Task 5) of those Conversion Technologies that were researched but are either still at a developmental stage and not considered commercially applicable at this time, or are Conversion Technologies that have been commercially proven outside the United States at a scale suitable for the waste quantities being managed by the County at the Cedar Hills Regional Landfill. The evaluation will include available information about the function of each particular Conversion Technology, the reported state of their development, their feed-stocks, their reported operational history including plant availability, information regarding the process byproducts and their uses, and contact information. As part of this evaluation, the Consultant will participate in a study trip to review the Thermal Recycling technology in use at the MVR Facility in Hamburg, Germany. The summary information shall be of adequate detail so that the Division will be able to check in and monitor the development progress and/or on going operation of identified Conversion Technologies over time. It is possible that the County may decide to have one of more of the commercially proven Conversion Technologies from outside the United States added to the comparison of disposal options. Additional budget will be required if the Conversion Technologies included in the comparison are increased over the assumed two technologies.

The Consultant will also present a discussion in the report (Task 5) of additional criteria the County will want to consider if it is determined that the County wishes to proceed with the procurement of a Conversion Technology. Such criteria include, but are not limited to, the following: (1) previously demonstrated capability of the particular operator, over a minimum three year period, to operate the technology at the proposed operating level required to process the County's waste; (2) the presence in the United States of personnel who will design, construct, operate and maintain the facility; (3) the presence in the United States of the capability to manufacture and/or supply all required replacement parts that are peculiar to that particular technology; (4) demonstrated capability to obtain and maintain performance and payment bonds; and (5) creditworthiness of the proposed vendors to provide meaningful financial guarantees to the County.

The discussion is intended to provide information so that the County can eventually make decisions about the level of technical, financial, and environmental risks it is willing to take based upon the Conversion Technologies.

Assumptions:

Information will be available regarding the actual operating results of the Conversion Technologies being considered. There will be two Conversion Technologies to be further reviewed which have been commercially demonstrated at the size required to meet the County's waste disposal requirements.

Input from County:

None required.

Deliverables:

A summary paper that discusses: (1) the Conversion Technologies; (2) the criteria that were used in determining whether they should be included for further review and consideration; and (3) the historical operating characteristics and data of the different Conversion Technologies.

Schedule:

Five weeks to complete the review and prepare the written summary.

Meetings:

A conference call will be held at the completion of the review to discuss the Conversion Technologies that were eliminated from further consideration, and the reasons for such eliminations.

- 4.3 **Annual Availability of Conversion Facilities.** The Consultant will develop information regarding the expected annual availability of commercially applicable Conversion Facilities by contacting the operators of commercially applicable Conversion Facilities identified in Subtask 4.2; The Consultant will also review historical operating data the Consultant has previously developed. The annual availability information will be used as part of Subtask 4.5 to identify the size and number of Conversion Facilities required to dispose all of the processible MSW generated in the County. In addition, the Consultant will contact State regulators in Washington and Oregon to determine if regulatory requirements have impacted the operating availability of Conversion Facilities located in those states.

The Consultant will review historical operating data at commercially applicable Conversion Facilities for the purpose of identifying the major causes of unscheduled downtime and the impact on annual availability.

Assumptions:

Operators or regulators of Conversion Facilities will provide recent operating data regarding plant availability and reasons for scheduled and unscheduled outages. For budget purposes, it has been assumed that the availability data will be collected for two conversion technologies.

Input from County:

Nothing anticipated being required.

Deliverables:

A summary paper that identifies expected average annual plant availability and includes a discussion of the major reasons for scheduled and unscheduled downtime.

Schedule:

Two weeks to complete review and prepare summary paper.

Meetings:

None anticipated.

4.4 **Potential Impact on Recycling Programs.** The Consultant will undertake a review and develop a discussion which considers the potential impact on the County's recycling goals and strategies with the implementation of identified commercially applicable Conversion Technologies; or, a Waste Export option. The Consultant will review information and data provided by the Division regarding the County's current recycling programs, as well as its goals, and targeted materials for the future including the following:

1. Current and projected amount of material recycled expressed as both a percent of the generated waste and the tons of material recycled.
2. Targeted materials for the future
3. Current and projected types and quantities of recycled material by category (i.e., glass, plastics, metals, paper, cardboard, wood, yard waste etc.)
4. Current and projected level of participation – expressed as a percent of the residents and businesses participating in the program.

The Consultant will provide a written discussion in the report (Task 5) of the types of materials that can be recovered by Conversion Facilities. The types and quantities of materials will be impacted by the types of the various Conversion Technologies identified in this analysis – e.g. mass burn or refuse derived fuel (RDF). The Consultant will identify the types of materials that can be recovered from the various Conversion Facilities. As part of this task, the Consultant will contact the operator of the Spokane, Washington Conversion Facility to identify the quantity of recyclable materials by type and by weight that are recovered at their waste to energy plant; and to obtain information about their ability to market these recovered materials (by type) into the recycling market. The Consultant will obtain available information regarding market availability and revenue generated from the sale of recycled materials.

As part of the review, the Consultant will identify the types and quantities of materials that provide particularly beneficial fuel to Conversion Facilities (such as paper, cardboard, plastic, etc.), how much of that material is currently being removed from the waste stream through recycling, and the potential impact on the function of various types of Conversion Facilities if a significant additional portion of the materials beneficial to various Conversion Facilities were recycled. The Consultant will also identify potential limitations on recycling levels (financial or regulatory) that might result from any minimum waste quantity requirements/agreements instituted for conversion facilities.

Assumptions:

The operator of the Spokane Conversion Facility will share information regarding the market for post incineration ferrous metal. For budget purposes, it has been assumed that the analysis will cover two conversion technologies and a landfill option.

Input from County:

Information on current and projected recycling efforts in the County with all of the data discussed above.

Deliverables:

A written summary in the report that discusses: (1) the potential impact of various Conversion Facilities or Waste Export option on the current level of recycling, including any potential financial or regulatory limits on recycling levels that might be imposed to gain disposal access to, or assure the financing of, Conversion Facilities; (2) a discussion of the potential to recycle additional material under either of the two general waste management options being considered; and (3) identification of the potential impact on energy generation if significant additional portions of materials beneficial to various Conversion Technologies are recycled.

Schedule:

Five weeks to complete review and prepare written summary

Meetings:

One meeting required to discuss the results of the analysis conducted.

- 4.5 **Number and Size of Conversion Facilities and Waste Export Facilities.** Based on the results of Subtasks 4.1, 4.2, 4.3 and 4.4, and its experience with Conversion Facilities, Consultant will identify the size and the range of the number of Conversion Facilities, by technology type, required to dispose of the County's MSW. The analysis will include consideration of annual plant availability of the Conversion Facility, monthly fluctuations of the County's MSW, siting considerations in locating multiple facilities, the affects of achieving higher recycling rates over time (e.g. 50, 60 or 70% recycling rates), and the financial impacts of economies of scale.

The Consultant will undertake a similar review of the number and size of waste export facilities required for intermodal waste transport. The review of export facilities will include proximity to existing rail lines, the location of the County's existing transfer stations and candidate established landfill sites located outside the County.

In undertaking the review of the number of Conversion Facilities that may be required, the Consultant will provide a written discussion in the report (Task 5) regarding the County's need to give consideration to: (1) the quantity of Unacceptable Waste which may not be able to be converted and may have to be landfilled; (2) the amount and physical characteristics of any residue remaining after the conversion process; (3) the

percentage of time a Conversion Facility is available to operate during the year (“annual availability factor”) after considering both scheduled and unscheduled downtime; (4) the need, if any, to provide backup disposal capacity in the event the Conversion Facility(ies) are not operating and for residuals; and (5) the relative financial and environmental risks of incorrect sizing (excess or inadequate capacity) and the flexibility of Conversion Facilities and waste export facilities to respond to changing trends or unanticipated fluctuations in disposal quantities or characteristics. The Consultant will also identify the amount of land typically required for each Conversion Facility and for the waste export option. The Consultant will provide an estimate of the range of the number of vehicles that would enter each site.

The Consultant will identify what combination of solid waste management facilities may be required for Conversion Technologies. For example, Conversion Technologies which generate energy will have Unacceptable Waste that can not be processed as well as residue ash, both of which may have to be landfilled. Similarly, municipal solid waste composting facilities will also have Unacceptable Waste that can not be processed and process residue, both of which will have to be landfilled. The Consultant will identify the total combination of facilities that are likely to be required for both waste export and Conversion Technologies.

Assumptions:

For this analysis, it is assumed that it is most practical to construct the minimum number of Conversion Facilities necessary to realize maximum economies of scale. However, land use concerns that may arise during implementation may make it necessary to construct a greater number of facilities. For budget purposes, it has been assumed that the analysis will cover two conversion technologies.

Input from County:

Current and projected solid waste generation on both an annual and monthly basis, including confidence bands for projections and historical comparison of twenty (or more)-year forecasts versus actual disposal tonnage paths for the twenty-year period. Identification of sources of MSW between residential commercial, industrial and C&D sources.

Deliverables:

A written summary that identifies the number and size of Conversion Facilities to be located in the County, as well as the combination of different solid waste management facilities that will be required.

Schedule:

Three weeks to complete review and prepare summary paper following completion of Subtask 4.1 through 4.4

Meetings:

A conference call to discuss the results presented in the summary paper.

4.6 **Percent of Waste that is Unacceptable at Conversion Facilities.** The Consultant will develop information regarding the percentage of MSW which is typically classified as Unacceptable Waste at Conversion Facilities both nationally and in the western part of the United States. For information regarding Conversion Facilities located in the western United States, the Consultant will contact the owner/operator of the following operating Conversion Facilities:

- Marion County, Oregon
- Spokane, Washington
- Stanislaus, California
- Long Beach, California

For national information, the Consultant will contact the owner/operator of the following operating Conversion Facilities:

- Norfolk, Virginia
- Kent County, Michigan
- Lancaster County, Pennsylvania
- Baltimore, Maryland
- Millbury, Massachusetts

If other Conversion Technologies are identified in Subtask 4.2 as being commercially proven, the Consultant will contact the owner/operator of up to four additional facilities in operation.

Assumptions:

For budget purposes, it has been assumed that the information on unacceptable waste will be developed for two conversion technologies.

Input from County:

None required

Deliverables:

The results of this task will be documented in the written summary prepared for task 4.3.

Schedule:

Three weeks to complete review following completion of Subtask 4.2.

Meetings:

No meeting required.

4.7 **Backup Disposal Capacity.** The Consultant will identify potential options for backup disposal capacity which will include, but not necessarily be limited to, the following:

- Constructing multiple Conversion Facilities
- Over sizing the Conversion Facilities so that in the event one Conversion Facility is not available, the other Conversion Facilities can dispose of all the County waste
- In-county disposal
- Long-haul transport for disposal outside the County

In discussing provisions for backup disposal capacity in the report (Task 5), the Consultant will consider the following:

- The number of Conversion Facilities to be constructed.
- Annual availability of Conversion Facilities.
- Short-term disposal options – County landfill, long-haul truck transfer.
- Assumptions regarding the period of time that one or more Conversion Facilities may not be available due to an extreme natural disaster such as an earthquake or some force majeure event.

The Consultant will identify how the owners/operators of existing Conversion Facilities provide backup disposal capacity when their Conversion Facilities are down for either scheduled or unscheduled maintenance.

Assumption:

The County will have no new landfill capacity located within the County other than what will be available at the Cedar Hills Landfill; and, the current landfill capacity at Cedar Hills will be depleted in approximately 10 to 15 years. For budget purposes, it has been assumed that the evaluation of backup capacity will be for two conversion technologies options.

Deliverables:

A written summary that identifies options for backup disposal capacity.

Schedule:

Four weeks to complete review and prepare written summary

Meetings:

No meeting required.

**4.8 Composition of Incinerator Ash or Other Residuals from Conversion Technologies.**

The Consultant will review available studies to obtain information regarding the composition of incinerator ash or other residual materials generated by the identified commercially applicable Conversion Technologies. The Consultant will also contact the operators and regulators of existing Conversion Facilities to try and obtain copies of reports on residuals composition. The Consultant will review waste-to-energy facilities in the northwest, and other types of conversion facilities operating elsewhere in the country. The Consultant will discuss how the composition of the residual material will be impacted by the material included in the County's MSW, the type of conversion technology employed, the type of residual treatment system utilized, the type of air pollution control equipment employed, and in the case of waste-to-energy technologies, whether the fly ash and bottom ash are co-mingled.

The Consultant will also question the operators and regulators of identified commercially applicable Conversion Facilities as to whether there is currently, or there is likely to be in the near future, an established market for the residual materials from their respective Conversion Facilities. The markets to be discussed include the use of residue ash as daily landfill cover, as an aggregate in road construction, as an additive in the manufacturing of cement products or such other uses as may be identified during the review. The Consultant will also inquire as to the specific environmental standards that would have to be met in the State of Washington to allow residue ash to be used for beneficial purposes.

The Consultant will research how residual materials from various Conversion Facilities are typically disposed. The Consultant will contact regulators to determine what events or circumstances would cause them to classify residual materials as a hazardous waste. The Consultant will also research the testing protocol in the State of Washington as it relates to the protocol and frequency of testing residual materials, such as ash. The Consultant will discuss with DOE the limitations for commingling residual materials, municipal solid waste, and any other types of waste that require special handling at landfills.

Assumptions:

Studies will be available regarding ash composition that reflects the composition of the MSW generated within the County. For budget purposes, it has been assumed that the composition study will cover two conversion technologies.

Input from County:

None currently anticipated beyond the waste characterization study previously requested.

Deliverables:

The results of this research will be documented in a written summary.

Schedule:

Four weeks to complete review.

Meetings:

No meeting required.

- 4.9 **Current Classification of Residue Ash in Washington.** In connection with Subtask 4.8, the Consultant will also contact the State of Washington Department of Ecology (DOE) to obtain information on how incinerator ash from Conversion Facilities in Washington is currently classified by the State. Inquiries will be made as to whether incinerator ash can receive a beneficial use designation and if it can be used as a daily cover in a landfill. Inquiries will be made as to limitations the State may impose on materials that can be processed by Conversion Facilities due to concerns with the composition of residue ash. Inquiries will also be made to determine how current classification standards for ash may be applied to other types of residuals from other Conversion Technologies.

The Consultant will contact the operator of the Conversion Facility in Spokane to obtain information on how the incinerator ash from that facility is being managed. The Consultant will include a discussion of technologies and processes currently being used for the treatment of residue ash generated by Conversion Facilities.

Input from County:

None currently anticipated.

Deliverables:

The results of this research will be documented in the written summary prepared for Task 4.8.

Schedule:

Four weeks to complete review.

Meetings:

No meeting required.

- 4.10 **Estimate of Net Emissions.** The Consultant will develop an estimate of the potential net emissions, including greenhouse gases, of: (1) Conversion Facilities; and (2) waste export systems with and without landfill gas to energy capability. The analysis will include a comparison of emissions between the Conversion Facilities and waste export systems, a comparison of net emissions to Puget Sound Clean Air Agency standards, and a comparison of net emissions to the Kyoto Protocol greenhouse gasses reduction requirements.

The Consultant will contact the DOE, Oregon Department of Environmental Quality (DEQ), the Puget Sound Clean Air Agency, and any other appropriate local air quality agencies to identify the emissions that are currently monitored at the Conversion Facilities operating in Spokane and Marion County, at the regional landfills located in

Washington and Oregon, and that will require monitoring at any Conversion Facilities located in King County.

The emissions from a Conversion Facility to be evaluated will include, but not be limited to, greenhouse gasses, nitrous oxides, acid gasses, mercury, heavy metals, particulate, ozone, and other emissions of concern and interest to the regulatory agencies contacted. The Consultant will develop an estimate of the total annual volume of emissions from various types of Conversion Facilities as well as estimating annual environmental impact potentials based on rolling up the estimates for quantities of individual pollutants into environmental impact categories such as global warming, acidification, eutrophication, respiratory disease, human toxicity and ecological toxicity. . The discussion of air emissions from Conversion Facilities will include consideration of the fact that some percentage of the waste stream will be non-processible and residue material will likely be generated. Both of these materials will have to be exported outside the County for final disposal. The Consultant will discuss the potential future requirement for the County to monitor and evaluate annual environmental impact potentials.

The Consultant will also contact the DOE and DEQ to identify the air emissions that each state currently monitors from landfills, including greenhouse gasses. The Consultant will also discuss any plans the two states may have to regulate emissions from landfills and the types of emissions that may be monitored. The Consultant will develop a planning estimate of the total annual emissions from a landfill assumed to dispose of all of the waste from the County, as well as estimating annual environmental impact potentials based on rolling up the estimates for quantities of individual pollutants into environmental impact categories such as global warming, acidification, eutrophication, respiratory disease, human toxicity and ecological toxicity.

The Consultant will develop an estimate of total volumes and types of annual air emissions from rail haul operations based on the estimated quantity of fuel required to be used to transport the waste to an out-of-County location as well as estimating annual environmental impact potentials based on rolling up the estimates for quantities of individual pollutants into environmental impact categories such as global warming, acidification, eutrophication, respiratory disease, human toxicity and ecological toxicity.

The Consultant will prepare an estimate of the total emissions and emissions rolled up by environmental impact categories from all sources over a 20-year planning period for each of the two options under consideration, including a confidence range for such emissions due to fluctuations in waste quantity and/or composition, or due to regulatory/emissions technology changes. . For the export option, the estimate will include consideration of the number of miles traveled, the number of rail hauls required, and estimated emissions from a landfill that disposes of all of the County's waste.

The consultant will conduct an evaluation of the solid waste alternatives in terms of compliance with the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Since the Kyoto Protocol was written to address nations, not individual

entities, such as the King County Solid Waste Division, the first step in the process will involve a meeting between the consultant and King County Solid Waste Division to determine how King County will define compliance with the Kyoto Protocol. A key element of this compliance is likely to be based on the U.S. target which was a 7% reduction in greenhouse gas emissions between the baseline period of 1990 and the projected five year average during 2008 through 2012, thus the consultant will need to estimate greenhouse gas emissions during the baseline period. Estimation of 2008 through 2012 average greenhouse gas emissions for each of the solid waste alternatives will also be performed, but it is recognized that some of the solid waste alternatives being considered would not be in place before 2012. The consultant will evaluate each option in terms of compliance with the Kyoto Protocol, but also examine each option in terms of its long-range greenhouse gas emissions.

The Consultant will also prepare a written discussion of whether the County will have to consider the potential impacts of the Conversion Technologies associated with having significant quantities of waste processed in a single area as compared to the potential for the dispersion of air emissions as waste travels via rail over a number of miles.

Assumptions:

The states of Washington and Oregon and local air quality agencies will have identified the emissions from Conversion Facilities and landfills that must be monitored. Data can be obtained regarding air emissions from railroad engines. For budget purposes, it has been assumed that the analysis will cover two conversion technologies and two landfill options.

Input from County:

The locations and the number of transfer stations for either the waste export or Conversion Technology options.

Deliverables:

An estimate of the total emissions and emissions, over a 20-year period, rolled up by environmental impact categories from the Conversion Facilities and from the waste export option, which will be analyzed with and without energy recovery.

Schedule:

Five weeks to complete review.

Meetings:

No meeting required.

- 4.11 **Estimated Capital and Operating Costs.** The Consultant will develop planning estimates of the range of total capital and annual operating and maintenance costs of: (1) Identified commercially applicable; and (2) waste export systems capable of managing the County's waste, the cost of transporting waste via rail from an intermodal yard, and the cost of disposal at an out-of-County landfill. The Consultant will contact

operators of landfills to obtain information regarding tipping fees that would be charged pursuant to a long-term contract. The Consultant will also contact certain of the landfills' current customers to obtain information on the tipping fees that public entities in the State of Washington and Oregon are currently paying for waste export and energy conversion.

Assumptions:

Private landfill operators will be willing to provide information regarding the tipping fee they would charge under the waste export option. For budget purposes, it has been assumed that the cost estimates will cover two conversion technologies and two landfill options.

Input from County:

Nothing

Deliverables:

A written summary which includes the range of construction cost estimates, construction schedule, financing assumptions, annual debt service requirements, and annual operating and maintenance expenses of both the Conversion Facilities and the waste export option.

Schedule:

Three weeks to complete review.

Meetings:

No meeting required.

4.12 **Projected Energy Revenues.** The Consultant will develop estimates of the amount of energy revenues that could be realized by the following options:

1. Conversion Facilities – the Consultant will develop an estimate of the net energy generation by identified commercially applicable Conversion Facilities.
2. Waste Export Option – the Consultant will develop an estimate of: (a) the amount of fuel that would be consumed by rail haul engines performing a long-haul transfer; and (b) the amount of energy that could be recovered from landfill gas generated by the decomposition of the County's disposed MSW over time.

The Consultant will also develop information regarding the long-term projected wholesale prices of electricity, natural gas and diesel fuel in the Northwest. The Consultant will review the availability and value of Renewable Energy Credits (RECs) in the State of Washington. Based on such prices and assumptions regarding the energy production capacity of Conversion Facilities and waste export landfills with landfill gas to energy capabilities, the Consultant will develop an estimate of the quantity of energy and revenues that could reasonably be expected to be generated by Conversion Facilities and by landfills with landfill gas recovery systems.

Assumptions:

The Consultant will be able to obtain information regarding fuel consumption by railroad engines performing long-haul. For budget purposes, it has been assumed that the estimates will cover two conversion technologies and two landfill options.

Input from County:

Data on the composition of the solid waste that will serve as the basis of estimating the quantity of landfill gas that could be generated from decomposition of the County's MSW.

Deliverables:

A written summary describing the amount of energy generated by the Conversion Facilities, the amount of fuel consumed by rail haul engines and the amount of landfill gas to be generated, as well as a confidence range for revenues.

Schedule:

Four weeks to complete review.

Meetings:

No meeting required.

- 4.13 **Transfer Station Collection/Transportation Infrastructure.** For each of the Conversion Facility disposal options under consideration, the Consultant will review the associated transfer station/transportation infrastructure requirements. The review will include an assessment of how the County's current and planned transfer station/transportation assets correlate and work with the Conversion Facilities.

Assumptions:

For purposes of the budget, it is assumed that there will be two Conversion Technology disposal options which require evaluation for determining the supporting transfer station/transportation infrastructure requirements.

Input from County:

Information regarding existing and planned transfer station/transportation infrastructure.

Deliverables:

A written summary describing the transfer station/transportation infrastructure requirements associated with each Conversion Facility disposal option under consideration.

Schedule:

Two weeks to complete the review.

Meetings:

No meeting required.

- 4.14 **Estimated Facility Siting and Permitting Costs.** The Consultant will develop estimates of the siting and permitting costs for the facilities that would be sited in or around King County for each of the Conversion Technology and Waste Export disposal options under consideration. This will include the Conversion Facilities and the intermodal facilities. In addition to costs, the time required to site and to obtain land use and development permits for the facilities will be estimated.

Assumptions:

For purposes of the budget, it is assumed that there will be two Conversion Technology disposal options with up to three separate Conversion Facilities per option and one waste export option with one intermodal facility. Estimates will not be based on specific geographic facility locations. Development permits are assumed to include clearing and grading permits, building permits, Department of Ecology/Health District solid waste facility operating permit, Department of Ecology NPDES Notice of Construction, and a Puget Sound Clean Air Agency Notice of Construction. It is assumed that a project specific Environmental Impact Statement will be required for each disposal option. Wetland, Hydraulic Project Approvals and other water and sensitive area permits will not be included in the time assessment since the need for these is very site specific.

Input from County:

None.

Deliverables:

A written summary describing the estimated cost and time requirements for siting and permitting new infrastructure associated with each Conversion Technology and the Waste Export disposal options under consideration.

Schedule:

Four weeks to complete the review.

Meetings:

No meeting required

### **Task 5 – Report Preparation**

The Consultant will prepare an Initial Draft Report which summarizes the results of subtasks 4.1 through 4.14. The Consultant will meet with the Division to discuss the Initial Draft Report. Upon receipt of comments from the Division on the Initial Draft Report, the Consultant will incorporate such changes and prepare a Draft Report.

Following completion of the Initial Draft Report, the Consultant will submit a Draft Report for review by the solid waste advisory committee, advisory committees, and elected officials.

Assumptions:

The Division will require two weeks to review and comment on the Initial Draft Report.

Input from the Division:

Review comments on Initial Draft Report

Deliverables:

Initial Draft, Draft and Final Reports

Schedule:

Initial Draft Report five weeks following completion of Task 4.

Draft Report two weeks following receipt of comments from the Division on the Initial Draft Report.

Final Report two weeks following receipt of all comments from the County, advisory committees and elected officials on the Draft Report.

Meetings:

One review meeting for Initial Draft Report.

One review meeting for Draft Report.

**Task 6 – Presentations**

The Consultant will participate in presenting the results of the Final Report at the following meetings:

- Senior Management of the Solid Waste Division
- Intergovernmental Technical Staff Group
- Metropolitan Solid Waste Management Advisory Committee
- Solid Waste Advisory Committee
- Regional Policy Committee of the County Council
- Growth Management and Natural Resources Committee of the County Council
- County Council

The Consultant will work with the Division to develop presentation materials. Such materials may include, but not be limited to, stand-alone executive Summaries of the Report, Power Point presentations, handouts, and presentation boards.

Assumptions:

The number of presentations and the level of effort that may be required under this task are difficult to predict or estimate. Therefore a Budget Allowance of \$12,500 is provided for this task.

Input from County

Review and Approval of all presentation materials prior to their dissemination.

Deliverables:

Presentation materials as required

Schedule:

To be determined

Meetings:

Up to three presentations and three preparation meetings

**TASK 7 – ADDITIONAL UNPLANNED/CRITICAL WORK**

The purpose of this task is to provide for other Consultant services which are unplanned, urgent and/or critical to maintaining the project schedule and progress of the work. The Consultant shall provide services only as specifically requested and directed.

Any work under this task requires specific prior written authorization from the Project Representative. Written authorization may be granted only after the Consultant submits both a written scope and budget for the work, which are then reviewed and specifically negotiated by the Project Representative.

Work may include but is not limited to the following:

- Evaluating additional forms or types of Conversion Technology beyond the number assumed in Task 4.2 through 4.14.
- Investigation and reporting on commercially proven Conversion Technologies in use outside the United States beyond the number assumed in Task 4.2

No initial budget allowance has been included for Task 7.

Assumptions, deliverables, schedule and meetings associated with Task 7 services will be determined when and if additional services are requested or determined necessary.

**General Assumptions**

The written summaries that will be developed for Tasks 4.1 through 4.14 will be submitted in draft format as each task is completed. It is expected that the County will review and provide one round of comments on each summary at the review phone calls and/or meetings noted under each task. The written summaries will then be finalized in accordance with the agreed comments and the revised summary papers will then be resubmitted as part of the report developed under Task 5.

**Duration of Work**

The work shall begin upon receipt of a notice to proceed with scoping from the County and be completed in accordance with the task and subtask schedule information set forth in the scope of work and as depicted on the attached schedule (Exhibit A) unless extended by the Division.

Amount authorized by this work order: \$ 399,883

Amount authorized by all previous work orders: \$ 450,098

Amount authorized by all work orders to date: \$ 849,981

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Morgan John, KCSWD Project Manager

\_\_\_\_\_  
Karl R. Hufnagel, R.W. Beck, Inc.

Date: \_\_\_\_\_

Date: \_\_\_\_\_