AGENDA
Special Meeting

BOARD OF DIRECTORS
Thursday, July 16, 2015, 6:00 p.m.
Gonzales City Council Chambers
117 Fourth Street, Gonzales, California

CALL TO ORDER

TRANSLATION SERVICES AND OTHER MEETING ANNOUNCEMENTS

PLEDGE OF ALLEGIANCE

ROLL CALL

Board Directors

County:	Fernando L. Armenta
County:	Simon Salinas, ***Alternate Vice President***
Salinas:	Gloria De La Rosa
Salinas:	Jyl Lutes, ***Vice President***
Salinas:	Tony R. Barrera
Gonzales:	Elizabeth Silva, ***President***
Soledad:	Richard J. Perez
Greenfield:	Avelina Torres
King City:	Robert S. Cullen

Alternate Directors

County:	John Phillips
Salinas:	Joseph D. Gunter
Gonzales:	Scott Funk
Soledad:	Christopher K. Bourke
Greenfield:	Raul C. Rodriguez
King City:	Darlene Acosta

PUBLIC COMMENT
Receive public comment from audience on items which are not on the agenda. The public may comment on scheduled agenda items as the Board considers them. Speakers are limited to three minutes at the discretion of the Chair.

PRESENTATION

1. **FINAL DRAFT REPORT BY THE MONTEREY BAY AREA MANAGERS GROUP ON THE EVALUATION AND ANALYSIS OF MONTEREY COUNTY'S SOLID WASTE MANAGEMENT SYSTEM**
   - A. Receive Report from R3 Consulting Group, Inc.
   - B. Public Comment
   - C. Board Discussion
   - D. Recommended Action: Provide questions, comments, and direction as appropriate

ADJOURNMENT

This agenda was posted at the Administration Office of the Salinas Valley Solid Waste Authority, 128 Sun Street, Suite 101, Salinas, and on the Gonzales Council Chambers Bulletin Board, 117 Fourth Street, Gonzales, **Friday, July 10, 2015**. The Salinas Valley Solid Waste Authority Board will next meet in special session in Salinas on **Thursday, July 30, 2015.** Staff reports for the Authority Board meetings are available for review at: ▸ Salinas Valley Solid Waste Authority: 128 Sun Street, Ste. 101, Salinas, CA 93901, Phone 831-775-3000 ▸ Web Site: **www.svswa.org** ▸ Public Library Branches in Gonzales, Prunedale and Soledad ▸ City Halls of Salinas, Gonzales, Greenfield, King City & Soledad.
In compliance with the Americans with Disabilities Act, if you need special assistance to participate in the meeting, please contact Elia Zavala, Clerk of the Board at 831-775-3000. Notification 48 hours prior to the meeting will enable the Authority to make reasonable arrangements to ensure accessibility to this meeting (28 CFR 35.102-35.104 ADA Title II). Spanish interpretation will be provided at the meeting.
Se proporcionará interpretación a Español.

SalinasValleyRecycles.org
SALINAS VALLEY SOLID WASTE AUTHORITY

Report to the Board of Directors

ITEM NO. 1

N/A
Finance Manager/Controller-Treasurer

General Manager/CAO

N/A
Legal Counsel

Date: July 16, 2015

From: Patrick Mathews, General Manager/CAO

Title: Presentation of Regional Solid Waste Management System Study

RECOMMENDATION

Staff recommends that the Board accept this report and presentation, and provide comments and questions for staff and consultant consideration or further action.

STRATEGIC PLAN RELATIONSHIP

Some of the proposed scenarios (3, 4, 5 & 6), but not all contained within this report may support the Authority Goals to:

- A. Fund and Implement 75% Diversion of Waste From Landfills
- B. Complete Development of the Salina Area Transfer Station and Materials Recovery Center
- C. Reduce Costs and Improve Services at the Johnson Canyon Landfill

FISCAL IMPACT

There are seven scenarios presented, each of which has its own cost evaluation that attempts to define savings or cost increases as compared to current "Status Quo" operations. Staff has requested the background data and worksheets (not included in draft report) used to arrive at these figures to validate the assumptions used to develop the "Annual System Cost Comparisons", but have not had the opportunity yet to review this information. Further staff and/or outside consultant evaluation and rate impact analysis of the data and assumptions used to arrive at these recommendations may be valuable and necessary to assist with the Board's decision process.

As a starting reference point for Board discussion, the report indicates a potential impact to the typical SVR customer rate of $1.02 - $1.03 (5.2%) per month to implement the Boards Strategic Plan goal to consider the Salinas Area Materials Recovery Center (SAMRC) and private partnership with the Global Organics Energy's (GOE) Clean Fiber Recovery Project (formerly known as the Autoclave Project) (scenarios 3 & 4). This action would be contingent upon completion of SVR's project due diligence (in progress) including completion of Environmental Review and GOE's completion of their commercial scale demonstration project to fully validate operations and production capabilities of their technology system.

Are the projected benefits of the SVR Strategic Plan goal above sufficient to support the Consultant's projected cost impact or $1.03 per month for the typical customer?

DISCUSSION & ANALYSIS

Staff still has a number of questions regarding this report and how some of the findings were developed. However, the consultants have done a good job to outline some options for consideration within their budget limit and direction provided.

The simplest and most efficient way to consider this report today is from the policy perspective, as recommended by Gonzales City Manager Rene Mendez in his transmittal letter. As background, you will find staff's specific questions and comments (Attachment 3) to the first draft of the report that was provided to the City Managers group in May. Included with this report is an outline of the Clean Fiber and Organics Recovery Project to assist the Board in understanding what this project means in terms of risk, our strategic plan and local economic benefits as portrayed in the report. Within this response are a number of very key policies that we feel are critical to this discussion and the Board's decision process. Staff recommends that we focus our discussion around these important policy questions to help guide the process.

1. **Does the Board want to move forward with the agency's long-standing (since 2005) Strategic Plan goal to promote and develop advanced waste recovery to avoid or significantly reduce landfilling?** If yes, then study scenario 1, 2 & 7 should not be considered further as these are simply do-nothing scenarios that focus on lowest cost landfilling only at the Johnson Canyon Landfill and/or the Marina Landfill. There would be no additional diversion of Salinas Valley wastes and one or both of the regional landfills would bear the burden of increasing future landfill disposal demand as growth in the Salinas Valley continues as projected. Study scenario 6 is also potentially problematic as it does not provide for any increased diversion for our south county cities. Under Scenario 6, only Salinas and North County waste would be directed to the Marina Landfill for processing. Staff firmly believes that only scenarios 3, 4 & 5 should be considered further due to their consistency with our long range Strategic Planning goals to reduce and eventually eliminate the future need for unsustainable landfilling practices.
2. **Should Greenhouse Gas (GHG) reduction be a priority for all our member agencies to assist them in their mandated GHG reduction goals?** If yes, then the limited GHG study analysis, which only looks at transportation, must be expanded to evaluate the full GHG reduction benefits of the respective waste recovery projects. From a transportation perspective, the study identifies Scenario 5, moving all SVR waste to the Marina Landfill for processing and landfilling as the highest GHG producer for transportation, but again does not include the added GHG reduction benefits for MRWMD's waste processing system. It is also important to note that the GHG reduction component of the study does not include the added GHG generation associated with policies and practices that promote importing waste from outside Monterey County, a practice that SVR recently ended in 2014.
3. **Should SVR and MRWMD re-consider its' policies regarding importation of waste from outside Monterey County?** From an environmental, sustainability and community impact perspective, ending waste importation made good sense in SVRs long standing Strategic Vision to end dependence on landfilling. Maintaining landfill capacity for the longest period of time is a public service to the communities it serves. Granted, without waste importation, we must pay for all services current and proposed using only local revenues, fees and grants. However, that must be weighed against maintaining landfill capacity for the customers we serve. The MRWMD, from a business perspective, relies on imported wastes to help maintain lower rates and to that effect continues to seek new outside waste streams to

support funding for their waste recovery projects. This raises the public policy question, "Should we be importing outside waste into our landfills (and permanently assuming all the resulting long term liabilities) for the sole purpose of raising revenues to reduce rates and help fund programs designed to keep our own waste out of the same landfills?"

4. **Community impacts and engagement.** Scenarios 4, 5, 6 & 7 all include landfilling/processing some or all of SVR waste at the Marina Landfill. Under these scenarios the transport, processing and landfilling of all Monterey County wastes would be concentrated at the Marina Landfill along with the estimated 250,000 tons of waste and waste by-products the MRWMD currently imports from outside Monterey County for landfilling. Based on public reactions (current and past) in other California communities with landfills that receive or plan to receive imported waste, public engagement is critical in this decision process. As an example, in 2002 SVR undertook regional facilities Environmental Impact Study that included scenarios that would send SVR waste to the Marina Landfill. At that time, some concerns were raised about impacts to the surrounding communities such as Marina and Castroville.

   Under Scenarios 5, 6 & 7 there would be no Salinas Area Transfer Station, resulting in an additional 250-350 self-haul vehicles per day traveling to the Marina Landfill for services. This would have the potential to increase litter and illegal dumping in Salinas and along the various travel routes for the self-haul customers. It is important that we balance the discussion around costs to include the unintended consequences of reducing or eliminating essential public facilities that have historically been available in the Salinas Area for well over 30 years.

While there are many detail questions still to be answered as a result of this report, it does provide a forum for better discourse around policies and practices, which was the intent of the City Managers in proposing this study. To this end, there is one additional scenario that staff has been proposing that was not included in this study, inter-agency sharing of processing technology. The Clean Fiber and Organics Recovery project is focused primarily on mixed residential and commercial waste and agricultural wastes already heading to the landfill. The MRWMD process includes improvements to their existing Construction and Demolition process line and addition of a single stream curbside recycling line that is also intended to process mixed commercial wastes. There are mutually beneficial options that could potentially take both agencies to a much higher and more sustainable diversion level and avoid prolonged debates and potential loss of momentum. Both agencies could help and complement each other's program instead of competing for waste streams or carving up one agencies wasteshed to the benefit of another.

BACKGROUND

This report was developed out of concerns raised regarding the costs of providing solid waste services within Monterey County. There has also been some limited opposition to SVRs efforts and potential costs associated with the Boards long standing policies and Strategic Plan to consider new and advanced technologies that can reduce or eventually eliminate the need for landfills. Staff has periodically raised concerns over some of the misrepresentations of SVRs goals and Strategic Plan. SVR Strategic Plan is fully consistent with the core of California environment law and regulation around waste management.

If one looks at the simplest metric of "Cost-Per-Capita" for delivery of services you can clearly see that SVR is delivering services at a very low cost compared to other regional

agencies, even when considering the consultant's projected costs for proposed GOE Clean Fiber Recovery and Organics Project and our underfunded close landfill liabilities.

SVR must carry an unavoidable burden that results in higher costs: the closed landfills that were transferred to SVR at formation now require approximately $3.1 million in annual costs (~20% of our budget). This legacy cost, which is part of the landfill disposal fee, is an added cost that is required to maintain those sites and pay for associated debt due to the many unfunded or inadequate environmental control systems that came with these old landfills.

It is staffs hope that the outcome of this report will address not just the issue of cost, but provide a more inclusive and balanced review of the most significant policy issues and long term view of waste management in our region.

ATTACHMENT(S)

A. Evaluation and Analysis of Monterey County's Solid Waste System
B. Clean Fiber and Organics Recovery Project summary
C. Questions and Comments on April 2015 draft report

SalinasValleyRecycles.org

SALINAS VALLEY
SOLID WASTE AUTHORITY

REGIONAL SOLID WASTE STUDY POLICY DISCUSSION

Policies

1. Do we still agree with our Mission/Vision?
2. Do we still agree with our Strategic Plan Goals?
3. Are we on the right fact finding path to enable our long term decisions?
4. Do we want to align with a system that:
   - Is landfill dependent and is importing 69% of its landfill waste to fund local programs and control rates?

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Salinas Valley Solid Waste Authority

Questions-Observations

1. How can we protect the South Valley cities from being left with unnecessary burdens?
2. Can redirection of Salinas and North County waste be less expensive if they still have to pay legacy landfill costs and long term liabilities?
3. Landfill waste import policies significantly increase GHGs (not included in study)
4. Cost for delivery of Services based on est. System costs (Scenarios 3 & 4):
   - SVR - $75 per capita (incl. legacy costs)
   - MRWMD - $107 per capita

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Scenario 1 – Status Quo without MRWMD MRF Expansion

- This scenario is no longer valid as the Status quo scenario
- MRWMD has moved forward with their planned MRF expansion
- No additional discussion is necessary

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Salinas Valley Solid Waste Authority

Scenario 2 – Status Quo with MRWMD MRF Expansion

- This is now the Status Quo scenario
- Does not meet Mission & Vision objectives
- SVR will make no changes to its current operations
- MRWMD has committed to system improvements for their jurisdiction's benefit

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Scenario 7 – Status Quo without MRWMD MRF Expansion

- Does not meet Mission & Vision objectives
- Landfill dependent
- Eliminates Salinas Area public service facility
- 60-80 garbage trucks & 250-350 self haul vehicles per day re-directed to Marina Landfill
- Much greater GHG production
- Possible future rate risks w/landfill import dependence?
- A serious step backwards in order to save $0.47 for the average customer
- Serious doubts community would ever support this option

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Policy issues for Scenarios 2 & 7

- No additional diversion efforts
- Abandons SVR 10 year old Mission/Vision
- Compliance challenge with AB 341 & AB 1826
- Are added impacts to communities around Marina Landfill acceptable (Scenario 7 only)?
- Do we end 35 years of public services in Salinas area (Scenario 7 only)?

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Scenario 3 – SVR Fiber & Organics Project w/residue to Marina LF

- Meets Mission/Vision objectives
- Provides local economic development benefits
- Sustainable system w/o waste import
- Est. $1.03 per average customer cost increase
- Significant GHG Reductions
- Are added impacts of transferring process residues to Marina Landfill acceptable?

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Scenario 4 – SVR Fiber & Organics Project w/residue to SVR LF

- Meets Mission/Vision objectives
- Provides local economic development benefits
- Sustainable system w/o waste import to landfill
- Est. $1.03 per average customer
- Significant GHG Reductions
- Reduced operations at SVR Landfill & 70% reduction in transfer operations for residue

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Scenario 5 – All SVR waste processing, public services & landfilling at Marina LF

- Meets Mission/Vision objectives
- Ends Salinas Area public service facility
- Increased transportation GHGs, but GHG reductions w/processing
- 80-100 garbage trucks, 8-12 South County transfers & 250-350 self-haul vehicles per day re-directed to Marina Landfill
- Possible future rate risks w/landfill import dependence?

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Scenario 6 – Salinas & North County only processing, public services & landfilling at Marina LF

- Partially meets Mission/Vision objectives
- Ends Salinas Area public service facility
- Increased transportation GHGs, but GHG reductions w/processing
- 80-100 garbage trucks & 250-350 self-haul vehicles per day re-directed to Marina Landfill
- Possible future rate risks w/landfill import dependence?
- No diversion benefits for South county cities

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POLICY DISCUSSION

- Rate swing of $1.50

[$0.47 decrease to $1.03 increase]

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CalRecycle

DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027
P.O. BOX 4025, SACRAMENTO, CALIFORNIA 95812

July 16, 2015

To: R3 Consulting Group, Inc.
Rene Mendez, City of Gonzales, MBAMG Solid Waste Subcommittee Chair
Salinas Valley Solid Waste Authority (SVSWA) Board of Directors

Cc: Monterey Regional Waste Management District (MRWMD) Board of Directors
Monterey County Board of Supervisors

Re: CalRecycle Comments Re: Final Draft Report of the Evaluation and Analysis of Monterey County's Solid Waste Management System

The purpose of this letter is to provide comments on several statements and items found in the July 7, 2015, draft of the above mentioned report.

1. Regarding the report finding that large scale diversion projects do not appear to be necessary in the County (Page 4), and the conclusion that the potential implementation of additional large scale diversion is not required to comply with State law because the jurisdictions have met their diversion mandates (Page V):

As noted in the report, recent state mandates (AB 341, AB 1826) target additional recovery from the commercial sector. This additional diversion, including organics diversion, is necessary for the state to reach the statewide goal of 75% (AB 341). AB 1826 requires cities and counties across the state to implement programs that enable businesses to recycle organic wastes, and AB 341 requires cities and counties throughout the state to implement commercial recycling programs. The MRWMD and SVSWA have been strategically planning for additional recovery, and have been moving towards recovery-based funding models, and away from landfill-based revenue reliance, in order to ensure optimal recovery of materials at the best price for their member cities. The planned MRWMD MRF expansion is under way and will handle materials from a portion of the County; however, the assumption that no additional investments in materials recovery infrastructure in the rest of the County simply because the AB 939 per capita disposal target has been met is not correct. AB 341 and AB 1826 are required to be implemented regardless of whether a jurisdiction has met its 50% requirement. Per AB 1826, the County should be assessing infrastructure availability, barriers to expanded/new facilities to serve the whole County, and developing plans to address those barriers under their control. Additionally, commencing August 1, 2017, cities and counties are required to report to CalRecycle on existing, planned and potential infrastructure for organics recycling, as well as any barriers and plans to address those barriers.

Also important to note is that all jurisdictions will be reviewed for compliance with AB 341 and AB 1826 mandates. i.e., it is possible for jurisdictions to be found out of compliance on their commercial recycling or commercial organics recycling efforts under these new mandates, regardless of jurisdictional compliance under AB 939.

2. Regarding the Finding That All Monterey County Jurisdictions are Meeting their AB 939 Mandates:

The Integrated Waste Management Act (also known as AB 939) requires jurisdictions to meet a 50% per-capita disposal goal, and to implement effective waste diversion programs, as codified in SB 1016 in 2008. It is important to note that the annual per capita disposal rates for each jurisdiction are only an indicator of compliance; most notably, jurisdictions are required to implement and manage effective waste recovery programs in all sectors to be in compliance with AB 939. The report does not address that at least one, perhaps two, Monterey County cities have been notified by CalRecycle that their commercial programs may be ineffective, and that these programs have been noted as gaps of concern. CalRecycle staff is currently working with the City of Salinas and King City to address the gaps prior to the end of the Four Year Review cycle (years 2012-2015), when a formal determination of compliance with AB 939 will be made. While Salinas and King City are part of the newly formed Regional Agency, their franchised services are managed by the Cities, and franchised services have a direct impact on the effectiveness of diversion programs.

3. Regarding Diversion Rates Quoted as "CalRecycle Approved Diversion Rates" in the Report:

The jurisdictional diversion rates quoted in the report for the Monterey jurisdictions are not CalRecycle numbers, nor have they been approved by CalRecycle. This is significant in that it appears that policy decisions are to be made on these numbers. As noted above, the measurement system was changed in 2008 (SB 1016) from diversion rates to measuring per capita disposal rates, and CalRecycle no longer calculates official jurisdiction diversion rates. Thus, the numbers quoted in the report as 2013 diversion rates are not accurate because they do not take into account annual economic changes that have a direct impact on the amount of waste generated, or estimated to be generated, in a jurisdiction, and in many instances they are based on unverified assumptions made years ago about generation rates.

We hope the study will enhance the County's existing long term planning goals for materials diversion and ensure that the needed infrastructure and programs are in place to address the additional recovery under AB 341 and AB 1826. If you have any questions, please feel free to contact Jill Larner, Local Assistance Representative to the Monterey County jurisdictions, at (916) 341-6525, or jill.larner@calrecycle.ca.gov.

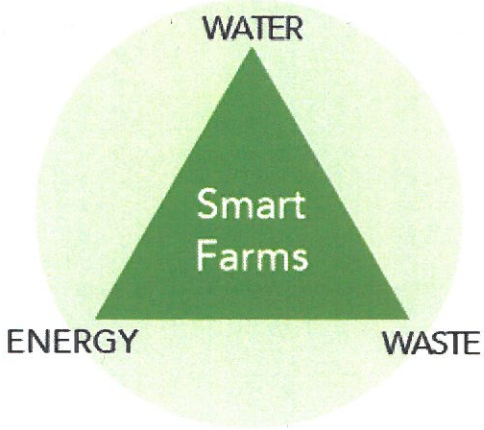
Sincerely,

Kristin Yee

Kristin Yee, Central Section Manager
Local Assistance and Market Development Branch

STEINBECK INNOVATION

Strategic Focus



BUILDING THE STEINBECK INNOVATION CLUSTER

As world leaders in precision agriculture, we will leverage our expertise and relationships to create sustainable solutions that address global challenges.

Steinbeck Cluster

INNOVATION

Building Innovative Capacity

- Youth Programs
- Tech Education
- Entrepreneurial Training
- Advanced Research

ACCELERATION

Startup Incubation

- Infrastructure
- Professional Services
- Networking
- Mentorship

INVESTMENT

Innovation Fund

- Venture Capital
- Financing
- Angel Investing

CORPORATE

Strategic Corporate Engagement

- Innovation
- Investment
- Partnership

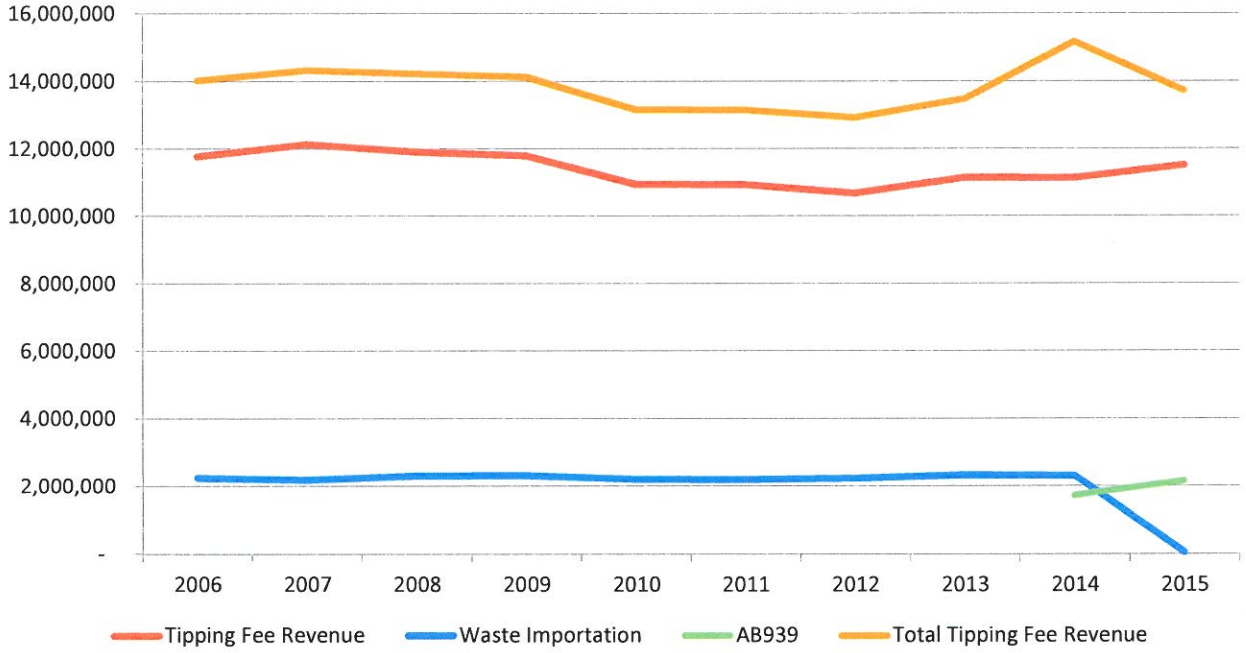
Structure

ORGANIZATIONAL INFRASTRUCTURE | INNOVATION VILLAGE | PARTNERSHIPS

Salinas Valley Solid Waste Authority
Revenue Base

10-year view

Fiscal Year Ending June 30th	Solid Waste Tipping Fee	Service Area Tons	Tipping Fee Revenue	Waste Importation	AB939	Total Tipping Fee Revenue	April CPI
2006	$ 50	235,852	11,792,600	2,250,631		14,043,231	204.900
2007	$ 55	222,906	12,148,377	2,200,599		14,348,976	211.189
2008	$ 58	205,534	11,920,972	2,322,442		14,243,414	217.913
2009	$ 63	187,486	11,811,618	2,333,494		14,145,112	218.587
2010	$ 63	173,907	10,956,141	2,215,711		13,171,852	223.821
2011	$ 64	171,082	10,949,248	2,211,254		13,160,502	231.600
2012	$ 64	167,033	10,690,112	2,243,315		12,933,427	236.626
2013	$ 67	166,501	11,155,567	2,340,962		13,496,529	241.764
2014	$ 67	166,306	11,142,502	2,318,800	1,731,980	15,193,282	247.932
2015	$ 67	171,982	11,522,794	55,749	2,166,100	13,744,643	252.875
FY 2015 over 2006		**-27.1%**	**-2.3%**			**-2.1%**	**23.4%**



Attachment A

City of Gonzales

P.O. BOX 647
PHONE: (831) 675-5000

147 FOURTH ST.
FAX: (831) 675-2644

GONZALES, CALIFORNIA 93926
www.ci.gonzales.ca.us

July 8, 2015

Patrick Mathews, General Manager/CAO
Salinas Valley Solid Waste Authority
PO Box 2159
Salinas, CA 93902

RE: Final Draft Report, Evaluation and Analysis of Monterey County's Solid Waste Management System

Dear Patrick:

On behalf of the Monterey Bay Area Managers Group (MBAMG) Solid Waste Subcommittee, it is my pleasure to forward you the Final Draft Report, "Evaluation and Analysis of Monterey County's Solid Waste Management System". While the report took longer than anticipated to complete, it is our hope that the report stimulates the policy discussion necessary to improve the Solid Waste System for all our residents.

Let me also thank you in advance for scheduling the necessary meetings to receive the public input on the report. We look forward to receiving the input from the public meetings, as well as from each one of your respective agencies.

Once the feedback is received from the public, your policy bodies, and/or your agencies, the MBAMG Solid Waste Subcommittee will consider the feedback before finalizing the report and recommendation(s).

Please do not hesitate to give me a call at (831) 675-5000, or send me an email at rmendez@ci.gonzales.ca.us if you have any questions.

Sincerely,

René L. Mendez
City Manager, City of Gonzales
Chair, MBAMG Solid Waste Subcommittee

cc: MBAMG Solid Waste Subcommittee

R3 CONSULTING GROUP, INC.
RESOURCES. RESPECT. RESPONSIBILITY.

FINAL DRAFT REPORT

Evaluation and Analysis of Monterey County's Solid Waste Management System

SUBMITTED TO:

City of Gonzales

July 7, 2015

R3

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Table of Contents

Report Tables

Facility Routing Maps

Introduction

R3 Consulting Group, Inc. (R3) was retained to evaluate and analyze the solid waste management system of Monterey County on behalf of the County, the Salinas Valley Solid Waste Authority (SVSWA), the Monterey Regional Waste Management District (MRWMD), the cities of Carmel-by-the-Sea, Del Rey Oaks, Gonzales, Greenfield, King City, Marina, Monterey, Pacific Grove, Salinas, Sand City, Seaside, and Soledad, and the Pebble Beach Community Services District.

We would like to thank the representatives from each jurisdiction that have made themselves available to provide feedback and guidance to our project team throughout the process of developing this report. Based on our discussions with those representatives, we determined that the primary goal of this evaluation is to develop findings and recommendations that advise the jurisdictions regarding potential improvements to the countywide solid waste system in order to best benefit rate-payers from all the involved parties.

Our evaluation of the countywide waste management system focused on developing solid waste system "scenarios" that incorporated reviewing solid waste facility needs, assessing facility routing and transportation of waste, reviewing current waste disposal fees, providing an overview of solid waste-related legislation and policy issues, and evaluating commercial customer rates in the unincorporated County area. As such, our summary findings and recommendations (contained in Section 1 of this report) are numerous and varied. In an effort to distill those findings and recommendations, we have prepared the following "Executive Summary" section that presents the key findings and recommendations.

A complete listing of our findings and recommendations is provided in Section 1 of this report, with details and analysis provided in the remaining sections. Specifically, our report is organized into the following sections:

Section 1: Summary Findings and Recommendations

Section 2: Background and Limitations

Section 3: Facility and Needs and Collection/Transport Use Assessment

Section 4: Tipping Fee Analysis

Section 5: Policy and Sustainability Review

Section 6: Review of Monterey County Programs and Rates

Executive Summary

FINDINGS

- Both MRWMD and SVSWA appear to operate their landfills cost efficiently, consistent with privately owned/operated landfills (absent the higher costs in SVSWA region resulting from legacy costs for maintenance of closed landfills).
- MRWMD receives 69% of its total disposal tonnage from out-of-county sources, which allows MRWMD to lower costs for providing services to MRWMD Member Agency users.
- The new franchise agreements in the MRWMD service area support the MRWMD's upcoming expansion of materials recovery facility (MRF) processing activities.

- All jurisdictions are in compliance with current State diversion requirements (AB 939 requirement is minimum 50% diversion as recognized CalRecycle).
- The State's mandatory commercial recycling law (AB 341) set forward a 75% diversion goal at the State level. Most jurisdictions are already close to achieving this goal, and three cities have already met the goal. Specifically, according to CalRecycle:
    - The SVSWA as a whole achieved 72% diversion in 2013, and needs an annual disposal reduction of 15,655 tons to achieve 75% diversion;
    - The City of Del Rey Oaks achieved 66% diversion in 2013, and needs an annual disposal reduction of 292 tons to achieve 75% diversion;
    - The City of Monterey achieved 74% diversion in 2013, and needs an annual disposal reduction of 1,330 tons to achieve 75% diversion;
    - The City of Pacific Grove achieved 73% diversion in 2013, and needs an annual disposal reduction of 685 tons to achieve 75% diversion;
    - The City of Seaside achieved 63% diversion in 2013, and needs an annual disposal reduction of 7,479 tons to achieve 75% diversion;
    - The cities of Carmel-by-the-Sea, Marina and Sand City have already met the 75% diversion goal; and
    - The unincorporated County area achieved 56% diversion in 2013, and needs an annual disposal reduction of 51,612 tons to achieve 75% diversion.
- State mandate AB 1826 will require jurisdictions to arrange for "organics" (i.e., yard trimmings and food scraps) recycling programs for multi-family dwelling (MFD) and commercial sectors.
- The upcoming MRWMD MRF expansion is projected to be able to divert 68% of mixed waste and 75% of C&D (currently ~57% of C&D is diverted). This additional diversion is not necessary to comply with current State requirements.
- The upcoming MRWMD facility expansion will add a processing line for clean recyclables. This will be in direct competition with existing private processing facilities (e.g., Waste Management's Castroville MRF).
- The SVSWA Autoclave facility is projected to be able to divert 70% of mixed waste received. The Autoclave units are modular and could be expanded to accept additional capacity as needed. Green waste and C&D materials would not be processed at the facility. Additional diversion is not necessary to comply with current State requirements. An Autoclave operation of the size and scale proposed by SVSWA has, to our knowledge, never been attempted.
- Both MRWMD and SVSWA appear to be looking to shift the cost of tipping fees onto "AB 939 fees" or similar fees charged to the Member Agencies to cover the cost of recycling programs and public education (rather than funding these activities through landfill tipping fees). The SVSWA currently charges an annual "AB 939 Surcharge" to its Member Agencies based on the total tons disposed by each Member Agency.

CONCLUSIONS

- Early closure of Johnson Canyon Landfill would require the SVSWA to expend an estimated $7,000,000 to $9,000,000 in unfunded closure and post-closure costs and would increase costs to the rate-payers.
- Post-closure legacy costs for the SVSWA's closed landfills will continue to be borne by SVSWA region rate-payers, regardless of any potential changes to the solid waste system. These legacy costs do not prevent the SVSWA region from changing/modifying their solid waste system.
- The potential implementation of additional large-scale diversion has associated cost increases, and is not required to comply with State law. Specifically:
    - 2% estimated increase in MRWMD region's annual transport, processing and disposal costs to implement the new MRF enhancements. We estimate that the associated household customer rate increase would be ~0.6%, or ~$0.11 per month; and
    - 21% estimated increase in SVSWA region's annual transport, transfer, processing and disposal costs to implement the new proposed Autoclave facility (includes $14 million estimated total for purchase of Madison Lane Transfer Station, sale of Sun Street Transfer Station, and associated road improvements). We estimate that the associated household customer rate increase would be ~5.2%, or ~$1.03 per month.
- The potential large-scale diversion enhancements in both regions have different levels of associated risk to the jurisdictions' rate-payers. Specifically:
    - The MRWMD's new MRF enhancements represent a relatively low level of risk due to the fact that the new MRF technologies (e.g., mixed waste and single stream processing lines) have been thoroughly tested and are currently used successfully in other locations outside of Monterey County.
    - The SVSWA's proposed Autoclave facility is costly, and represents a significantly higher level of risk than the MRWMD's new MRF enhancements. This is due to the fact that the Autoclave mixed waste processing technology, to our knowledge, has never been implemented on this large of a scale anywhere. Additionally, the Autoclave equipment would be owned by a private contractor (Global Organics Energy), and would require a long-term "flow control" agreement that would put Member Agencies and rate-payers at risk by requiring the SVSWA region to deliver materials to the facility.
- There is no need for the SVSWA to purchase Madison Lane Transfer Station, as it would cost less to direct haul Salinas and north County SVSWA's waste to the MRWMD's landfill in Marina than it would to purchase Madison Lane Transfer Station and complete the associated road improvements.
- In addition to higher annual system costs, the Autoclave facility's implementation requires SVSWA's purchase and rehabilitation of Madison Lane Transfer Station, and City of Salinas's improvements to Rossi Road. Because of these costs, it may be cheaper to gain additional Salinas and northern SVSWA-region diversion by direct-hauling solid waste to MRWMD's enhanced MRF. The MRWMD facility could increase economies of scale by accepting the additional mixed waste from the Salinas area, which would only require labor costs for one additional shift.

- In the event that Salinas and northern SVSWA region direct-hauled to Marina for disposal, the southern SVSWA region tipping fees should not be adversely affected, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA's fixed costs (e.g., legacy closed landfill debt, AB 939 programs such as public education). This assumes that SVSWA would be able to scale down Johnson Canyon Landfill operations (and operational costs) in proportion to the decrease in tonnage resulting from the redirection of Salinas and northern SVSWA tons to Marina.
- The unincorporated County's commercial bin and compactor rates are 53% higher on average in the SVSWA region than in the MRWMD region. Based on an SVSWA rate analysis, this difference does not appear to reflect the actual differences in cost of service.

RECOMMENDATIONS

- All jurisdictions should require their franchised haulers to be responsible for arranging for diversion of materials in accordance with current and future State laws. Most notably, this includes the recent AB 1826 (mandatory multi-family and commercial organics recycling law).
- MRWMD Member Agencies should support the expansion of the MRWMD MRF, as it appears to be a cost-effective option for achieving increased diversion, with the caveat that additional organics diversion for commercial waste generators may need to be added in the future to comply with AB 1826.
- If SVSWA Members Agencies require or elect to increase diversion above State requirements, then they should put increased diversion requirements on the franchised haulers and not pursue publically owned or flow-controlled additional diversion facilities. The SVSWA could increase diversion by directing its franchise haulers to deliver materials to MRWMD's expanded MRF as a lower cost/lower risk option than building the Autoclave facility.
- The County should reenter discussions with USA Waste to rebalance the unincorporated County's MRWMD-region and SVSWA-region customer rates.
- The table on page viii (**Table 1 – Policy Issue Matrix**) provides a summary of each solid waste system scenario that is analyzed in the body of this report, in order to provide policy makers with a means of balancing the key policy issues related to solid waste system planning in Monterey County. Based on the Table 1 summary, Scenario 7 appears to result in a favorable combination of system-wide cost, diversion, greenhouse gas (GHG) emissions, risk, and avoided costs. Specifically, Scenario 7 includes:
    - o <u>MRWMD Region</u>: Direct regional material to the Monterey Landfill, MRF and Composting Facility located in Marina, with the MRF enhancements that are currently being implemented.
    - o <u>SVSWA Region</u>: Direct-haul Salinas and north County SVSWA waste to MRWMD's landfill in Marina for disposal. No purchase of Madison Lane Transfer Station, and no implementation of SVSWA Autoclave facility. Continue to utilize the Jolon Road Transfer Station to transfer south County waste to Johnson Canyon Landfill (and direct haul for cities in close proximity to the landfill).
        - This option provides the SVSWA region with annual cost savings of $4.8 million as compared to purchasing Madison Lane Transfer Station and implementing an Autoclave facility (estimated difference of $1.50 in

monthly household customer rates); Annual cost savings of $1.5 million as compared to the current status quo (estimated difference of $0.47 in monthly household customer rates); and

- Southern County SVSWA region tipping fees should not be adversely affected by this change, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA's fixed costs (e.g., legacy closed landfill debt, AB 939 programs such as public education).
- A map of the "Scenario 7" solid waste system is provided below. Additional details regarding solid waste system scenarios 1 through 7 may be found in the body of this report.

Scenario 7

Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to Johnson Canyon Landfill, No Additional SVSWA Diversion

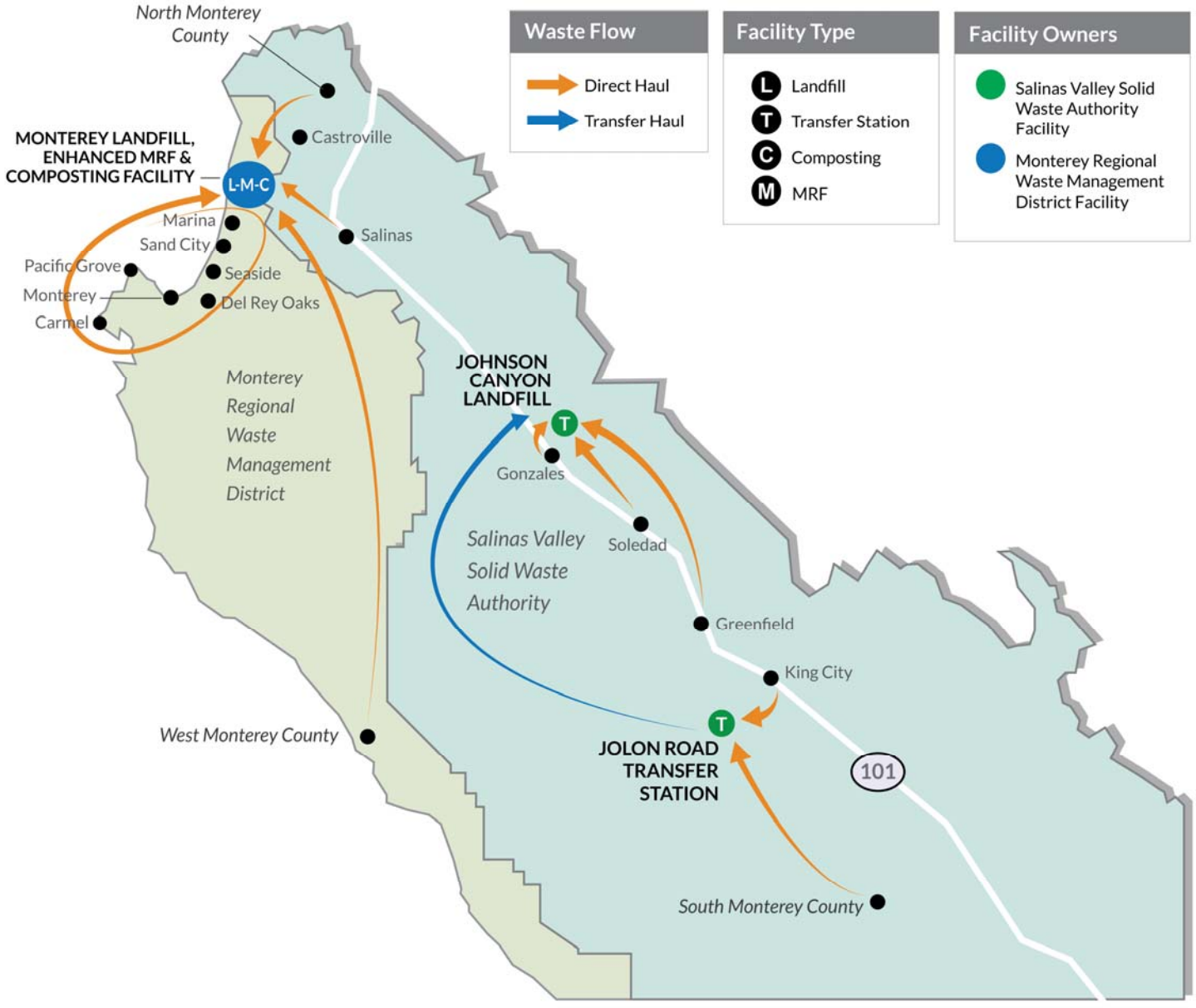

TABLE 1 – Policy Issue Matrix

SYSTEM SCENARIO	POLICY ISSUES				
	Cost *Low cost is preferred*	**Diversion** *High diversion is preferred*	**GHG Emissions** *Low emissions are preferred*	**Risk** *Low risk is preferred*	**Avoided Costs** *High avoided costs are preferred*
Scenario 1 Status Quo	**Medium** $31.9M annual system-wide costs (~$15.7M MRWMD region and ~$16.2M SVSWA region).	**Medium** All Member Agencies exceed the 50% diversion mandate (AB939).	**Low** Lowest GHG emissions from material transportation of all scenarios.	**Low** Existing diversion technologies are proven to work. Minor risks incurred through public ownership of facilities.	**Medium-Low** No additional efforts to decrease future landfill needs, above existing diversion activities.
Scenario 2 Increased Diversion at MRWMD; No Additional Diversion at SVSWA	**Medium** $32.2M annual system-wide costs (~$16.1M MRWMD region and ~$16.2M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Low** Lowest GHG emissions from material transportation of all scenarios (same transportation routing as Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 3 Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD	**High** $35.5M annual system-wide costs (~$16.1M MRWMD region and ~$19.5M SVSWA region).	**High** Very significant additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium-Low** 3rd lowest GHG emissions from material transportation of all scenarios (3% higher than Status Quo).	**Medium-High** SVSWA autoclave technology is unproven. Additional risk incurred through public investment in facilities.	**Medium-High** Decreases future landfill needs by increasing diversion of materials.
Scenario 4 Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill	**High** $35.6M annual system-wide costs (~$16.1M MRWMD region and ~$19.5M SVSWA region).	**High** Very significant additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium-Low** 4th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-High** SVSWA autoclave technology is unproven. Additional risk incurred through public investment in facilities.	**Medium-High** Decreases future landfill needs by increasing diversion of materials.
Scenario 5 Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD	**Medium-High** $32.6M annual system-wide costs (~$16.1M MRWMD region and ~$16.5M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**High** Highest GHG emissions from material transportation of all scenarios (19% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 6 Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill	**Medium-Low** $31.2M annual system-wide costs (~$16.1M MRWMD region and ~$15.1M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium** 5th/6th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 7 Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to JCLF, No Additional SVSWA Diversion	**Low** $30.7M annual system-wide costs (~$16.1M MRWMD region and ~$14.7M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium** 5th/6th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.

Section 1. Summary Findings and Recommendations

Facility and Needs and Collection/Transport Use Assessment

Findings – Facility and Needs Assessment

- Solid Waste System Structure – All cities in the County, as well as the unincorporated County area, contract with private haulers for the collection of residential and commercial solid waste. The County of Monterey's solid waste processing and disposal facility system for mixed waste and green waste is divided into two agencies. The MRWMD and SVSWA each operate one landfill. The MRWMD operates a construction and demolition (C&D) materials recovery facility (MRF). The SVSWA operates two transfer stations. Both agencies contract with private operators for composting services. Both agencies operate landfills (or contract for operations) with somewhat similar operating costs on a per ton basis.
- Capacity of Facilities – The Marina Landfill and Johnson Canyon Landfill have more than adequate capacity to support the disposal of all generated in-County tonnages.
- Landfill Cost Efficiency – Both MRWMD and SVSWA appear to operate their landfills cost efficiently, consistent with privately owned/operated landfills (absent the higher costs in SVSWA region resulting from legacy costs for maintenance of closed landfills).
- Importation of Out-of-County Tons – The Marina Landfill and Johnson Canyon Landfill also have adequate capacity to support the importation of out-of-County disposal tonnages. The MRWMD currently imports a significant amount of out-of-County waste at its Marina Landfill (69% of its total disposal tonnage) which results in financial benefit to the MRWMD Member Agencies. No out-of-County waste is currently imported at the SVSWA's Johnson Canyon Landfill, although the SVSWA does have a prior history of importation.
- Future Expansions for Waste Diversion – Both MRWMD and the SVSWA are planning to implement future infrastructure to provide added waste diversion capabilities in their respective agencies. The MRWMD is in the process of renovating the existing Materials Recovery Facility to provide additional mixed waste, single stream and C&D processing capacities employing mechanical and manual sorting capabilities to provide future diversion infrastructure. The new franchise agreements in the MRWMD service area support the MRWMD's expansion of MRF processing activities by directing the MRWMD's Member Agency waste streams to the expanded MRF. The SVSWA intends to perform two infrastructure changes: (1) relocate the self-haul waste venue by selling the Sun Street facility and purchasing the Madison Lane facility, and (2) contract with a private company for Autoclave processing services which would process all of the residential and commercial wastes within the SVSWA using a pressure/temperature device followed by mechanical screening to provide future diversion capabilities.

Findings – Collection/Transport Use Assessment

- Facility Routing and Use Efficiency – Based on our analysis of various possible routing scenarios using the County's existing transfer stations and landfills, the current system (i.e., status quo) in which the SVSWA region directs material to the Johnson Canyon

Landfill through transfer stations and the MRWMD region directs material to the Marina Landfill does not appear to be the most cost efficient routing/use option. By modelling the costs of transfer, disposal and processing at the existing facilities, we identified that a scenario in which the north County communities (Salinas and the unincorporated north County) direct hauled their waste for disposal (without the added cost/benefit of a Salinas area Transfer Station) at the MRWMD landfill could provide a lower system-wide cost, yielding a savings of approximately 4% (Scenario 7 in the body of this report). Currently north County waste in the SVSWA region is directed to Johnson Canyon Landfill through the Sun Street and Madison Lane transfer stations. In this lowest cost option, the two Salinas area transfer stations (Sun Street and Madison Lane) would not be used. It should also be noted that this scenario results in slightly more greenhouse gas (GHG) emissions from transportation than the current status quo (5% more). However, we do not believe this represents a significant increase, given that one of the scenarios that we considered resulted in more than a 19% increase in GHG emissions over the status quo.

Recommendations

- Scenario 7 results in the lowest system-wide cost of all scenarios analyzed in this report. Specifically, Scenario 7 includes:
    - MRWMD Region: Direct regional material to the Monterey Landfill, MRF and Composting Facility located in Marina, with the MRF enhancements that are currently being implemented.
    - SVSWA Region: Direct-haul Salinas and north County SVSWA waste to MRWMD's landfill in Marina for disposal. No purchase of Madison Lane Transfer Station, and no implementation of SVSWA Autoclave facility. Continue to utilize the Jolon Road Transfer Station to transfer south County waste to Johnson Canyon Landfill (and direct haul for cities in close proximity to the landfill).
        - This option provides the SVSWA region with annual cost savings of $4.8 million as compared to purchasing Madison Lane Transfer Station and implementing an Autoclave facility (estimated difference of $1.50 in monthly household customer rates); Annual cost savings of $1.5 million as compared to the current status quo (estimated difference of $0.47 in monthly household customer rates); and
        - Southern County SVSWA region tipping fees should not be adversely affected by this change, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA's fixed costs (e.g., legacy closed landfill debt, AB 939 programs such as public education).
- Direct Haul versus a Salinas Public Convenience Facility – The convenience of a Salinas area transfer station could be an unnecessary cost to the SVSWA customers if the Marina landfill were used as the north County disposal facility. Although the need for a Salinas area transfer station is more evident under the current status-quo condition of hauling Salinas wastes to the Johnson Canyon Landfill, the need for this facility becomes questionable for scenarios in which north County wastes are delivered to Marina Landfill. The Marina Landfill is closer to the Salinas and northern County residents than the Johnson Canyon Landfill. The cost of waste receipt, reloading and transfer could be avoided with a slight increase in the direct hauling of waste to the

Marina Landfill. We did not address the convenience of the Sun Street or Madison Lane Transfer Station facilities to the self-haul users of the Salinas area.

Tipping Fee Analysis

Findings

- AB 939 Fees – The SVSWA currently charges an "AB 939 Surcharge." However, both the MRWMD and SVSWA appear to be looking to shift the cost of tipping fees onto "AB 939 fees" or similar fees charges to the Member Agencies to cover the cost of recycling programs and public education (rather than funding these activities through landfill tipping fees).
- Importation of Out-of-County Tons – The MRWMD currently imports a significant amount of out-of-County waste at its Marina Landfill. This practice grants significant economies of scale to the MRWMD landfill operation in Marina, and allows the MRWMD to charge lower tipping fees to the in-County Member Agencies than it otherwise be able to. No out-of-County waste is currently imported at the SVSWA's Johnson Canyon Landfill, although the SVSWA does have a prior history of importation.
- Legacy Costs – Post-closure legacy costs for the SVSWA's closed landfills will continue to be borne by SVSWA region rate-payers, regardless of any potential changes to the solid waste system. These legacy costs do not prevent the SVSWA region from changing/modifying their solid waste system.
- Cost of Proposed New Diversion – The potential implementation of additional large-scale diversion in both regions has associated costs. Specifically:
    - 2% estimated increase in MRWMD region's annual transport, processing and disposal costs to implement the new MRF enhancements. We estimate that the associated household customer rate increase would be ~0.6%, or ~$0.11 per month; and
    - 21% estimated increase in SVSWA region's annual transport, transfer, processing and disposal costs to implement the new proposed Autoclave facility (includes $14 million estimated total for purchase of Madison Lane Transfer Station, sale of Sun Street Transfer Station, and associated road improvements). We estimate that the associated household customer rate increase would be ~5.2%, or ~$1.03 per month.
- Risks of Proposed New Diversion – The potential large-scale diversion enhancements in both regions have different levels of associated risk to the Jurisdictions' rate-payers. Specifically:
    - The MRWMD's new MRF enhancements represent a relatively low level of risk due to the fact that the new MRF technologies (e.g., mixed waste and single stream processing lines) have been thoroughly tested and are currently used successfully in other locations outside of Monterey County.
    - The SVSWA's proposed Autoclave facility is costly, and represents a significantly higher level of risk than the MRWMD's new MRF enhancements. This is due to the fact that the Autoclave mixed waste processing technology, to our knowledge, has never been implemented on this large of a scale anywhere. Additionally, the Autoclave equipment would be owned by a private contractor (Global Organics Energy), and would require a long-term "flow control"

agreement that would put Member Agencies and rate-payers at risk by requiring the SVSWA region to deliver materials to the facility.

Recommendations

- Johnson Canyon Landfill – Do not prematurely close Johnson Canyon Landfill, as a cost savings effort. Doing so would result in the need for the SVSWA to expend an estimated $7,000,000 to $9,000,000 in unfunded closure and post-closure costs, thereby causing unnecessary burden on SVSWA region rate-payers. The continued use of Johnson Canyon Landfill for its intended purpose to fulfill its permitted capacity is preferable to a premature closure.
- Importation of Out-of-County Tons – Large existing landfill capacity represents a significant asset to both the SVSWA and MRWMD. Continuing the practice of importing out-of-County tons at MRWMD, and/or restarting out-of-County importation practices at SVSWA, represent significant policy decisions that have large impacts on the tipping fees in each region. It is also worth noting that for SVSWA, any potential aggressive changes such as selling the Johnson Canyon Landfill to a private company would require the marketing of availability of existing landfill capacity to out-of-County tons.
- Public vs. Private Diversion – In general, we recommend that the individual jurisdictions in the County put the burden of recycling on their private collection contractors, rather than having the public sector invest in new technologies/facilities to increase diversion. Going forward, we recommend requiring the franchise haulers in each individual jurisdiction to provide for a level of diversion that is in line with the goals of each jurisdiction, or with the goals of the agency with which they hold membership.

Policy and Sustainability Review

Findings

- Diversion Policies – The CalRecycle goal was established as part of AB 341, which requires commercial waste generators implement recycling programs to facilitate a statewide goal of 75% diversion. The CalRecycle goal of 75% is not a requirement of the jurisdictions that the former AB 939 imposed. The jurisdiction requirement for AB 341 is to impose policies and programs and then monitor the generation of commercial diversion. The MRWMD has set a diversion goal of 75% by 2020, identical to the State-wide goal set by CalRecycle. The SVSWA has set a goal of 75% diversion from landfill by 2015, which represents a more urgent goal than that put in place by CalRecycle.
- Compliance with AB 939 – Large-scale diversion projects such as those currently planned by MRWMD and SVSWA are not required for compliance with current State law (50% AB 939 diversion requirement), and do not appear to be necessary to assist the State in meeting CalRecycle's "goal" of 75% diversion by 2020 (AB 341). In the interest of keeping tipping fees and customer rates as low as possible, these projects are not necessary from a regulatory standpoint. All jurisdictions in the County are in compliance with CalRecycle's current requirement of 50% diversion, set forth by State mandate AB 939, and therefore no additional diversion is needed to comply with the current actual requirements set forward by the State of California.
- CalRecycle Diversion Levels
    - All jurisdictions in the County are in compliance with CalRecycle's current requirement of 50% diversion, set forth by State mandate AB 939.

- The State's mandatory commercial recycling law (AB 341) set forward a 75% diversion goal at the State level. Most jurisdictions are already close to achieving this goal, and three cities have already met the goal. Specifically, according to CalRecycle:
  - The SVSWA as a whole achieved 72% diversion in 2013, and needs an annual disposal reduction of 15,655 tons to achieve 75% diversion;
  - The City of Del Rey Oaks achieved 66% diversion in 2013, and needs an annual disposal reduction of 292 tons to achieve 75% diversion;
  - The City of Monterey achieved 74% diversion in 2013, and needs an annual disposal reduction of 1,330 tons to achieve 75% diversion;
  - The City of Pacific Grove achieved 73% diversion in 2013, and needs an annual disposal reduction of 685 tons to achieve 75% diversion;
  - The City of Seaside achieved 63% diversion in 2013, and needs an annual disposal reduction of 7,479 tons to achieve 75% diversion;
  - The cities of Carmel-by-the-Sea, Marina and Sand City have already met the 75% diversion goal; and
  - The unincorporated County area achieved 56% diversion in 2013, and needs an annual disposal reduction of 51,612 tons to achieve 75% diversion.

- Current Diversion Plans
  - MRWMD – As stated above, MRWMD is currently in the process of implementing publically owned enhancements to the Marina MRF. Enhancements will include:
    - **Commercial Mixed Materials Processing** – A mixed materials processing line to accept 80,000 tons of MRWMD region commercial and multi-family dwelling (MFD) mixed waste that are currently landfilled (estimated 68% diversion of accepted materials). Note the MRWMD could have stipulated these services be provided by the private franchised haulers but elected to construct the facility as a public investment instead;
    - **Single-Stream Processing** – A single-stream recyclables (i.e., "clean" recyclables) processing line to accept 10,000 to 15,000 tons not currently received by MRWMD (estimated 90% diversion of accepted materials). This service is currently performed by private waste service companies; and
    - **C&D Processing** – Enhanced processing of construction and demolition (C&D) materials currently received by MRWMD (estimated 75% diversion of this material – currently approximately 57% is diverted).
  - SVSWA – As stated above, the SVSWA is currently planning the implementation of an "Autoclave" mixed materials processing facility at the Madison Lane Transfer Station. This plan involves selling the current Sun Street Transfer Station facility and purchasing and relocating to the Madison Lane Transfer Station, which is currently owned and operated by Waste Management. The SVSWA estimates that the proposed Autoclave facility would divert approximately 70% of the accepted materials, which include all residential and commercial mixed waste in the SVSWA region. The Autoclave units are modular and could be expanded to accept additional capacity as needed. C&D materials,

debris boxes and green waste/organics would not be processed through the Autoclave. The Autoclave technology has been tested as a small pilot program by the SVSWA, and has also been used on a small scale to process medical waste in other areas of the country. However, an Autoclave operation of the size and scale proposed by SVSWA has, to our knowledge, never been attempted.

Recommendations

- The SVSWA should revise its goal of 75% diversion by 2015, as this goal is unnecessary for compliance with State law and may result in higher tipping fees and customer rates for its member jurisdictions. We suggest a goal of 75% diversion by 2020 as recognized CalRecycle. As stated above, the SVSWA reporting agency as a whole achieved 72% diversion as recognized by CalRecycle in 2013.
- Any efforts to increase overall diversion should be focused on enhancing recycling programs in the Unincorporated County area, which has the lowest CalRecycle diversion rate of all jurisdictions in the County (i.e., 56% in 2013) and would require the most additional diversion to keep pace with the 75% CalRecycle diversion goal in 2020.
- All jurisdictions should require their franchised haulers to be responsible for arranging for diversion of materials in accordance with State law. Most notably, this includes the recent AB 1826, which will require jurisdictions to arrange for organics (i.e., yard trimmings and food scraps) recycling programs for multi-family dwelling (MFD) and commercial sectors with a phased-in approach starting in 2016.
- MRWMD Member Agencies should support the expansion of the MRWMD MRF, as it appears to be a cost-effective option for achieving increased diversion, with the caveat that additional organics diversion for commercial waste generators may need to be added in the future to comply with AB 1826.
- If SVSWA Members Agencies require or elect to increase diversion above State requirements, then they should put increased diversion requirements on the franchised haulers and not pursue publically owned or flow-controlled additional diversion facilities. The SVSWA could increase diversion by directing its franchise haulers to deliver materials to MRWMD's expanded MRF as a lower cost/lower risk option than building the Autoclave facility.

Review of Monterey County Programs and Rates

Findings

- The County of Monterey contracts with USA Waste of California (dba Carmel Marina Corporation) for garbage collection services in the Unincorporated County area. The company offers commercial customer rates which vary in amount based on the type of container, service volume, and service frequency. The commercial rates are higher in the SVSWA region of the Unincorporated County than in the MRWMD region. Specifically:
    - Commercial cart rates are 3% higher on average in the SVSWA region; and
    - Commercial bin and compactor rates are 53% higher on average in the SVSWA region.
- The SVSWA completed a commercial rate study and determined that the actual cost of providing commercial collection service in the SVSWA area is 2.8% higher than in the MRWMD area if disposal costs are included, and 7.3% less if disposal costs are not

included. This finding is not consistent with County staff's reasoning for the significantly higher customer rates in the SVSWA area. (County staff previously stated that the significantly higher customer rates in the SVSWA area are due to higher disposal costs and higher collection costs.)

Recommendations

- The County EHB and USA Waste should review and verify the findings of SVSWA's commercial rate analysis. Without performing an independent analysis, we find the SVSWA response to the commercial rate study performed by MSW consultants to be worthy of consideration. Namely, the SVSWA analysis concludes that the cost of commercial waste service in the SVSWA region, when based on expenses for collection services, is comparable with the cost of commercial waste service in the MRWMD region. The primary findings of the SVSWA's study conclude:
    - The cost to deliver services as shown in the most recent rate adjustment calculations reveal the SVSWA cost to be on-par with the MRWMD cost service.
    - When adjusted to exclude disposal cost, the cost of service for the SVSWA region is lower than for the MRWMD.
- We conclude the SVSWA commercial rate study is valid.
- The County should reenter discussions with USA Waste to rebalance the unincorporated County's MRWMD-region and SVSWA-region customer rates to better reflect the actual costs of both disposal and collection service in each area.

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Section 2. Background and Limitations

Background

Monterey County's solid waste residential, commercial and industrial collection services are provided by private haulers that operate under franchise agreements with their respective jurisdictions throughout the County. The County's solid waste transfer, processing and disposal system is operated in large part by public agencies: the Monterey Regional Waste Management District (MRWMD) and the Salinas Valley Solid Waste Authority (SVSWA).

- **Salinas Valley Solid Waste Authority (SVSWA)** – The SVSWA serves the eastern portion of the County and operates the Johnson Canyon Landfill. In addition, the SVSWA operates the Sun Street Transfer Station and the Jolon Road Transfer Station, and is also responsible for the maintenance and environmental monitoring of three closed landfills (i.e., Crazy Horse Canyon Landfill, Lewis Road Landfill, and Jolon Road Landfill). The SVSWA includes the following Member Agencies:
    - City of Gonzales;
    - City of Greenfield;
    - City of King City;
    - City of Salinas;
    - City of Soledad; and
    - County of Monterey.
- **Monterey Regional Waste Management District (MRWMD)** – The MRWMD serves the western portion of the County and operates the Monterey Peninsula Landfill near the City of Marina. The MRWMD was created in 1951 and was originally called the "Monterey Peninsula Garbage and Refuse Disposal District" until 1983 when the current name was adopted. The MRWMD's current Monterey Peninsula Landfill in Marina was opened in 1965. The MRWMD's materials recovery facility (MRF), located at the same site, was opened in 1996. The MRWMD includes the following Member Agencies:
    - City of Carmel-by-the-Sea;
    - City of Del Rey Oaks;
    - City of Marina;
    - City of Monterey;
    - City of Pacific Grove;
    - City of Sand City;
    - City of Seaside;
    - Pebble Beach Community Services District; and
    - County of Monterey.
- **Monterey County Environmental Health Bureau (EHB)** – The County EHB provides public education, some AB 939 services and franchise collection contract administration

for the entire unincorporated area of Monterey County, and holds membership in both the SVSWA and MRWMD.

Limitations

Our review was limited to mixed waste, green waste and C&D waste streams generated in Monterey County, and did not include an analysis of the collection, transportation, processing, or disposal of any additional source-separated recyclable material waste streams generated in the County which are currently directed to various privately owned and operated processing facilities. Our review also did not include a detailed analysis of waste streams originating from outside of Monterey County that are ultimately disposed at the Monterey Peninsula Landfill in Marina, and our review did not consider any potential changes to the throughput of the materials recovery facility (MRF) for clean recyclables located in the City of Monterey, or the potential for that facility to be included as part of the MRWMD's operations.

Our review was based on data and operating information provided by the MRWMD, SVSWA, and the County of Monterey. As such, the findings and recommendations provided in this report that are based on that data are only accurate to the extent that the information provided by those agencies is complete and accurate.

Our review did not include any analysis of operating efficiency, staffing, and management, nor were we hired to review the operations of individual franchise collection contractors.

Section 3. Facility and Needs and Collection/Transport Use Assessment

Methodology

Using tonnage data and financial data provided by the MRWMD and SVSWA for solid waste, green waste and C&D materials, we developed a quantitative model in Microsoft Excel that allowed us to analyze the cost of material transport, transfer, processing and disposal of those materials for several different facility routing scenarios. The first six scenarios were developed based on our understanding of current facility locations and potential future diversion plans. The seventh scenario was developed based on feedback received from MRWMD and SVSWA staff.

The following scenarios were established in order to analyze the cost of transport, transfer, processing and disposal in Monterey County. Each scenario is described in greater detail in the "Findings – Collection/Transport Use Assessment" subsection below:

Scenario 1 – Status Quo

Scenario 2 – Increased Diversion at MRWMD; No Additional Diversion at SVSWA

Scenario 3 – Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD

Scenario 4 – Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill

Scenario 5 – Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD

Scenario 6 – Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill

Scenario 7 – Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to Johnson Canyon Landfill, No Additional SVSWA Diversion

For each scenario, we determined the following information:

- **System Cost** – The annual estimated cost for the transport, transfer, processing and disposal of solid waste, green waste and C&D materials. The following assumptions and methodologies were used in developing the "system cost" model:
    - We divided the MRWMD's and SVSWA's annual costs (using data provided by the agencies) into "fixed costs" that would not change based on changes in tonnage throughputs (e.g., admin, debt, legacy costs, and AB 939 services including public education), and "variable costs" that would change based on the number of tons that transferred, processed or disposed. Fixed costs also include the combined cost for the purchase of Madison Lane Transfer Station, sale of Sun Street Transfer Station, and associated road improvements in Scenarios 3 and 4. Variable costs were adjusted in each scenario according to the number of tons routed through each facility.

- Projected direct haul costs of $0.50 per ton-mile, based on based on $90 cost per hour for truck and driver, average post-collection truck speed of 45 miles per hour, and average payload of 8 tons of waste;
- Projected transfer haul costs of $0.24 per ton-mile, based on $120 cost per hour for truck and driver, average truck speed of 45 miles per hour, and average transfer trailer payload of 22 tons of waste;
- Hauling distances for direct haul vehicles are assumed to be from the city centers to the destination facilities; and
- The cost of disposing out-of-County tonnages at MRWMD's Monterey Landfill in Marina was included in all "system cost" estimates, as these tonnages provide economies of scale to the MRWMD system.

- **Greenhouse Gas (GHG) Emissions** – Each scenario was evaluated for greenhouse gas emission potential by estimating the total metric tons of carbon dioxide ($MTCO_2$) produced from the collection and transfer vehicles transporting the waste. The following assumptions were used:
  - Direct haul vehicles (i.e., standard collection vehicles) have an average payload of 8 tons of waste, and transfer haul vehicles (i.e., transfer trailers) have an average payload of 22 tons of waste. Direct haul vehicles average 2.8 miles per gallon of diesel fuel, and transfer haul vehicles average 8 miles per gallon of diesel fuel;[1]
  - The Mobile Combustion CO_2 Emission Factor for diesel fuel is 10.21 kilograms of CO_2 per gallon;[2]
  - Biodiesel transfer vehicles emit 15 percent less greenhouse gases than petroleum diesel vehicles, and compressed natural gas (CNG) vehicles emit 21 percent less greenhouse gases than petroleum diesel vehicles;[3]
  - Hauling distances for direct haul vehicles are assumed to be from the city centers to the destination facilities; and
  - Only transportation mileages for tonnages originating inside the County were considered – no emissions estimates for tons delivered to the MRWMD's landfill from out of County are included in this analysis.

The "Findings – Facility and Needs Assessment" subsection below provides a qualitative assessment of the current solid waste system and facilities in Monterey County.

The "Findings – Collection/Transport Use Assessment" subsection below provides a summary comparison of the "system cost" and GHG emissions analysis results for all scenarios, followed by a detailed description of the parameters and results for each scenario individually.

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1 Source: Iqbal, Samina and Talty, Alanna. Impacts of New York City Waste on the 125th Street BID. April 2007. <http://www.urbandesignlab.columbia.edu/sitefiles/file/UDL%20Waste%20Report%20FINAL.pdf>

2 Source: US EPA, Emission Factors for Greenhouse Gas Inventories. Table 2: Mobile Combustion CO2 Emission Factors. Last Modified April 4, 2014. http://www.epa.gov/climateleadership/documents/emission-factors.pdf

3 Source: "Clean Cities Niche Market Overview: Refuse Haulers" by Shannon Shea, U.S. Department of Energy, September 2011, pg. 3, 7).

Findings – Facility and Needs Assessment

All cities in the County, as well as the unincorporated County area, contract with private haulers for the collection of residential and commercial solid waste. The County of Monterey's solid waste processing and disposal facility system for mixed waste and green waste is divided into two agencies. The MRWMD and SVSWA each operate one landfill. The MRWMD operates a construction and demolition (C&D) materials recovery facility (MRF). The SVSWA operates two transfer stations. Both agencies contract with private operators for composting services.

The Monterey Peninsula Landfill in Marina and the Johnson Canyon Landfill have more than adequate capacity to support the disposal of all generated in-County tonnages. The MRWMD also currently imports a significant amount of out-of-County waste at its Marina Landfill (69% of its total disposal tonnage) which results in financial benefit to the MRWMD. No out-of-County waste is currently imported at the SVSWA's Johnson Canyon Landfill, although the SVSWA does have a prior history of importation. Both MRWMD and SVSWA appear to operate their landfills cost efficiently, consistent with privately owned/operated landfills (absent the higher costs in SVSWA region resulting from legacy costs for maintenance of closed landfills).

Both MRWMD and the SVSWA have plans to implement future infrastructure to provide added waste diversion capabilities in their respective agencies. The MRWMD is in the process of renovating the existing Materials Recovery Facility to provide additional mixed waste and single stream processing capacities employing mechanical and manual sorting capabilities to provide future diversion infrastructure. Specifically, the planned MRF enhancements include:

- **Commercial Mixed Materials Processing** – A mixed materials processing line to accept 80,000 tons of MRWMD region commercial and multi-family dwelling (MFD) mixed waste that are currently landfilled (estimated 68% diversion of accepted materials). The MRWMD could have stipulated these services be provided by the private franchised haulers but elected to construct the facility as a public investment instead;
- **Single-Stream Processing** – A single-stream recyclables (i.e., "clean" recyclables) processing line to accept 10,000 to 15,000 tons not currently received by MRWMD (estimated 90% diversion of accepted materials). This service is currently performed by private waste service companies; and
- **C&D Processing** – Enhanced processing of construction and demolition (C&D) materials currently received by MRWMD (estimated 75% diversion of this material – currently approximately 57% is diverted).

The MRWMD has undergone an RFP process and is currently in the process of implementing the new MRF enhancements. In addition, the new franchise agreements in the MRWMD service area support the MRWMD's planned expansion of MRF processing activities by directing the MRWMD's Member Agency waste streams to the expanded MRF. This expansion will compete with private waste haulers to provide similar services.

The SVSWA intends to: (1) relocate the self-haul waste venue by selling the Sun Street facility and purchasing the Madison Lane facility, and (2) contract with a private company for Autoclave processing services which would process all of the residential and commercial wastes within the SVSWA using a pressure/temperature device followed by mechanical screening to provide future diversion capabilities. The SVSWA move from Sun Street to Madison Lane location is reportedly to improve facility functionality but is also to comply with the desires of the City of Salinas regarding compatible land uses in Sun Street neighborhood. The specifics of the SVSWA Autoclave services were not available for review as the terms of the agreement are

currently under confidentially due to an on-going contract negotiation phase. While SVSWA is engaging the private sector for Autoclave services, the SVSWA negotiation of these services relies on a single proprietary technology provider. The SVSWA is currently in the planning phase of relocating the Sun Street facility and implementing the Autoclave processing services, with no part of those plans having been finalized at this point.

Findings – Collection/Transport Use Assessment

Summary Comparison of All Scenarios

System Costs

The annual estimated cost for the transport, transfer, processing and disposal of solid waste, green waste and C&D materials for each solid waste system scenario is provided in Table 3-1 on the following page. As shown, the highest ranking (i.e., lowest cost) scenario is Scenario 7, which we estimate would provide a 4% reduction in annual system costs. In general, the higher cost scenarios are characterized by systems which include facilities designed for large-scale diversion increases in both the SVSWA and MRWMD regions, while the lower cost scenarios are characteristic of systems which do not include such facilities in both regions.

TABLE 3-1
All Scenarios – Annual System Cost Comparison

Scenario	Annual System Costs					Rank
	SVSWA	MRWMD	Total	Change vs. Scenario 1		
				$	%	
Scenario 1: Status Quo: No Additional Diversion at MRWMD or SVSWA	$ 16,176,000	$ 15,698,000	**$ 31,874,000**	$ -	–	3
Scenario 2: Increased Diversion at MRWMD; No Additional Diversion at SVSWA	$ 16,176,000	$ 16,054,000	**$ 32,230,000**	$ 356,000	+1%	4
Scenario 3: Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD	$ 19,482,000	$ 16,054,000	**$ 35,536,000**	$ 3,662,000	+11%	6
Scenario 4: Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill	$ 19,511,000	$ 16,054,000	**$ 35,565,000**	$ 3,691,000	+12%	7
Scenario 5: Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD	$ 16,508,000	$ 16,054,000	**$ 32,562,000**	$ 688,000	+2%	5
Scenario 6: Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill	$ 15,144,000	$ 16,054,000	**$ 31,198,000**	$ (676,000)	-2%	2
Scenario 7: Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to JCLF, No Additional SVSWA Diversion	$ 14,665,000	$ 16,054,000	**$ 30,719,000**	$ (1,155,000)	-4%	1

Greenhouse Gas (GHG) Emissions

Table 3-2 below shows the total miles and subsequent emissions estimated for each system scenario, as well as how much of each can be attributed to each type of vehicle. Because transfer haul vehicles are more fuel efficient than direct haul vehicles, scenarios that reduce the amount of hauling done by direct haul vehicles will produce lower greenhouse gas emissions.

TABLE 3-2
All Scenarios – Annual GHG Emissions Comparison

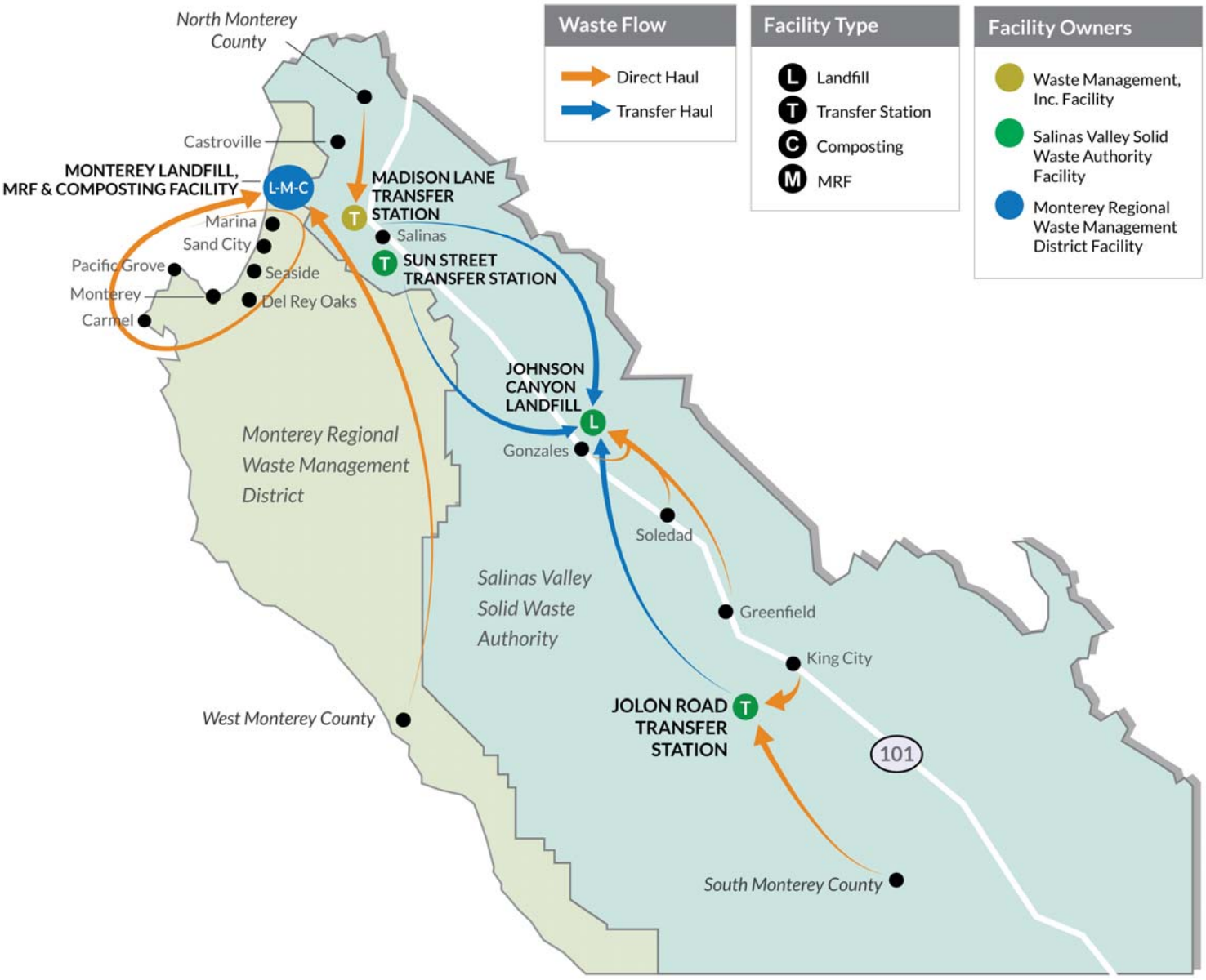
Scenario	Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo	Rank
	Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions			
1	1,148,584	3,309	296,026	856	**4,165**	–	1 / 2
2	1,148,654	3,309	296,026	856	**4,165**	+0%	1 / 2
3	1,215,712	3,502	272,444	788	**4,290**	+3%	3
4	1,215,712	3,502	304,378	881	**4,383**	+5%	4
5	1,454,878	4,191	270,536	783	**4,974**	+19%	7
6	1,454,878	4,191	68,772	199	**4,390**	+5%	5 / 6
7	1,454,848	4,191	68,706	199	**4,390**	+5%	5 / 6

The highest ranking scenarios (Scenarios 1 and 2) have the lowest estimated emissions from transportation. These scenarios use collection trucks most efficiently by transporting collected waste to decentralized facilities for consolidation or processing. Even though Scenarios 1 and 2 do not have the lowest amount of transfer haul miles, they does have the lowest amount of miles travelled using direct haul vehicles, which cause more carbon emissions per mile than transfer haul vehicles. Lower emissions are characteristic of the scenarios that keep a waste facility in the City of Salinas and thereby reduce the distance that direct haul vehicles need to travel.

The lowest ranking scenario (Scenario 5) is estimated to generate the most emissions from transportation. Scenario 5 (Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD), has high estimated mileages for both direct haul and transfer haul vehicles. Higher emissions are characteristic of the scenarios that consolidate waste going directly to the MRWMD facility in Marina, thereby increasing the distance that direct haul vehicles need to travel.

Scenario 1

Status Quo



Scenario 1 represents the County's current solid waste routing structure. In the MRWMD region, all solid waste is direct hauled to the Monterey Landfill, MRF and Composting Facility located in Marina, and all planned enhancements to the MRF have not yet been implemented. In the SVSWA region, waste is direct hauled to transfer stations and taken to the Johnson Canyon Landfill for disposal. SVSWA-region green waste is composted at private facilities adjacent to Johnson Canyon Landfill.

Specifically, Scenario 1 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Sun Street Transfer Station and Madison Lane Transfer Station, then transfer haul to Johnson Canyon Landfill;
  - Gonzales, Soledad and Greenfield direct haul to Johnson Canyon Landfill; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Johnson Canyon Landfill.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, and all planned enhancements to the MRF have not yet been implemented.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-3 below. As shown, the total projected annual system costs for the transport, transfer, processing and disposal of solid waste, green waste and C&D materials are projected to be approximately $31.9 million.

TABLE 3-3
Scenario 1 – Annual System Cost Projections

Material Type	Annual System Costs		
	SVSWA	MRWMD	Total
Variable Costs			
Solid Waste	$ 6,567,000	$ 7,212,000	**$ 13,779,000**
Green Waste	$ 1,653,000	$ 1,247,000	**$ 2,900,000**
C&D	$ 120,000	$ 3,225,000	**$ 3,345,000**
Fixed Costs			
All Materials	$ 7,836,000	$ 4,014,000	**$ 11,850,000**
Total	**$ 16,176,000**	**$ 15,698,000**	**$ 31,874,000**

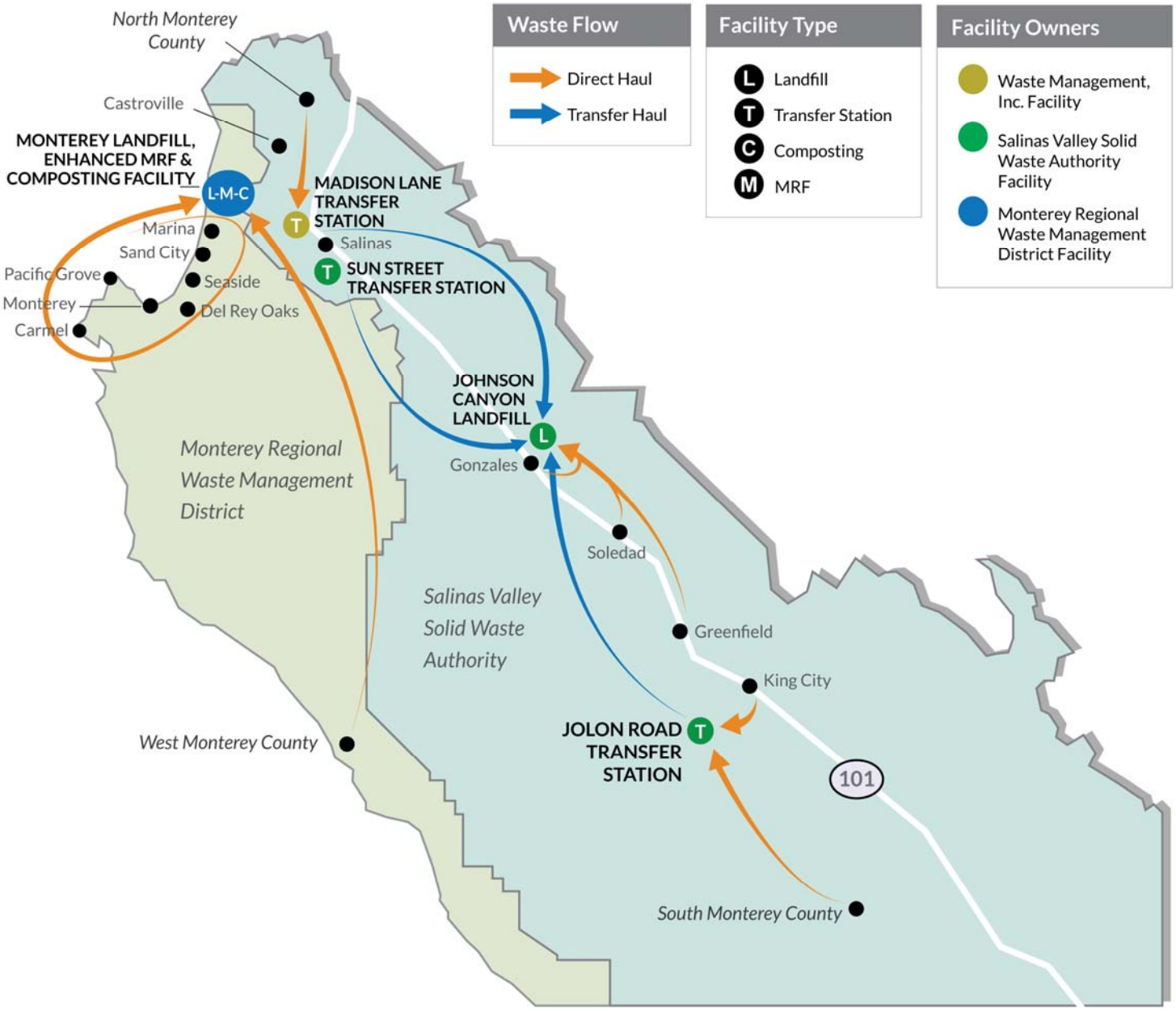
Table 3-4 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, a total of 5,196 metric tons of carbon dioxide ($MTCO_2$) are estimated to be produced annually.

TABLE 3-4
Scenario 1 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions	
1,148,584	3,309	296,026	856	**4,165**

Scenario 2

Increased Diversion at MRWMD; No Additional Diversion at SVSWA



Scenario 2 provides for new large scale diversion in the MRWMD, with no changes to the current solid waste system in the SVSWA region.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility, approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

In the SVSWA region, waste would continue to be direct hauled to transfer stations and taken to the Johnson Canyon Landfill for disposal.

Specifically, Scenario 2 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Sun Street Transfer Station and Madison Lane Transfer Station, then transfer haul to Johnson Canyon Landfill;
  - Gonzales, Soledad and Greenfield direct haul to Johnson Canyon Landfill; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Johnson Canyon Landfill.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-5 below. As shown, the total projected annual system costs are projected to be approximately 1% higher than Scenario 1 – Status Quo, as a result of minor cost increases necessary for the planned enhancements to the MRWMD MRF in Marina.

TABLE 3-5
Scenario 2 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 6,567,000	$ 7,909,000	**$ 14,476,000**	$ 697,000	+5%
Green Waste	$ 1,653,000	$ 1,247,000	**$ 2,900,000**	$ -	–
C&D	$ 120,000	$ 2,884,000	**$ 3,004,000**	$ (341,000)	-10%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Total	**$ 16,176,000**	**$ 16,054,000**	**$ 32,230,000**	**$ 356,000**	+1%

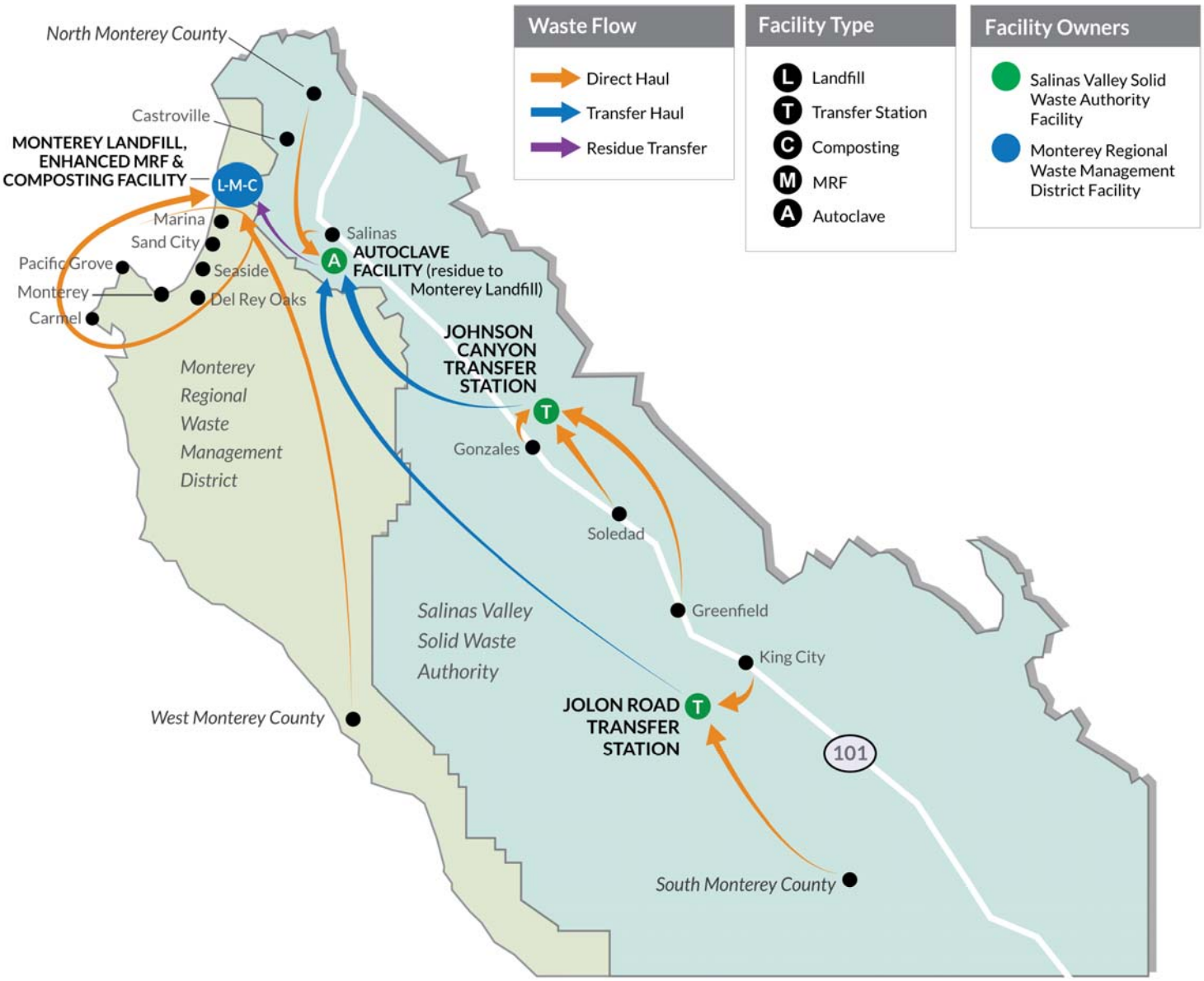
Table 3-6 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions from transportation are projected to be equal to the status quo (Scenario 1). This is due to the fact that all Scenario 2 collection and transfer routing will remain essentially identical to the status quo.

TABLE 3-6
Scenario 2 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,148,654	3,309	296,026	856	**4,165**	+0%

Scenario 3

Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD



Scenario 3 provides for new large scale diversion processes in both the MRWMD and SVSWA regions, with all of the County's (both regions) residual waste disposed at the MRWMD's Monterey Landfill in Marina.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility, approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements.

In the SVSWA region, disposal operations at the Johnson Canyon Landfill would be discontinued. Waste generated in the City of Salinas and the northern portion of the unincorporated County would be direct hauled to a new "Autoclave" processing facility located at the current Madison Lane Transfer Station, and waste in the remainder of the SVSWA area would be transferred to the Autoclave facility via the current Jolon Road Transfer Station and a transfer site located at the current Johnson Canyon Landfill. Residue (i.e., unrecoverable waste) from the Autoclave facility would then be transferred to the Monterey Landfill in Marina for disposal.

Specifically, Scenario 3 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul the residual waste to Monterey Landfill in Marina;
  - Gonzales, Soledad and Greenfield direct haul to transfer site located at current Johnson Canyon Landfill, then transfer haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul residual waste to Monterey Landfill in Marina; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul residual waste to Monterey Landfill in Marina.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-7 below. As shown, the total projected annual system costs are projected to be approximately 11% higher than Scenario 1 – Status Quo. This is primarily due to the higher cost incurred by processing mixed waste at the SVSWA's Autoclave facility, and to a lesser extent due to the increased transfer haul needs in the SVSWA region and the increased costs for the Marina MRF enhancements. This scenario includes an additional estimated $932,000 in annual costs to the SVSWA region to account for the purchase of Madison Lane Transfer Station and sale of Sun Street Transfer Station (estimated $6 million net), and associated road improvements (estimated $8 million), paid in full over a 20 year period at an annual interest rate of 3.0%.

TABLE 3-7
Scenario 3 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 9,267,000	$ 7,909,000	**$ 17,176,000**	$ 3,397,000	+25%
Green Waste	$ 1,344,000	$ 1,247,000	**$ 2,591,000**	$ (309,000)	-11%
C&D	$ 103,000	$ 2,884,000	**$ 2,987,000**	$ (358,000)	-11%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Madison Lane TS Purchase, Sun Street TS Sale, and Road Improvements*	$ 932,000	$ -	**$ 932,000**	$ 932,000	N/A
Total	**$ 19,482,000**	**$ 16,054,000**	**$ 35,536,000**	**$ 3,662,000**	+11%

*Annual cost of $932,000 to SVSWA region is based on an estimated $14 million total cost ($6 million net cost for Madison Lane purchase and Sun Street sale, plus $8 million cost for road improvements), paid in full over a 20 year period at an annual interest rate of 3.0%.

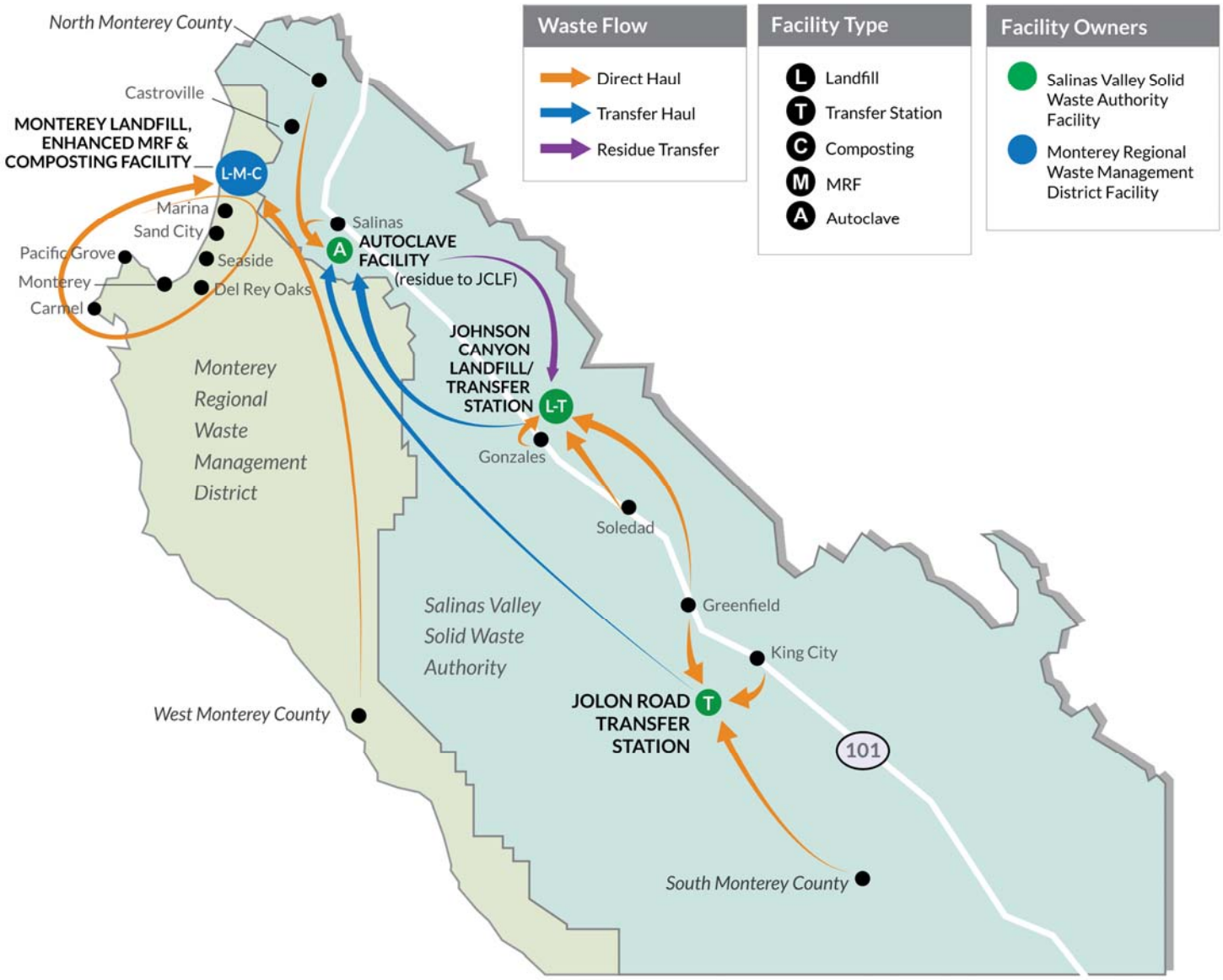
Table 3-8 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions are projected to be approximately 3% higher than the status quo (Scenario 1).

TABLE 3-8
Scenario 3 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,215,712	3,502	272,444	788	**4,290**	+3%

Scenario 4

Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill



Scenario 4 provides for new large scale diversion processes in both the MRWMD and SVSWA regions, with each region's residual waste disposed at their respective landfills.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility, approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

In the SVSWA region, waste generated in the City of Salinas and the northern portion of the unincorporated County would be direct hauled to a new "Autoclave" processing facility located at the current Madison Lane Transfer Station, and waste in the remainder of the SVSWA area would be transferred to the Autoclave facility via the current Jolon Road Transfer Station and a transfer site located at the current Johnson Canyon Landfill. Residue (i.e., unrecoverable waste) from the Autoclave facility would then be transferred to the Johnson Canyon Landfill for disposal. The Johnson Canyon Landfill would experience a significant reduction in disposal throughput due to the high projected level of recovery at the Autoclave facility.

Specifically, Scenario 4 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul the residual waste to Johnson Canyon Landfill;
  - Gonzales, Soledad and Greenfield direct haul to transfer site located at current Johnson Canyon Landfill, then transfer haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul residual waste to Johnson Canyon Landfill; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Autoclave facility located at Madison Lane Transfer Station, then transfer haul residual waste to Johnson Canyon Landfill.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-9 below. As shown, the total projected annual system costs are projected to be approximately 12% higher than Scenario 1 – Status Quo. This is primarily due to the higher cost incurred by processing mixed waste at the SVSWA's Autoclave facility, and to a lesser extent due to the increased transfer haul needs in the SVSWA region and the increased costs for the Marina MRF enhancements. This scenario includes an additional estimated $932,000 in annual costs to the SVSWA region to account for the purchase of Madison Lane Transfer Station and sale of Sun Street Transfer Station (estimated $6 million net), and associated road improvements (estimated $8 million), paid in full over a 20 year period at an annual interest rate of 3.0%.

TABLE 3-9
Scenario 4 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 9,296,000	$ 7,909,000	**$ 17,205,000**	$ 3,426,000	+25%
Green Waste	$ 1,344,000	$ 1,247,000	**$ 2,591,000**	$ (309,000)	-11%
C&D	$ 103,000	$ 2,884,000	**$ 2,987,000**	$ (358,000)	-11%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Madison Lane TS Purchase, Sun Street TS Sale, and Road Improvements*	$ 932,000	$ -	**$ 932,000**	$ 932,000	N/A
Total	**$ 19,511,000**	**$ 16,054,000**	**$ 35,565,000**	**$ 3,691,000**	+12%

*Annual cost of $932,000 to SVSWA region is based on an estimated $14 million total cost ($6 million net cost for Madison Lane purchase and Sun Street sale, plus $8 million cost for road improvements), paid in full over a 20 year period at an annual interest rate of 3.0%.

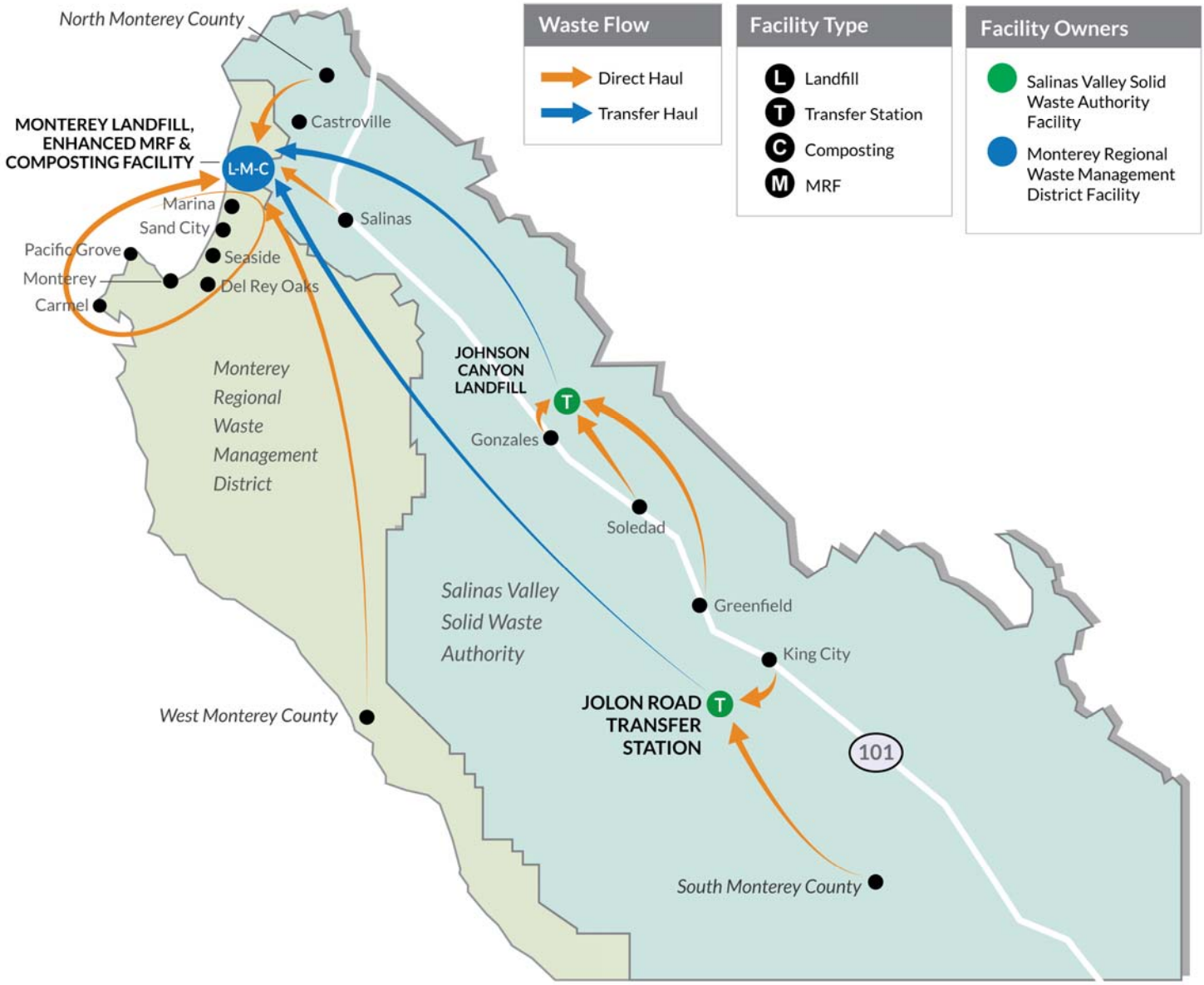
Table 3-10 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions are projected to be approximately 5% higher than the status quo (Scenario 1).

TABLE 3-10
Scenario 4 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,215,712	3,502	304,378	881	**4,383**	+5%

Scenario 5

Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD



Scenario 5 provides for new large scale diversion in the MRWMD region only, with all of the County's residual waste (both regions) disposed at the Monterey Landfill in Marina.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility, approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

In the SVSWA region, waste generated in the City of Salinas and the northern portion of the unincorporated County would be direct hauled to the Monterey Landfill in Marina, while waste in the remainder of the SVSWA area would be transferred to the Monterey Landfill via the current Jolon Road Transfer Station and a transfer site located at the current Johnson Canyon Landfill. A total of 80,000 tons of mixed waste from the SVSWA region would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

Specifically, Scenario 5 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Monterey Landfill, MRF and Composting Facility located in Marina. No Salinas-area transfer station would be required.
  - Gonzales, Soledad and Greenfield direct haul to transfer site located at Johnson Canyon Landfill, then transfer to Monterey Landfill, MRF and Composting Facility located in Marina; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Monterey Landfill, MRF and Composting Facility located in Marina.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-11 below. As shown, the total projected annual system costs are projected to be approximately 2% higher than Scenario 1 – Status Quo. This small increase is due to the slightly higher cost incurred by implementing enhancements at MRWMD's MRF in Marina, and to the requirement for longer transfer haul distances in the southern SVSWA region.

TABLE 3-11
Scenario 5 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 7,225,000	$ 7,909,000	**$ 15,134,000**	$ 1,355,000	+10%
Green Waste	$ 1,344,000	$ 1,247,000	**$ 2,591,000**	$ (309,000)	-11%
C&D	$ 103,000	$ 2,884,000	**$ 2,987,000**	$ (358,000)	-11%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Total	**$ 16,508,000**	**$ 16,054,000**	**$ 32,562,000**	**$ 688,000**	+2%

An additional cost consideration under this scenario that is not reflected in Table 3-13 above is the potential revenue gained from the sale of SVSWA's current Sun Street Transfer Station. No Salinas-area transfer station would be required in this scenario.

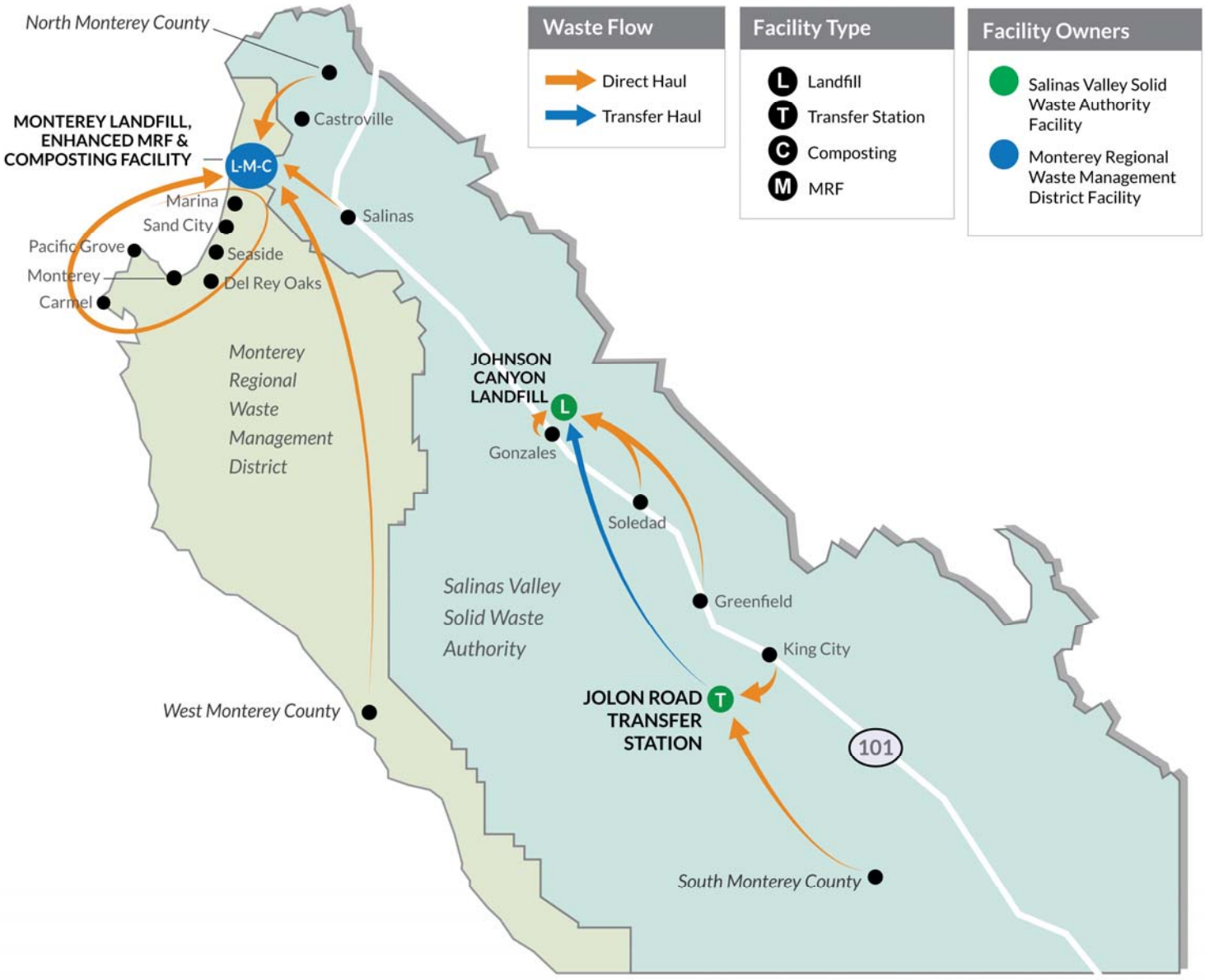
Table 3-12 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions are projected to be approximately 19% higher than the status quo (Scenario 1). This significant increase in projected emissions is due to the increase in direct haul mileage for collection trucks delivering Salinas and northern unincorporated County tons to the Monterey Landfill site in Marina.

TABLE 3-12
Scenario 5 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,454,878	4,191	270,536	783	**4,974**	+19%

Scenario 6

Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill



Scenario 6 provides for new large scale diversion in the MRWMD region and northern SVSWA region only, with MRWMD-region waste and northern SVSWA-region waste delivered to the Marina site, and the remainder of the SVSWA region's waste delivered to the Johnson Canyon Landfill.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility, approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be

subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

In the SVSWA region, waste generated in the City of Salinas and the northern portion of the unincorporated County would be direct hauled to the Monterey Landfill in Marina. In the remainder of the SVSWA region, waste would be delivered to the Johnson Canyon Landfill via direct haul and transfer. Commercial and multi-family waste from Salinas and the northern SVSWA region would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site. The Johnson Canyon Landfill would experience a significant reduction in disposal throughput due to the redirection of Salinas and northern County waste streams.

Specifically, Scenario 6 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Monterey Landfill, MRF and Composting Facility located in Marina. No Salinas-area transfer station would be required;
  - Gonzales, Soledad and Greenfield direct haul to Johnson Canyon Landfill; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Johnson Canyon Landfill.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-13 below. As shown, the total projected annual system costs are projected to be approximately 2% lower than Scenario 1 – Status Quo. This decrease in cost is due to efficiencies gained through bypassing the Sun Street and Madison Lane Transfer Stations, and instead direct hauling all Salinas and northern unincorporated County tons to the Monterey Landfill site in Marina.

TABLE 3-13
Scenario 6 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 5,983,000	$ 7,909,000	**$ 13,892,000**	$ 113,000	+1%
Green Waste	$ 1,234,000	$ 1,247,000	**$ 2,481,000**	$ (419,000)	-14%
C&D	$ 91,000	$ 2,884,000	**$ 2,975,000**	$ (370,000)	-11%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Total	**$ 15,144,000**	**$ 16,054,000**	**$ 31,198,000**	**$ (676,000)**	-2%

An additional cost consideration under this scenario that is not reflected in Table 3-13 above is the potential revenue gained from the sale of SVSWA's current Sun Street Transfer Station. No Salinas-area transfer station would be required in this scenario.

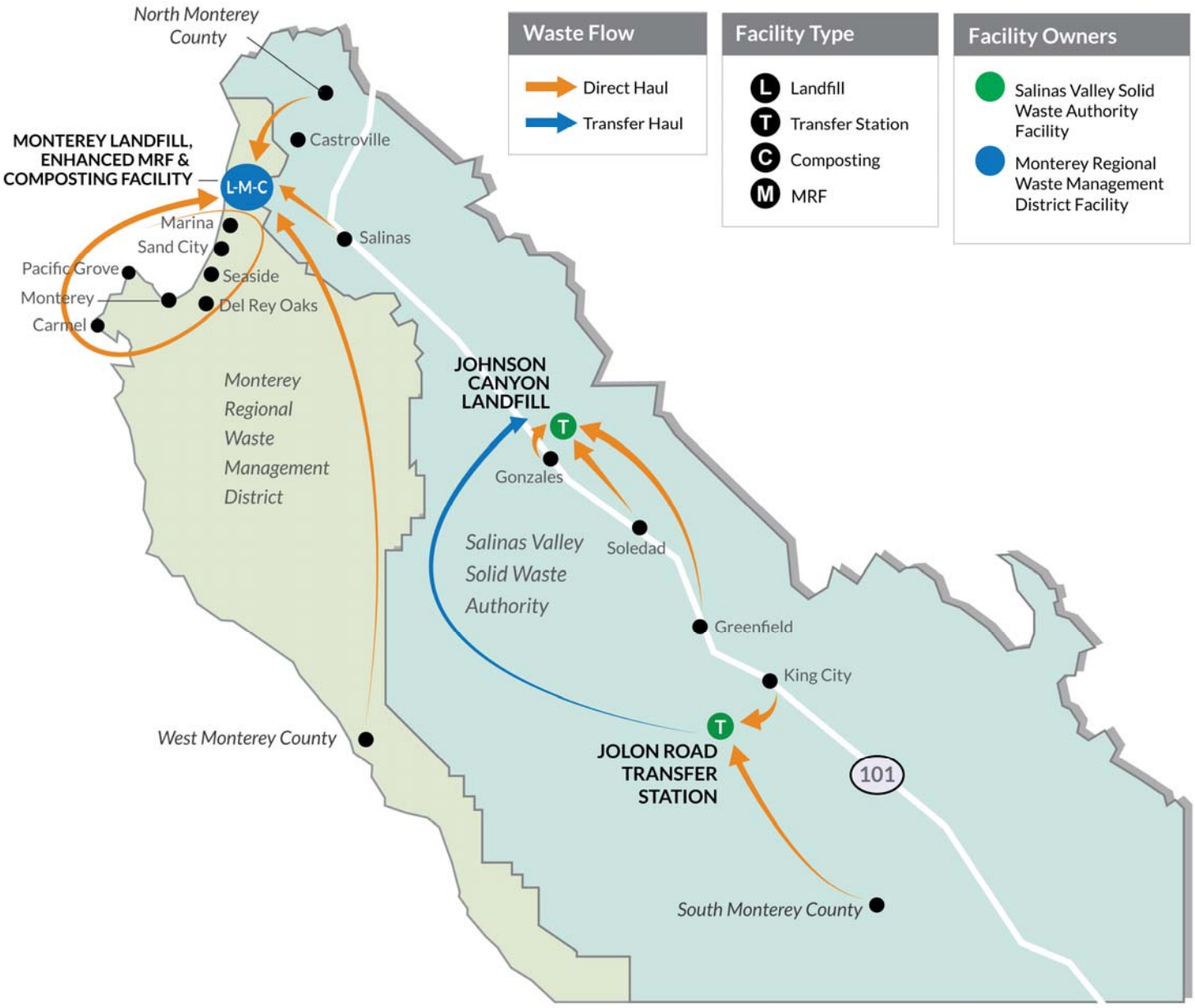
Table 3-14 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions are projected to be approximately 5% higher than the status quo (Scenario 1).

TABLE 3-14
Scenario 6 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,454,878	4,191	68,772	199	**4,390**	+5%

Scenario 7

Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to Johnson Canyon Landfill, No Additional SVSWA Diversion



Scenario 7 provides for additional diversion in the MRWMD region only, and is designed to realize potential cost efficiencies by routing Salinas and northern SVSWA-region waste to the Monterey Landfill site for disposal. The remainder of the SVSWA region's waste would be delivered to the Johnson Canyon Landfill, as per the status quo.

Under this scenario, all MRWMD-region solid waste would continue to be direct hauled to the Marina facility in the same manner as Scenario 1 – Status Quo. Once arriving at the facility,

approximately 80,000 tons of MRWMD-region commercial and multi-family waste would be subject to sorting and recovery in accordance with the MRWMD's planned MRF enhancements at the Marina site.

In the SVSWA region, waste generated in the City of Salinas and the northern portion of the unincorporated County would be direct hauled to the Monterey Landfill in Marina for disposal. In the remainder of the SVSWA region, waste would be delivered to the Johnson Canyon Landfill via direct haul and transfer. The Johnson Canyon Landfill would experience a significant reduction in disposal throughput due to the redirection of Salinas and northern County waste streams.

Specifically, Scenario 7 includes the following facility routing:

- **SVSWA Region**
  - Salinas and northern unincorporated County area direct haul to Monterey Landfill, MRF and Composting Facility located in Marina for disposal (no additional diversion of mixed waste). No Salinas-area transfer station would be required;
  - Gonzales, Soledad and Greenfield direct haul to Johnson Canyon Landfill; and
  - King City and southern unincorporated County area direct haul to Jolon Road Transfer Station, then transfer haul to Johnson Canyon Landfill.
- **MRWMD Region**
  - All Member Agencies direct haul to Monterey Landfill, MRF and Composting Facility located in Marina, with MRF enhancements to recover material from mixed commercial and multi-family waste, and additional recovery of C&D material.

Based on these parameters, we projected the following annual system costs for transport, transfer, processing and disposal of solid waste, green waste and C&D materials, shown in Table 3-15 below. As shown, the total projected annual system costs are projected to be approximately 4% lower than Scenario 1 – Status Quo. This decrease in cost is due to efficiencies gained through bypassing the Sun Street and Madison Lane Transfer Stations, and instead direct hauling all Salinas and northern unincorporated County tons to the Monterey Landfill site in Marina.

TABLE 3-15
Scenario 7 – Annual System Cost Projections

Material Type	Annual System Costs				
	SVSWA	MRWMD	Total	Change vs. Status Quo	
				$	%
Variable Costs					
Solid Waste	$ 5,504,000	$ 7,909,000	**$ 13,413,000**	$ (366,000)	-3%
Green Waste	$ 1,234,000	$ 1,247,000	**$ 2,481,000**	$ (419,000)	-14%
C&D	$ 91,000	$ 2,884,000	**$ 2,975,000**	$ (370,000)	-11%
Fixed Costs					
Admin, Legacy Costs, etc.	$ 7,836,000	$ 4,014,000	**$ 11,850,000**	$ -	–
Total	**$ 14,665,000**	**$ 16,054,000**	**$ 30,719,000**	**$ (1,155,000)**	-4%

An additional cost consideration under this scenario that is not reflected in Table 3-15 above is the potential revenue gained from the sale of SVSWA's current Sun Street Transfer Station. No Salinas-area transfer station would be required in this scenario.

Table 3-16 below provides the projected annual GHG emissions resulting from the direct hauling and transfer hauling of tons generated in the County. As shown, the total metric tons of carbon dioxide ($MTCO_2$) emissions are projected to be approximately 5% higher than the status quo (Scenario 1).

TABLE 3-16
Scenario 7 – Annual GHG Emission Projections

Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo
Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions		
1,454,848	4,191	68,706	199	**4,390**	+5%

Recommendations

- Scenario 7 results in the lowest system-wide cost of all scenarios analyzed in this report. Specifically, Scenario 7 includes:
    - MRWMD Region: Direct regional material to the Monterey Landfill, MRF and Composting Facility located in Marina, with the MRF enhancements that are currently being implemented.
    - SVSWA Region: Direct-haul Salinas and north County SVSWA waste to MRWMD's landfill in Marina for disposal. No purchase of Madison Lane Transfer Station, and no implementation of SVSWA Autoclave facility. Continue to utilize the Jolon Road Transfer Station to transfer south County waste to Johnson Canyon Landfill (and direct haul for cities in close proximity to the landfill).
        - This option provides the SVSWA region with annual cost savings of $4.8 million as compared to purchasing Madison Lane Transfer Station and implementing an Autoclave facility (estimated difference of $1.50 in monthly household customer rates); Annual cost savings of $1.5 million as compared to the current status quo (estimated difference of $0.47 in monthly household customer rates); and
        - Southern County SVSWA region tipping fees should not be adversely affected by this change, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA's fixed costs (e.g., legacy closed landfill debt, AB 939 programs such as public education).
- Direct Haul versus a Salinas Public Convenience Facility – The convenience of a Salinas area transfer station could be an unnecessary cost to the SVSWA customers if the Marina landfill were used as the north County disposal facility. Although the need for a Salinas area transfer station is more evident under the current status-quo condition of hauling Salinas wastes to the Johnson Canyon Landfill, the need for this facility becomes questionable for scenarios in which north County wastes are delivered to

Marina Landfill. The Marina Landfill is closer to the Salinas and northern County residents than the Johnson Canyon Landfill. The cost of waste receipt, reloading and transfer could be avoided with a slight increase in the direct hauling of waste to the Marina Landfill. We did not address the convenience of the Sun Street or Madison Lane Transfer Station facilities to the self-haul users of the Salinas area.

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Section 4. Tipping Fee Analysis

Methodology

We reviewed the following documents in order to assess the current tipping fees in the MRWMD and SVSWA:

- MRWMD disposal fees effective January 1, 2014 and SVSWA disposal fees effective July 1, 2013;
- MRWMD and SVSWA annual reports and financial information for the past three years; and
- Relevant MRWMD and SVSWA facility/diversion planning documents.

Using this information, we reviewed MRWMD and SVSWA tipping fees and assessed major factors that affect those tipping fees. This included assessing the impact of potential new diversion facilities (MRWMD MRF enhancements and SVSWA Autoclave) on the tipping fees and associated household customer rates in both MRWMD and SVSWA regions.

Findings

Current Tipping Fees

A summary of the current tipping fees charged by the MRWMD and SVSWA is provided in Table 4-1 below.

TABLE 4-1
Summary of Current Per-Ton Landfill Tipping Fees

MRWMD – Current Disposal Fees (Effective 1/1/2014)	
Monterey Peninsula Landfill	
Solid Waste	$ 51.75
Clean Green Yard Waste and Wood Waste	$ 30.00
Construction and Demolition (C&D) Materials	Various*
Food Scraps	$ 42.00

* Rate varies from $1 to $30 per ton depending on material type.

SVSWA – Current Disposal Fees (Effective 7/1/2013)	
Johnson Canyon Landfill, Jolon Road Transfer Station, and Sun Street Transfer Station	
Solid Waste	$ 67.00
Greenwaste and Wood	$ 36.00
Construction and Demolition (C&D) Materials	$ 58.00

As shown, the MRWMD has current per-ton tipping fees of $51.75 for solid waste, $30.00 for green/yard/wood waste, various rates for C&D materials (between $1.00 and $30.00 per ton), and $42.00 for food scraps.

The SVSWA, on the other hand, has slightly higher tipping fees which include $67.00 per ton for solid waste, $36.00 for green/wood waste, and $58.00 for C&D materials. The SVSWA does not have a per-ton rate for food scraps, as there are currently no food scraps programs in the SVSWA service area. Also, it is important to note that the SVSWA also charges per-ton fees in addition to the amounts listed above, which include:

- **Salinas Transportation Surcharge** – An $11.00 per ton surcharge assessed only on City of Salinas franchise tons. Pays for the handling and transporting of Republic waste to Johnson Canyon Landfill from the Madison Lane and Sun Street transfer stations; and
- **AB 939 Surcharge** – Approximately $8.57 per ton surcharge to help fund the SVSWA's AB 939 programs (the surcharge is levied on all member agency franchise haulers once annually based on total tons).

It should be noted that although only the SVSWA currently charges an "AB 939 Surcharge," both the MRWMD and SVSWA appear to be looking to shift the cost of tipping fees onto "AB 939 fees" or similar fees charges to the Member Agencies to cover the cost of recycling programs and public education (rather than funding these activities through landfill tipping fees).

Major factors that influence the current MRWMD and SVSWA tipping fees include the following:

- **MRWMD** – The MRWMD currently imports a significant amount of out-of-County waste at its Marina Landfill. This practice grants significant economies of scale to the MRWMD landfill operation in Marina, which allows the MRWMD to charge lower tipping fees to the in-County Member Agencies than it otherwise be able to due to a significant increase in economies of scale. In fiscal year 2012-13, MRWMD received 69% of its total disposal tonnage from out-of-county sources.
- **SVSWA** – No out-of-County waste is currently imported at the SVSWA's Johnson Canyon Landfill, although the SVSWA does have a prior history of importation. However, in the SVSWA region, post-closure maintenance costs for closed Crazy Horse, Lewis Road, and Jolon Road landfills and legacy debt for closure of these landfills have a significant impact on the tipping fees charged at SVSWA facilities (approx. $850,000 annually). These costs are borne by the rate-payers in the SVSWA service area, and will continue to be borne by SVSWA region rate-payers, regardless of any potential changes to the solid waste system. These legacy costs do not prevent the SVSWA region from changing/modifying their solid waste system and in the event that Salinas and northern SVSWA region direct-hauled to Marina for disposal, the southern SVSWA region tipping fees should not be adversely affected, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA's fixed costs. There are no such similar post-closure costs for the MRWMD. It should also be noted that early closure of the Johnson Canyon Landfill would require the SVSWA to expend an estimated $7,000,000 to $9,000,000 in unfunded closure and post-closure costs and would increase costs to the rate-payers.

Effect of New Proposed Diversion Options on Tipping Fees and Customer Rates

MRWMD

The MRWMD is currently in the process of implementing enhancements to the Marina MRF. Enhancements will include commercial mixed waste processing, single-stream processing, and enhanced processing of C&D materials.

The MRWMD's new MRF enhancements represent a relatively low level of risk due to the fact that the new MRF technologies (e.g., mixed waste and single stream processing lines) have

been thoroughly tested and are currently used successfully in other locations outside of Monterey County.

SVSWA

The SVSWA is currently planning the implementation of an "Autoclave" mixed materials processing facility at the Madison Lane Transfer Station. This plan involves selling the current Sun Street Transfer Station facility and purchasing and relocating to the Madison Lane Transfer Station, which is currently owned and operated by Waste Management. The SVSWA was unable to provide specific details regarding the cost to purchase Madison Lane, but did state that they expect the net cost to SVSWA for purchase of Madison Lane Transfer Station, sale of Sun Street Transfer Station, and rehabilitation costs at Madison Lane Transfer Station to be less than $6 million. The planned Autoclave operations would be provided by Global Organics Energy (GOE) at a cost to SVSWA of approximately $36 per ton of mixed solid waste ($39 per ton cost, less credit for material sales).

It should be noted that in addition to the SVSWA's proposed Autoclave facility being somewhat costly (as discussed in Section 3), this technology represents a significantly higher level of risk than the MRWMD's planned MRF enhancements. This is due to the fact that the Autoclave mixed waste processing technology, to our knowledge, has never been implemented on this large of a scale anywhere. Additionally, the Autoclave equipment would be owned by a private contractor (Global Organics Energy), and would require a long-term "flow control" agreement that would put Member Agencies and rate-payers at risk by requiring the SVSWA region to deliver materials to the facility.

Estimated Changes in Household Customer Rates

In terms of quantifying the impact of the MRWMD and SVSWA's proposed new diversion systems on tipping fees and customer rates, we would expect that the overall changes in total tipping fees passed through to customers in each region would be roughly in line with the estimated changes in system costs (i.e., transport, transfer, processing and disposal costs) which were determined as part of our Collection/Transport Use Assessment in Section 3 above. Table 4-2 below shows the overall change in system costs as previously determined for each solid waste system scenario in Section 3. Using that information, we estimated changes in monthly household customer rates based on an estimated average household customer rate of $20.00 per month. The following conclusions may be drawn based on the findings of Table 4-2 below:

- The MRWMD's planned MRF enhancements would increase overall MRWMD tipping fees by approximately 2%, and equate to an impact of approximately $0.11 per household per month for MRWMD region residential rate-payers (demonstrated by Scenarios 2, 3, 4, 5, 6 and 7);
- The SVSWA's proposed Autoclave services would increase overall SVSWA tipping fees by approximately 21%, and equate to an impact of approximately $1.03 per household per month for SVSWA region residential rate-payers (demonstrated by Scenario 4); and
- Scenario 7 would provide an estimated $0.47 savings in SVSWA region monthly household customer rates as compared to the current status quo (Scenario 1), or an estimated $1.50 savings in monthly household customer rates as compared to purchasing Madison Lane Transfer Station and implementing an Autoclave facility (Scenario 4).

TABLE 4-2
Estimated Changes in Household Customer Rates

System Scenario		SVSWA			MRWMD		
		Change in System Costs vs. Status Quo	Approximate Change in Household Rates*		Change in System Costs vs. Status Quo	Approximate Change in Household Rates*	
			%	$		%	$
Scenario 1:	Status Quo	–	–	–	–		–
Scenario 2:	Increased Diversion at MRWMD; No Additional Diversion at SVSWA	–	–	–	+2%	+0.6%	+$0.11
Scenario 3:	Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD	+20%	+5.1%	+$1.02	+2%	+0.6%	+$0.11
Scenario 4:	Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill	+21%	+5.2%	+$1.03	+2%	+0.6%	+$0.11
Scenario 5:	Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD	+2%	+0.5%	+$0.10	+2%	+0.6%	+$0.11
Scenario 6:	Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill	-6%	-1.6%	($0.32)	+2%	+0.6%	+$0.11
Scenario 7:	Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to JCLF, No Additional SVSWA Diversion	-9%	-2.3%	($0.47)	+2%	+0.6%	+$0.11

* Assumes $20/month household rate and that MRWMD/SVSWA system costs account for 25% of total customer rate.

Recommendations

- Johnson Canyon Landfill – Do not prematurely close Johnson Canyon Landfill, as a cost savings effort. Doing so would result in the need for the SVSWA to expend an estimated $7,000,000 to $9,000,000 in unfunded closure and post-closure costs, thereby causing unnecessary burden on SVSWA region rate-payers. The continued use of Johnson Canyon Landfill for its intended purpose to fulfill its permitted capacity is preferable to a premature closure.

- Importation of Out-of-County Tons – Large existing landfill capacity represents a significant asset to both the SVSWA and MRWMD. Continuing the practice of importing out-of-County tons at MRWMD, and/or restarting out-of-County importation practices at SVSWA, represent significant policy decisions that have large impacts on the tipping fees in each region. It is also worth noting that for SVSWA, any potential aggressive changes such as selling the Johnson Canyon Landfill to a private company would require the marketing of availability of existing landfill capacity to out-of-County tons.
- Public vs. Private Diversion – In general, we recommend that the individual jurisdictions in the County put the burden of recycling on their private collection contractors, rather than having the public sector invest in new technologies/facilities to increase diversion. Going forward, we recommend requiring the franchise haulers in each individual jurisdiction to provide for a level of diversion that is in line with the goals of each jurisdiction, or with the goals of the agency with which they hold membership.

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Section 5. Policy and Sustainability Review

Methodology

We reviewed the following documents in order to assess sustainability policies and programs in the County, MRWMD and SVSWA:

- MRWMD and SVSWA annual reports for the past three years;
- Relevant MRWMD and SVSWA facility/diversion planning documents;
- County franchise agreement with USA Waste (dba Carmel Marina Corporation);
- Relevant State legislation, including AB 939, AB 341, and AB 1826; and
- CalRecycle annual report data submitted for all County jurisdictions, including the most recently reported per-capita disposal figures for calendar year 2013.

Using this information, we reviewed Countywide sustainability policy and relevant State legislation with an emphasis on diversion of materials from landfill. This included assessing the County's current level of compliance with State diversion legislation, current diversion plans, and the consistency of MRWMD and SVSWA diversion policies with State law.

Findings

Diversion Policies

Policies related to the diversion of materials of landfill are the most significant sustainability issue with regards to this review of Monterey County's Solid Waste Management System.

Statewide Diversion Policy

State-wide policy regulating diversion of materials from landfill effectively began in 1989 with the implementation of State mandate AB 939. Specifically, AB 939 set forward diversion requirements of 25% by 1995 and 50% by 2000, and also established the California Integrated Waste Management Board, which is now part of the "CalRecycle" entity in conjunction with the State of California's Department of Conservation, Recycling Division.

In 2013, CalRecycle established a new goal of 75% diversion by year 2020 as part of AB 341, the State mandate which requires commercial waste generators to subscribe to recycling programs. It should be noted, however, that 75% diversion in 2020 is currently only a "goal" as opposed to a "requirement." While it is very possible that the State/CalRecycle will pursue an increased diversion requirement for local jurisdictions in the future, the current actual diversion requirement remains at 50% as of this date.

Additionally, the recent State mandate AB 1826 will require jurisdictions to arrange for organics (i.e., yard trimmings and food scraps) recycling programs for multi-family dwelling (MFD) and commercial sectors with a phased-in approach starting in 2016.

Monterey County Diversion Policy

In terms of diversion policy within Monterey County, the MRWMD has set a diversion goal of 75% by 2020, identical to the State-wide goal set by CalRecycle. The SVSWA has set a goal of 75% diversion from landfill by 2015, which represents a more urgent goal than that put in place by CalRecycle. Funding for the existing diversion programs operated by the MRWMD and SVSWA is obtained through the disposal/processing fees charged by each agency.

Current Diversion Levels

Table 5-1 below shows the actual jurisdiction diversion rates (as recognized by CalRecycle) in the most recent available reporting year (calendar year 2013). It should be noted that SVSWA data is only available for all SVSWA Member Agencies as a whole, due to the fact that the SVSWA is recognized as a "reporting agency" which reports to CalRecycle annually on behalf of all its member jurisdictions. The MRWMD is not a recognized "reporting agency" and therefore the CalRecycle data is required to be reported annually by each individual member jurisdiction. The Unincorporated County reports to CalRecycle as its own entity, and is not included in the SVSWA aggregate data.

TABLE 5-1
2013 CalRecycle Diversion Rates

Jurisdiction / Reporting Agency	2013 CalRecycle Diversion Rate	Reduction in 2013 Disposal Tons Needed to Reach 75% Diversion
SVSWA (1)		
All SVSWA Members (not incl. Unincorporated County)	**72%**	15,655
MRWMD		
Carmel-by-the-Sea	**76%**	-
Del Rey Oaks	**66%**	292
Marina	**75%**	-
Monterey	**74%**	1,330
Pacific Grove	**73%**	685
Sand City	**80%**	-
Seaside	**63%**	7,479
Pebble Beach CSD	*(included in Unincorporated County below)*	
Unincorporated County of Monterey (2)		
All Unincorporated County Area	**56%**	51,612
Hypothetical – MRWMD as "Reporting Agency" (3)	**72%**	9,176
Hypothetical – All Jurisdictions Combined	**68%**	76,444

(1) The SVSWA as a "reporting agency" does not include any of the Unincorporated County area.

(2) The Unincorporated County of Monterey data shown here includes all unincorporated areas, including those areas within the SVSWA or MRWMD service areas.

(3) These estimates for MRWMD as a "reporting agency" include Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Grove, Sand City and Seaside. These estimates do not include any Unincorporated County area, and hence do not include Pebble Beach CSD.

As shown in Table 5-1 above, ***all of the County's jurisdictions and reporting agencies are in compliance with CalRecycle's current diversion requirement of 50%***, and three cities have even already met the goal of 75% diversion by 2020 (Carmel-by-the-Sea, Marina, and

Sand City). The remaining jurisdictions range between 63% and 74% diversion, with the exception of the Unincorporated County area, which has the lowest diversion rate at 56%.

Also shown in the table above, if the MRWMD hypothetically reported to CalRecycle as a single unified "reporting agency" on behalf of all its member jurisdictions in 2013, it would have achieved a diversion rate of 72%. Similarly, if all County jurisdictions reported to CalRecycle as a single unified "reporting agency" in 2013 (including all MRWMD members, SVSWA members, and the Unincorporated County), the County as a whole would have achieved a diversion rate of 68%.

Large-scale diversion projects are not required for compliance with current State law (50% AB 939 diversion requirement), and do not appear to be necessary to assist the State in meeting CalRecycle's "goal" of 75% diversion by 2020 (AB 341). All jurisdictions in the County are in compliance with CalRecycle's current requirement of 50% diversion, set forth by State mandate AB 939, and therefore no additional diversion is needed to comply with the current actual requirements set forward by the State of California.

Current Diversion Plans

MRWMD

As discussed above, the MRWMD is currently in the process of implementing enhancements to the Marina MRF. Enhancements will include:

- **Commercial Mixed Materials Processing** – A mixed materials processing line to accept 80,000 tons of MRWMD region commercial and multi-family dwelling (MFD) mixed waste that are currently landfilled (estimated 68% diversion of accepted materials). Note the MRWMD could have stipulated these services be provided by the private franchised haulers but elected to construct the facility as a public investment instead;
- **Single-Stream Processing** – A single-stream recyclables (i.e., "clean" recyclables) processing line to accept 10,000 to 15,000 tons not currently received by MRWMD (estimated 90% diversion of accepted materials); and
- **C&D Processing** – Enhanced processing of construction and demolition (C&D) materials currently received by MRWMD (estimated 75% diversion of this material – currently approximately 57% is diverted).

SVSWA

The SVSWA is currently planning the implementation of an "Autoclave" mixed materials processing facility at the Madison Lane Transfer Station. This plan involves selling the current Sun Street Transfer Station facility and purchasing and relocating to the Madison Lane Transfer Station, which is currently owned and operated by Waste Management. The SVSWA estimates that the proposed Autoclave facility would divert approximately 70% of the accepted materials, which would include all residential and commercial mixed waste in the SVSWA region. The Autoclave units are modular and could be expanded to accept additional capacity as needed. C&D materials, debris boxes and green waste/organics would not be processed through the Autoclave. The Autoclave has been tested as a small pilot program by the SVSWA, and Autoclave technology has also been used on a small scale to process medical waste in other areas of the country. However, an Autoclave operation of the size and scale proposed by SVSWA has, to our knowledge, never been attempted.

Recommendations

- The SVSWA should revise its goal of 75% diversion by 2015, as this goal is unnecessary for compliance with State law and may result in higher tipping fees and customer rates for its member jurisdictions. We suggest a goal of 75% diversion by 2020 as recognized CalRecycle. As stated above, the SVSWA reporting agency as a whole achieved 72% diversion as recognized by CalRecycle in 2013.
- Any efforts to increase overall diversion should be focused on enhancing recycling programs in the Unincorporated County area, which has the lowest CalRecycle diversion rate of all jurisdictions in the County (i.e., 56% in 2013) and would require the most additional diversion to keep pace with the 75% CalRecycle diversion goal in 2020.
- All jurisdictions should require their franchised haulers to be responsible for arranging for diversion of materials in accordance with State law. Most notably, this includes the recent AB 1826, which will require jurisdictions to arrange for organics (i.e., yard trimmings and food scraps) recycling programs for multi-family dwelling (MFD) and commercial sectors with a phased-in approach starting in 2016.
- MRWMD Member Agencies should support the expansion of the MRWMD MRF, as it appears to be a cost-effective option for achieving increased diversion, with the caveat that additional organics diversion for commercial waste generators may need to be added in the future to comply with AB 1826.
- If SVSWA Members Agencies require or elect to increase diversion above State requirements, then they should put increased diversion requirements on the franchised haulers and not pursue publically owned or flow-controlled additional diversion facilities. The SVSWA could increase diversion by directing its franchise haulers to deliver materials to MRWMD's expanded MRF as a lower cost/lower risk option than building the Autoclave facility.

Section 6. Review of County Programs and Rates

Methodology

To complete our review, we requested and reviewed information from the County and the SVSWA which included:

- Unified franchise agreement between the County and USA Waste (dba Carmel Marina Corporation) for collection services in the unincorporated County area, and amendments to that agreement;
- Most recent customer rate adjustment and current USA Waste customer rates; and
- SVSWA County Commercial Rate Analysis 2015.

We reviewed this information in order to assess the County's current commercial rate structure and identify potential areas for improvement.

Findings

Unincorporated County solid waste programs include solid waste, green waste and recyclables collection services, as well as temporary roll-off bin service. USA Waste submits to the County franchise fees equal to 10% of their gross revenues, as well as an annual "diversion programs and administration fee" of $520,000 per year. In addition to managing the franchise agreement, the County EHB provides public education, and administers the County's used motor oil and filter recycling program. A summary of sample unincorporated County commercial customer rates is provided in Table 6-1 below.

Table 6-1
Sample Unincorporated County Commercial Rates (Effective January 1, 2015)

Container Size	MRWMD Service Area			SVSWA Service Area		
	Collection Frequency			Collection Frequency		
	1x/week	2x/week	3x/week	1x/week	2x/week	3x/week
Commercial Carts						
35 gallon cart	$ 29.65	$ 59.30	$ 88.95	$ 30.60	$ 61.20	$ 91.80
64 gallon cart	$ 46.14	$ 92.28	$ 138.42	$ 47.62	$ 95.24	$ 142.86
96 gallon cart	$ 57.13	$ 114.26	$ 171.39	$ 58.96	$ 117.92	$ 176.88
Commercial Bins						
2 CY bin	$ 166.72	$ 333.44	$ 500.16	$ 263.18	$ 526.36	$ 789.54
4 CY bin	$ 320.48	$ 640.96	$ 961.44	$ 486.88	$ 973.76	$ 1,460.64
6 CY bin	$ 461.22	$ 922.44	$ 1,383.66	$ 700.74	$ 1,401.48	$ 2,102.22
Commercial Compactors						
2 CY compactor	$ 333.46	$ 666.92	$ 1,000.38	$ 526.34	$ 1,052.68	$ 1,579.02
4 CY compactor	$ 640.92	$ 1,281.84	$ 1,922.76	$ 973.76	$ 1,947.52	$ 2,921.28
6 CY compactor	$ 922.44	$ 1,844.88	$ 2,767.32	$ 1,401.42	$ 2,802.84	$ 4,204.26

The County's rate structure incentivizes customers that choose lower collection frequency and higher service volume, as opposed to higher collection frequency and lower service volume. For example, a customer in the MRWMD service area would pay $461.22 for a 6 cubic yard (6 CY) bin collected once per week, but would pay more ($500.16) for a 2 CY bin collected three times per week (i.e., the same overall weekly service volume of 6 CY). In our experience, this incentive is designed to help lower the amount of garbage truck visits to each commercial account. Less garbage truck trips results in less vehicle emissions and less road wear-and-tear, and is also more time- and cost-efficient for the collection contractor.

Commercial and MFD cart customers are eligible for one recycling cart up to 96 gallons in size for recyclables at no charge for each solid waste cart. Commercial and MFD bin customers are eligible for half of the solid waste capacity in recycling bin or cart service at no charge. Additional recycling carts or bins beyond those amounts cost extra, and green waste collection service is not included in the base commercial and MFD service rates.

Compactor bins are charged double the rate at which regular non-compacting bins of the same service volume are charged. In our experience, this is a standard practice which assumes that a compacting bin has roughly double the capacity of a non-compacting bin with the same cubic-yard volume.

As shown in Table 6-1 above, the Unincorporated County has commercial customer rates which vary in amount based on the type of container, service volume, and service frequency. In general, bin rates are higher than cart rates, and customers pay higher rates for increased collection volume and/or collection frequency. The commercial rates are higher in the SVSWA region of the Unincorporated County than in the MRWMD region, specifically:

- Commercial cart rates are on average **3% higher** in the SVSWA region than in the MRWMD region; and
- Commercial bin and compactor rates are both on average **53% higher** in the SVSWA region than in the MRWMD region.

This significant difference in customer rates between the two regions continues to be a matter of discussion between SVSWA and County staff. According to a recent study completed by the SVSWA ("County Commercial Rate Analysis 2015"), County EHB staff stated in the most recent rate approval hearing (December 9, 2014) that the higher rates in the SVSWA region were due to higher disposal costs (i.e. tipping fees) in the SVSWA area, as well as the SVSWA service area being larger, more rural and more difficult to service.

In response, the SVSWA undertook a study to assess the validity of the claim that collection costs are greater in the SVSWA service area, independent of the cost of disposal. Using customer service level data provided by the County EHB, and USA Waste operating cost data as provided in the most recent rate adjustment calculation sheet approved on December 9, 2014. SVSWA staff determined that the actual cost of providing commercial collection service in the SVSWA area is 2.8% higher than in the MRWMD area if disposal costs are included, and 7.3% less if disposal costs are not included. This finding is not consistent with County staff's reasoning for the significantly higher customer rates (53% higher for bins and compactors) in the SVSWA area. The methods used by SVSWA staff to determine these results appear to be correct, however, the operating cost data and customer service level data used in SVSWA's analysis should be reviewed by USA Waste and County staff to confirm.

The current rate structure was originally established as part of the approval of the County's current unified franchise agreement in 2010, and rates have since been adjusted using the agreement's prescribed annual Refuse Rate Index (RRI) adjustment methodology. It should be

noted that USA Waste is not required to base their customer rates on the actual costs to provide service in each region; the County's franchise agreement with USA Waste only stipulates the method for determining the annual rate adjustment (Section 13.13 – "Refuse Rate Index (RRI) Adjustment").

Recommendations

- The County EHB and USA Waste should review and verify the findings of SVSWA's commercial rate analysis. Without performing an independent analysis, we find the SVSWA response to the commercial rate study performed by MSW consultants to be worthy of consideration. Namely, the SVSWA analysis concludes the cost of commercial waste service in the SVSWA region, when based on expenses for collection services, is comparable with the cost of commercial waste service in the MRWMD region. The primary findings of the SVSWA's study conclude:
    - The cost to deliver services as shown in the most recent rate adjustment calculations reveal the SVSWA cost to be on-par with the MRWMD cost service.
    - When adjusted to exclude disposal cost, the cost of service for the SVSWA region is lower than for the MRWMD.
- We conclude the SVSWA commercial rate study is valid.
- The County should reenter discussions with USA Waste to rebalance the unincorporated County's MRWMD-region and SVSWA-region customer rates to better reflect the actual costs of both disposal and collection service in each area.

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SalinasValleyRecycles.org
SALINAS VALLEY SOLID WASTE AUTHORITY

Mission
To manage Salinas Valley solid waste as a resource, promoting sustainable, environmentally Sound and cost effective practices through an integrated system of waste reduction, reuse, recycling, innovative technology, customer services and education.

Vision
To reduce the amount of waste by promoting individual and corporate responsibility.
To recover waste for its highest and best use while balancing rates and services.
To transform our business from burying waste to utilizing waste as a resource.
To eliminate the need for landfills.

Innovation • Integrity • Public Education • Efficiency • Fiscal Prudence • Resourcefulness • Customer Service • Community Partnerships

CLEAN FIBER AND ORGANICS RECOVERY TECHNLOGY PROJECT 2015

TECHNOLOGY FACTS:

- **Autoclave technology extensively tested over 7 years with USDA**
  - **Local pilot testing and research started in 2007**
  - **Numerous "proof of technology" research papers from USDA**
  - **Extensive product testing at Universities specializing in forestry and paper manufacturing**
- **Autoclave technology is only used for separation of paper fiber & organics (65-70% of waste)**
  - **Ability to separate paper fiber & organics well tested and proven commercially**
- **Project also includes paper fiber washing & wastewater treatment using anaerobic digestion**
  - **Wastewater is cleaned and reused in washing process**
  - **Processes are commonly used commercially in paper manufacturing**
- **Methane from anaerobic digestion will be used to produce electricity for project & excess to sell**
  - **Renewable energy & electricity self-generation**
- **All technologies used in project have proven track records at commercial scale**
  - **Proposed project uniquely combines several proven technologies**
- **Technology projected to achieve in excess of 70% recovery from waste currently landfilled**

MARKET FACTS:

- **Majority of paper recycled in CA is sent to Asian markets, via Port of Oakland**
  - **Only a portion of U.S. recycled paper returns to U.S. markets**
  - **End use or sustainable re-use of paper in Asian markets is not clear or well regulated**
  - **Reliance on foreign recycling markets & pricing is subject to political conditions & fluctuation**

- **CA & Central Coast regions are looking to revive manufacturing and create local jobs**
    - **Seeking Innovation**
    - **Building Job Opportunities**
    - **Requiring Sustainability**
- **All recovered paper fiber goes to CA paper manufacturers located in San Francisco Bay area**
    - **Paper fiber pulp from project is manufacturing ready when it arrives at paper plant**
    - **Long range market views fully support a robust and increasing demand for renewable and recycled paper fiber pulp to manufacture cardboard for packaging**
- **Bay area paper manufactures supply paper to packaging companies in Salinas Valley**
    - **Local packaging companies provide containers to Salinas Valley agriculture**
- ***Closed-loop sustainable recyclingsystem***
    - ***Collect paper/cardboard in Salinas Valley & region***
    - ***Recover and produce manufacturing ready paper pulp***
    - ***Provide pulp to San Francisco Bay area paper manufacturers***
    - ***Paper manufacturers in-turn supply paper to local packaging companies***
    - ***Local packaging companies make products for our local Agricultural industry***
    - ***This is sustainable and stable closed loop recycling!***

RISKS/RISK MANAGEMENT:

- **Public-Private Partnership**
    - **Multiple, well established commercial partners participating w/Global Organics Energy**
    - **Private financing of project without Public Funds**
    - **Privately owned and operated**
    - **Most advanced materials recovery facilities cost $100+ per ton to finance & operate**
    - **Initial Clean Fiber Recovery cost proposal is $39 per ton, +15% net revenue share**
        - **Eliminates middle-man & oversees shipping in traditional recycling market sales**
- **Commercial Scale Demonstration First**
    - **Private investors will build commercial scale demonstration autoclave at no cost to the public**
    - **Demonstration to verify commercial application, enhance design, and validate finish packaging quality and marketability**
    - **No waste delivery agreements until successful demonstration and completion of full environmental, technological and economic review**

- ***Minimal risk of public funds***
    - ***SVR commitment is to supply waste only (low risk)***
    - ***Private party builds or agrees to pay financing for needed buildings/infrastructure (low risk)***
    - ***If project fails, private party takes loss & SVR reverts to existing system (low risk)***
- **Private Investor Market Risks**
    - **Relies on more stable (demand and pricing) US markets**
    - **US markets not subject to foreign relations/politics, or uncertain environmental impacts**
    - **SVR only shares market upside with 15% share of net revenues, and none of the loss**

BENEFITS:

- **Improves "Green and Sustainable" image of region**
    - **Attracts like-minded businesses**
    - **Shows commitment to sustainable planning and principles (Silicon Valley model)**
    - **Addresses Commercial and Agricultural business requirements under AB 341 (mandatory recycling) and AB 1826 (Mandatory Commercial Organics recovery)**
- **An Economic Impact Study (IMPLAN) for the project estimates local economic benefits**
    - **Provide both one-time & on-going economic benefits**
    - **$33.1 million in one-time infrastructure and start-up benefits**
    - **$8.6 million in ongoing local benefit (jobs, services, capital)**
    - **Up to 67 full time positions (project and related support services)**
- **Greenhouse Gas Reductions expected to be significant**
    - **Potential to be major contributor to all participating agencies' Climate Action Goals**
    - **Eliminates long haul of recycled fiber to and from Asian markets**
    - **Dramatic reduction in landfill dependence**
    - **Almost eliminates organics in waste which reduces methane release from landfills**
    - **Reduces transportation costs and related greenhouse gas impacts**
- **Sustainable & closed loop recycling system**
    - **Keeps the jobs and recycled materials here**
    - **Supports re-birth and growth of U.S. manufacturing**
    - **Positioned to best managed expected growth in fiber based packaging**

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To: Monterey Bay Area Managers Group
R3 Consulting Group, Inc.

Attn: Rene Mendez, City of Gonzales

Subject: Salinas Valley Recycles - Questions/Comments Regarding: Draft "Evaluation and Analysis of Monterey County's Solid Waste System" of April 23, 2015

GLOBAL AND PUBLIC POLICY QUESTIONS/COMMENTS

1. On page 12 of the study, the consultant states that the District's importation of waste (69% of total waste disposed) is included in the "system cost" estimates. This is a significant public policy and long-term financial sustainability question that conflicts with SVR's mission and vision to eliminate dependence on landfills. *We request that the consultant also provide a separate set of the proposed scenario outputs showing what the various system costs/cost per capita outputs would be if the District were to consider a future policy ending importing of waste from outside Monterey County*. This was a follow-up asked as part of the December 2014 initial draft review questions that we did not see answered in the report.
2. The District is poised to issue $34 million in public bonds and implement their MRF enhancements. The consultant's recommendation that the District not proceed with these enhancements appears to no longer be feasible this late in the Districts' financing process. As a result, some of the study scenario assumptions may change. *We request that the consultant confirm if the District's intends to move forward with MRF enhancement financing in May 2015. If confirmed, all scenarios and recommendations need to be re-evaluated based on the District's intent to move forward with their MRF enhancements.*
3. It is important to note that from a Climate Action Planning perspective the scenarios for increased diversion activities at both agencies provide the most significant reductions in GHGs, excluding the status quo scenarios. As the GHG analysis only considers GHG related to franchise and transfer transportation, it is fair to assume that SVR's Clean Fiber Recovery Project and the District's MRF Enhancements would improve GHG reductions well below, status quo and other scenarios. See attached outline of Clean Fiber Recovery Technology Markets, Risks/Risk Management and Benefits. *Further analysis of these two project's GHG reduction potential should be considered to aid in regional policy decisions and setting of climate action planning priorities.*

4. GHG impacts associated with waste importation related transportation have not been included in the GHG analysis, please confirm. *GHG analysis should also include all the GHG impacts associated with importation of waste, to fully evaluate GHG reduction priorities/benefits for the community and statewide goals.*
5. As part of the decision process related to action associated with this report, the public should be fully engaged around the establishment of policy priorities related to:
    a. *GHG reduction/Climate Action Planning*: Costs, impacts and benefits related to waste management and resource recovery. With the Governor's recent mandate to increase GHG reductions to 40% by 2030, this policy's importance has just been significantly increased and high community GHG reduction projects such as the Districts' and SVR's should be weighted and compared more appropriately.
    b. *Economic Development*: Costs, impacts, benefits, and job creation surrounding technology innovation, recycling markets, public vs. private risk, and changing culture to attract new/innovative businesses should be evaluated in consideration of all agencies' Economic Development priorities.
    c. *Waste Import*: Regional policies, impacts, benefits, and long-term community environmental and fiscal liabilities
    d. *Regional Impacts*: Impacts and benefits to communities near new/expanded facilities, landfills and transportation routes, public acceptance of increased Salinas Valley self-haul traffic through and around the City of Marina and town of Castroville under scenarios 2, 5, 6, & 7
    e. *Cost/Benefit*: The executive summary statement that a 4-5% ($0.78-$1.03/month) increase in the average residential customer cost to implement additional diversion (and increased GHG reductions) for both agencies is "costly" appears to be an overstatement when the long term benefits of reduce landfilling, reduced GHG and reduced long term landfill liabilities are factored into a public benefits analysis. This statement can only be supported by a public engagement process and CEQA evaluation to determine if the public considers such a relatively small increase to be "costly" in light of the long term fiscal and environmental benefits of such programs, including reduction in dependence on landfills.
6. Note: There is no scenario considering the costs, impacts and benefits to the District of using SVRs proposed Clean Fiber Recovery system in whole or in conjunction with some of their proposed MRF enhancements.
7. Note: Scenarios 2, 5, 6 & 7 exclude any enhanced processing benefits for the south Salinas Valley cities and southern unincorporated county. These member agencies may have concern with these four scenarios that require them to only landfill their remaining wastes.
8. The executive summary recommendation that all self-haul waste be direct hauled to the District Landfill under Scenarios 2, 5, 6, & 7 may be of significant concern to the City of Marina or town of Castroville as neither jurisdiction has the ability to control self-haul traffic routes. With the elimination of a Salinas area transfer station that has existed for 35 years, these scenarios would increase GHG production, increase wear on county roads, potentially increase illegal dumping and litter in and around Salinas and along transportation routes.

Unintended impacts related these four scenarios should be acknowledged in the study. *The consultant should include the GHG impacts associated with 200-300 daily Salinas Valley self-haul customers re-directed to the Marina Landfill under these four scenarios.*

9. A Countywide Environmental Impact Study or other appropriate CEQA document will likely be required for some or all of the scenarios except Status Quo, scenario 1? *Please have the consultant identify CEQA needs by each scenario, if possible*.

REPORT SPECIFIC QUESTIONS/COMMENTS

10. For clarification here and throughout the document, SVR is currently studying the Clean Fiber Recovery System as a more sustainable process to recover usable materials from waste already going to the landfill and feed those materials into local CA manufacturing markets. See attached technology info. No decisions have been made, pending completion of CEQA and further due diligence which is intended to answer most of the technology questions and comments posed in this report. SVRs interest in this technology is based on 8 years of progressive hands-on research and development and market analysis with a variety of stakeholders including the USDA.
11. *Please refer to the proposed SVR enhanced system as the "Clean Fiber Recovery" system for clarity*. The autoclave itself is only a simple separation technology component of the overall project (see attached technology, marketing, risks and benefits outline). The proposed project includes other components such as conventional cellulose fiber washing, water reclamation/anaerobic digestion and renewable energy production.
12. What is the study's assumed rate ($/ton) that SVR would pay MRWMD for disposal of its Salinas and North County refuse at the Marina Landfill? Is it the Santa Clara County Regional Waste rate (~$22/ton), Santa Cruz County Regional Waste rate (~$30/ton), current published public gate rate ($51.75/ton), or future estimated gate rate (incl. bond financing cost) of ~$61.75/ton (per County JPA membership report)?
13. Greenwaste system costs. Consistent with its sustainable budgeting directive, please note that SVR is proposing to equalize all greenwaste processing fees in 2015-16 to create a fully load rate that reflects the full cost of organics processing services without subsidy from other revenue sources (i.e. tipping fees). The new rate will be $29.50 per ton. Please revise the study assumptions and system cost and tipping fee components to reflect this anticipated lowering of SVRs processing rate.
14. Does the organics and composting system cost analysis include an evaluation of the GHG and transportation impacts of moving SVR greenwaste feedstock to the District processor and then returning the finished product to south county markets or existing composting businesses that rely on the feedstock?
15. Note: It would seem that retaining the strategically located greenwaste processing in both North and South County makes more sense from a product distribution perspective. Retaining two large, competing processors with guaranteed municipal greenwaste feedstock assures market competition and product pricing control for agriculture and landscape industries across the entire county.

16. For the effected scenario's, is the cost of constructing and maintaining a transfer station at the Johnson Canyon Landfill part of the analysis?
17. For the effected scenario's, is the cost of maintaining a transfer station at the Jolon Road Transfer part of the analysis?
18. Do scenarios 2, 3 & 5 include the SVR cost impacts to fund the $7-$9 million funding balance needed for early closure of the Johnson Canyon landfill?
19. Scenarios 3 & 4. Road improvement costs related to the Madison Lane Transfer Station purchase ***should not*** be fully loaded into the project cost assumptions and customer rate impacts. The City of Salinas, the County of Monterey and some Boronda area businesses have already acknowledged the broader value of installing this access road to allow for planned expansion of commercial and industrial business growth in south Boronda. Installation of this roadway is also a future planned action in accordance with the 2010 Boronda Community Development Plan adopted by the County of Monterey. Salinas has proposed a four way split to the initial costs between Salinas, Monterey County, SVR and the Boronda businesses. Customer rates are only impacted by SVRs 25% direct share of the projects capital costs. Please revise the cost assumptions as appropriate.
20. Page iv, 1st and last sub-bullets. Consultant references both the SVSWA and County needing the exact same increase in diversion to achieve 75% (15,655). Is this a typo?
21. Page iv, last bullet on page. The cross referencing of AB 939 fees and SVR's AB 939 surcharge is confusing. They are one-in-the-same and SVR has implemented this funding structure in-lieu of using declining landfill tipping fees, not just considering it.
22. Page iv. Regarding the MRWMD proposed MRF and the existing Castroville MRF, was there an evaluation of public benefit for constructing the MRWMD MRF vs continued use of existing private MRFs? Will the public have to pay for any Waste Management (WM) costs should WM decide to modify or demolish its MRF?
23. Page v and Page 3. How does the consultant recommend SVR's legacy costs be recovered by the District if it were to receive landfill tonnage from the SVR service area? The current SVR landfilled tonnage rate pays for the legacy costs.
24. Page v. To help the average reader, it would clearer to show the franchise service cost vs. MRWMD and SVR disposal and processing costs.
25. Pages v and 39. We strongly disagree with comments regarding the "significantly higher level of risk" for the Clean Fiber Recovery System. All project components have been extensively tested commercially and evaluated over 8 years of study lead by the USDA. We acknowledge this is a new application of the technology train, but attracting new and innovative businesses to Monterey County, particularly when risk is well mitigated, is very consistent with all member agencies economic development policies and goals. *We believe it is a much lower risk due to the shifting of technology, market and performance liabilities/risks to the private sector, in lieu of public investment*. Committing "flow" of waste to the project is a *very low risk* as SVR will only pay for waste processed and will not be obligated to direct waste to the plant if is down, underperforming or if it were to fail. *It is not a risk if SVR's only recourse is to revert back to the status quo system if the private project experienced short term or long term problems. Shifting responsibility to private*

industry is fully consistent with the consultant's recommendations to put responsibility on our private haulers, which do not currently have local enhanced recycling capabilities or capacity at this time. SVR's proposed project shifts the responsibility and liability to the private sector. SVR and its rate payers will not be liable for market up and downs, technology investment, operation and maintenance or performance.

26. Page v, second line. The reference that the District "would only require labor costs for one additional shift" to support processing of SVR waste needs additional evaluation. Our understanding is that the current MRF line lasted approximately 30 years. Is it appropriate to assume processing SVR waste materials would more than double (growth plus current SVR volumes) the wear and tear of the enhanced MRF system and double O&M costs? Won't the processing system wear out twice as fast requiring replacement in 15 years or less? Is it possible that the enhanced MRF would require replacement prior to retiring of the new 2015 bonds? *Has the consultant included the full cost impacts related to accelerated amortization and significant reduction in the asset's useful life, and O&M associated with adding a full second shift to process SVR materials.*
27. Page vi, First bullet. The consultant should be aware that landfills have significant fixed costs to open and maintain permits and environmental compliance that are not dependent upon tonnage handled. The assumption that landfill operations can be "proportionally scaled down" is not realistic or supported by industry/regulatory requirements or economics. Please correct this assumption and any supporting data analysis used to create the economic analysis outputs.
28. Page vi, last recommendation bullet. The District's MRF enhancements are the "cost-effective option". At a proposed cost of $39/ton for processing plus 15% offsetting revenue sharing, please explain in more detail how SVR's public/private partnership structure and shifting of public risk to the private sector is less cost effective. As both proposed projects will achieve similar reductions in agency waste going to landfills, please provide the full cost of financing and operations of both agency's planned advanced recovery systems, *expressed in $/ton*.
29. Page vi, last recommendation bullet. Can the consultant better define their concerns and differences over "flow" control risk for the SVR project vs. the "flow" control risks that may be present within a publically funded and operated MRF? Specifically risks associated market fluctuations, technology investment, operations and maintenance and performance as it relates to public vs. private investment and operations.
30. Page vii, first bullet. Has a cost analysis and study been developed to support the performance and cost to have private franchise haulers achieve some desired 'large scale diversion enhancement?
31. Page vii, map. Indicates no landfill or composting at Johnson Canyon. Narrative calls for south valley cities to continue landfilling and [assumed] composting at Johnson Canyon.
32. Page 1, first bullet. SVR currently operates only two transfer stations.
33. Page 1, Facility Routing. In addition to the North County review, have other areas been evaluated for transportation benefits, like portions of the Highway 68 corridor to Laguna Seca?

34. Page 2, Facility Routing, last sentence. SVR does not believe the consultant can support this last sentence regarding the "significance" of GHG reductions without including all the other GHG generation sources not currently included in the analysis such as increased GHGs associated with waste importation and self-haul re-direction to the District, as well as GHG reductions associated with SVR's and the District's enhanced processing proposals.
35. Page 4, Recommendations, 3rd bullet. Needs supporting analysis for cost of private collection contractors providing enhanced diversion services, if the state mandate is increased to 75%, as expected? Both SVR and District have considered these costs in their current and future budgets.
36. Page 12, GHG Emissions. Does the GHG analysis consider that WM and Republic collection vehicles are ~100% CNG and that SVR transfers are all using biodiesel?
37. Page 13. "..the autoclave services were not available for review as the terms of the agreement are currently under confidentiality…". All agreements with the technology partner are public information. Some of the detailed system design remains proprietary due to market competition concerns. SVR has provided supporting studies from USDA and supporting industry data to increase understanding of the project technology. It was our understanding that the consultant was not going to provide an independent technology evaluation, but the report findings lead the reader to make that inference.
38. Page 14, Table 3-1, System Cost Comparisons. *For public understanding, SVR requests the consultant include, under each agency's system cost, the cost per capita for delivery of service for each scenario*. SVR review of 2010 Census data indicates that SVR serves ~260,000 and the District serves ~151,000.
39. Page 16, last paragraph. SVRs green waste is not transferred out of county for composting. Composting is done at private composting facilities adjacent to the Johnson Canyon Landfill or processed feedstock is sold to other in-county composters.
40. Page 24. Does scenario 4 fully consider the cost savings, transportation/GHG reductions and efficiencies in reduced transfer of waste processing residues (from Clean Fiber Recovery system) to the Johnson Canyon Landfill and the subsequent back hauling (returning transfer truck) of south county waste from Johnson Canyon for enhanced processing?
41. Page 25, last paragraph. The sentence, "As shown, the total projected annual system cost projected to be approximately 15% higher than Scenario 1 – Status Quo.", is different than the percent listed in Table 3-9 (which is 18%).
42. Page 35, Direct Haul vs a Public Convenience Station. How will SVR recover the $1.0+ million in lost revenues from self-haul redirection to the District landfill? Will the District's HHW facility be able to accommodate increased traffic and the current 1.2 million lbs of SVR recovered HHW?
43. Page 38, Salinas Transportation Surcharge. The current surcharge is $14/ton and is scheduled to increase to $17/ton in 2015/16. This may be the final adjustment to cover transportation costs to assist Salinas's franchise hauler. Please note that transportation costs, GHGs and impacts would be *significantly reduced* under scenarios 3 & 4. Any remaining costs to transfer processing residue to a landfill (SVR or District) would likely be spread

across the entire cost system, eliminating this surcharge. *Please confirm if this was considered in the cost analysis.*

44. Page 38. The $850,000 estimate post-closure costs for SVR is incorrect. Ongoing debt service associated with these closed sites for past improvements should be included. At formation SVR needed to immediately address missing or sub-standard environmental control systems and underfunded closure and liability costs that were deficient at time of asset transfer to SVR. Including debt allocation and administration related to these sites, the actual annual "legacy" liabilities for SVR are $3.17 million.
45. Page 41. We agree with the recommendation to shift burden to the private sector and not invest in new technologies with public funds consistent with SVR's proposed public /private project. SVR still has the option to consider the proposed private development and investment in the Clean Fiber Recovery System at the Johnson Canyon Landfill or other sites, if the cost concerns with SVR relocation to Madison Lane remain problematic for the City of Salinas.
46. Page 43, Diversion Policies. Please note that the SVR goal to achieve 75% diversion has been in place for 10 years and has driven SVRs strategic planning to pursue more sustainable and innovative recovery systems and related markets.
47. Page 44. It is important to acknowledge that while both agencies, excluding the unincorporated county, are at the same "regional diversion rate", SVR is achieving this rate without importation of waste and at a much lower per capita expense.
48. Page 48. Last sentence in paragraph 6. All operating cost data and customer service level data used for analysis were provided by County EHB and Waste Management.

RE: Item No. 1

THE FOLLOWING WERE PROVIDED AT THE SPECIAL MEETING OF BOARD OF DIRECTORS

ON July 16, 2015

1. Slide Presentation: Evaluation and Analysis of Monterey County's Solid Waste Management System
   From: R3 Consulting

2. Slide Presentation: Regional Solid Waste Study Policy Discussion
   From: Patrick Mathews, General Manager

3. Letter 7/16/15: Comments on Final Draft Report
   From: Kristin Yee, CalRecycle Central Section Manager

4. Handout: Steinbeck Innovation

5. Handout: SVSWA Revenue Base

Evaluation and Analysis of Monterey County's Solid Waste Management System

Prepared by

R3 & HDR

July 16, 2015 – Presentation to SVSWA Board of Directors
July 21, 2015 – Presentation to Monterey County Board of Supervisors
July 29, 2015 – Presentation to MRWMD Board of Directors

Presentation Outline

- ❑ Study Methodology
- ❑ Timeline
- ❑ Data Sources
- ❑ Findings
- ❑ Conclusions
- ❑ Recommendations
- ❑ Q&A
- ❑ Open Discussion

Study Methodology

- Developed a cost model and tonnage flow scenarios to analyze the cost of material transport, transfer, processing and disposal
- Reviewed current tipping fees and factors affecting tipping fees in each region
- Reviewed diversion policies and State legislation
- Reviewed current existing MRWMD and SVSWA facilities, recycling programs, and plans for new diversion
- Reviewed unincorporated County commercial customer rates

Timeline

- **Jul-Nov 2014** – Project Start, Various Information Requests, and Initial Data Analysis/Modeling
- **Dec 2014** – Presentation of Initial Findings to City Managers Group
- **Jan-Feb 2014** – Additional Direction Given by City Managers Group, Additional Data Received from MRWMD and SVSWA
- **Apr 2014** – Draft Report provided to City Managers Group
- **May 2014** – Meeting with City Managers Group to Discuss Next Steps
- **May-Jun 2014** – New Information Received from MRWMD and Incorporated Into Report
- **July 2014** – Final Draft Report Submitted

Data Sources

- All analysis and findings based on data received from SVSWA, MRWMD and County
  - Financial and tonnage data from SVSWA and MRWMD annual reports, approved budgets and financial statements
  - Franchise agreements from MRWMD, SVSWA and County
  - MRF enhancement engineering cost estimates from MRWMD
  - Autoclave facility term sheet and background information from SVSWA
  - County rate study information from SVSWA

Findings

State Diversion Mandates

- All jurisdictions are in compliance with current State diversion requirements
  - AB 939 requirement is minimum 50% diversion as recognized CalRecycle
- State mandate AB 1826 will require jurisdictions to arrange for “organics” (i.e., yard trimmings and food scraps) recycling programs for multi-family dwelling (MFD) and commercial sectors

Findings

State Diversion Mandates

- The State's mandatory commercial recycling law (AB 341) set forward a 75% diversion goal at the State level
- Most jurisdictions in the County are already close to achieving this goal, and three cities have already met the goal

See table on next slide →

Findings

2013 CalRecycle Diversion

Jurisdiction / Reporting Agency	2013 CalRecycle Diversion Rate	Reduction in 2013 Disposal Tons Needed to Reach 75% Diversion
SVSWA		
All SVSWA Members (not incl. Unincorporated County)	**72%**	15,655
MRWMD		
Carmel-by-the-Sea	**76%**	-
Del Rey Oaks	**66%**	292
Marina	**75%**	-
Monterey	**74%**	1,330
Pacific Grove	**73%**	685
Sand City	**80%**	-
Seaside	**63%**	7,479
Pebble Beach CSD	*(included in Unincorporated County below)*	
Unincorporated County of Monterey		
All Unincorporated County Area	**56%**	51,612

Findings

Landfills & Tipping Fees

- Both agencies' landfills are operated cost efficiently, consistent with privately owned/operated landfills
  - MRWMD receives 69% of its total disposal tonnage from out-of-county sources, which allows MRWMD to lower costs for providing services to Member Agency users
  - Slightly higher costs in SVSWA region due to legacy costs for maintenance of closed landfills
- Both agencies looking to shift the cost of tipping fees onto "AB 939 fees" to cover the cost of recycling programs / public education (rather than funding these activities through landfill tipping fees)
  - SVSWA currently charges an annual "AB 939 Surcharge" to its Member Agencies based on the total tons disposed by each Member Agency

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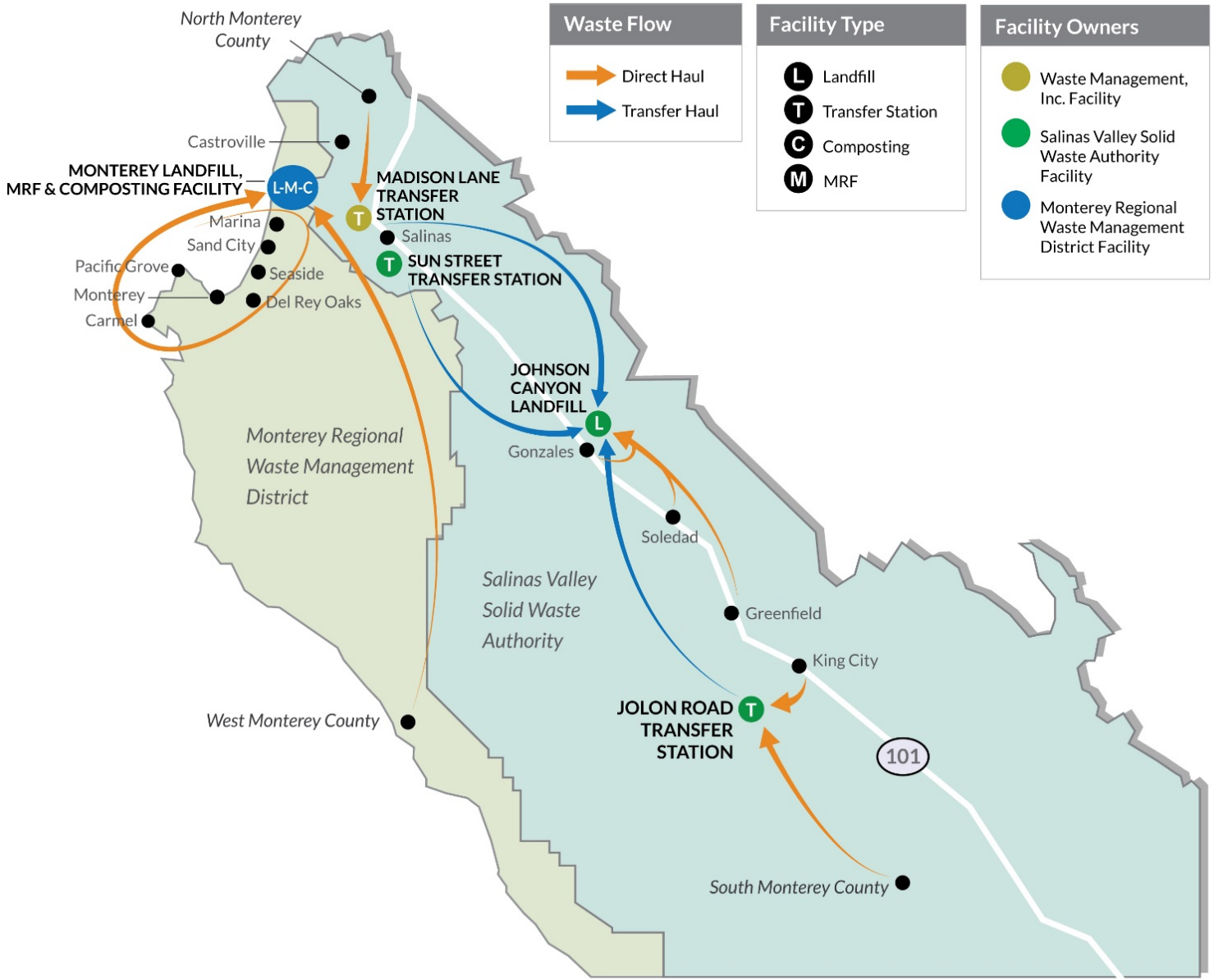
Current Solid Waste System

"Status Quo"



Findings

Proposed SVSWA Autoclave Facility

- Projected 70% diversion of mixed waste received at Autoclave facility
- Green waste and C&D materials would not be processed at the facility
- Autoclave units are modular and could be expanded to accept additional capacity as needed
- Additional diversion is not necessary to comply with current State requirements
- Autoclave operation of the size and scale proposed by SVSWA has to our knowledge never been attempted

Findings

New MRWMD MRF Expansion

- Enhanced MRF is projected to divert 68% of mixed waste and 75% of C&D (currently ~57% of C&D is diverted)
- Would also add a processing line for clean recyclables, which would be in direct competition with existing private processing facilities (e.g., Waste Management's Castroville MRF)
- Additional diversion is not necessary to comply with current State requirements
- New franchise agreements in the MRWMD service area support the MRWMD's planned expansion of materials recovery facility (MRF) processing activities

Conclusions

Risks of New Proposed Diversion

- The proposed large-scale diversion enhancements in both regions have different levels of associated risk to the jurisdictions' rate-payers:
  - MRWMD's new MRF enhancements represent a relatively low level of increased cost and low technology risk
  - SVSWA's proposed Autoclave facility is costly, and represents a significantly higher level of technology risk than the MRWMD's proposed MRF enhancements

Conclusions

SVSWA Region

- Early closure of Johnson Canyon Landfill would require:
  - Estimated $7,000,000 - $9,000,000 in unfunded closure and post-closure costs
  - Increased costs to the rate-payers
- Post-closure legacy costs for the SVSWA's closed landfills will continue to be borne by SVSWA region rate-payers, regardless of any potential changes to the solid waste system
  - Legacy costs do not prevent the SVSWA region from changing/modifying their solid waste system

Conclusions

SVSWA Region (continued)

- Autoclave facility's implementation requires SVSWA's purchase and rehabilitation of Madison Lane Transfer Station, and City of Salinas's improvements to Rossi Road (est. ~$14M total)
  - Would cost less to direct haul Salinas and north County SVSWA's waste to the MRWMD's landfill in Marina / MRWMD's proposed MRF

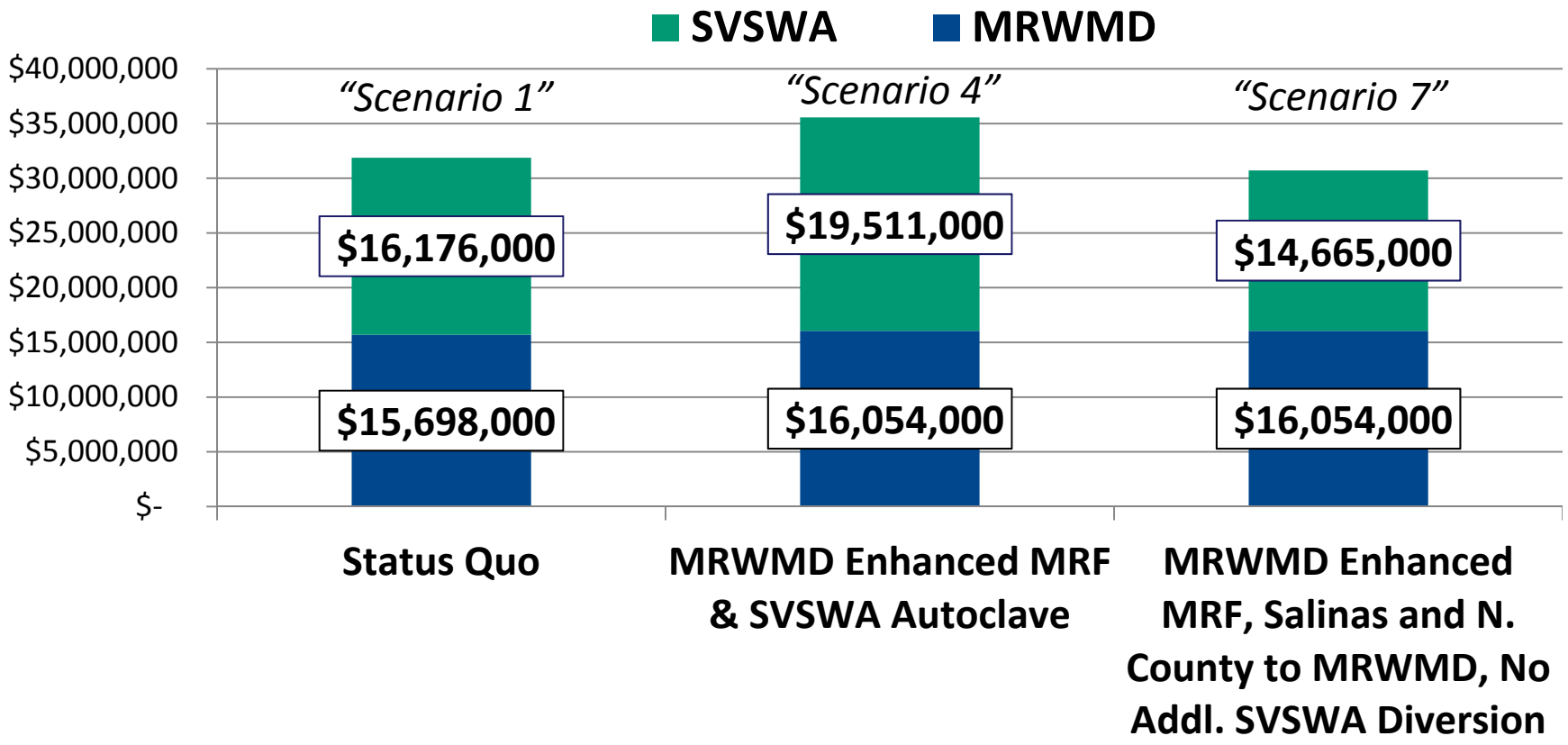
Conclusions

Other – Unincorporated County Rates

- The unincorporated County's commercial bin and compactor rates are 53% higher on average in the SVSWA region than in the MRWMD region
  - This difference does not appear to reflect the actual differences in cost of service.

Conclusions

Annual System Cost Comparisons – Notable Scenarios



SVSWA: Change vs. Status Quo	+21%	–9%
Approx. Household Rate Impact	+$1.03 / +5.2%	–$0.47 / –2.3%
MRWMD: Change vs. Status Quo	+2%	+2%
Approx. Household Rate Impact	+$0.11 / +0.6%	+$0.11 / +0.6%

Conclusions

Annual Greenhouse Gas (GHG) Emissions Comparison

- *GHG emissions from collection and transfer vehicles*

Scenario	Direct Haul		Transfer Haul		Total $MTCO_2$ Emissions	Change in $MTCO_2$ Emissions vs. Status Quo	Rank
	Miles	$MTCO_2$ Emissions	Miles	$MTCO_2$ Emissions			
1	1,148,584	3,309	296,026	856	**4,165**	–	1 / 2
2	1,148,654	3,309	296,026	856	**4,165**	+0%	1 / 2
3	1,215,712	3,502	272,444	788	**4,290**	+3%	3
4	1,215,712	3,502	304,378	881	**4,383**	+5%	4
5	1,454,878	4,191	270,536	783	**4,974**	+19%	7
6	1,454,878	4,191	68,772	199	**4,390**	+5%	5 / 6
7	1,454,848	4,191	68,706	199	**4,390**	+5%	5 / 6

Policy Issue Matrix

SYSTEM SCENARIO	POLICY ISSUES				
	Cost *Low cost is preferred*	**Diversion** *High diversion is preferred*	**GHG Emissions** *Low emissions are preferred*	**Risk** *Low risk is preferred*	**Avoided Costs** *High avoided costs are preferred*
Scenario 1 Status Quo	**Medium** $31.9M annual system-wide costs (~$15.7M MRWMD region and ~$16.2M SVSWA region).	**Medium** All Member Agencies exceed the 50% diversion mandate (AB939).	**Low** Lowest GHG emissions from material transportation of all scenarios.	**Low** Existing diversion technologies are proven to work. Minor risks incurred through public ownership of facilities.	**Medium-Low** No additional efforts to decrease future landfill needs, above existing diversion activities.
Scenario 2 Increased Diversion at MRWMD; No Additional Diversion at SVSWA	**Medium** $32.2M annual system-wide costs (~$16.1M MRWMD region and ~$16.2M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Low** Lowest GHG emissions from material transportation of all scenarios (same transportation routing as Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 3 Increased Diversion at MRWMD and SVSWA; Consolidated Disposal at MRWMD	**High** $35.5M annual system-wide costs (~$16.1M MRWMD region and ~$19.5M SVSWA region).	**High** Very significant additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium-Low** 3rd lowest GHG emissions from material transportation of all scenarios (3% higher than Status Quo).	**Medium-High** SVSWA autoclave technology is unproven. Additional risk incurred through public investment in facilities.	**Medium-High** Decreases future landfill needs by increasing diversion of materials.
Scenario 4 Increased Diversion at MRWMD and SVSWA; Reduced Flow to Johnson Canyon Landfill	**High** $35.6M annual system-wide costs (~$16.1M MRWMD region and ~$19.5M SVSWA region).	**High** Very significant additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium-Low** 4th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-High** SVSWA autoclave technology is unproven. Additional risk incurred through public investment in facilities.	**Medium-High** Decreases future landfill needs by increasing diversion of materials.
Scenario 5 Consolidated Increased Diversion at MRWMD; Consolidated Disposal at MRWMD	**Medium-High** $32.6M annual system-wide costs (~$16.1M MRWMD region and ~$16.5M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**High** Highest GHG emissions from material transportation of all scenarios (19% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 6 Consolidated Increased Diversion at MRWMD; Reduced Flow to Johnson Canyon Landfill	**Medium-Low** $31.2M annual system-wide costs (~$16.1M MRWMD region and ~$15.1M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium** 5th/6th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.
Scenario 7 Increased Diversion at MRWMD, Salinas and North County Disposal at MRWMD, Remainder of SVSWA to JCLF, No Additional SVSWA Diversion	**Low** $30.7M annual system-wide costs (~$16.1M MRWMD region and ~$14.7M SVSWA region).	**Medium-High** Greater additional diversion above Status Quo. Puts Member Agencies on route to surpassing the 75% State goal in the near future.	**Medium** 5th/6th lowest GHG emissions from material transportation of all scenarios (5% higher than Status Quo).	**Medium-Low** Existing and new MRWMD diversion technologies are proven to work. Some additional risk incurred through public investment in MRWMD facility enhancements.	**Medium** Somewhat decreases future landfill needs by increasing diversion of materials.

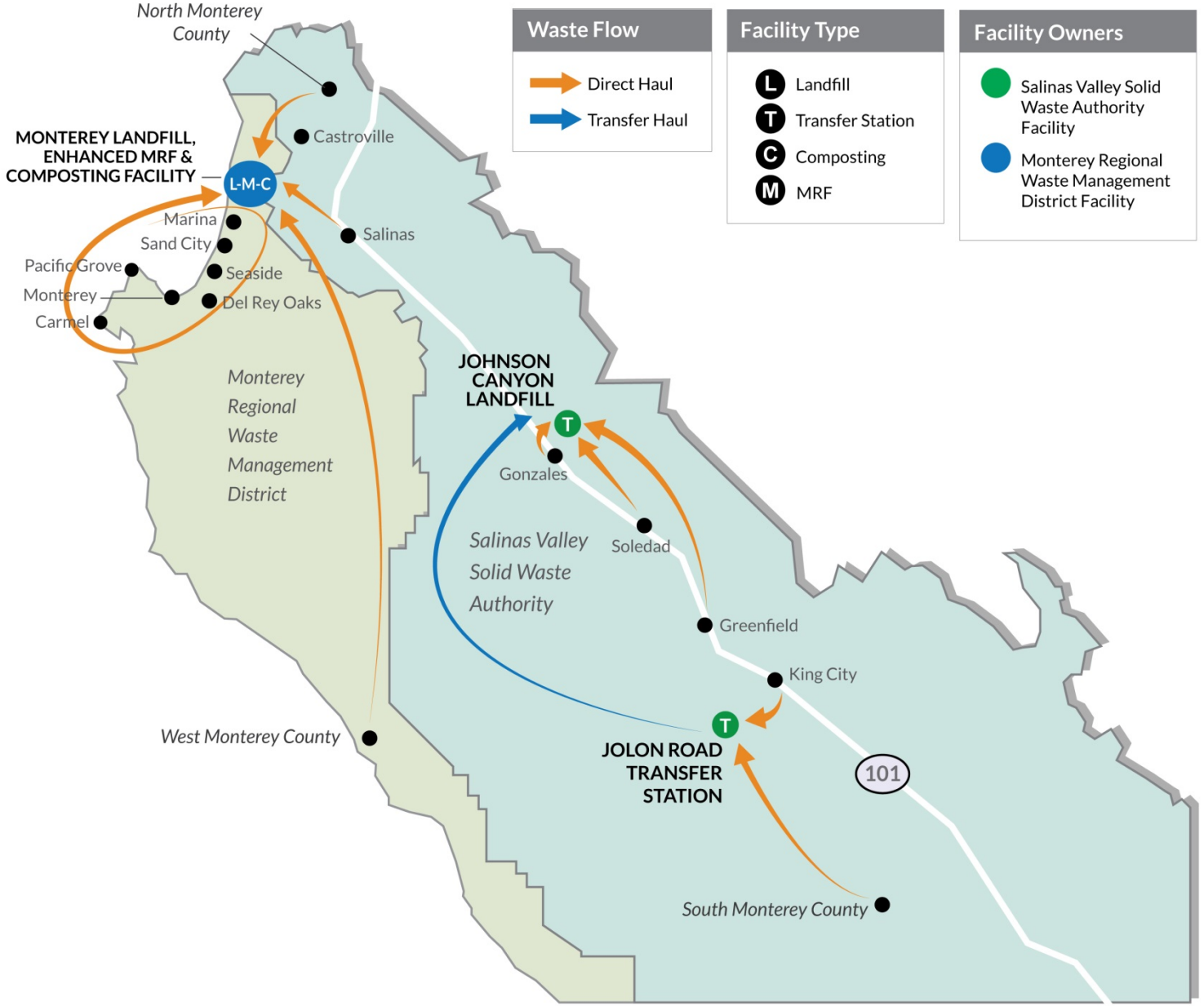
Recommendations

Scenarios / Policy Issue Matrix

- Scenario 7 appears to result in a favorable combination of system-wide cost, diversion, greenhouse gas (GHG) emissions, risk, and avoided costs. Scenario 7 includes:
  - MRWMD Region
    - Direct regional material to the Marina, with the MRF enhancements that are currently being implemented.
  - SVSWA Region
    - Direct-haul Salinas and north County SVSWA waste to MRWMD's landfill in Marina for disposal.
    - No purchase of Madison Lane Transfer Station, and no implementation of SVSWA Autoclave facility.
    - Continue to utilize the Jolon Road Transfer Station to transfer south County waste to Johnson Canyon Landfill (and direct haul for cities in close proximity to the landfill).

Lowest Cost Scenario ("Scenario 7")

Salinas and N. County to MRWMD, No Addl. SVSWA Diversion



Recommendations

Scenarios / Policy Issue Matrix

- Scenario 7 represents annual cost savings of:
  - $1.5 million as compared to the current status quo *(estimated difference of $0.47 in monthly household customer rates)*
  - $4.8 million as compared to purchasing Madison Lane Transfer Station and implementing an Autoclave facility *(estimated difference of $1.50 in monthly household customer rates)*
- Southern County SVSWA region tipping fees should not be adversely affected by this change, because Salinas and the northern SVSWA region would still be required to bear their share of SVSWA legacy closed landfill debt, and AB 939 programs such as public education.

Recommendations

MRWMD and SVSWA Member Agencies

- MRWMD Member Agencies should support the expansion of the MRWMD MRF, as it appears to be a cost-effective option for achieving increased diversion
  - Additional organics diversion for commercial waste generators may need to be added in the future to comply with AB 1826.
- If SVSWA Members Agencies require or elect to increase diversion above State requirements, then they should put increased diversion requirements on the franchised haulers and not pursue publically owned or flow-controlled additional diversion facilities.
  - The SVSWA could increase diversion by directing its franchise haulers to deliver materials to MRWMD's expanded MRF as a lower cost/lower risk option than building the Autoclave facility.

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Recommendations

All Jurisdictions / County

- Going forward, all jurisdictions should require their franchised haulers to be responsible for arranging for diversion of materials in accordance with current and future State laws.
  - Most notably, this includes the recent AB 1826 (mandatory multi-family and commercial organics recycling law)
- The County should reenter discussions with USA Waste to rebalance the unincorporated County's MRWMD-region and SVSWA-region customer rates

Q&A