Tri-Valley Utilities

Results of Coordination/Integration Study
Phase 1

October 2013

Management Partners

Management Partners

October 11, 2013

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Mr. Daniel Smith, Director, Operations Services Department, City of Pleasanton
In care of

Ms. Judy Erlandson
Public Works Manager
Environmental Services Division
City of Livermore
1052 South Livermore Avenue
Livermore, CA 94550-4899

Dear Ms. Erlandson:

Management Partners is pleased to transmit this report which details the results of the coordination/integration study initiated by the six public agencies constituting the Tri-Valley Utilities. The purpose of the study was to build upon the agencies' successful history of cooperation and shared services to consider new collaborations that would be of mutual benefit to the public. This study was also intended to provide information to the Alameda County Local Agency Formation Commission (LAFCo) about existing and potential future collaborations and service integrations.

This study was the first phase of a longer range project. Working at a high-level threshold, it identified a range of possibilities for future cooperation and integration, either at the service or functional level, or at an institutional level. Each opportunity will require full analysis in subsequent phases to ascertain specific cost savings and feasibility of implementation. Additionally, stakeholder engagement will be essential to help determine future direction.

This report is rich in detail about the Tri-Valley agencies' current cooperative efforts as well as those that may be worthy of consideration in the future. In addition to discussing the approach used to carry out our work, the report contains financial information about the agencies, as well as information about services being provided.

We have appreciated the guidance of the Steering Committee throughout the project. The Tri-Valley Utilities have a strong foundation from which to build additional collaborations.

Sincerely,

Gerald E. Newfarmer
President and CEO

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Executive Summary

The cities of Livermore, San Ramon, Dublin, and Pleasanton; the Dublin San Ramon Services District (DSRSD) and the Zone 7 Water Agency constitute the Tri-Valley public agency utilities (Tri-Valley Utilities). These public agencies initiated a study to build upon their successful history of cooperation and shared services to consider new collaborations that would be of mutual benefit to the public. Additionally, this study was to provide information to the Alameda County Local Agency Formation Commission (LAFCo) from the Tri-Valley Utilities about existing and potential future collaborations and service integrations.

This report contains the results of a Phase 1 study conducted by Management Partners. A Steering Committee comprised of agency staff representatives provided guidance for the study. This threshold study identified a range of possibilities for future cooperation and integration, either at the service or functional level, or at an institutional level. Each potential opportunity will require full analysis in Phase 2 to ascertain specific cost savings and feasibility. Additionally, stakeholder engagement will be essential to help determine future direction.

The six Tri-Valley public agency utilities collectively provide potable water, recycled water, wastewater, and stormwater management services to a population of nearly 277,000 residents with a total operating budget of $129.9 million and reserves of $363.6 million. The value of total utility infrastructure in the Tri-Valley is approximately $1.4 billion, not including Cal Water's infrastructure value, which is not yet known. The asset value is an approximation based on a preliminary evaluation of physical assets, net depreciation. Detailed infrastructure data will be contained in a separate document.

While this study focused on opportunities for new collaborations between the six agencies in the Tri-Valley Utilities, they are not the only entities providing water-related utility services in the area. For example, the California Water Service Company (Cal Water) is an investor-owned utility providing water to about two-thirds of the City of Livermore. East

Bay Municipal Utility District (EBMUD) provides water and Central Contra Costa Sanitary District provides sewer service to parts of San Ramon. San Francisco Public Communities Commission (SFPUC) provides water to parts of the Tri-Valley service area as well, notably Lawrence Livermore Labs. The Castlewood CSA provides water and wastewater collection services to the Castlewood community. That CSA is managed by Alameda County. Alameda County has a contract with the City of Pleasanton under which the City of Pleasanton provides needed maintenance and operational support for the water and sewer system in Castlewood. Both the counties of Alameda and Contra Costa have a role in stormwater management in the Tri-Valley area.

Case Studies

As part of this study, Management Partners researched four public utility agencies that had undertaken service integration and consolidation efforts to learn from their experiences. The agencies were the Eastern Municipal Water District, the Elsinore Valley Municipal Water District, the Irvine Ranch Water District and the Ventura Regional Sanitation District. Management Partners developed case studies about these agencies as a way of informing the Tri-Valley Utilities collaboration and integration study. There were no situations that were exactly like that of the Tri-Valley Utilities, so the Steering Committee and Management Partners selected several agencies with experiences that could be useful to share, even with the significant differences between them and the Tri-Valley Utilities.

The Tri-Valley Utilities are mature, relatively similarly sized agencies which is a different situation than found in the case studies. Nonetheless, the case study agencies offered helpful advice about factors that are critical to successful integration. Key factors identified through the four case studies that were important to their consolidations were protecting rate payers; consideration of structure and governance; political will for making the change; addressing issues of debt, equity and employee impacts; full consolidation versus partial integration; and role of the Local Agency Formation Commission (LAFCo).

Not all of the lessons learned will apply to all of the Tri-Valley Utilities. For instance, some of the Tri-Valley Utilities have challenges retaining sufficient technical staff but others do not. Some lessons learned from the case studies will be quite applicable to the Tri-Valley Utilities, such as implementing a rate differential to provide rate equity over time, so that

rate payers of the annexing agency did not have to subsidize or carry a heavy financial burden when taking over a new service area.

Results

This report contains a high-level threshold review and description of 15 potential operational and support opportunities and 10 categories of potential major integration opportunities. In this report, each opportunity is described, along with information regarding possible economies of scale (EOS) factors as well as likely challenges and impediments to integration that will need to be analyzed and addressed.

The intent is for the Tri-Valley Utilities to determine which, if any, of the identified opportunities will be move to a Phase 2 analysis. Phase 2 would involve specific financial analysis of the options selected for further examination, along with careful analysis of the benefits, and challenges along with impediments and various implementation steps and potential issues. For those which are determined to be mutually beneficial to the agencies once the Phase 2 analysis is completed, an action plan for implementation would be created.

As requested by the Tri-Valley Utilities, Management Partners has noted several of the opportunities as ones that may best lend themselves to a next phase analysis. The Tri-Valley agencies may wish to pursue some of these options under their new Intergovernmental Reciprocal Services Master Agreement (IRSMA), which is an agreement that allows the agencies to pursue joint projects under a standard, pre-approved protocol.

Six of the 15 operational and support opportunities and two of the 10 types of major integration opportunities have been noted in this report as possible candidates for Phase 2 analysis. These are all subject to determination by the governing bodies of the Tri-Valley Utilities while considering stakeholder input. The opportunities identified for discussion and analysis in Phase 2 were noted because they may have the greatest possibility for fostering useful collaborations and achieving cost savings and increased efficiency in the near term (1 through 2 years) or mid-term (3 through 10 years).

The Phase 2 detailed cost analysis will determine savings that can be expected to occur from a service delivery change. For a variety of reasons, Management Partners recommends that the agencies determine what the minimum level of savings should be if a change were to be

pursued, unless there are non-monetary reasons to change service delivery method. Because changes often create disruptions in an organization, being clear about the expected benefit is helpful. In utility agencies, the level of savings may not be great for some changes because there are many high fixed costs (e.g., energy and regulatory costs). However, there may be other reasons than cost savings for making service integration changes.

For many of the opportunities, a subset of agencies, rather than all six, may be appropriate for future collaboration or integration. Four of the agencies are cities with multiple responsibilities, including one or more aspects of utilities under this study. Therefore, depending on the integration opportunity, some agencies or combination of agencies may be more likely to pursue certain options than others. The variations are numerous, based on each agency's interests, focus and needs.

Operational and Support Integration Opportunities

Fifteen potential operational and support integration (OSI) opportunities for fostering useful collaborations and achieving cost savings on a functional or service level are shown in Table 1. Later in this report, each of these is described, including potential economies of scale factors that are present, along with key challenges and impediments. Detailed analysis will be needed in Phase 2 to ascertain the feasibility of any of these options. This table indicates the six operational and support opportunities which Management Partners notes could be good candidates for Phase 2 analysis, subject to determination by the Tri-Valley Utilities.

Table 1. Operational and Support Opportunities

Opportunity	Consider for Phase 2 Analysis
OSI 1: Expand Utility Fleet Maintenance Integration	X
OSI 2: Integrate Operation and Maintenance of Wells	
OSI 3: Integrate SCADA Systems for Pump/Lift Stations	
OSI 4: Integrate Water Conservation Programs	X
OSI 5: Integrate Utility Information Technology (IT) Functions	
OSI 6: Integrate Inventory Control and Management	X
OSI 7: Integrate Meter Reading Services	
OSI 8: Expand on Laboratory Services Integration	X
OSI 9: Integrate Construction and Engineering Services	
OSI 10: Integrate Regulatory Compliance, Environmental Management, and Security/Vulnerability Systems	
OSI 11: Integrate Sewer Collection System Maintenance	
OSI 12: Integrate Water Distribution Systems Maintenance	
OSI 13: Integrate Closed Circuit TV Inspection of Sewers and Storm Drains	X
OSI 14: Integrate After-Hours Call Out/Emergency Response	X
OSI 15: Create Contract Labor Pool Management	

Small but meaningful steps can also be taken outside of specific operational or support changes. For instance, migrating towards common policies and business practices would facilitate future integrations and other forms of providing cooperative services. These could be identified as part of a Phase 2 analysis.

Major Integration Options

Ten potential major integration options are described in this report and are listed in Table 2. These are functional and organizational integration options that could be implemented in the future, if there is sufficient public benefit and interest by the agencies. Various forms of governance structures are available which could implement the major integration options.

There are numerous other variations or combinations of these major integration options that could be considered. Some of the options could be implemented relatively quickly. Some may be "stepping stones" to others on the list, others may take a decade or more to implement, and some may never be deemed feasible. We have provided a range of options for discussion by the Tri-Valley Utilities.

Table 2 shows these options and the type of service that would be provided in each. The last column indicates the two options that Management Partners suggests as candidates for Phase 2 analysis.

Table 2. Major Integration Options[1]

No.		Potable Water	Recycled Water	Waste-water	Storm Water	Consider for Phase 2[2] Analysis
1	Integrate management of stormwater under one entity				X	X
2	Provide recycled water services under one entity		X			X
3	Integrate all wastewater services under one entity			X		
4	Integrate all wastewater services under one entity, including the Livermore Amador Valley Water Management Agency (LAVWMA) system			X		
5	Integrate all water distribution system and retail water services under one, two, or three entities	X				
6	Integrate all water treatment, distribution system, and retail water services under one entity	X				
7	Integrate all water services under one agency	X				
8	Integrate all water and wastewater services under one agency	X		X		
9	Integrate all water, wastewater, and recycled water services under one agency	X	X	X		
10	Integrate all utilities under one agency	X	X	X	X	

[1] The term "agency" does not include an investor-owned utility (IOU). The term "entity" includes all agency options, plus investor-owned utilities.
[2] The items in this column are based on the Phase 1 analysis to date. Management Partners recommends that this preliminary list be a starting point for governing body and stakeholder engagement before proceeding with Phase 2. During this interim period, the options for further analysis in Phase 2 may change.

Governance and Implementation Issues

Once the Tri-Valley Utilities determine which service delivery changes they wish to examine further, it will be important to consider governance and a variety of implementation issues. This will be particularly important to consider for the major integration options.

Seven governance models are described in this report as a way to aid future discussions about implementation. Governance is the vehicle for implementing changes, so any decisions on governance would typically follow determination of the change or type of changes that are desired.

1. Service contracts between agencies
2. Publicization
3. Public-private partnership
4. Divestiture to an investor-owned utility
5. Joint exercise of powers agreement (JEPA)
6. Joint powers authority (JPA)
7. New special district

The first governance model on this list, service contracts, is well underway with the Tri-Valley Utilities through its new Intergovernmental Reciprocal Services Master Agreement (IRSMA).

Implementation Challenges

Making changes in practices, organization and governance are not easy in any environment, but it can be done with sufficient groundwork and alignment of objectives. Numerous challenges, complications and impediments can be expected with any of the service delivery changes because when integrating services or functions between separate agencies, the issues are complex. Successful implementation of any change requires clarity about the intended benefits of the change and commitment to the goal. There is a need to balance the practical challenges that must be properly addressed for successful implementation of the change, with a natural reluctance by some stakeholders to change practices. As with any change effort, if every possible objection must be overcome, change is unlikely to take place. Therefore, keeping the end in mind of any particular change will be essential to successful implementation.

Each of the six agencies are mature and well managed, and each has determined how best to meet public policy and service delivery objectives

important to their constituents. The utilities have various levels of build-out, financial policies, condition of infrastructure, and numerous other practices and objectives. Additionally, municipalities have differing land use and growth control perspectives which impact utilities. Any or all of these factors are likely to come into play once the agencies take steps toward implementation of new collaborations and integrations, particularly the major ones.

Twenty-four implementation issues are identified in this report – all of which will be important for the agencies to consider in detailed analysis and implementation planning in Phase 2 and beyond. These 24 issues are contained in Table 15, which is titled, *"Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional Integrations."*

Among the checklist items are governing body support, community support, engagement of stakeholders, resolving equity issues, public employment employee issues, policies and operational practices, construction quality and performance standards, geographical issues, revenue sources, expenditure detail, debt service, rates and rate structure, capital improvement plans, inventories, valuation of infrastructure, legal issues, and technology.

Careful thought and planning prior to implementation, as well as public outreach and stakeholder engagement, particularly for the more complex changes, will be important to ensure that once decisions are made, the option can be implemented as intended. Transparency and communications and engagement of stakeholders will be important to successful implementation of changes. A variety of stakeholders will have interests in the outcomes of any integration option pursued. They will want to have input, need to understand the intended results of the integration and have confidence that important factors have been considered in the analysis and decision making process. Effective communication will be required with frequent updates to stakeholders and various means of engagement and will assist in reaching a successful outcome for governing body members, rate payers and other stakeholders.

Some steps, such as assessing community interest and holding discussions with political bodies may be important early in the process or between Phases 1 and 2, while others may be more appropriate at a later stage. Implementation will also require an action plan that identifies each step in the process, who will take the lead and who else will be involved, and milestones for completion.

Next Steps

The Tri-Valley Utilities have set a strong foundation through their ongoing collaborations and work together. This report offers a range of opportunities for building on past successes and to aid the agencies in pursuing new collaborative ventures.

Once this report is reviewed, the Tri-Valley Utilities and other agency officials will determine which opportunities, if any, will proceed to a subsequent level of analysis. That analysis will include detailed financial assessments, evaluations of challenges and practical implementation issues, and determination of action steps for options that will be proceeding forward.

Project Background and Approach

Background

The cities of Livermore, San Ramon, Dublin and Pleasanton, DSRSD, and Zone 7 collectively provide water, recycled water, wastewater, and stormwater management services to a population of nearly 277,000 residents. For FY 2012-13, these services as a whole are provided by 313 full-time equivalent employees, with operating budgets of $129.9 million and total reserves of $363.6 million. Over the last 5 years, the total annual capital expenditures for these agencies have averaged $56.3 million.

The value of total utility infrastructure in the Tri-Valley is approximately $1.4 billion, not including Cal Water's infrastructure value, which is not yet known. The asset value is an approximation based on a preliminary evaluation of physical assets, net depreciation. Detailed infrastructure data will be contained in a separate document.

The Tri-Valley agencies have a long history of service sharing and cooperation and are interested in furthering this cooperation to reduce costs and improve service delivery. Specifically, the agencies desired expert assistance to collect additional information about opportunities for integrating programs, services, and activities to create new efficiencies and/or improve results.

Building on the history of cooperation and shared service, and to provide information to LAFCo regarding these efforts, the agencies wish to look beyond what has been done in the past to consider future integration opportunities and/or portions of current operations and support functions[3] that would reap benefits to all if integrated. The operations

[3] For example: Livermore Amador Valley Water Management Agency (LAVWMA); Alameda County Clean Water Program; Bay Area Chemical Consortium; Conservation Rebate Program; etc.

discussed included water, wastewater, stormwater management, and/or recycled water services and all their component parts.

Management Partners was engaged by the agencies to identify opportunities and analyze the benefits and challenges or impediments, including economies of scale factors and hurdles to integrating specific functions or operations, that each presented. This was a high-level threshold study which could be followed by detailed analysis on any of the possible opportunities, if the agencies chose to consider any of the opportunities further.

A Steering Committee of the following individuals was instrumental in guiding this project and providing feedback throughout. The members of the Steering Committee are:

- Dan McIntyre, Public Works Director, City of Livermore
- Gary Huisingh, Public Works Director, City of Dublin
- Bert Michalczyk, General Manager, DSRSD
- Dave Requa, Assistant General Manager/District Engineer, DSRSD
- Jill Duerig, General Manager, Zone 7
- Tom Hughes, Assistant General Manager, Zone 7
- Maria Fierner, Engineering Services Director, City of San Ramon
- Daniel Smith, Director, Operations Services Department, City of Pleasanton

Cal Water is also a key stakeholder in considerations of collaborations and potential integrations, and was an ex-officio participant in the process. Three meetings were held between October 2012 and February 2013. Management Partners conducted research and prepared materials for each meeting and provided project updates between meetings.

Approach

Management Partners used various analytical techniques in completing this project, the results of which are detailed in this report. We reviewed and organized a wide variety of operational data and documents; conducted interviews with Tri-Valley agency executives; prepared four case studies of agencies that had implemented some form of integration or consolidation programs (including conducting interviews with appropriate executives of each); identified economies of scale factors and applied them to each potential integration opportunity; and sorted each high value opportunity based on three different criteria. Challenges and

impediments to each opportunity were also identified. Each technique is described below.

Review and Organize Financial and Operational Data

Management Partners reviewed and organized the financial and operational data provided from the agencies. Doing so involved a significant level of effort. Management Partners compiled data pertaining to the finances of each of the agencies, and summaries are shown in tables 3 and 4. Detailed system statistics can be found in Attachment A while financial information can be found in Attachment B.

The purpose of this information is to provide an overview of the similarities and differences in the finances and staffing of the agencies and to serve as an agreed-upon database for other analyses. Since there are significant differences in the missions of each agency, there are also significant differences in revenue, expenditures, funding policies, reserves, debt and staffing. After Management Partners organized the data, each agency reviewed what was submitted and provided updates or clarifications, as appropriate.

Conduct Interviews with Tri-Valley Agencies

Management Partners conducted interviews with Steering Committee members in each of the Tri-Valley agencies to better understand the role of each agency, the services they provide and how they interact with each other and adjacent organizations involved in water, wastewater, stormwater and recycled water utilities. In addition, we collected information about their ideas for collaboration and integration and heard about their desires and expectations for the project.

Identify Common Services and Functions

Another important activity was to learn about the services and functions currently carried out by each of the public agencies. Information was not available from Cal Water to compare its services and functions with the public agencies. Those services or functions conducted by two or more of the agencies were considered possible candidates for integration.

Management Partners prepared a matrix showing which services and functions are performed by all four cities, another matrix showing those provided by the two districts, and a third showing services and functions

provided by all six agencies. We then combined the data into one table, which is included as Attachment C.

Research Case Studies

Learning from outside agencies by researching four districts that had undergone consolidation or service integrations was a helpful exercise. The Tri-Valley agencies identified the following agencies for which case studies were then conducted:

- Eastern Municipal Water District
- Elsinore Valley Municipal Water District
- Irvine Ranch Water District
- Ventura Regional Sanitation District

Management Partners conducted thorough telephone interviews with executives in the four agencies. In preparation for the interviews, we conducted extensive research through on-line sources and identified pertinent questions. Following the interviews, we prepared four case studies and an executive summary. The executive summary identifies the lessons learned based on what worked and impediments to integration/consolidation. Attachment D contains the case studies.

Identify Economies of Scale Factors

Management Partners identified existing collaboration and potential opportunities for further collaboration, ranging from specific services or functions to large organizational integrations and discussed these with Steering Committee members during a January 2013 meeting. They included ideas that can be implemented in both the short and long term and associated impediments to implementation.

Based on feedback during that meeting, Management Partners sorted the items based on factors that can lead to economies of scale (i.e., reduced cost per unit production) for a particular service. Economies of scale usually result from being able to spread fixed or quasi-fixed costs over more units of output, or by aggregating output to a level that can justify investment in labor saving equipment or technology, thereby lowering unit costs. Along with the economies of scale, we also listed potential impediments to integration and the key conditions that need to be present for successful integration.

Identify and Categorize High Value Opportunities

To help put the high-value opportunities into perspective, Management Partners sorted them in several ways, as described below.

Level 1: First level of sorting included five categories:

1. Existing Tri-Valley Utilities collaborations
2. Short-term collaboration for immediate implementation
3. Possible near-term collaborations
4. Operational and support service integration opportunities
5. Major (primarily long-term) integration options

The first three categories were identified by the Tri-Valley agencies, as detailed in Attachments E, F and G. The latter two categories were opportunities identified by Management Partners and analyzed through the scope of this project. All included qualitative discussions of benefits and impediments.

Level 2*:* Second level of sorting involved three categories based on time to accomplish integration (near-, mid- and long-term).

1. Near-term (one through two years)
2. Mid-term (three through ten years)
3. Long-term (more than ten years)

The long-term items are opportunities that are likely to require more time and expense and have particular challenges or factors that may impede integration, but would have value in exploring further.

Level 3: The third level of sorting was focused on cost savings (or cost avoidance) and whether service improvements could be realized without encountering insurmountable challenges or major impediments.

Overview of the Agencies and Existing Collaborations

As indicated as a part of our analytical methodology, Management Partners conducted background research and supplemental interviews to better understand the role of each agency, the services they provide and how they interact with each other and adjacent organizations involved in water utilities. Management Partners' overview of the agencies and their collaborations is divided into the following categories:

- Tri-Valley Agencies
- Outside Agencies
- Continuum of Collaboration to Integration: A Framework
- Financial and Statistical Data
- Service Area Maps

Tri-Valley Agencies

Zone 7 Water Agency

Zone 7 is currently a dependent special district that has an independently-elected board of directors, and was created under a special section of the Alameda County Flood Control and Water Conservation District Act. It functions as the primary contractor for importing raw water supplies from the State Water Project to the Tri-Valley area, integrated management of the groundwater basin through artificial recharge using existing flood protection facilities, irrigation water deliveries to major agricultural users, water treatment, and the wholesaling of potable water to DSRSD, Cal Water/Livermore (Cal Water), and the cities of Livermore and Pleasanton.

Zone 7 owns and operates three surface water treatment plants, a demineralization facility and has several groundwater well fields. Zone 7 in association with Alameda County, also maintains certain regional stormwater protection services including management of its catch basins, pipelines and other channels. However, the agency does not currently participate in wastewater or recycled water services (these functions are

within its legal authority but have not been exercised). Overall, Zone 7 provides potable water services to approximately 220,000 people and hundreds of businesses throughout the Tri-Valley area by means of this wholesale distribution, in addition to providing untreated water to various agricultural customers (primarily viticulture which is a $200 million per year local business) and regional flood protection to over 425 square miles of Eastern Alameda County.

Dublin San Ramon Services District

DSRSD is a Community Services District, an independent special district, authorized under state law to provide a variety of services to the public. However, with the incorporation of the cities of Dublin and San Ramon in the 1980's, LAFCo decided that the District's active powers are currently limited to water (potable and recycled) as well as wastewater (collection, treatment and disposal), the Board of Directors has chosen to focus on retail water, recycled water and wastewater services within various parts of its service area. As an independent special district, DSRSD has the authority to provide services across county lines, permitting the wholesale purchase of Zone 7 water to be distributed through DSRSD to San Ramon's Dougherty Valley in Contra Costa County.

As it pertains to recycled water and wastewater, DSRSD is the only other Tri-Valley agency aside from Livermore that performs treatment. In addition to retail water, DSRSD also handles wastewater and recycled water services for Dublin, parts of San Ramon, and Pleasanton under contract. DSRSD provides recycled water services directly to Dublin and the Dougherty Valley portion of San Ramon as well as operates the DERWA system under contract providing wholesale recycled water services to the remainder of San Ramon and eventually to parts of Danville.

DSRSD currently provides water, recycled water and wastewater services to approximately 157,000 people throughout the Tri-Valley area. As for non-recycled treated wastewater, DSRSD participates through the Livermore Amador Valley Water Management Agency (LAVWMA) so that treated wastewater is discharged into the San Francisco Bay. DSRSD currently serves as the contract operator of LAVWMA facilities under the authority of an independent contract with that JPA.

City of Dublin

As it pertains to water-related utilities, the City of Dublin primarily handles stormwater services for its population of 49,890. Dublin receives retail water, wastewater and recycled water services from DSRSD.

City of San Ramon

Like Dublin, the City of San Ramon is limited in its direct involvement with water-related utilities, managing primarily the stormwater function. San Ramon's population of 74,000 receives its water services predominantly from East Bay Municipal Utility District (EBMUD); however, DSRSD does provide potable and recycled water service to the eastern side of San Ramon (Dougherty Valley area) and wastewater services to the southern portion of the City. The Dougherty Valley area receives wastewater services from Central Contra Costa Sanitary District. San Ramon is in the Contra Costa County limits.

City of Livermore

The City of Livermore provides potable water, recycled water, wastewater, and stormwater services. The City provides water services to only about one-third of its 82,000 residents; the other two-thirds of the population receive its water through Cal Water, an investor-owned utility.

As it pertains to recycled water and wastewater, Livermore is the only other Tri-Valley agency aside from DSRSD that performs treatment. The City retails recycled water to more than 60 customers including the municipal golf course, airport, various landscape irrigation sites, and to 22 commercial/industrial buildings for fire protection purposes. Livermore is also negotiating a long-term agreement with the City of Pleasanton to wholesale a portion of its recycled water to Pleasanton, and has begun providing recycled water on an interim basis.

As for non-recycled treated wastewater, the City participates through the LAVWMA so that treated wastewater is discharged into the San Francisco Bay. The City of Livermore also provides wastewater treatment for the City of Pleasanton's Ruby Hill development under contract.

City of Pleasanton

The City of Pleasanton manages retail water and stormwater services for its population of 70,285. Unlike Livermore, Pleasanton does not maintain a wastewater treatment facility. Instead, the city contracts with DSRSD to receive City wastewater for treatment and disposal into San Francisco Bay through LAVWMA or conversion to recycled water. A portion of Pleasanton's wastewater from its Ruby Hill development is treated at the Livermore Water Reclamation Plant under contract. Pleasanton operates and maintains its wastewater collection system. The City is currently negotiating to receive wholesale recycled water from Livermore and/or DSRSD/DERWA with future plans to sell it at a retail level. The Staples Ranch portion of the City of Pleasanton receives recycled water from the City of Livermore under an interim agreement.

Outside Agencies

The scope of Management Partners' analysis focused primarily on the six agencies in the Tri-Valley area. However, due to the complexity of overlapping water service and cross-jurisdictional agreements from these agencies and various adjacent organizations, it became vital for Management Partners' to recognize other significant agencies that provide related water utility service in the area.

California Water Service Company (Cal Water)

Cal Water is the largest investor-owned American water utility west of the Mississippi River and the third largest in the country. As it pertains to this study of the Tri-Valley area, Cal Water serves approximately two-thirds of the population in the City of Livermore. Cal Water does not provide recycled water or wastewater treatment services in the area but focuses primarily on retail water service.

East Bay Municipal Utility District

EBMUD is and independent special district serving parts of Alameda and Contra Costa counties. EBMUD provides water services for approximately 1.3 million people in the east portion of the San Francisco Bay Area. The only Tri-Valley agency to receive EBMUD water service is the portion of the City of San Ramon and the western portion of the Dougherty Valley area. Water services for the remainder of the Dougherty Valley area in San Ramon are provided by DSRSD. There are

three locations where the water systems of DSRSD and EBMUD are intertied for emergency water supply purposes.

Central Contra Costa Sanitary District

Central Contra Costa Sanitary District (CCCSD) is an independent special district responsible for the collection and treatment of wastewater that serves approximately 461,000 residents through 13 cities and unincorporated areas in Contra Costa County. As it relates to this study, CCCSD provides wastewater services for the Dougherty Valley area of the City of San Ramon. CCCSD and DSRSD have in place an emergency intertie of their collection systems in San Ramon at the Larwin pumping station. This intertie diverts wastewater to the DSRSD collection system so as to prevent sewer overflows in the event of operational or maintenance issues at that pumping station.

Livermore Amador Valley Water Management Agency

LAVWMA is a joint powers authority created in 1974 between DSRSD and the cities of Livermore and Pleasanton to dispose of effluent discharge efficiently. It was responsible for installing a single export facility to drain treated wastewater from the Tri-Valley. Although negotiations for amending this joint powers authority in the mid-1990s were contentious, the parties to LAVWA (Pleasanton, Livermore, DSRSD) have worked together effectively. LAVWMA owns and operates a wastewater effluent transmission pipeline from the Tri-Valley area to the East Bay area. From there, the treated wastewater enters the EBDA system for de-chlorination and discharge through a deep water outfall to San Francisco Bay. A separately appointed contract general manager administers LAVWMA, and DSRSD operates the LAVWMA facilities under contract to the joint powers authority.

East Bay Dischargers Authority

Due to the need for efficient disposal of wastewater, in 1974 the East Bay Dischargers Authority (EBDA) was created as a joint powers authority between several municipalities and special districts in the eastern portion of the San Francisco Bay. Relative to the Tri-Valley service area, EBDA is also contracted by LAVWWA to dispose of treated wastewater from DSRSD and the cities of Livermore and Pleasanton.

DSRSD-East Bay Municipal Utility District (EBMUD) Recycled Water Authority

The DSRSD EBMUD Recycled Water Authority (DERWA) is a joint powers authority created by the two agencies to carry out the San Ramon Valley Recycled Water Program (SRVRWP). DERWA provides wholesale recycled water treatment and delivery to DSRSD and EBMUD for their retail services to large irrigation customers including parks, golf courses, business parks, greenbelts, roadways and landscaping for residential developments with professionally managed homeowners associations within the two agencies' water service areas. DSRSD/DERWA and Pleasanton are negotiating an agreement for Pleasanton to receive wholesale recycled water from DSRSD/DERWA. DSRSD currently operates the DERWA system under contract with that JPA.

Alameda County Flood Control and Water Conservation District

The Alameda County Flood Control and Water Conservation District was created through the California State Legislature in 1949 at the request of residents because a large portion of the county resides in a flood plain. Downstream of Tri-Valley, the District provides stormwater-related services to manage flood control through its vast infrastructure of pump stations, erosion control structures, dams and hundreds of miles of pipeline, channels, levees and creeks in the lower Alameda Creek Watershed.

Zone 7 was formed when residents in 1957 pushed for the creation of a locally-controlled agency, outside of the control of the County Flood Control District. Under the original Section 36 of the District Act, Zone 7 still maintains the original stormwater and flood control services as the County District but also expanded its authority to provide wholesale water, as it now does to the Tri-Valley agencies.

Contra Costa County Flood Control and Water Conservation District

After World War II, Contra Costa County's population experienced a significant growth with homes and businesses expanding into low lying areas susceptible to flooding. In 1951, the Contra Costa County Flood Control and Water Conservation District (Flood Control District) was formed to provide flood protection. The Flood Control District covers all

of Contra Costa County, including its cities, and owns property throughout the county for the purpose of constructing and maintaining regional flood control basins, channels, and creeks. Over time, the Flood Control District also acquired stewardship of the environmental resources in the district-owned creeks.

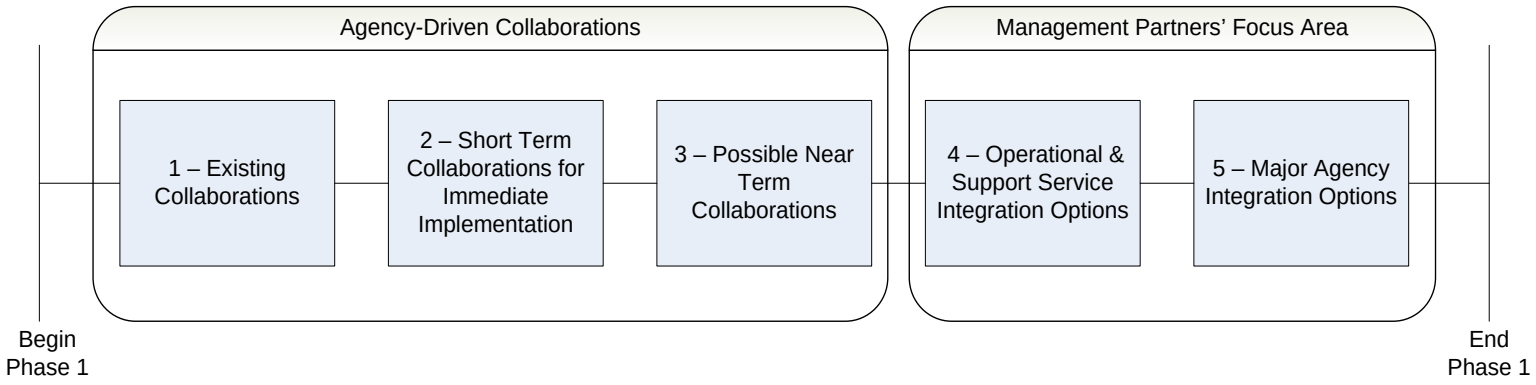
Alameda County Public Works (Castlewood Community Services Area)

Castlewood Service Area is located in unincorporated Alameda County and provides service to approximately 200 homes and two golf courses. Alameda currently contracts water and sewer services for this area to the City of Pleasanton and has also contracted with California Water Service Company (Cal Water) for services to this area.

Continuum of Collaboration to Integration: A Framework

Figure 1 shows the continuum for collaboration and integration opportunities among the Tri-Valley water utility agencies. As indicated below, Management Partners' analytical work is centered on categories four and five.

Figure 1. Continuum for Collaboration and Integration Opportunities



Description of Each Type of Integration and Collaboration Opportunity

The first three types of opportunities are being driven by the six Tri-Valley agencies. Types four and five were the focus of Management Partners' study. All five collaboration types are described below.

Agency-Driven Collaborations: Types 1, 2, and 3

The agencies have a history of ongoing collaborations, which were an important starting point. Therefore, these are recognized and included in items 1, 2 and 3 in the continuum. Each type is described below.

1. Existing Collaborations

While there are many factors to consider when identifying opportunities for integrating services, the Tri-Valley agencies already possess a strong history of collaboration. Using documentation and information from interviews, Management Partners compiled a list of the current significant collaborations and potential opportunities for integration as identified by the Tri-Valley agencies (Attachments E, F and G). Below described in each category are services and operational functions currently in place or identified by the agencies as services they are evaluating to build further collaboration.

Below are the current services and functions that are planned, contracted, or jointly operated by one or more of the Tri-Valley water agencies.

Water. The primary actor in water delivery to the Tri-Valley area derives from the wholesale of water from Zone 7. Zone 7 currently has wholesale potable water agency agreements with DSRSD, Cal Water and the City of Livermore, as well as "Terms and Conditions of Municipal and Industrial Water Service" for providing water to the City of Pleasanton. Zone 7 provides agricultural water under an Untreated Water Ordinance. In addition to the arrangement to provide wholesale potable water to the major retailers, Zone 7 also has a groundwater agreement with DSRSD to manage and pump the DSRSD local groundwater quota for blending.

Since 2004, the Committee of Valley Water Retailers has been composed of elected officials from DSRSD and the cities of Livermore and Pleasanton together with Cal Water. These participants govern the Tri-Valley Water Retailers Cooperation Agreement to oversee priorities in managing the supply and quality of water resources. These same agencies have also established a Tri-Valley Water Retailers Group to cooperate with the directives of the Committee. The Committee has recommended to its constituent members that the Committee be dissolved, and that its duties be addressed in a separate forum, the Tri-Valley Water Wholesaler/Retailers Liaison Committee.

The Tri-Valley Water Wholesaler/Retailers Liaison Committee is an ad hoc committee that was formed by elected representatives from Zone 7,

the City of Livermore, the City of Pleasanton, and Dublin San Ramon Services District in 2012. This committee discusses water policy issues of mutual concern to the various Tri-Valley retailers and the wholesaler.

Water quality remains a significant issue for each of the Tri-Valley agencies, and they have established collaborative relationships to support this goal. To ensure greater inclusion and broader support for water quality issues, discussions are underway among DSRSD, Pleasanton and Zone 7 to evolve beyond a Three Way Water Quality Resolution and replace it with a revised Tri-Valley-wide water quality policy that would be developed with input from and supported by all retailers and Zone 7.

In regards to conservation, Zone 7 funds a rebate program administered by its retailers, although education and outreach are independent efforts of each respective agency. Another important aspect of conservation includes recycling water, which has the potential to become a joint enterprise between all of the Tri-Valley agencies. Currently, DSRSD and Livermore are the only agencies who treat wastewater for recycling purposes.

Wastewater: DSRSD and Livermore perform the bulk of wastewater operations for the Tri-Valley area. However, Pleasanton operates the wastewater collection system within its boundaries. While DSRSD inherently performs wastewater services for the cities of Dublin and San Ramon, DSRSD also contracts with Pleasanton to treat and dispose of its wastewater (Pleasanton is not inside the borders of DSRSD). The City of Livermore treats wastewater from the City of Pleasanton's Ruby Hill development. Livermore and DSRSD discharge treated wastewater that is not recycled to the LAVWMA/EBDA system to be discharged into San Francisco Bay.

Recycled Water. DSRSD produces retail recycled water for its customers in Dublin and San Ramon, as well as for EBMUD customers in San Ramon through DERWA. DERWA wholesales the recycled water to DSRSD and EBMUD for distribution to its customers. Pleasanton does not currently possess the capacity for recycling water that DSRSD possesses, but is in the process of developing that capability.

Livermore is capable of producing 6 MGD of recycled water currently, but is considering expanding this capacity in the future. The City retails recycled water to various customers and is negotiating a long-term agreement to wholesale some of its recycled water to Pleasanton. DSRSD is also in the final stages of negotiating a recycled water supply

agreement with the City of Pleasanton. Interim service for recycled water is currently being provided to Pleasanton from Livermore.

Stormwater. Currently, most major stormwater operations are managed by the individual agencies (Zone 7, Livermore, Pleasanton, Dublin, San Ramon, Alameda County, and Contra Costa County), with Zone 7 providing regional flood protection except in San Ramon (Contra Costa County). Collaboration and cooperation frequently occur where local projects intercept regional flood facilities. Recent examples include collaborative projects in the El Charro Road area between the City of Livermore and Zone 7 and in the Bernal area between the City of Pleasanton and Zone 7.

In addition, the Tri-Valley agencies collaborate on some other stormwater functions. While DSRSD primarily manages water, recycled water and wastewater services for Dublin and San Ramon, Dublin contracts with DSRSD to clean 14 storm interceptors and to provide emergency support.

Customer Service/Internal Services. With six different agencies and an investor-owned utility, each organization maintains its own customer service and internal functions, with few exceptions.

Although purchasing is contingent upon the organization and its needs, Zone 7, DSRSD, and the cities of Livermore and Pleasanton participate together in the Bay Area Chemical Consortium to collectively purchase water treatment chemicals for cost savings. Another example of an internal service collaboration is the DSRSD and Zone 7 contract with Pleasanton's sign shop to provide sign fabrication.

2. Short-Term Collaborations for Immediate Implementation

These are the services and functions now performed by each agency that the Steering Committee has selected as areas for immediate implementation.

The following collaborations of services and functions were identified by the agencies as projects currently under assessment by the Tri-Valley agencies. Further details are provided in Attachment F.

1. Equipment sharing among all the agencies.
2. Laboratory service sharing among Zone 7, DSRSD and the cities of Livermore and Pleasanton.
3. Training of personnel coordinated for all Tri-Valley agencies.

4. Extension of Pleasanton's signage production services to all Tri-Valley agencies, including the cities of Dublin and San Ramon.

The Steering Committee is in the process of preparing an Interagency Reciprocal Services Master Agreement (IRSMA), which will provide a vehicle for service sharing between the agencies.

3. Possible Near-Term Collaborations

The following 10 items are the services and functions now performed by each agency that Steering Committee members selected as areas for possible future collaboration. They will require further study and/or a longer implementation schedule than those listed in short-term collaborations.

1. Grant writing
2. Reservoir cleaning and inspection
3. Fire hydrant maintenance
4. Video inspection
5. Catch basin cleaning
6. Landscape maintenance
7. Fleet maintenance
8. Subsurface repair
9. Street maintenance and grinding
10. Custodial services

These areas of collaboration are not yet in progress. However, the agencies interested in pursuing possible further collaboration are shown in Attachment G.

Management Partners' Focus Areas: Types 4 and 5

The Tri-Valley agencies asked Management Partners to focus on collaboration types 4 and 5 on the continuum. We have provided a brief description below and both are discussed in depth in the section of the report entitled "Opportunities for Integration."

4. Operational and Support Service Integration Options

A list of 15 potential operational and support service integration options (as shown in Table 1 in the Executive Summary) have been identified through this study. Support service functions and services, such as integrated utility IT functions or inventory control, would not substantially change the mix of services; however, operational services could significantly change the mix of services that an agency provides to

its customers. Each of the 15 options is described further in this report, in the section titled "Operational and Support Integration Opportunities and Challenges/Impediments."

5. Major Agency Integration Options

A list of 10 potential major integration scenarios (as shown in Table 2 of the Executive Summary) have been described which show a range of more general options for integrating various services and functions provided by the Tri-Valley agencies. Opportunities range from integrating one utility function under fewer agencies to the consolidation of all utilities under a single agency to one or more agencies providing contract services to one or more other agencies for various services. Each of these options is described in this report in the section titled "Major Integration Options."

Financial and Statistical Data

To understand the operational capability of each agency, Management Partners created an overview of the financial and statistical data pertaining to the six public agencies. More detailed system statistics are provided in Attachment A while financial information is provided in Attachment B. (Data pertaining to Cal Water was requested several times by the Steering Committee, but was not provided and therefore is not included in this report.)

Information for these tables, for both the statistical and financial data, was provided by each of the agencies to Management Partners. This baseline data was not available prior to this study and involved significant effort in compiling it. This information provides an overall perspective about Tri-Valley Utilities.

These data create an overview of the fundamental financial and functional data that show dedication of resources to the various utilities and their respective operational capacity.

Table 3 provides a statistical overview of the six public agencies, including population, service areas, and acres involved in the services. The various services are provided to the cities and unincorporated areas of Contra Costa and Alameda Counties across city and unincorporated areas as shown in the maps in Attachment H.

Table 3. General Overview of Tri-Valley Agencies

Fiscal Year 2012-13 Data	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton	Cal Water
Municipal/Service Population	220,000	157,000	49,890	74,000	82,000	70,285	X
Population Receiving Water Service	220,000[1]	62,000	X	X	32,000	71,000	50,000
Population Receiving Wastewater Service (Collection)	X	71,000	X	X	84,335	70,000	X
Population Receiving Wastewater Service (Treatment)	X	141,000	X	X	84,335	X	X
Customers Receiving Recycled Water Service	X	283[2]	X	X	n/a[2]	X	n/a
Acres Receiving Water Service	425 square miles[3]	14,595	X	X	7,120	16,000	n/a
Acres Receiving Recycled Water Service	X	7,300[4]	X	X	2,200[5]	X	n/a
Acres Receiving Wastewater Service (Collection)	X	9,294	X	X	16,580	13,700	n/a
Acres in Drainage Area Requiring Public Stormwater System	425 square miles[6]	X	9,754	11,918[7]	16,580	15,514	X

Note: The data for population served in overlaps the agencies. For example, DSRSD's services are provided to parts of San Ramon and Dublin. Overall services are provided over 484 square miles. Data was provided and reviewed by each of the agencies.
n/a = Data not available or provided
X = Not applicable
[1]Through its retailers, Zone 7 serves potable water to 220,000 people.
[2]Recycled water is provided for commercial landscape irrigation and public areas; not available for single family residences.
[3]Zone 7 provides untreated water to much of the unincorporated area of Eastern Alameda County as well as providing potable water service through its retail water agencies to the remainder of Eastern Alameda County.
[4] Recycled water is currently available to roughly half DSRSD's water service area.
[5] Information provided by WRD Engineer based on GIS
[6]Zone 7 provides regional flood protection to all of Eastern Alameda County, providing major collection and storage for stormwater flowing from each of the three cities (Pleasanton, Livermore and Dublin) as well as from the Dougherty Valley portion of San Ramon.
[7] Clarification needed for Dublin, Pleasanton, and San Ramon to be consistent.

Table 4 provides an overview of financial information for each of the six public agencies. The numbers provided in this table were provided and reviewed by the agencies. These agencies have total revenues of $207.8 million, an operating budget total of $129.9 million and staffing of 313 FTEs. Further financial data for each agency for water, wastewater and stormwater services can be found in Attachment B.

Table 4. Financial Overview of Tri-Valley Agencies

Fiscal Year 2012-13 Data ($1,000s)	Zone 7	DSRSD	Dublin	San Ramon	Livermore[2]	Pleasanton	Cal Water
Revenue							
Total Revenues[1]	$73,209	$66,383	$221	$1,504	$37,617	$28,988	$17,651[4]
Debt Service							
Outstanding Debt	$30,500	$126,219	$0	$0	$8,383	$520	n/a
Annual Debt Service	$136	$9,996	$0	$0	$2,948	$7.2	n/a
Assets							
Total Financial Assets	$329,341,200	$438,491,355	$28,917,962	$63,596,557	$231,301,169	$208,002,704	n/a
Total Physical Assets[5]	$404,316,000	$322,654,000	$28,478,000	$72,452,000	$259,749,000	$206,698,000	n/a
Staffing							
Total Full-Time Equivalent Employees	103.00	109.00[3]	4.25	4.19	60.75	31.34	17-18

n/a = Data not available or provided

[1] Revenue listed for each agency includes revenue for services provided to other Tri-Valley Agencies. These redundancies are reflected in the $207.8 million total. Actual total revenue for the Tri-Valley Agencies (excluding Cal Water), amounts to approximately $113.9 million generated by property taxes, service charges and assessments.

[2] LAVWMA debt is not recorded on their books. City recorded its equity interest in the joint venture instead.

[3] Includes direct and allocation of administrative support. Cities may allocate central administrative costs (such as human resources, finance, city attorney) across all operational departments. The two utility agencies (Zone 7 and DSRSD) have their own central administrative functions.

[4] Data retrieved from https://www.calwater.com/rates/grc/2012/

[5] The asset value is an approximation based on a preliminary evaluation of physical assets, net depreciation. Detailed infrastructure data will be contained in a separate document.

Service Area Maps

Early in the project, Management Partners asked to see a map of the service areas of the Tri-Valley agencies. None existed and the agencies agreed that current maps for water and wastewater would be helpful. The City of Livermore took the lead in developing the maps, which are included as Attachment H. The exercise of developing the maps has proven useful in raising a number of service area questions and informing each Tri-Valley agency about the other agencies. The maps are still "works in progress," but they are useful to this study in their present form.

Opportunities for Integration

As noted previously, one of the reasons for this project was to provide information to the Tri-Valley agencies (and to LAFCO from the Tri-Valley agencies) about ways that agencies can build on past collaborations and initiate new ways of enhancing cost efficiency in delivering water, recycled water, stormwater management, and wastewater services to their communities. The Tri-Valley utility agencies have a successful track record of delivering efficient, high quality services to their customers, and have a solid history of collaborations. Therefore, the study was to build on those successes.

In conducting this study, Management Partners identified opportunities to expand coordination and cooperation among the programs, services, and activities undertaken by two or more of the agencies. As opportunities are analyzed in Phase 2, the agencies may also identify policies and business practices that, if were changed to be in common, would facilitate future integrations and other forms of providing cooperative services.

After Steering Committee members reviewed and commented on an initial list of ideas, Management Partners began a high-level review and sorting process to provide some level of content and relative perspective about each identified opportunity.

Opportunities for collaboration and/or integration were initially sorted based on three levels as described in the Project Approach section of this report. Once that sorting was completed, Management Partners evaluated the potential benefits (including economies of scale) and challenges and impediments for each, as described in the following section of the report.

Economies of Scale Factors

Economies of scale (EOS) usually result from being able to spread fixed or quasi-fixed costs over more units of output, or by aggregating output to a level that can justify investment in labor-saving equipment or technology, thereby lowering unit costs. Integrations would normally occur over time, taking into consideration the age and condition of equipment, infrastructure, and technology systems. Thus, staffing reductions, if any, would be planned through normal attrition from promotions, vacancies, and retirements.

When agencies of significantly different sizes collaborate, the economy of scale will generally favor the smaller agencies, requiring some adjustment in the cost-sharing from proportional to service usage. In the Tri-Valley case, this will likely be less of an issue because the utility agencies are of similar size.

Typical economies of scale factors are described below. Quantitative analysis to determine projected financial savings is intended to be conducted in Phase 2, so such analysis is not provided in this report. Additionally, Management Partners recognizes there are challenges and complications in each of these areas. For all of the potential opportunities identified and described in this report, a number of challenges and impediments are noted, requiring detailed analysis and action planning.

Economies of scale factors

- ***Executive Management and Administrative and Supervisorial Staffing.*** This would be the potential for savings from having fewer supervisory and managerial positions per unit of output than exist now. Executive management and administrative positions have the highest probability of requiring fewer positions. Depending on current organizational structures, spans of management and supervision may be increased to more optimal sizes.

- ***Operations Staffing***. This would be the potential for savings from combining and reducing staff size per unit output, depending on current staffing efficiencies. Integrating a function might reduce the number of highly technical or licensed staff required per unit output and provide expertise to the smaller organizations that could not previously justify or afford to hire this type of staff. This EOS may provide greater opportunities for lowering expense

in coverage of staff absences and covering the lag-time in hiring replacements.

- ***Technological.*** This includes information technology (IT), special equipment, and special training needed. It is often economical to adopt new technology only upon reaching a certain threshold level or scale. For instance, a laboratory may not be able to justify certain analytical equipment until the number of samples to be analyzed reaches a certain threshold. An in-house sign fabricating shop may not be feasible until the need for signs is large enough. When specialized equipment with infrequent usage (such as laboratory instruments, tools, unique vehicles, and heavy equipment) are required, costs increase and if such specialized technology is shared (either through a lease or purchase, depending on the cost and expected use), there may be savings to the individual agencies. Each item would need to be evaluated separately. Moving to a single IT system across all applicable agencies may reduce software/hardware costs, may reduce the need for support of different systems, and may provide more features for the smaller organizations that prior to integration could not afford such systems. Specialized IT training needs pertaining to technology could be provided on a joint basis.

- ***Capital.*** At larger scales, facilities and space required may often be decreased in terms of area or shared reducing expenditure per unit output.

- ***Risk/Liability.*** Spreading risk/liability over a larger scale (e.g., for insurance) often reduces cost per unit output. Staff training and safety protocols may be improved thereby reducing risk. Also, unified staff provides greater level of experience, thus reducing risk. The Tri-Valley agencies are currently members of larger risk pools and are taking advantage of economies of scale. Savings for these agencies could come from integrating training and safety protocols to minimize risk. However, each of the agencies may have different philosophical approaches to regulatory compliance, and these would need to be reconciled.

- ***Financial and Support.*** Potential cost savings from buying in larger quantities and unified accounting, purchasing, and payroll processing may be realized. Potential savings also may exist if staff size can be reduced and/or more efficient capital investments can be realized. Consolidating technical staff for in-house expertise may reduce the cost of contracts for such services.

Operational and Support Integration Opportunities

The following tables contain a qualitative review of the potential economies of scale (EOS) factors that may exist for 15 potential operational and support integration opportunities. Further analysis in Phase 2 will be needed for all of the opportunities, including identifying challenges and impediments to integration and key considerations for implementation are also listed.

The following operational and support integration (OSI) opportunities are described in the tables below.

OSI 1: Expand Utility Fleet Maintenance Integration
OSI 2: Integrate Operation and Maintenance of Wells
OSI 3: Integrate SCADA Systems for Pump/Lift Stations
OSI 4: Integrate Water Conservation Programs
OSI 5: Integrate Utility Information Technology (IT) Functions
OSI 6: Integrate Inventory Control and Management
OSI 7: Integrate Meter Reading Services
OSI 8: Expand on Laboratory Services Integration
OSI 9: Integrate Construction and Engineering Services
OSI 10: Integrate Regulatory Compliance, Environmental Management, and Security/Vulnerability Systems
OSI 11: Integrate Sewer Collection System Maintenance
OSI 12: Integrate Water Distribution Systems Maintenance
OSI 13: Integrate Closed Circuit TV Inspection of Sewers and Storm Drains
OSI 14: Integrate After-Hours Call Out/Emergency Response
OSI 15: Create Contract Labor Pool Management

OSI 1: Expand Utility Fleet Maintenance Integration

Description: Integrate small vehicle maintenance into fewer facilities. Integrate heavy equipment maintenance into one facility. Create heavy equipment pool and rent to the agencies. Combine and outsource fleet maintenance. (The cities have fleets for non-utility functions and this option would only involve utility fleet.)

Current Status: Some sharing of equipment is currently being done when an agency's piece of equipment is not the optimal size for the job. Attachments F and G indicate which agencies have expressed an interested in expanding collaborations for equipment and fleet maintenance.

Timing: Long term integration with short and intermediate sharing.

Economies of Scale Factors	Comments
Managerial	Reduced numbers of department heads/managers
Staffing	Larger operation allows for specializing services and higher service level
Technological	Unified fleet management software Reduced support needed for unified software
Capital (Facilities and Equipment)	Reduced need for multiple shops with similar capabilities Reduced cost of large equipment by buying (or leasing) fewer specialized units and sharing them Reduced cost by eliminating equipment redundancies
Risk/Liability	Larger organization provides unified handling of hazardous materials
Financial and Support	Contract for services; e.g., tires and parts management *Note:* Agencies already receive good pricing on vehicles through large contracts, such as the California Multiple Award Schedule (CMAS) administered by the California Department of General Services.
Challenges and Impediments	Locations of current maintenance shops and distance from work areas Compatibility of fleet maintenance software and complexity of migrating to single program Potential for integrating specific functions/services; e.g., heavy equipment servicing Types, age, and condition of vehicles and equipment used by agencies currently Tendency for people to want their own unit versus sharing with others See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 2: Integrate Operation and Maintenance of Wells

Description: Have all well operations and maintenance handled by one of the existing agencies. Implement a unified supervisory control and data acquisition (SCADA) system.

Current Status: Zone 7, Pleasanton and Cal Water currently operate and maintain wells. Zone 7 operates and maintains wells on behalf of DSRSD. Zone 7 and Pleasanton currently share SCADA operations and plan to do more.

Timing: A likely implementation schedule would have Zone 7 gradually building this integration opportunity where there is an interest until a successor entity, if any, takes over.

Economies of Scale Factors	Comments
Managerial	Unifies management of maintenance crews
Staffing	Unifies maintenance crews and backfilling vacancies has less of an impact
Technological	Unified SCADA and reduced support needed for multiple systems
Capital (Facilities and Equipment)	Savings from equipment and IT acquisition/maintenance costs
Risk/Liability	A larger centralized staff can maintain safety protocols which reduces risk
Financial and Support	Potential savings from unified management, staffing, and equipment
Challenges and Impediments	Locations of crew facilities and equipment See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 3: Integrate SCADA Systems for Pump/Lift Stations

Description: Integrating SCADA systems for pump and lift stations will help prevent or reduce water loss and sewer system overflows. This is also tied into other options (e.g., IT, call/back integration, etc.).

Current Status: Pleasanton, Livermore, DSRSD, Cal Water and Zone 7 presently maintain their own pump stations; and Pleasanton, Livermore, and DSRSD maintain their own lift stations.

Timing: A likely implementation schedule would have the existing agencies negotiating an acceptable integration.

Economies of Scale Factors	Comments
Managerial	No reductions in management would be expected
Staffing	Single system could reduce the need for multiple system expertise Potential for overall staffing reduction, if any of the agencies have underutilized capacity. Workloads per FTE may be optimized by having a single system.
Technological	Opportunity for robust monitoring, operation of remote facilities and improved environmental compliance through reduction in regulatory violations, such as sewer system overflows/water loss
Capital (Facilities and Equipment)	Joint purchase of equipment and software will reduce cost per unit output and potentially enhance the SCADA system
Risk/Liability	Reduces potential risk of service outages
Financial and Support	Unknown
Challenges and Impediments	How this option is affected by other options pursued Compatibility of hardware, software and telemetry technology along with maintaining the security of the facilities and the SCADA systems See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 4: Integrate Water Conservation Programs

Description: These programs could be further consolidated under one agency or be an integrated program of multiple agencies. Water conservation programs, including incentive programs such as water conserving fixture giveaways and appliance rebates, customer water audits, and public information and engagement are frequently implemented on a regional level in California.

Current Status: Existing collaborations are underway, as listed in Attachment E. The agencies are currently working on coordinating activities through monthly meetings, with Zone 7 hosting, seeking and managing IRWMP grant funds (and associated reimbursement) on behalf of the group and providing school/classroom programs as part of area-wide conservation outreach.

Timing: Further integration might be accomplished in the short term since it does not require infrastructure, equipment, or IT changes. It may be done program-by-program with leadership to be determined by the committee.

Economies of Scale Factors	Comments
Managerial	Unlikely to have reductions, since managers likely have other functions they are performing
Staffing	Water conservation programs will grow rapidly due to potential changes in state and federal regulations and a consolidated program will save staff costs
Technological	Enables the implementation of more best management practices than are possible on a smaller scale
Capital (Facilities and Equipment)	No expected impact on capital expenditures
Risk/Liability	Unknown; minimal impact expected
Financial and Support	Unknown; minimal impact expected
Challenges and Impediments	See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 5: Integrate Utility Information Technology (IT) Functions

Description: Information technology expertise, contracts for services, and purchases could be done on a regional basis. A technological advisory committee comprised of IT personnel from each of the agencies could be established to share expertise, institute joint purchasing, share contracts for services, and aim towards more compatibility. GIS is included in this option but may be considered separately since engineering staff is responsible for GIS in some agencies and IT staff in others.

Current Status: There is currently a coordinating group of technical staff for GIS. There is nothing comparable for other IT functions.

Timing: Short-term sharing might occur with combined purchasing and sharing of expertise. Integrations could be over the long term considering system life cycles with major upgrades or replacements planned with future integrations being considered.

Economies of Scale Factors	Comments
Managerial	Reduces the number of department heads/managers
Staffing	Could reduce need for external expertise. Reduces the need to have expertise in multiple IT systems
Technological	Increased sharing of expertise; single IT systems are less expensive than purchasing and managing multiple systems
Capital (Facilities and Equipment)	Regional, multi-agency purchases of software and associated equipment could produce savings
Risk/Liability	Security and system vulnerability in a regional system would reduce risks and liabilities
Financial and Support	Coordinating purchasing of technology
Challenges and Impediments	Compatibility with other technology systems in each agency Data migration complexities Complexity and problems with unbundling utility IT systems from other municipal IT systems. See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 6: Integrate Inventory Control and Management

Description: Establish one location for storage and management of tools and, equipment, material and supplies for all Tri-Valley utility agencies.

Current Status: No coordination currently and several agencies report the need for improvement. The agencies note that general improvement as well as increased efficiency and effectiveness could result from integration. Varying levels of inventory control and different software may prove impediments to quick implementation.

Timing: Could start with a common database of inventory so Tri-Valley agencies can obtain inventory items from each other.

Economies of Scale Factors	Comments
Managerial	No reduction in management
Staffing	No reduction in staffing
Technological	Larger number of tools and equipment justifies more extensive software to track usage and the number of tools to be purchased
Capital (Facilities and Equipment)	Sharing infrequently used equipment/tools saves money because fewer units are needed to be acquired
Risk/Liability	Inventory control reduces risk of losses
Financial and Support	Savings from purchasing fewer units Reduced cost of multiple storage spaces Ability to obtain parts from others immediately versus waiting for suppliers to deliver
Challenges and Impediments	Distances from work areas. An alternative is to have two or more regional locations Since there is no current major investment in inventory systems, opportunity exists to build an integrated system from the ground up without impacting any current systems See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 7: Integrate Meter Reading Services

Description: Move to a single meter reading and billing technology and create a shared, trained staff.

Current Status: Current internal efforts are moving to implement new technologies, but they are not coordinated.

Timing: Technology is changing rapidly in this field as are the needs of the agencies. Some internal efforts are too advanced to integrate at this time, but future integration is a viable option and should be planned in advance to take advantage of opportunities for efficiencies.

Economies of Scale Factors	Comments
Managerial	Unifies management of meter readers
Staffing	May reduce staff expertise requirements for multiple meter reading systems. Changing from manually read meters saves staff costs. A unified meter reading system would allow for more economical routes to be designed. Staff savings may be used to optimize technology resulting in service improvements rather than direct cost savings
Technological	Single meter reading technology also provides for unified billing systems, which could allow additional locations and methods for customers to pay bills, such as paying on-line or automatically debiting customer bank accounts. With unified billing, the bill sent to customer can still have the name of the agency providing the service, so it is transparent from the customer's point of view. Even if a unified billing system is not possible or desirable, a unified meter reading technology allows for a common database that can allow more efficient processing of bills for individual agencies.
Capital (Facilities and Equipment)	Initial capital costs of meters and a unified meter reading system is offset over the long run by lower meter reading costs
Risk/Liability	Lower risk of workers' compensation with reduction in meter reading staff, especially in moving from manual reading
Financial and Support	Potential for unified billing system
Challenges and Impediments	Compatibility of the agencies' current meter reading technology or methodologies; could be difficult to get software of the agencies to work together; likely to not reduce costs due to complexities Age and lifespan of current meter reading systems May not be able to reduce staffing because while field personnel are not reading meters they are using that time to troubleshoot, repair and replace the additional meter equipment that makes automated systems possible Major complexities in ensuring that the billing agency is accurately billing all customers and that agencies receive appropriate revenues Cash register functions are likely to remain with each agency See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 8: Expand on Laboratory Services Integration

Description: This option would build on the laboratory integration already being implemented by the Tri-Valley utilities to include more fully integrated laboratory and associated equipment and staff serving all of the agencies. Plant process laboratories would likely remain as is for operational effectiveness, but there are opportunities for integrating water quality laboratories and staff chemists. A regional laboratory could be housed at an existing treatment facility to serve all of the agencies.

Current Status: Zone 7 already provides some drinking water analyses to its retail water agencies. The Tri-Valley agencies have selected further laboratory services integration as a project for internal study and possible integration. Attachment F indicates those Tri-Valley agencies that have identified their interest in expanding laboratory service integration.

Timing: This option could be implemented following the Tri-Valley agency internal study now underway.

Economies of Scale Factors	Comments
Managerial	Would establish one management structure for the chemist laboratory, rather than separate structures as currently exist
Staffing	May provide greater expertise to smaller organizations with coverage for normal absences Ability to provide in-house capabilities versus contracting for services and reducing costs through competitive bidding (in-house vs. contracting); however, the cost effectiveness of a contract may outweigh the convenience of doing the work in house
Technological	Would consolidate expensive equipment and staff expertise (e.g., could have one gas chromatograph/mass spectrometer or atomic adsorption spectrometer for the Tri-Valley agencies)
Capital (Facilities and Equipment)	Would reduce need for duplicate equipment and sites
Risk/Liability	Unknown; minimal savings expected
Financial and Support	Reduced equipment cost
Challenges and Impediments	Differences in certifications for water and wastewater laboratories Analysis needed to compare the cost effectiveness of contract for services from the private sector with the convenience of doing this work in house See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 9: Integrate Construction and Engineering Services

Description: Integrate engineering services and coordinate construction projects. (*Note:* This OSI does not include construction of joint facilities. New joint facilities would be included in some of the Major Integration Options.)

Current Status: DERWA and LAVWMA are present successes and provide a basis for expansion. Other examples are recent contracts between the City of Pleasanton and Zone 7 for development of Pleasanton's 2010 Urban Water Management Plan and Recycled Water Master Plan (in process).

Timing: Sharing of specialized engineering staff or consulting expertise (such as drafting, technicians, field work, inventory data collection) and coordinating construction projects can be accomplished in the short term. This could lead to creating joint facilities over the long term.

Economies of Scale Factors	Comments
Managerial	Consolidated management savings
Staffing	Potential savings from reduced staff per unit output for developing bid specifications and construction inspections
Technological	Ability to share staff expertise
Capital (Facilities and Equipment)	Reduced cost per unit production by integrating engineering services and coordinating construction project schedules. Coordinating and joint bidding of construction projects of the different agencies may reduce staging costs and overall project costs per unit output
Risk/Liability	Minimal savings expected
Financial and Support	Common bid specifications and coordinating construction projects may result in lower costs to the agencies.
Challenges and Impediments	Whether sufficient expertise is available in house or through a consolidated arrangement would need to be determined Agreeing to unified construction standards for joint projects, starting with the more typical boilerplate contract sections. Agreements on technical specifications would require a task force approach and may also involve city and county requirements. Determining the need to employ various types of expertise and whether to use contractors. See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 10: Integrate Regulatory Compliance, Environmental Management, and Security/Vulnerability Systems

Description: Each agency needs experts to handle regulatory compliance, stormwater and flood control environmental management, and security/vulnerability systems, including remote site locations. One group of specialists could serve all agencies as a "center of excellence." This could be located at a single agency with service to all agencies.

Current Status: Some agencies have a difficult time retaining expertise and providing back-up in these specialty areas. This is a current need for some agencies but not for all. For instance, Livermore has sufficient staffing.

Timing: The agencies could start by taking an inventory of expertise and developing informal networks for mutual assistance and then move to a more formal arrangement if necessary or desirable. Another option would be for the agencies to fund jointly one or more positions to be housed in a single agency.

Economies of Scale Factors	Comments
Managerial	Minimal savings since this function will comprise a small portion of a manager's time
Staffing	Since agencies may have only one employee performing these types of functions, integration would provide coverage when employees leave or are on leave, and provide backup assistance when major problems arise.
Technological	Increases and consolidates staff expertise
Capital (Facilities and Equipment)	No savings on facilities or equipment
Risk/Liability	Providing staff to backup an agency's vacancy can avoid potential risks and liability
Financial and Support	Minimal savings expected
Challenges and Impediments	Any pending regulatory issues with the agencies Determining responsibility for liability problems if a plant's operations have problems; would be a diffusion of responsibility and accountability that would need to be addressed Difference in regulatory compliance philosophies between the agencies See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 11: Integrate Sewer Collection System Maintenance

Description: Integrate this function by area, by type of maintenance, or on an overall basis.

Current Status: Informal sharing of equipment and services, particularly during emergencies.

Timing: Pleasanton may have the ability to provide more sustained support and services to other agencies. DSRSD may have a need to obtain services for subsurface repair. This could be a first step towards a more comprehensive integration involving Livermore, or it could be a stand-alone arrangement.

Economies of Scale Factors	Comments
Managerial	Potential savings through consolidated management (fewer managers)
Staffing	Creation of specialized crews could increase expertise and reduce costs
Technological	Unified Computerized Maintenance Management System (CMMS) software
Capital (Facilities and Equipment)	Better tracking of preventive and predictive maintenance reduces cost of replacing equipment and facilities
Risk/Liability	Could increase tracking of potential problems
Financial and Support	Savings in management and staffing consolidation. Improved preventative maintenance reduces long term capital costs.
Challenges and Impediments	Compatibility and transition from existing CMMS software Sewer system overflows is an increasing issue at the federal government level Consider outsourcing this function Travel time for emergency responses Balancing responsibilities and accountability See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 12: Integrate Water Distribution Systems Maintenance

Description: Integrate this function by area, by type of maintenance, or on an overall basis.

Current Status: Zone 7 and Pleasanton have integrated control of a portion of their respective SCADA systems. Zone 7 has engaged Pleasanton several times for field assistance on various projects. There is additional informal sharing of equipment and services, particularly during emergencies.

Timing: Pleasanton may have the ability to provide more sustained support and services to other agencies. DSRSD may have a need to obtain services for subsurface repair. This could be a first step towards a more comprehensive integration involving Livermore and/or Cal Water, or it could be a stand-alone arrangement.

Economies of Scale Factors	Comments
Managerial	Savings through consolidated management (fewer managers)
Staffing	Creation of specialized crews increases expertise and reduces costs
Technological	Unified Computerized Maintenance Management System (CMMS) software
Capital (Facilities and Equipment)	Better tracking of preventative and predictive maintenance reduces cost of replacing equipment and facilities
Risk/Liability	Increased tracking of potential problems
Financial and Support	Savings from specialized crews and tracking maintenance efforts
Challenges and Impediments	Compatibility and transition from existing CMMS software Travel time for emergency responses Balancing responsibilities and accountability See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 13: Integrate Closed Circuit TV Inspection of Sewers and Storm Drains

Description: Establish one group or contract for providing specialists/equipment to serve all agencies. This option may include other pipeline inspection methods and evaluation surveys.

Current Status: No existing collaborations; however, Attachment G indicates which agencies have identified interest in expanding integration of this service. With sanitary sewer overflows a more heavily regulated and cited (and litigated) class of violations, the three agencies operating collection systems will have a growing interest in adding expertise in this area.

Timing: San Ramon has indicated an interest in obtaining services from other agencies for storm drains. This could be a first step towards integration.

Economies of Scale Factors	Comments
Managerial	No cost savings
Staffing	Creation of specialized crews increases expertise and reduces costs per unit output
Technological	No savings over existing technologies.
Capital (Facilities and Equipment)	Would reduce the number of camera rigs needed
Risk/Liability	Help avoid regulatory citations and litigation over sanitary sewer overflows
Financial and Support	Improves service level with some additional cost, but minimized by integration
Challenges and Impediments	Consider outsourcing to provide savings or integrate under one agency. The scope of work will be critical because it will tend to be more efficient to do work in-house to the degree camera crews can be kept busy all the time. A competitive bidding process can be used to compare in-house versus contracting costs. See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 14: Integrate After-Hours Call Out/Emergency Response

Description: Establish an integrated after-hours call out/emergency response function.

Current Status: No current collaborations.

Timing: Pleasanton has expressed a willingness to provide emergency callout services to other agencies and DSRSD has expressed an interest in acquiring emergency callout services. That arrangement could be a first step towards further integration.

Economies of Scale Factors	Comments
Managerial	No savings
Staffing	Reduces number of staff on standby and provides a larger pool for standby assignments
Technological	Single call in number for customers
Capital (Facilities and Equipment)	No savings
Risk/Liability	Backup standby staff may result in quicker responses to emergencies
Financial and Support	Potential savings in staff costs
Challenges and Impediments	Ability to get appropriate repair equipment and materials to emergency site Responding to and troubleshooting multiple complex systems built to different standards will require extensive cross training Response time to emergency call-outs Labor agreements may stipulate different provisions related to call-outs See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

OSI 15: Create Contract Labor Pool Management

Description: Establish one organization as the lead to recruit and hire employees or share a pool of contract or temporary employees for the utility functions. The employees would then be paid and managed by each individual agency. Agencies may also release permanent employees to work part time for other agencies on a temporary basis to fill an urgent need.

Current Status: No existing collaborations.

Timing: This option could be split in two. An interim integration could be the recruitment of potential employees and creating hiring lists through an integration of human resources functions. Another could be a central dispatch or clearinghouse for temporary employees.

Economies of Scale Factors	Comments
Managerial	May reduce human resources managerial costs
Staffing	More efficient use of staff; potential use of temporary agency services on a contract basis
Technological	Unknown; savings unlikely
Capital (Facilities and Equipment)	Minimal reduction in office space required
Risk/Liability	Standardization of job specifications and background checks may reduce risk
Financial and Support	May reduce the number of staff needed for recruitment and hiring
Challenges and Impediments	Cities may have concerns about spinning off recruitment functions Current labor agreements There are significant impediments to any involvement of Zone 7 while it remains under the County's civil service requirements. Disciplinary actions and on-the-job injuries/workers compensation issues would need to be resolved (for instance, with an employee from one agency doing work for another agency) See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations"

Sorting of Operations and Support Integration Opportunities

As noted in the Project Approach section of this report, there were three levels of sorting.

Level 1: Sorting a range of options into one of five categories on the continuum of collaboration to integration described earlier in this report. Category 4 of the continuum is for Operations and Support Integration Opportunities, which is the subject of this section of the report.

Level 2: Second level of sorting based on time to accomplish integration (near-, mid- and long-term).

- Near-term (one through two years)
- Mid-term (three through ten years)
- Long-term (more than ten years)

The long term items are opportunities that are likely to require more time and expense and have particular challenges or factors that may impede integration, but would have value in exploring further.

Level 3: The third level of sorting was focused on potential for cost savings or cost avoidance (high, medium or low). Cost savings are rated in terms of the cost of the function, not the total agencies' budgets. Cost savings will also vary between agencies depending on their current situation, thus a specific integration may produce overall medium savings across all agencies but low savings for a specific agency. While service improvements may be expected for many of the operations and support integration opportunities, they will generally be considered "added value" not considered in the sorting.

Each of the 15 operations and support integration opportunities is listed in Table 5, sorted by Level 2 (time to implement) and 3 (cost savings or avoidance and service improvements). Please note that this sorting technique has been done based on industry knowledge as a way to aid in further discussions by the agencies about which they wish to pursue in further analysis.

Detailed analysis will be required to identify accurate cost savings and potential service improvements. This analysis will include known and potential challenges and impediments, and solutions to address those, as feasible. It is likely that in some instances, fatal flaws identified through analysis will eliminate some of the 15 potential opportunities. The Operational and Support Opportunities recommended for a Phase 2

analysis are shown in Table 5. These six opportunities were selected because they appear to meet one or more of these factors: expansion of an existing collaboration; the ability to start from the ground up; or, a collaboration that would improve services without impacting other program areas.

Table 5. Operations and Support Integration Opportunities

Operational and Support Integration Opportunities	Near, Mid, or Long Term	Low, Medium or High Cost Savings/Avoidance	Consider Phase 2 Analysis
OSI 1. Expand Utility Fleet Maintenance Integration	Mid	Mid →	X
OSI 2. Integrate Operation and Maintenance of Wells	Mid	Mid →	
OSI 3. Integrate SCADA Systems for Pump/Lift Stations	Long	Mid →	
OSI 4. Integrate Water Conservation Programs	Near	Mid →	X
OSI 5. Integrate Utility Information Technology (IT) Functions	Long	High ↑	
OSI 6. Integrate Inventory Control and Management	Mid	High ↑	X
OSI 7. Integrate Meter Reading Services	Long	Low	
OSI 8. Expand on Laboratory Services Integration	Mid	Mid →	X
OSI 9.Integrate Construction and Engineering Services	Mid	Low	
OSI 10: Integrate Regulatory Compliance, Environmental Management and Security/ Vulnerability Systems	Near	Low	
OSI 11. Integrate Sewer Collection System Maintenance	Mid	High ↑	
OSI 12. Integrate Water Distribution Systems Maintenance	Mid	High ↑	
OSI 13. Integrate Closed Circuit TV Inspection of Sewers and Storm Drains	Near	Mid →	X
OSI 14. Integrate After-Hours Call Out/Emergency Response	Mid	Mid →	X
OSI 15. Create Contract Labor Pool Management	Mid	Mid →	

Major Integration Options

In addition to examining service and operational integration (OSI) opportunities, the Tri-Valley Utilities asked Management Partners to consider further opportunities for integration, hence the fifth category on the continuum of collaboration described earlier in this report. This category consists of what we have called *major integration options* because they will result in substantial changes in institutional relationships and large economies of scale. Through consultation, the Tri-Valley Utilities and Management Partners have identified 10 types of major integration

options, although there are numerous variations and sub-types that could be tailored specifically to meet the interests at the time of integration. Most, but not all, should be considered long-term options at this time.

The Major Integrations Options are:

1. Integrate management of stormwater under one entity
2. Provide recycled water services under one entity
3. Integrate all wastewater services under one entity
4. Integrate all wastewater services under one entity, including the LAVWMA system
5. Integrate all water distribution system and retail water services under one, two, or three entities
6. Integrate all water treatment, distribution system, and retail water services under one entity
7. Integrate all water services under one agency
8. Integrate all water and wastewater services under one agency
9. Integrate all water, wastewater, and recycled water services under one agency
10. Integrate all utilities under one agency

Table 6 lists the major integration opportunities and the potential economies of scale that could be accomplished. Key challenges and potential impediments are summarized for each option and are further defined in Table 15 below.

*Table 6. Major Integration Options and Descriptions**

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
1	Integrate stormwater management under one entity	**Description:** Increased exposure of city general funds may make it desirable to look for an option other than the *status quo*. Water, wastewater, and recycled water would remain *status quo* or pursue different options. **Potential Benefits:** Economies of scale, plus cities may benefit from reduced exposure to risks associated with stormwater management. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." There would be a need to coordinate permit requirements and engage Zone 7 and counties (Alameda and Contra Costa) that are already involved in stormwater management to some degree on a regional level.

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
2	Provide recycled water services under one entity	**Description:** Because recycled water is actively evolving, it provides the best opportunity for new institutional arrangements in the immediate or near term. This option could involve reformation of DERWA to include more Tri-Valley entities and either retaining EBMUD as a member or establishing EBMUD as a wholesale customer of the new entity. The DERWA and Livermore recycled water systems are the *status quo.* Water, wastewater, and stormwater would remain *status quo* or pursue different options. Interim steps under this option would include expansion of the present two-agency arrangement, specifically by contracts for service to Pleasanton. Those steps are underway. **Potential Benefits:** Economies of scale. Integrating recycled water would not be delayed by integrating other utilities on a later schedule. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." EBMUD would need to be engaged in the process because it is presently a DERWA member and has a long-term interest in delivery of recycled water to its service area. EBMUD would need to agree to a change in the institutional arrangements.
3	Integrate all wastewater services under one entity	**Description:** This would involve integrating the wastewater services and operations of Livermore, Pleasanton and DSRSD into one entity. Integration under two agencies (Livermore and DSRSD) with Pleasanton operating as a satellite collection system agency to DSRSD is the *status quo*. Water, recycled water, and stormwater would remain *status quo* or pursue different options. **Potential Benefits:** Economies of scale. Also, Livermore and Pleasanton may be able to generate more general fund money by divesting of their wastewater utility to another entity. **Potential Issues:** See Table 15, "Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional integrations."

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
4	Integrate all wastewater services under one entity, including the LAVWMA system	**Description:** This is a variation of Option 3. Once all wastewater services are under one agency, a logical next step would be to include Livermore-Amador Valley Water Management Agency (LAVWMA). Water, recycled water, and stormwater would remain *status quo* or pursue different options. **Potential Benefits:** Economies of scale. Also, Livermore and Pleasanton may be able to generate more general fund money by divesting of their wastewater utility to some other entity. Simplify the operation of LAVWMA. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." All of the LAVWMA agencies and EBDA would need to be engaged in the process because of their existing long-term interest in LAVWMA.
5	Integrate all water distribution system and retail water services under one, two, or three entities	**Description:** *Status quo* is four primary retail water entities: Pleasanton, Livermore, DSRSD, and Cal Water. Under Option 5, one or more of these entities would integrate water distribution systems and retail water services with another of the entities, or Zone 7 if it were to enter the retail water business. Water rights, water treatment, regional groundwater management, and wholesale water service would remain with Zone 7 or a successor. If a present retail water provider retains its water supply contract with Zone 7 while turning its retail operations over to another entity, it will become a water wholesaler. Wastewater, recycled water, and stormwater would remain *status quo* or pursue different options. *Note: This option is actually multiple separate options since the integration could be into one, two, or three entities with different combinations of participating agencies. For convenience of discussion, we have grouped them all into one general option. For example, one such variation could be an "East-Side/West-Side" option, with Livermore and Cal Water integrating to form the East Side system and Pleasanton and DSRSD integrating to form the West Side system.* **Potential Benefits:** Economies of scale. Integrating retail water is not held back if wholesaler Zone 7 and other utilities are unable to integrate. Also, Livermore and Pleasanton may be able to generate more general fund money by divesting of their water utility operations by lease or sale to either Zone 7 or to Cal Water or some other investor owned utility (IOU). If the two cities become water wholesalers, they will no longer be under the restrictions of Proposition 218 because Proposition 218 only applies to "rates set," not contract arrangements. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." There will be a wide variety of issues related to the specific details of each option that would need to be resolved. Publicization of the Cal Water system would likely require an eminent domain action.

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
6	Integrate all water treatment, distribution system, and retail water services under one entity	**Description:** Under this option, water rights, regional groundwater supply, and some wholesale and retail water service would remain with one agency, whether a current Tri Valley utility provider or a successor agency. All other water utility functions, including water treatment, which is presently a Zone 7 function, may fall under a different entity, whether a current Tri Valley utility provider or a successor agency. Wastewater, recycled water, and stormwater would remain *status quo* or pursue different options. **Potential Benefits:** Economies of scale. Other entities (the rest of Tri-Valley without Zone 7) would not be held back if Zone 7 is unable to integrate beyond its water treatment function. Also, Livermore and Pleasanton may be able to generate more general fund money by divesting of their water utility functions to another entity. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." Publicization of the Cal Water system would likely require an eminent domain action.
7	Integrate all water services under one agency	**Description:** This would involve creating one public agency for all retail and wholesale water in the Tri-Valley area. Wastewater, recycled water, and stormwater would remain *status quo* or pursue different options. **Potential Benefits:** Economies of scale. Integration of water would not be held back if other utilities are not integrated. This option would allow for the continued efficient management of the groundwater basin by integrating groundwater recharge and regional flood protection using the same facilities at different times of year. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." Publicization of the Cal Water system would likely require an eminent domain action.

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
8	Integrate all water and wastewater services under one agency	**Description:** This is full integration excluding recycled water and stormwater. It is possible that recycled water will integrate significantly earlier than water and wastewater and that it would have an effective service structure that should not be changed. In that case, it may be that the systems should remain separate. It is also possible that attempting an integration that includes stormwater would be undesirable or impractical. Stormwater and recycled water would remain *status quo* or pursue a different option. **Potential Benefits:** Economies of scale. Not exposing the other utility functions to the risks associated with stormwater management plus not disrupting existing arrangement for recycled water. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." Nearly all the factors will need to be considered for this option. Separating the stormwater and recycled water utility functions, if not remaining *status quo*, will require having a willing recipient agency. Property tax revenue may follow the stormwater utility function. There may also be a reduction in efficient management of the groundwater basin as, currently, Zone 7 integrates groundwater recharge and regional flood protection using the same facilities at different times of year. Publicization of the Cal Water system would likely require an eminent domain action.
9	Integrate all water, wastewater, and recycled water services under one agency	**Description:** This is Option 8 with the recycled water function. Stormwater would remain *status quo* or pursue a different option. **Potential Benefits:** Economies of scale. Not exposing the other utility functions to the risks associated with stormwater management. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." Like Option 8, nearly all the factors will need to be considered for this option. It is likely a long term goal or possibility rather than a direct objective. Separating the stormwater utility function, if not remaining *status quo*, will require having a willing recipient agency. Property tax revenue may follow the stormwater utility function if there is a change in the *status quo*. There may also be a reduction in efficient management of the groundwater basin as currently Zone 7 integrates groundwater recharge and regional flood protection using the same facilities at different times of year. Publicization of the Cal Water system would likely require an eminent domain action.

No.	Major Integration Options	Scenario Descriptions, Potential Benefits, and Potential Issues
10	Integrate all utilities under one agency	**Description:** This is the "full integration" option, which means that all of the utility functions of the six Tri-Valley agencies and possibly also Cal Water would be combined into one public agency. The functions referenced include water, wastewater, stormwater, groundwater and recycled water. A new agency could be created for this option because no single agency now has the necessary authority and jurisdiction. The new entity would have to be a public agency in order to hold the State Water Project (SWP) contract now held by Zone 7. **Potential Benefits:** Probably provides for the greatest economies of scale. **Potential Issues:** See Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations." Nearly all the factors will need to be considered for every option, but for this option in particular. Other major integration options may be "stepping stones" leading toward this option, or they may be endpoints. Publicization of the Cal Water system would likely require an eminent domain action.

**The term "agency" does not include an investor-owned utility (IOU). The term "entity" includes all agency options, plus investor-owned utilities.*

Sorting of Major Integration Options

Table 7 shows the major integration options based on similar criteria as the operational and support opportunities. It sorts the options in terms of the time required to evaluate, plan and implement these major integrations.

- Near-term is one through two years;
- Mid-term is three through ten years; and
- Long-term is more than ten years.

Also included in the table is an indication of potential for low, medium or high level of cost savings/cost avoidance. The specific cost savings would be identified through detailed analysis of each of the options.

Input from stakeholders will also be essential in analyzing any of the major integration options. A variety of issues will need to be examined for each of the options. A list of issues is provided in Table 15, "Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional Integrations."

As shown in Table 7, we believe all of the major integration options have the potential for high cost savings or cost avoidance, with the exception of Option 1 (integration of stormwater management) because that option would involve cost shifting and the staffing levels are relatively small. In

all of the other options, there is greater opportunity for economy of scale effects, producing higher cost savings.

Options 1 and 2 are suggested for a Phase 2 analysis. Option 1 (integration of stormwater management) is suggested because it is a relatively small operation and a successful multi-agency collaboration may serve as a pilot project for larger integration efforts in the future. Additionally, stormwater systems are strains on cities' general funds, and if the integration could create opportunities for reducing costs, it would be mutually beneficial for the agencies.

Option 2 (providing recycled water services under one entity) is suggested because recycled water systems in the Tri-Valley area are relatively new and in the process of evolving. That may make those systems a good target of opportunity for integration.

Management Partners would expect options 3 through 10 to require 10 years or more to implement. Creating early successes through integrating stormwater management and recycled water services could create a foundation for other integrations determined to be mutually beneficial at some point in the future.

Table 7. Major Integration Options

Major Integration Options	Near, Mid, or Long Term	Low, Medium and High Cost Savings/Avoidance	Noted for Phase 2 Analysis
1. Integrate stormwater management under one entity	Mid	Mid →	X
2. Provide recycled water services under one entity	Near	High ↑	X
3. Integrate all wastewater services under one entity	Long	High ↑	
4. Integrate all wastewater services under one entity, including the LAVWMA system	Long	High ↑	
5. Integrate all water distribution systems and retail water services under one, two, or three entities	Long	High ↑	
6. Integrate all water treatment, distribution systems, and retail water services under one entity	Long	High ↑	
7. Integrate all water services under one agency	Long	High ↑	
8. Integrate all water and wastewater services under one agency	Long	High ↑	

Major Integration Options	Near, Mid, or Long Term	Low, Medium and High Cost Savings/Avoidance	Noted for Phase 2 Analysis
9. Integrate all water, wastewater, and recycled water services under one agency	Long	High ↑	
10. Integrate all utilities under one agency	Long	High ↑	

Lessons Learned From Case Studies

Management Partners researched four utility agencies that had undertaken service integration and consolidation efforts to learn from their experiences and develop case studies that would be useful to the Tri-Valley agencies. We began by conducting background research from publicly available sources about the history of each integration and consolidation. We then interviewed pertinent individuals (either the general manager or a high-level executive) who could share first-hand knowledge about the agency's experiences. The agencies and executives are:

- Eastern Municipal Water District – Paul Jones, General Manager
- Elsinore Valley Municipal Water District – Ron Young, General Manager
- Irvine Ranch Water District – Paul Cook, General Manager
- Ventura Regional Sanitation District – David Burkhart, Former Assistant Chief Engineer/General Manager (retired)

A case study which addresses the history, reasons for service integration/consolidation, advantages and disadvantages, short- and long-term impacts resulting from the coordinated efforts, governance and lessons learned, was created for each of the agencies below (see Attachment D).

In general, the consolidations occurred when a smaller agency was consolidated with a larger entity. The primary reasons were urban growth, aging infrastructure, financial issues including high rates, water resources management, and willing partnering agencies. Cost savings were achieved through a combination of economies of scale and access to improved operations/facilities. The financial principles, management issues, operational impacts, and ideas about community concerns and outreach learned from the consolidated agencies will be invaluable in any opportunities for integration.

The Tri-Valley situation is quite different from the agencies in the case studies. There are no known cases that are identical to the Tri-Valley

situation. In the case of the Tri-Valley Utilities, there are mature, well managed utilities (five utilities when Cal Water is included). In the case study agencies, smaller agencies consolidated with larger ones. The case studies are relevant to the Tri-Valley Utilities, however, by identifying lessons learned that can be useful in considering any changes in Tri-Valley services delivery methods or potential integrations. Not all of the lessons learned will apply to all of the Tri-Valley Utilities. For instance, some agencies have challenges retaining sufficient technical staff but others do not. Some lessons learned from the case studies will be quite applicable to the Tri-Valley Utilities, such as implementing a rate differential to provide rate equity over time, so that rate payers of the annexing agency did not have to subsidize or carry a heavy financial burden when taking over a new service area.

Advantages

The most predominant advantages were reductions in rates for the annexed agency (and their rate payers) and improved service levels. Specifically, case study agencies experienced reductions in administration/personnel, increased staff expertise (including the ability to attract limited certified staff), shared staff training, improved levels of customer service for service interruptions and other emergencies, and improved public outreach programs.

Cost savings were also realized in the more traditional areas of purchasing, billing and distribution system operations such as meter reading and reservoir maintenance, largely based on economies of scale. Access to greater resources such as costly compliance laboratory staff/facilities was also cited as an advantage.

Another important management advantage for some agencies was improved redundancy and reliability in the water portfolio allowing greater utilization of existing resources such as groundwater supplies. In larger facilities, there are great advantages in redundancy, capacity and reliability. In addition, a larger agency may have a greater impact on state and federal legislative issues, especially when its sole focus is on a single issue, such as water. From a public perspective, consolidation means there is one dedicated agency to contact for service. However, it should also be noted that a distinction with the Tri-Valley Utilities is that there are several cities involved whom constituents may call for all local government services, including utilities, serving as a "one stop shop" for constituents.

Another significant advantage mentioned by all mangers interviewed is in capital and operational savings on a regional/large-scale basis. VRSD provided a different perspective because they do not own any capital, yet they benefitted from savings in staff sharing and training.

With respect to integration without consolidation, there were no specific services or facilities mentioned but service sharing depended on what made good operational/ facility sense and could be agreed upon by the parties. For example, IRWD had both operational and facility capacities to integrate the demands of the acquired agency, absent any diminishment of services to existing customers. In VRSD's case, the ability to integrate the sharing and training of operational staff and joint purchasing of specialized equipment has proven to be very cost-effective. The availability of improved redundant supplies has been very positive for EMWD.

Considerations when Contemplating Consolidation

As a result of the research and interviews, Management Partners identified the following issues to be considered when consolidation or service integration is being considered. Each case study provides a deeper explanation of the major principles and lessons identified below with a theme of being open and transparent.

Protect Rate Payers

Protecting the current rate payers of the annexing agency is of the utmost importance, which must be established when the cost of the acquisition is being determined. Identifying the assets and liabilities of the agency being consolidated can determine the costs associated with taking over a service area.

In the case of IRWD, rates were dropped initially for the new service area, but not to the level of the rate payers of IRWD. The difference between rates, known as the "rate differential," can be applied to pay down the calculated acquisition balance. Once the acquisition balance was paid, the rates for the new service area were dropped to the lower rate level provided to original IRWD rate payers. With this model, rate payers of the annexing agency do not have to subsidize or carry a heavy financial burden when taking over a new service area.

Initial cost efficiencies can be achieved at a high level when cutting back on management positions and consolidating administrative functions.

Personnel cost savings will be significant when administrative roles and functions are reassigned and consolidated.

Carefully Consider Structure and Governance

Establish a pre-consolidation agreement and governance transition plan to articulate agreements between the agencies that are integrating or consolidating, and to identify the transition of governance between the agencies.

In the case of IRWD, what was most effective through its five consolidations was to transition the smaller agency Board into an advisory committee with elimination of the Board upon an agreed time frame ensuring those rate payers representation to address transitional issues. The Elsinore Valley Municipal Water District took a similar approach during consolidation.

Ensure Political Will Exists

Political will plays a major role in any integration or consolidation of services or agencies. As may be obvious, the number of elected officials needing to be convinced of the benefits of consolidation will be proportionate to the number of agencies involved. As mentioned earlier, certain tools such as pre-consolidation, consolidation and governance transition plans can help elected officials understand the issues and how they will be handled. Assuring the availability of quality public information materials is also beneficial to both elected and appointed officials as they consider proposed changes to their agencies.

Just as it is it important that all elected officials and managers of the agencies involved in a potential consolidation have pertinent information about the benefits of such a plan, the public/community needs to receive the appropriate information to avoid confusion, dissemination of misinformation and an understanding of the causes/ benefits of a consolidation.

It is also important that the agencies maintain a good relationship with the public when considering consolidation to avoid major public backlash. In the case of Elsinore Valley Municipal Water District, their agency had consolidation plans about 15 years prior to their 2011 annexation of Elsinore Water District. However, the plan was terminated when the general manager at the time mentioned during a public hearing that the rate payers would be “idiots” if they did not realize the benefits

of consolidation. This insult caused a public uproar, subsequently putting pressure on the elected officials involved (who then rejected the proposal). Good relations must be maintained between agencies and their elected officials and administrators, and the public as well.

Consider the Impact of Infrastructure Investment

Although IRWD constructed a more organized budget and finance model to weigh liabilities and assets when annexing new service areas, other agencies were able to weigh the liabilities of acquiring accrued debt and needed infrastructure investments against the expansion of revenues. When EVMWD annexed Elsinore Water District (EWD), despite the decayed and outdated infrastructure, EVMWD saw a greater net benefit in expanding their customer base to collect greater revenues through rates, along with property tax and RDA revenues that EWD was able to have the County transfer to EVMWD. RDA money was not lost as EWD was engaged in a contractual obligation through the County for capital service and debt projects. In the long run, EVMWD saw a greater benefit for the increase in revenues that would impact a higher quality of service to the public compared to the short term liabilities.

Often, when consolidation is under consideration, a larger agency may be dubious of annexation if a smaller agency carries debt, lacks reserves and cash-at-hand, along with the need for capital improvement projects and infrastructure development.

The condition of the infrastructure is also an important consideration. However, as EVMWD's case study showed, when achieving economies of scale through annexation, even debt, a lack a reserves and cash and a decaying infrastructure can be salvaged with the long-term expansion of annexed rate payers and any other associated revenues such as property tax. Further, all rate payers are advantaged to share in the infrastructure investments including subsequent operational impacts to meet new water quality regulations such as the arsenic in groundwater supplies.

Full Consolidation versus Service Integration

While the case studies were of consolidated agencies, the opportunities for integration are numerous. These may include billing, joint purchasing, vehicle maintenance, facilities maintenance, metering reading, distribution/collection system operations and staff training/development.

VRSD provides a good example of successful shared services since their consolidation never concluded into a single conglomerate authority with primary control. Rather VRSD became an entity that offered cost savings by managing contract agreements between the local agencies. Although the original intent of VRSD was to eventually become a single consolidated agency, political will could not overcome local agencies' feared loss of land use entitlements and rate control. This is a major issue for municipalities. It was especially a hindrance that VRSD's LAFCO formation documents stipulated that it would not partake in the local collection business which propagated the restriction of VRSD's influence to remain outside local agency control. This governance structure prohibits the Board from controlling rates through the region and an overall lack of control over operations managed differently between each local agency.

While VRSD's structure today does not match the intended reason of its creation, there are still many benefits of working together that were achieved by agencies that did not want to divest from their autonomy. This may be particularly pertinent to the Tri-Valley agencies as VRSD's members engage in sharing various services and costs, including managing a contractual labor pool between the agencies, managing capital projects, stormwater costs, joint chemical purchasing, joint equipment and vehicle purchasing, laboratory work, personnel training, employee compensation support for smaller agencies and the willingness to consider joint purchasing or contracting for anything deemed necessary and reasonable to the agencies.

Short of full consolidation, options for the Tri-Valley agencies to achieve economies of scale through service sharing include creating an authority to manage similar contractual agreements or contracting with one agency to manage such contracts for all.

Future Potential Sharing of Services for Stormwater Utilities

Stormwater utilities are not currently mandated by state law but have great potential to become recognized in the near future. Stormwater services are essentially ubiquitous in almost all municipalities whether managed by the municipality itself or a special district. Many water utility agencies, whether public or private, also invest in stormwater services due to the nature of their business in water collection and transmission. Economies can be achieved without full consolidation by

sharing costs, labor and resources needed for monitoring, maintenance and operation of vactors, and overall management of stormwater utilities.

Role of the Local Area Formation Commission (LAFCo)

The role and function of LAFCo needs to be clearly defined, as LAFCo has an important role in making changes in organization of local governments, including utility service providers. Additionally, depending on the options selected for integration, other entities could be involved, such as the California Public Utilities Commission, Alameda County, East Bay Municipal Utility District, the East Bay Dischargers Authority agencies, the State Legislature and Cal Water.

Governance Models

By undertaking the case studies, valuable lessons were learned that can be helpful to the Tri-Valley agencies. One of these was the importance of choosing a governance model that will enable a collaboration to be successful.

Management Partners has identified seven general governance models that could be adapted by the Tri-Valley agencies for service integration. The governance models are provided as possible means for achieving arrangements on the service sharing cooperation/integration continuum. We have drawn on governance models used successfully by the case study agencies as well as governance models used in other public agency service sharing arrangements. They may be combined as needed to implement various options.

Just as the opportunities for collaboration can be approached as "stepping stones" in building an even stronger foundation for integration of services between the agencies, various governance options may also serve as "stepping stones." For instance, successful service contracting between the agencies for collaborations (governance model 1) can create a foundation for other governance models.

Additionally, as with the opportunities for collaboration, a number of the *"Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional Integrations"* as shown in Table 15 will apply to the governance model changes. Detailed analysis will be needed for each of the governance models in subsequent phases of work. The governance model(s) selected should aid the agencies in achieving their objectives. These models are part of an implementation strategy.

The following governance models are described in the tables below.

1. Service contracts between entities
2. Publicization
3. Public-private partnership

4. Temporary or Permanent divestiture to another agency or to an investor-owned utility
5. Joint exercise of powers agreement (JEPA)
6. Joint powers authority (JPA)
7. New special district

Table 8. Governance Model 1: Service Contracts

	Issue	Description
1	Description of Proposed Governance	Each public agency maintains its autonomy. Services may be contracted by one agency to another contingent upon the service and which agency may be most efficient at delivering that service, or contracted to a private entity. Taken to the extreme, such arrangements may resemble a Joint Powers Authority (JPA) or Joint Exercise of Powers Agreement (JEPA) (see Livermore-Amador Valley Water Management Agency model).
2	Governance Structure	No new governance is created; services are provided by contract for one agency by another for a set term, with renewable terms specified in the agreement.
3	Finances and Assets	Funding is provided through normal business methods. Typically, no assets are exchanged.
4	Key Implementation Issues	Agreement is needed on services to be rendered and the costs associated with those services. Agreement is needed on processes for deciding priorities for services provided and how disputes would be handled. Council or board approval may be needed should contracting costs exceed managerial authority limits. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 9. Governance Model 2: Publicization

	Issue	Description
1	Description of Proposed Governance	This option is the reverse of divestiture or "privatization," and would involve a public agency acquiring an investor-owned utility (IOU). (The only existing IOU operating at present in the study area is Cal Water for its water system in and around Livermore.)
2	Possible Governance Structure	Governance of the affected area would shift to the public agency from the IOU and the California Public Utilities Commission (CPUC).
3	Finances and Assets	Rate and charge setting would shift to the public agency along with quality control and asset management. Depending on the acquisition cost and relative rate bases, the public agency may be able to reduce the rates and charges to the affected area but not down to public agency rates for existing customers, if any. The difference would be used to pay for the acquisition cost over time. After full repayment, the public agency rates for previous customers would apply to the affected area as well. But it is also likely that the rates to the affected area will need to be set higher than present rates for a period of time.
4	Key Implementation Issues	The public agency and the IOU would need to agree to the acquisition, or the public agency could exercise its power of eminent domain. Cost of acquisition would likely be high due to valuable assets (distribution systems, pumping stations and well facilities) being acquired, most likely resulting in debt service burdening future rate payers. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 10. Governance Model 3: Public-Private Partnership

	Issue	Description
1	Description of Proposed Governance	There are many options for public-private partnerships, but for this option we envision a modification of the divestiture options related to IOUs, as described previously, with an attempt to retain maximum public control outside of the CPUC.
2	Governance Structure	The participating public agency maintains ownership but leases use of utility assets to an IOU. The public agency and IOU establish a committee comprised of appointed representatives to govern the partnership. The public agency continues to maintain, modernize, rehabilitate, and replace the utility facilities. The IOU is responsible for operating the utility(ies). Any party may delegate its obligations to another party. This option does not envision contracting out, but rather a partnership with an IOU. Contracting out is not included as a Major Integration Option in this report.
3	Finances and Assets	Connection (capital) fees continue to be set and collected by the public agency, and user charges are set and collected by the IOU. All revenues collected by the partners are deposited into a joint fund administered by the partnership committee. The joint fund reimburses the partners for expenses according to each partner's obligations. Private entities are exempt from Proposition 218; instead, the IOU sets rates with CPUC oversight and approval. Lease payments by the IOU to a city partner can be allocated to the city's general fund, but the IOU may charge the joint fund for the cost of the lease.
4	Key Implementation Issues	User rates set by the IOU will likely be significantly higher than the status quo because the IOU must make the lease payments and earn a profit. Substantial public engagement will be required to demonstrate the offsetting advantages of a public-private partnership. This option could result in reduction of public agency staff. At a minimum, participating public agency and CPUC approval would be required for such a partnership. Other approvals may be required, such as from LAFCo, state regulatory agencies and holders of contracts with the public agency. The public agency would lose some control over the utility, notably rates and charges, but retains substantial influence over decisions regarding quality control and asset management. This model of public-private partnership is untested and will take careful development to meet the objectives. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 11. Governance Model 4: Temporary or Permanent Divestiture to Another Agency or an Investor-Owned Utility

	Issue	Description
1	Description of Proposed Governance	A public agency may choose to sell or lease any or all of its utility or utilities to a private IOU or may choose to divest its utility function to another agency to provide utility operations on its behalf. This option is distinguished from the Service Contracts option (Table 8) by the relative loss of autonomy of the participating agency over the subject utility function(s).
2	Governance Structure	The divestiture would be governed by the contract, sale or lease agreement but typically results in little residual authority in the public agency during the term of the contract (if not a sale). The IOU operation generally including service rate changes would be governed by the CPUC.
3	Financing and Assets	Specified assets may be sold or leased to the acquiring entity or be retained by the original agency. For instance, if a water agency retains its water rights when contracting with an IOU, it may become a water wholesaler to the IOU and no longer be governed by Proposition 218. The IOU sets fees and charges subject to CPUC oversight and approval.
4	Implementation	Significant public agency staff reductions related to the utility at the originating public agency may occur with divestiture; however they are likely to be negated in whole or in part by new staffing at either the IOU or the other, new operating agency. At a minimum, participating public agency and PUC approval would be required for such a sale or lease to an IOU. For a sale, a public vote would be required. The rules are more flexible for water utilities than for other types of utilities. There may be other approvals required, such as from LAFCo, state regulatory agencies, and holders of contracts with the participating public agency. The public agency loses substantial control over the utility, notably rates and charges, but also decisions over quality control and asset management. Contracting with another public agency could include terms and conditions that maintain any desired level of control. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 12. Governance Model 5: Joint Exercise of Powers Agreement (JEPA)

	Issue	Description
1	Description of Proposed Governance	A joint powers agreement can be used to integrate and manage specified services jointly between participating agencies without creating a Joint Powers Authority (see Table 13). To distinguish such arrangements from joint powers authorities, we refer to them as a Joint Exercise of Powers Agreement (JEPA).
2	Possible Governance Structure	Because a JEPA does not create a new level of government requiring a governing board, the participating agencies typically delegate governance to the staff level. Under this arrangement, guidelines are established within the JEPA and one participating agency designated as the lead agency or administrative party for necessary functions.
3	Finances and Assets	Financing will depend on the services provided and the needs and arrangement of the participating agencies absent debt issuance. Funding would generally derive from the public agencies involved without any limitations as to source provided in the JEPA.
4	Implementation	The agencies would only need to agree on the terms of the joint powers agreement that establishes the JEPA. Additionally, the staff assigned would need to have the time and skills to implement the intentions of the JEPA. This governance option could be a possible phasing opportunity, with a JEPA as the first step towards formation of an ultimate consolidated utility district, if that were to be desired. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 13. Governance Model 6: Joint Powers Authority (JPA)

	Issue	Description
1	Description of Proposed Governance	A joint powers agreement under California law provides public agencies with the ability to customize ways to exercise their common powers together for greater public good, including creating a Joint Powers Authority (JPA) with an independent or interdependent governing structure of the agencies' design.
2	Possible Governance Structure	Joint Powers Authority governance structure can span a large range of options. Most often it takes the form of a Board of Directors composed of designated or appointed representatives from the participating agencies.
3	Finances and Assets	The JPA can exercise all the same powers that the participants have in common for finances and assets including the issuance of debt. Often one participant acts as a lead agency and fiscal agent for the JPA, but the JPA can also hire its own staff and perform these functions independently. It should be noted that this is already being done in the Tri-Valley, with DSRSD providing contracting services to LAVWMA.
4	Implementation	The participants need only negotiate and execute a joint powers agreement that forms and empowers the Authority. Participants would need to designate governing board members, assign or hire staff, have a means for dispute resolution and decision making, and be clear about expectations. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Table 14. Governance Model 7: New Special District

	Issue	Description
1	Description of Proposed Governance	A special district can undertake utility services from participating entities within its jurisdiction. Annexation of territory into the special district may be required. A special district may contract with entities within its jurisdiction to perform or continue performing utility services on a temporary or permanent basis.
2	Possible Governance Structure	A Board of Directors with representation within the service area. During the transition period, annexed entities might transition their governing boards into advisory boards that meet on a regular schedule for a specified number of years to discuss issues pertaining to their constituents and report those issues to the special district. Similarly, during the transition period, municipal service areas might establish an advisory board comprised of selected city councilmembers to meet on a regular schedule for a specified time period to discuss issues pertaining to their constituents and report those issues to the special district.
3	Finances and Assets	One consolidated budget would be proposed for approval by the Board of Directors. Some assets and equipment of the annexed entities would be purchased and retained by the special district. Fees and charges from the expanded customer base would be collected by the consolidated agency. In certain situations, the new agency might also receive funds from property taxes that formerly had flowed to one of the annexed entities.
4	Implementation	Assess legal requirements for consolidation. Establish district boundaries for the proposed new special district. Ensure all agencies are supportive of the consolidation and assess whether the consolidation is still beneficial if particular agencies opt out of consolidation. Conduct significant public engagement; legislative and other approval processes. Consolidate administrative tasks from the various entities. Calculate acquisition balances and financial protections, including any necessary infrastructure upgrades to distribute the cost of service to ratepayers fairly. See also Table 15, "Checklist of Implementation Factors To Consider: Challenges and Impediments for Service or Institutional Integrations."

Implementation Issues

This project was initiated by six separate agencies that comprise the Tri-Valley agencies. Four are cities with multiple responsibilities, including one or more aspects of utilities under this study. Therefore, depending on the integration opportunity, some agencies or combination of agencies may be more likely to pursue integration than others. The variations are numerous, based on each agency's interests. For many of the opportunities, a smaller group of agencies, as few as two, may be appropriate.

A number of factors must be considered when implementing any of the ideas in this report. Table 15 contains a checklist which identifies 24 issues to be thought about carefully, with appropriate analysis and actions occurring for each one. Since Management Partners' work was a threshold analysis, in-depth details must be thoroughly vetted before implementation could occur.

Among essential tasks when considering integration are holding discussions with employee groups and other stakeholders, assessing political will, evaluating legal issues, sorting out equity issues, and many others. Some steps, such as holding discussions with political bodies to assess their interest, may be important early in the process, while others may be more appropriate at a later stage. The issues in the checklist are not listed priority order, since all are important to carefully consider.

Implementation will take careful planning and meaningful engagement with interested parties and stakeholders, including the public and individual agency employees and bargaining units. It will also need detailed financial analysis of the opportunities as well as an implementation action plan. The action plan will need to outline each step in the process, who will take the lead and who else will be involved, and milestones for completion. Schedule should be secondary to careful consideration of the issues and public engagement.

Transparency and Effective Communication

Throughout the process, transparency and carefully thought out, effective communications will be important. There will be a variety of stakeholders with interests in the outcomes of any integration option pursued. They will want to have input, need to understand the intended results of the integration and have confidence that important factors have been considered in the analysis and decision making process. Effective communications will be required with frequent updates to stakeholders and means of engagement as will assist in reaching a successful outcome for governing body members, rate payers and other stakeholders.

A discussion about the Phase 1 results will be a good opportunity to engage interested stakeholders in what opportunities may be most feasible to pursue in Phase 2 analyses.

Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional Integration

Table 15 contains 24 factors that should be examined when considering integration of a major function or activity or institutional-level integration. Many of these factors are interrelated. They are not listed in priority order since all are important for examination and consideration of any of the opportunities for integration.

Table 15. Checklist of Implementation Factors to Consider: Challenges and Impediments for Service or Institutional Integrations

	Factor	Description
1	Governing body support for institutional changes	Other entities that have merged or created new institutional arrangements for service sharing (e.g., from case studies) note the critical importance of leadership and support for the change by all the participating governing bodies. With this support, the practical aspects of integration can be addressed.
2	Community support (or absence of opposition) for institutional changes	If the community either supports or does not oppose integrations, the political and practical aspects of integration are easier to address. Public engagement in the process should begin as soon as the first round of option definition is completed, and the process should allow time and resources to refine options and define new ones.

	Factor	Description
3	Identification of interested/affected parties and their interests	In any integration, there are a variety of stakeholders. Some are individuals directly affected (such as service recipients and ratepayers, employees, unions, other governmental agencies, investor owned utilities, or governing body members). Others may be indirectly affected. All interested parties should be identified and their interests understood, so that where practical, interested parties can be represented in the process and interests of all the parties can be addressed.
4	Public Employment – Communications with employees	Integrations may directly affect employees as interested parties (labor agreements and job descriptions – see below). In addition, integrations can also affect the morale of employees. Accordingly, It will be important for each involved entity to correctly, adequately and in a timely fashion communicate with its employees, explaining the options that are being considered by the boards and councils of the Tri-Valley Utilities. Doing so will help maintain employee morale and quality of service as the board and council decision making process unfolds. Reduction in staffing is often done by attrition as employees are promoted or leave. In some cases, integration can result in increased staffing needs for newly available service improvements. Through an implementation action plan, the specifics of impacts on employees would be identified and discussed.
5	Public Employment - Labor agreements	Each entity has its own labor agreements. New labor agreements may need to be developed. The implementing agency or agencies would meet and confer or meet and consult with its employees regarding the impacts of any integration decision on labor agreements made by a Tri-Valley Utilities member or members.
6	Public Employment - Job descriptions for classifications with special education or licenses	Each entity has its own job descriptions and requirements (with some elements being the same due to state or federal requirements). Changes may be needed to create one set of job descriptions and classifications for integrated services or functions. The implementing agency or agencies would meet and confer or meet and consult with employee representatives about the impacts of integration decisions pertaining to job descriptions.
7	Regulations, state and federal laws	Each entity has regulations and laws that affect the utilities and they may be different depending on the type of entity (e.g., city, special district, JPA, IOU). Cities and unincorporated county areas are likely to have different development and construction regulations.
8	Public policies	Cities may have different development capacities and plans with development impact fees. Development plans affect the size and capacity of the utilities. Legal requirements may influence the extent, type, and structure of integrations and should be fully analyzed prior to advancing any option. Policies regarding growth vary significantly between public agencies.
9	Operational policies and business practices	Each entity has its own operational policies and business practices pertaining to levels of service, maintenance, personnel, debt, overhead rates, compensation, travel, professional development, governance, rate setting and other issues which guide staff. In considering integrations, it will be important to identify the policies and practices that would need to be modified to accommodate the change.

	Factor	Description
10	Construction quality and performance standards	Different entities have some discretion on the standards they require for construction quality and performance. Furthermore, standards may vary between incorporated and unincorporated areas. These will need to be reconciled if brought under one entity.
11	Geographical issues (e.g., mountains, freeways, rivers, distance and area)	Geographical features can increase the cost of capital construction and maintenance (e.g., the number of lift pumps required). Travel time can reduce response times and can decrease productive time.
12	Revenue sources	Each entity has its own revenue sources to support its utilities functions. Cities have sources unavailable to special districts).
13	Expenditure detail for office, fleet, information technology, and administrative costs (personnel, legal, etc.), and how allocated to utilities	Cities that operate utility functions as part of city operations will have shared administrative functions (i.e., a pre-existing internal economy of scale that might be undermined through a structural change). Examining expenditure details about functions that will be affected by integration will be important to fully understand the impact of changing existing expenditure allocations. It may be necessary or desirable to mitigate for these impacts for a period of time.
14	Amount and annual debt service; source of debt service payments	Each entity has policies pertaining to debt and has different levels of existing debt. These would need to be examined to ensure that ratepayers from one area are not subsidizing ratepayers from another area. In contrast, unused capacity is an asset that would also be part of the calculations; ratepayers taking advantage of unused assets should be expected to pay for them.
15	Reserve levels and policies pertaining to reserves	Each entity has its own policies and practices relating to reserve levels. These would need to be examined to determine what changes would be needed with institutional integrations. If one entity adequately maintained reserves and another did not, the question of equity would need to be answered.
16	Age, condition, and current condition of valuation of infrastructure and other capital assets	This will affect replacement funding requirements and reserve levels which will most likely be different for each entity. Rates can be set to be equitable, taking into consideration the age and condition of the infrastructure. Replacements required before a future integration can be coordinated to facilitate the future integration.
17	Rates and rate structure	Each entity has its own policies and practices related to rates and rate structure. These would all need to be examined to determine changes needed. Temporary transitional rate structures are sometimes desirable to provide equity for a major integration.
18	Planned developments in service area and impact on utilities	Consideration should be given to whether there are significant developments in process that will affect current capacity of existing infrastructure and whether there are funding plans to pay for infrastructure expansion, such as development impact fees that are being collected.
19	Capital improvement plans	Reviewing multi-year plans for capital improvement projects will be important. For instance, this would be an opportunity to identify whether there are plans for infrastructure improvements that could be coordinated either in a combined facility or a combined bidding process.

	Factor	Description
20	Inventories (number, age, and condition) of fleet, equipment, IT, lab equipment, etc.	A utilization analysis would determine the appropriate number of each unit required (e.g., number of backhoes or number of water testing laboratory devices). Age and condition of the units would indicate which to keep versus sell as surplus. Changes can be made as equipment comes due for replacement.
21	Technological compatibility	Each entity has its own technology. Practical aspects of technology compatibility will need to be addressed, including data conversion issues and hardware capacity issues. In addition, the cost of expanding the preferred system will need to be addressed. Depending on the level of conversion needed, addressing compatibility may add significant costs to any integration.
22	Regulatory findings and what is being done to correct them	If there are any findings by regulatory agencies, they should be examined to determine relevancy to the proposed integration.
23	Current and potential litigation	There may be litigation or agreements made as a result of settlements that would need to be factored into an integration.
24	Grand jury reports (if any)	This factor is not relevant now, but since major institutional integrations could occur well into the future, this factor is listed so that it would be considered if relevant later. Responses to grand jury reports must continue after integration.

Conclusion and Next Steps

The successful collaborations already underway by the Tri-Valley agencies have been significant, as are the plans to continue these endeavors. This threshold analysis has provided the agencies with a range of options to consider as possible future collaborations and integration opportunities, subject to Phase 2 analysis.

The report has segmented the potential ideas into two main areas of focus: *operations and support integration opportunities* and *major integration options* along with feasible governance models. Information has been provided on each of the opportunities and options identified to aid in determining which to pursue further. Management Partners has also identified a number of the opportunities as ones for discussion with the Steering Committee to proceed to Phase 2 analysis. Additionally, a checklist of implementation issues including challenges and impediments to be addressed in the event that the agencies chose to move ahead with additional integration efforts has been provided.

This ends Phase 1 of the project. As envisioned, the next step is for the agencies to review the opportunities and decide whether to proceed with further, detailed analysis of the opportunities listed as Phase 2 candidates. This should involve financial analyses to determine the maximum probable cost savings to determine if this "driver" is sufficient to justify proceeding with detailed analyses. If it is, a period of identifying other interested parties and public engagement should follow. At the same time, it will be important for each agency to assess its own feasibility of participation, as not all agencies may wish to join in every integration opportunity.

Attachment A – Baseline System Statistical Data

INTRODUCTION

This document is intended to provide an overview of the fundamental functional data pertaining to each of the Tri-Valley agencies and their various utilities: water (raw and potable), recycled water, wastewater and stormwater/flood control. This baseline system statistical data document continues to be a work-in-progress.

These systems, not including Cal Water's infrastructure, are worth approximately $1.4 billion in value, which is an approximation based on a preliminary evaluation of physical assets, net depreciation. Detailed infrastructure and financial data are contained in Attachment B.

This document was reviewed at the January 29, 2013 Steering Committee meeting and updated for the February 27, 2013 meeting.

Data from Cal Water was not available.

Seven tables are provided in the following pages. The tables are divided into two sections: (1) Summary Data and (2) System Statistics. The list of tables is provided on the next page.

Key:

The tables in the following pages use these designations.

"n/a" (Not Available) – The agency does not split expenditures by the category shown, but does the function.

"0" (zero) – e.g. Agency provides water but has no wells. Or, the agency does wastewater but has no treatment plants.

X (not applicable) – e.g. Agency does not do storm drains.

SUMMARY DATA

General Statistics

The following table provides an overview of statistics pertaining to the public agencies. Data for Cal Water was not available.

Table 1. Tri-Valley Agencies - General Statistics Overview

2012-13 Data	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton	Cal Water
Municipal/Service Population	220,000	157,000	49,890	74,000	82,000	70,285	n/a
Population Receiving Water Service	220,000[1]	62,000	X	X	32,000	71,000	50,000
Population Receiving Wastewater Service (Collection)	X	71,000	X	X	84,335	70,000	X
Population Receiving Wastewater Service (Treatment)	X	141,000	X	X	84,335	X	X
Customers Receiving Recycled Water Service	X	283[2]	X	X	n/a[2]	X	X
Acres Receiving Water Service	425 sq. mi.[3]	14,595	X	X	7,120	16,000	n/a
Acres Receiving Recycled Water Service	X	7,300[4]	X	X	2,200[5]	X	n/a
Acres Receiving Wastewater Service (Collection)	X	9,294	X	X	16,580	13,700	n/a
Acres in Drainage Area Requiring Public Stormwater System	425 sq. mi.[6]	X	9,754	11,918[7]	16,580	15,514	X

[1] Through its retailers, Zone 7 serves potable water to 220,000 people.
[2] Recycled water is provided for commercial landscape irrigation and public areas; not available for single family residences.
[3] Zone 7 provides untreated water to much of the unincorporated area of Eastern Alameda County as well as providing potable water service through its retail water agencies to the remainder of Eastern Alameda County.
[4] Recycled water is currently available to roughly half DSRSD's water service area.
[5] Information provided by WRD Engineer based on GIS.
[6] Zone 7 provides regional flood protection to all of Eastern Alameda County, providing major collection and storage for stormwater flowing from each of the three cities (Pleasanton, Livermore and Dublin) as well as from the Dougherty Valley portion of San Ramon.
[7] Clarification needed for Dublin, Pleasanton, and San Ramon to be consistent.

SYSTEM STATISTICS

Water (Raw and Potable)

Table 2. Water System Statistics

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Treatment Plants	3	X	X	X	0	X
Wells	9	0[8]	X	X	1	3
Meters	34	18,982	X	X	9,494	20,635
Mains (miles)	41	280	X	X	146	309
Valves	80	4,008	X	X	4,066	9,327
Pump Stations	4	17	X	X	5	16
Pumps	20	53	X	X	21	42
Pump Horsepower	6,100	2,570	X	X	1,299	3,275
Annual Wholesale Volume Delivered (mgal)[9]	12,500		X	X	X	X
Annual Retail Volume Delivered (mgal)[10]	2	2,888	X	X	2,168	4,920
System Loss percentage	3% to 4%	6.3%	X	X	14.5%[11]	7%

[8] DSRSD has option to purchase a well from Zone 7
[9] Zone 7 delivers wholesale water to DSRSD, Livermore, Pleasanton, and Cal Water.
[10] Zone 7 delivers wholesale water to DSRSD, Livermore, Pleasanton, and Cal Water.
[11] Based on 2012 DWR report. Leak recently found and being repaired.

Recycled Water

Table 3. Recycled Water System Statistics

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Treatment Plants	X	1	X	X	1	X
Permitted Users	X	212	X	X	39	X
Annual Inspections	X	60	X	X	65	X
Meters	X	318	X	X	118	X
Mains (miles)	X	60	X	X	22	X
Annual Volume Delivered (mgal)	X	693	X	X	465	X
Percent of Wastewater Effluent Recycled	X	19%	X	X	18.3%	X
Pump Stations	X	6	X	X	1	X
Pumps	X	21	X	X	5	X
Pump Horsepower	X	2,574	X	X	750	X

Wastewater (Treatment and Collection)[12]

Table 4. Wastewater Treatment System Statistics

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Treatment Plants	X	1	X	X	1	X
Pretreatment Permitted Users	X	28	X	X	n/a	8
Annual Volume Treated (mgal)	X	4,187	X	X	2,541	X

Table 5. Wastewater Collection System Statistics

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Connections	X	38,354	X	X	31,161	26,860
Sewer Lines (miles)	X	188	X	X	303	255
Lift Stations	X	1	X	X	4	10
Pumps	X	2	X	X	8	24
Pump Horsepower	X	10	X	X	256	543
Manholes	X	4,943	X	X	6,346	5,733

[12] Lab and Pretreatment are excluded and listed separately under "Other Functions.".

Stormwater

Table 6. Stormwater/Flood Control System Statistics

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Illicit Discharge Inspections	12	X	20	24	24	20
Annual Inspections	260	X	125	87	288	127
Storm Drain Pipes (miles)	0	X	73	153	207	192
Storm Drain Open Channels (miles)	37	X	1	19	22	29
Inlets	310	X	5,463	4,123	5,325	7,766
Outfalls	550	X	109	X	174	301
Annual Street Sweeping (miles)	0	X	5,800	14,472	12,000	7,500

Miscellaneous Data[13]

Table 7. Pretreatment/Pollution Prevention

	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
Number of Wastewater Discharge Permits	X	98[14]	X	87	89	X[15]
Number of Groundwater Discharge Permits	X	0	X	4	4	X
Number of Inspections	160	243	X	83	83	X
Number of Samples Collected	1,300	543	X	100	100	X

[13] Pretreatment/Pollution Prevention) are tables that the City of Livermore added as they are funds outside the primary Water, Wastewater, Recycled Water and Stormwater utilities for that City.

[14] DSRSD has 28 pretreatment permits, 70 dentist permits for amalgam separators. DSRSD conducts 28 annual pretreatment inspections and 215 grease trap inspections at food and automotive facilities. Samples are total compliance and local limits evaluation samples. DSRSD issues wastewater discharge permits for Pleasanton and the DSRSD system within San Ramon and are included in the 98.

[15] Pleasanton's permits are issued by DSRSD.

Attachment B – Tri-Valley Financial Overview

INTRODUCTION

This document is intended to provide an overview of the fundamental financial information pertaining to each of the Tri-Valley agencies and their various utilities: water, wastewater/sewer and stormwater. The financial information presented in this document does not address any conclusion of this Phase 1 analysis, but serves only to portray the varying levels of resources dedicated to water utilities among the Tri-Valley agencies.

These systems, not including Cal Water's infrastructure, are worth approximately $1.4 billion in value, which is an approximation based on a preliminary evaluation of physical assets, net depreciation. Detailed system statistics (non-financial) are contained in Attachment A.

Financial information is based on audited financial statements for Fiscal Year 2012 consolidated by staff at DSRSD with the collaboration of staff members from each Tri-Valley agency. Staff members from each agency conducted a detailed expense review and re-categorization to more appropriately compare costs. Once data was compiled, duplicative accounting entries between the agencies were eliminated to present a more accurate picture of each agency's financial situation, as seen in "Adjusted" columns. Staff members from each agency were given an opportunity to review the final compiled financial overview presented in this attachment.

Data from Cal Water was not available for this financial evaluation.

Five tables are provided in the following pages including a summary of capital assets and spendable reserves, and consolidated financial overviews of water, wastewater/sewer and stormwater funds. If cells are left empty, this indicates that either this function is irrelevant to the agency or that no resources we dedicated or brought in with that respective function.

Table 1. Summary of Capital Assets ($)

Functions	San Ramon	Livermore	Dublin	Pleasanton	Zone 7	DSRSD	Total
Water		50,440,702		142,134,431	258,721,718	167,540,783	618,837,634
Wastewater/Sewer		147,120,955		121,858,973		229,098,591	498,078,519
Stormwater	85,501,834	98,834,926	41,832,877	44,627,358			270,796,995
Total	85,501,834	296,396,583	41,832,877	308,620,762	258,721,718	396,639,374	1,387,713,147

Table 2. Summary of Spendable Reserves Excluding Capital Assets ($)

Functions	San Ramon	Livermore	Dublin	Pleasanton	Zone 7	LAVWMA	DSRSD	Total
Water		19,395,364		19,246,902	89,368,383		28,003,390	156,014,039
Wastewater/Sewer		69,065,367		21,880,213		8,466,398	68,799,400	168,211,378
Stormwater	273,005	37,238,366	554,279	1,294,456				39,360,106
Total	273,005	125,699,097	554,279	42,421,571	89,368,383	8,466,398	96,802,790	363,585,523

Table 3. Financial Overview of Consolidated Water Service ($)

Water	DSRSD	Pleasanton	Zone 7	Livermore	Total	Adjusted
BALANCE SHEET						
Cash & investments	36,126,014	17,869,254	114,231,341	18,682,961	186,909,570	186,909,570
Accounts receivable	4,598,047	3,235,559	9,368,576	1,750,884	18,953,066	11,462,711
Interest receivable	45,266	43,333			88,599	88,599
Bond issuance costs		17,522			17,522	17,522
Capital Assets	143,920,127	76,068,659	205,651,283	30,031,912	455,671,981	455,671,981
Deferred charges	515,137	31,737	90,000		636,874	636,874
Total Assets	185,204,591	97,266,064	329,341,200	50,465,757	662,277,612	654,787,257

Accounts payable	3,349,160	1,808,982	2,352,560	784,829	8,295,531	805,176
Payroll payable		33,490		62,268	95,758	95,758
Deposits	363,045		353,039	148,359	864,443	864,443
Accrued comp absences	259,641		1,115,935	43,025	1,418,601	1,418,601
Int payable	816,529				816,529	816,529
Debt	35,620,000		30,500,000	7,685,832	73,805,832	73,805,832
Unearned rev	7,466,818	76,294			7,543,112	7,543,112
Payable to sewer fund	1,025,881				1,025,881	1,025,881
Total Liabilities	48,901,074	1,918,766	34,321,534	8,724,313	93,865,687	86,375,332
Total liab & fund balance	185,204,591	97,266,064	329,341,200	50,465,757	662,277,612	654,787,257
INCOME STATEMENT						
Intergovernmental			106,194		106,194	106,194
Charges for services	21,640,712	19,203,179	129,384	10,768,149	51,741,424	51,741,424
Grants		81,861			81,861	81,861
Investment income	217,678	151,514	641,133	111,387	1,121,712	1,121,712
Miscellaneous	2,649,619	146,064	5,826,774	65,326	8,687,783	8,687,783
Capacity Fees	3,128,215	187,060	11,345,942	412,495	15,073,712	15,073,712
Property taxes			12,017,106		12,017,106	12,017,106
Water Sales			35,398,908		35,398,908	7,845,570
Total Revenues	27,636,224	19,769,678	65,465,441	11,357,357	124,228,700	96,675,362
Personnel	4,671,441	2,890,994	14,721,847	1,748,988	24,033,270	24,033,270
Utilities	555,817	399,981	1,845,109	204,404	3,005,311	3,005,311
Water Costs	10,886,802	12,668,815	32,052,687	6,087,133	61,695,437	34,130,423
Services	284,743	248,428	2,183,938	244,447	2,961,556	2,961,556

Chemicals	62,450	236,088	1,854,047		2,152,585	74,849
Operating Costs	543,085	261,777	1,488,388	318,203	2,611,453	2,611,453
Office	36,928	218,540	100,908	108,766	465,142	436,818
Chargebacks & OH	1,732,408	1,154,833	1,099,646	1,170,066	5,156,953	5,087,255
Rebates			258,321		258,321	238,907
Other	104,635	380	526,738	85,471	717,224	717,224
Interest on Debt	1,969,649		135,977	103,016	2,208,642	2,151,156
Capital	509,557	545,753	3,064,044	37,890	4,157,244	4,157,244
Prior year expense		130,408			130,408	130,408
PERS Side Fund Payoff	1,575,830				1,575,830	1,575,830
Depreciation / Amort	4,155,211	3,359,232	5,793,649	1,344,547	14,652,639	14,652,639
Total Expenses	27,088,556	22,115,229	65,125,299	11,452,931	125,782,015	95,964,343
Capital Contributions	1,602,372	(247,124)		335,511	1,690,759	1,690,759
Transfers in		2,357,855			2,357,855	2,357,855
Transfers out	(210,417)			(280,155)	(490,572)	(490,572)
Other financing sources	1,391,955	2,110,731		55,356	3,558,042	3,558,042
Increase (decrease)	1,939,623	(234,820)	340,142	(40,218)	2,004,727	4,269,061
Consolidation Adjustment						(2,264,334)
Fund balance beginning	134,363,894	95,582,118	294,679,524	41,781,662	566,407,198	566,407,198
Fund balance ending	136,303,517	95,347,298	295,019,666	41,741,444	568,411,925	568,411,925

Table 4. Financial Overview of Consolidated Sewer/Wastewater Service ($)

Wastewater/Sewer	DSRSD	Pleasanton	Livermore	LAVWMA	Total	Adjusted
BALANCE SHEET						
Cash & investments	69,362,581	12,123,298	51,235,788	20,275,813	152,997,480	152,997,480
Accounts receivable	3,499,600	1,576,544	393,076	101,694	5,570,914	4,285,835
Interest receivable	86,926	30,758		12,114	129,798	129,798
Prepaid	6,342		2,370,499		2,376,841	6,342
Bond issuance costs		15,382		884,661	900,043	900,043
Investment in LAVWMA		9,845,130	16,477,371		26,322,501	
Long term receivable	1,597,605			317,178	1,914,783	1,914,783
Capital Assets	178,733,710	60,083,984	73,101,787	132,419,455	444,338,936	444,338,936
Total Assets	253,286,764	83,675,096	143,578,521	154,010,915	634,551,296	604,573,217
Accounts payable	1,126,008	1,694,478	818,209	556,083	4,194,778	2,909,699
Payroll payable		16,421	209,720		226,141	226,141
Deposits	399,209		60,472		459,681	459,681
Accrued expenses	1,029,319				1,029,319	1,029,319
Accrued comp absences	457,349		322,966		780,315	780,315
Int payable	212,731			2,200,417	2,413,148	2,413,148
Debt	55,545,680	520,000	1,606,113	111,235,630	168,907,423	127,932,329
Bond issuance premium				7,998,063	7,998,063	7,998,063
Unearned rev	1,876,038			2,370,499	4,246,537	1,876,038
Remediation Reserve	653,000				653,000	653,000
Total Liabilities	61,299,334	2,230,899	3,017,480	124,360,692	190,908,405	146,277,733
Invested in assets	123,188,030	59,563,984	71,495,674	21,183,825	275,431,513	275,431,513

Wastewater/Sewer	DSRSD	Pleasanton	Livermore	LAVWMA	Total	Adjusted
Debt		68,503			68,503	68,503
Replacement	19,213,649	6,252,884	17,323,114	144,154,775	186,944,422	186,944,422
Expansion	36,161,658	1,958,422	14,787,083		52,907,163	52,907,163
Rate Stabilization	5,503,946				5,503,946	5,503,946
Unrestricted	7,920,147	13,600,404	36,955,170	(135,688,377)	(77,212,656)	(62,560,063)
Total fund balances	191,987,430	81,444,197	140,561,041	29,650,223	443,642,891	458,295,484
Total liab & fund balance	253,286,764	83,675,096	143,578,521	154,010,915	634,551,296	604,573,217
INCOME STATEMENT						
Intergovernmental						
Charges for services	18,969,087	12,389,854	17,020,048	9,435,353	57,814,342	39,611,996
Investment income	400,204	104,739	255,802	55,424	816,169	816,169
Miscellaneous	1,194,454	43,599	186,268		1,424,321	1,424,321
Capacity Fees	15,624,371	101,789	1,044,128		16,770,288	16,770,288
Total Revenues	36,188,116	12,639,981	18,506,246	9,490,777	76,825,120	58,622,774
Expenses (Based on Detailed Expense Analysis)						
Personnel	7,340,627	1,130,447	5,749,081	617,886	14,838,041	14,838,041
Utilities	932,672	79,583	684,479	1,223,068	2,919,802	2,919,802
Services	7,604,979	8,767,787	2,369,503	1,005,002	19,747,271	19,747,271
To DSRSD from Pleasanton						(8,748,589)
To LAV from Members						(8,445,082)
Operating costs	1,074,992	67,180	1,184,579	55,277	2,382,028	2,382,028
Office	55,088	39,251	30,251	40,962	165,552	165,552
Chargebacks & OH	2,802,020	996,585	2,196,555		5,995,160	5,995,160
Other	159,731		117,404		277,135	277,135
Interest Expense (debt)	667,748	19,838	46,837	5,701,649	6,436,072	6,436,072

Wastewater/Sewer	DSRSD	Pleasanton	Livermore	LAVWMA	Total	Adjusted
Capital Costs	55,016	76,709	2,476,949	97,504	2,706,178	2,706,178
PERS Side fund payoff	2,994,707				2,994,707	2,994,707
Fleet Replacement		3,643	102,240		105,883	105,883
Loss (gain) on joint venture		320,646	(6,021,144)		(5,700,498)	
Depreciation / Amort	5,788,966	2,750,679	6,486,400	3,453,370	18,479,415	18,479,415
Total Expenses	29,476,546	14,252,348	15,423,134	12,194,718	71,346,746	59,853,573
Capital Contributions	659,395	157,521	294,617		1,111,533	1,111,533
Transfers in						
from GF for loan rpmt		1,226,321			1,226,321	1,226,321
Transfers out (OH)			(90,000)		(90,000)	(90,000)
Other financing sources	659,395	1,383,842	204,617		2,247,854	3,836,313
Increase (decrease)	7,370,965	(228,525)	3,287,729	(2,703,941)	7,726,228	2,605,514
Consolidation adjustment						19,773,307
Fund balance beginning	184,616,465	81,672,722	137,273,312	32,354,164	435,916,663	435,916,663
Fund balance ending	191,987,430	81,444,197	140,561,041	29,650,223	443,642,891	458,295,484

Table 5. Financial Overview of Consolidated Stormwater Services ($)

Stormwater	San Ramon	Dublin	Pleasanton	Livermore	Total
BALANCE SHEET					
Cash & investments	304,832	554,279	1,297,117	3,814,820	5,971,048
Accounts receivable	22,791		4,027	16,474	43,292
Interest receivable	431		3,074		3,505
Capital Assets	63,268,503	28,363,683	25,757,326	33,425,597	150,815,109
Total Assets	63,596,557	28,917,962	27,061,544	37,256,891	156,832,954
Accounts payable	34,828		5,348	724	40,900
Accrued payroll	20,221		4,414	17,801	42,436
Total Liabilities	55,049		9,762	18,525	83,336
Invested in assets	63,268,503	28,363,683	25,757,326	33,425,597	150,815,109
Restricted	273,005				273,005
for replacement				2,150,000	2,150,000
for public safety		25,127			25,127
for maint/const		529,152			529,152
Unrestricted			1,294,456	35,088,366	36,382,822
Total fund balances	64,095,787	28,917,962	287,890,960	260,839,178	190,175,215
Total liab & fund balance	64,150,836	28,917,962	287,900,722	260,857,703	190,258,551
INCOME STATEMENT					
Intergovernmental		526			526
Charges for services	310		514,075	1,071,046	1,585,431
Investment income	875	5,700	10,289	20,163	37,027

Stormwater	San Ramon	Dublin	Pleasanton	Livermore	Total
Special Assessments	1,115,339				1,115,339
Miscellaneous	6,000		151,215		157,215
Total Revenues	1,122,524	6,226	675,579	1,091,209	2,895,538
Public works	983,788				983,788
Highways & streets		10,000			10,000
Personnel			417,829	457,949	875,778
Transportation			3,179		3,179
Repairs & maintenance			1,893	34,000	35,893
Materials, supplies, services			389,818	309,923	699,741
Depreciation			1,083,287		1,083,287
Total Expenses	983,788	10,000	1,896,006	801,872	3,691,666
Capital Contributions			189,199		189,199
Transfers in		24,745			24,745
from General fund			333,804		333,804
Transfers out	(292,485)				(292,485)
Other financing sources	(292,485)	24,745	523,003		255,263
Increase (decrease)	(153,749)	20,971	(697,424)	289,337	(540,865)
Fund balance beginning	426,754	28,896,991	27,749,206	260,549,841	317,622,792
Fund balance ending	273,005	28,917,962	27,051,782	260,839,178	317,081,927

Attachment C – Tri-Valley Utilities Service/Function Matrix

			(Key located below)	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton	Cal Water
WATER	Raw Water	1	Imported Water Rights	•						
		2	Raw Water Storage O&M	•						
		3	Raw Water Transmission O&M	•						
		4	Raw Water Distribution O&M	•						
		5	Raw Water Customers - WHOLESALE	•						
		6	Raw Water Customers - RETAIL	•						
	Potable Water	7	Potable Water Treatment O&M	•					•	
		8	Potable Water Storage O&M	•	•				•	
		9	Potable Water Transmission O&M	•						
		10	Potable Water Distribution O&M	①	•			•	•	
		11	Sludge Disposal O&M	•						
		12	Potable Water Customers - WHOLESALE	•						
		13	Potable Water Customers - RETAIL	①	•			•	•	
	Recycled Water	14	Recycled Water Treatment O&M		•			•		
		15	Recycled Water Storage O&M		•			•		
		16	Recycled Water Transmission O&M		•			•		
		17	Recycled Water Distribution O&M		•			•	②	
		18	Recycled Water Customers - WHOLESALE		•			③		
		19	Recycled Water Customers - RETAIL		•			•	②	
		20	Customer Permitting or Inspection		•			•		
		21	Groundwater Rights	•	•		•	④	•	
		22	Well (Groundwater) O&M	•	⑤		•		•	
		23	Groundwater Management	•						
		24	Water Quality Laboratory	•	•			•	•	
		25	Backflow Prevention Program	•	•			•	•	

			(Key located below)	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton	Cal Water
		26	Sanitary Surveys	•						
		27	Consumer Confidence Reports	•	•			•	•	
		28	Water Conservation Programs	⑥	•	•	•	•	•	
Wastewater		29	RWQCB Permit Holder		•			•		
		30	Pre-treatment O&M		•			•	⑦	
		31	Collection O&M		•			•	•	
		32	Trunk Sewer O&M		•			•		
		33	Final Treatment O&M		•			•		
		34	Effluent Disposal O&M		•					
		35	Sludge Disposal O&M		•			•		
		36	Wastewater Customers - WHOLESALE		•			⑧		
		37	Wastewater Customers - RETAIL		•			•	•	
		38	Water Quality Laboratory		•			•		
	Pollution Prevent	39	Customer Permitting or Inspection		•			•		
		40	Sewer System Evaluation Surveys (SSES)		•			•	•	
		41	Sanitary Sewer Overflow (SSO) Mgmt.		•			•	•	
STORMWATER	Storm Drain	42	Paved Surfaces O&M			•	•		•	
		43	Catch Basin O&M	•		•	•	•	•	
		44	Pipelines O&M	•		•	•	•	•	
		45	Creeks & Other Open Channels O&M	•		•	•	•	•	
	Pollution Prevent	46	Customer Permitting or Inspection			•	•	•	•	
		47	Street Sweeping			•	•	•	•	
		48	Catch Basin Signage/Labels			•	•	•	•	
		49	RWQCB Permit Holder	•		⑨	•	•	•	
		50	Flood Mgmt. Facilities and Programs	•			•		•	
		51	Detention Basin O&M	•		⑩	⑩	•	•	
		52	Treatment & Discharge O&M	•		•	•			
		53	Water Quality Laboratory	•				•		

		(Key located below)	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton	Cal Water
Customer Service	54	Meter Reading	⑬	•			•	•	
	55	Billing	⑬	⑫			•	•	
	56	Call Center/Walk-In Center	⑬	•	•	•	•	•	
	57	Complaint Response	⑬	•		⑪		•	
Internal Services	58	Finance	•	•	•	•	•	•	
	59	Information Technology	•	•	•	•	•	•	
	60	Fleet Maintenance	•	•	•	•	•	•	
	61	Human Resources	•	•	•	•	•	•	
	61	Purchasing	•	•	•	•	•	•	

Key

•	Denotes that a service or function is provided by employees or contractors of the designated agency.
①	Serves a VA Hospital and some parks that are not in cities.
②	Planning for recycled water distribution with Livermore and DSRSD.
③	The City of Pleasanton is the wholesale customer.
④	Livermore has groundwater rights, but they are minimal and not exercised.
⑤	DSRSD has groundwater rights, which are pumped by Zone 7.
⑥	One program manager supervises contract services.
⑦	DSRSD provides wastewater pre-treatment services to Pleasanton via contract.
⑧	Pleasanton/Ruby Hill.
⑨	Participant in Regional Stormwater Permit.
⑩	Via City Geologic Hazard Abatement Districts (GHADS).
⑪	Citizen Response Management System (CRMS).
⑫	Billing services are contracted to a third-party vendor.
⑬	Wholesale customers only.

Services provided by all Cities
Services provided by all Special Districts
Services provided by all Agencies

Attachment D – Four Case Studies

Executive Summary

Management Partners researched four utility agencies that had undertaken service integration and consolidation efforts to learn from their experiences and develop case studies that would be useful to the Tri-Valley agencies. We began by conducting background research from publicly available sources about the history of each integration and consolidation. We then interviewed pertinent individuals (either the general manager or a high-level executive) who could share first-hand knowledge about the agency's experiences.

The following cases studies and interviews were conducted and are provided as exhibits to this executive summary.

- Eastern Municipal Water District – Paul Jones, General Manager
- Elsinore Valley Municipal Water District – Ron Young, General Manager
- Irvine Ranch Water District – Paul Cook, General Manager
- Ventura Regional Sanitation District– David Burkhart, Former Assistant Chief Engineer/General Manager (retired)

A case study has been created for each agency which addresses the history, reasons for service integration/consolidation, advantages and disadvantages, short- and long-term impacts resulting from the coordinated efforts, governance and lessons learned.

In general, all of the consolidations occurred when a smaller agency was consolidated with a larger entity. The primary reasons were urban growth, aging infrastructure, financial issues including high rates, water resources management, and willing partnering agencies. Cost savings were achieved through a combination of economies of scale and access to improved operations/facilities.

The Tri-Valley situation is quite different compared to the agencies evaluated in these case studies. There are no known cases that are identical to the Tri-Valley situation with mature, approximately equal sized utilities. In these case studies smaller agencies were consolidated with larger entities; however, the lessons learned from financial principles, management issues, operational impacts and community engagement will be useful in considering any changes in the Tri-Valley services delivery methods or potential integrations.

Advantages

The most predominant advantages were reductions in rates for the annexed agency (and their rate payers) and improved service levels. Specifically, case study agencies experienced reductions in administration/personnel, increased staff expertise (including the ability to attract limited certified staff), shared staff training, improved levels of customer service for service

interruptions and other emergencies, and improved public outreach programs. Cost savings were also realized in the more traditional areas of purchasing, billing and distribution system operations such as meter reading and reservoir maintenance, largely based on economies of scale. Access to greater resources such as costly compliance laboratory staff/facilities was also cited as an advantage.

Another important management advantage for some agencies was improved redundancy and reliability in the water portfolio allowing greater utilization of existing resources such as groundwater supplies. In larger facilities, there are great advantages in redundancy, capacity and reliability. In addition, a larger agency may have a greater impact on state and federal legislative issues, especially when its sole focus is on a single issue, such as water. From a public perspective, consolidation means there is one dedicated agency to contact for service. However, it should also be noted that a distinction in the Tri-Valley Utilities is that there are several cities involved whom constituents may call for all local government services, including utilities, serving as a "one stop shop" for constituents.

Another significant advantage mentioned by all mangers interviewed is the significant advantage in capital and operational savings on a regional/large-scale basis. VRSD provided a different perspective because they do not own any capital, yet they benefitted from savings in staff sharing and training.

With respect to integration without consolidation, there were no specific services or facilities mentioned but service sharing depended on what made good operational/ facility sense and could be agreed upon by the parties. For example, IRWD had the both operational and facility capacities to integrate the demands of the acquired agency absent any diminishment of services to existing customers. In VRSD's case, the ability to integrate the sharing and training of operational staff and joint purchasing of specialized equipment has proven to be very cost-effective. The availability of improved redundant supplies has been very positive for EMWD.

Lessons Learned: Considerations when Contemplating Consolidation

As a result of the research and interviews, Management Partners identified the following issues to be considered when consolidation or service integration is being considered. Each case study provides a deeper explanation of the major principles and lessons identified below with a theme of being open and transparent.

Protect Rate Payers

- Protecting the current rate payers of the annexing agency is of the utmost importance, which must be established when the cost of the acquisition is being determined. Identifying the assets and liabilities of the agency being consolidated can determine the costs associated with taking over a service area. In the case of IRWD, rates were dropped initially for the new service area, but not to the level of the rate payers of IRWD. The

difference between rates, known as the "rate differential," can be applied to pay down the calculated acquisition balance. Once the acquisition balance was paid, the rates for the new service area were dropped to the lower rate level provided to original IRWD rate payers. With this model, rate payers of the annexing agency do not have to subsidize or carry a heavy financial burden when taking over a new service area.

- Initial cost efficiencies can be achieved at a high-level when cutting back on management positions and consolidating administrative functions. Personnel cost savings will be significant when administrative roles and functions are reassigned and consolidated.

Carefully Consider Structure and Governance

- Establish a pre-consolidation agreement and governance transition plan to articulate agreements between the agencies that are integrating or consolidating, and to identify the transition of governance between the agencies.

- In the case of IRWD, what was most effective through its five consolidations was to transition the smaller agency Board into an advisory committee with elimination of the Board upon an agreed time frame ensuring those rate payers representation to address transitional issues. The Elsinore Valley Municipal Water District took a similar approach during consolidation.

Ensure Political Will Exists

- Political will plays a major role in any integration or consolidation of services or agencies. As may be obvious, the number of elected officials needing to be convinced of the benefits of consolidation will be proportionate to the number of agencies involved. As mentioned earlier, certain tools such as pre-consolidation, consolidation and governance transition plans can help elected officials understand the issues and how they will be handled. Assuring the availability of quality public information materials is also beneficial to both elected and appointed officials as they consider proposed changes to their agencies.

- Just as it is it important that all elected officials and managers of the agencies involved in a potential consolidation have pertinent information about the benefits of such a plan; the public/community needs to receive the appropriate information to avoid confusion, dissemination of misinformation and an understanding of the causes/ benefits of a consolidation.

  It is also important that the agencies maintain a good relationship with the public when considering consolidation to avoid major public backlash. In the case of Elsinore Valley Municipal Water District, their agency had consolidation plans about 15 years prior to

their 2011 annexation of Elsinore Water District. However, the plan was terminated when the general manager at the time mentioned during a public hearing that the rate payers would be "idiots" if they did not realize the benefits of consolidation. This insult caused a public uproar, subsequently putting pressure on the elected officials involved (who then rejected the proposal). Good relations must be maintained between agencies and their elected officials and administrators, and the public as well.

Consider the Impact of Infrastructure Investment

- Although IRWD constructed a more organized budget and finance model to weigh liabilities and assets when annexing new service areas, other agencies were able to weigh the liabilities of acquiring accrued debt and needed infrastructure investments against the expansion of revenues. When EVMWD annexed Elsinore Water District (EWD), despite the decayed and outdated infrastructure, EVMWD saw a greater net benefit in expanding their customer base to collect greater revenues through rates, along with property tax and RDA revenues that EWD was able to have the County transfer to EVMWD. RDA money was not lost as EWD was engaged in a contractual obligation through the County for capital service and debt projects. In the long run, EVMWD saw a greater benefit for the increase in revenues that would impact a higher quality of service to the public compared to the short term liabilities.

  Often, when consolidation is under consideration, a larger agency may be dubious of annexation if a smaller agency carries debt, lacks reserves and cash-at-hand, along with the need for capital improvement projects and infrastructure development.

  The condition of the infrastructure is also an important consideration; however, as EVMWD's case study showed, when achieving economies of scale through annexation, even debt, a lack a reserves and cash and a decaying infrastructure can be salvaged with the long-term expansion of annexed rate payers and any other associated revenues such as property tax or residual RDA funds. Further, all rate payers are advantaged to share in the infrastructure investments including subsequent operational impacts to meet new water quality regulations such as the arsenic in groundwater supplies.

Full Consolidation versus Service Integration

- While the case studies were of consolidated agencies, the opportunities for integration are numerous. These may include billing, joint purchasing, vehicle maintenance, facilities maintenance, metering reading, distribution/collection system operations and staff training/development.

- VRSD provides a good example of successful shared services since their consolidation never concluded into a single conglomerate authority with primary control. Rather VRSD became an entity that offered cost savings by managing contract agreements

between the local agencies. Although the original intent of VRSD was to eventually become a single consolidated agency, political will could not overcome local agencies' feared loss of land use entitlements and rate control. This is a major issue for municipalities. It was especially a hindrance that VRSD's LAFCO formation documents stipulated that it would not partake in the local collection business which propagated the restriction of VRSD's influence to remain outside local agency control. This governance structure prohibits the Board from controlling rates through the region and an overall lack of control over operations managed differently between each local agency.

- While VRSD's structure today does not match the intended reason of its creation, there are still many benefits of working together that were achieved by agencies that did not want to divest from their autonomy. This may be particularly pertinent to the Tri-Valley agencies as VRSD's members engage in sharing various services and costs, including managing a contractual labor pool between the agencies, managing capital projects, stormwater costs, joint chemical purchasing, joint equipment and vehicle purchasing, laboratory work, personnel training, employee compensation support for smaller agencies and the willingness to consider joint purchasing or contracting for anything deemed necessary and reasonable to the agencies.

- Short of full consolidation, options for the Tri-Valley agencies to achieve economies of scale through service sharing include creating an authority to manage similar contractual agreements or contracting with one agency to manage such contracts for all.

Future Potential Sharing of Services for Stormwater Utilities

- Stormwater utilities are not currently mandated by state law but have great potential to become recognized in the near future. Stormwater services are essentially ubiquitous in almost all municipalities whether managed by the municipality itself or a special district. Many water utility agencies, whether public or private, also invest in stormwater services due to the nature of their business in water collection and transmission. Economies can be achieved without full consolidation by sharing costs, labor and resources needed for monitoring, maintenance and operation of vactors, and overall management of stormwater utilities.

Role of LAFCo

- The role and function of LAFCo needs to be clearly defined, as LAFCo has an important role in making changes in organization of local governments, including utility service providers. Additionally, depending on the options selected for integration, other entities could be involved, such as the California Public Utilities Commission, Alameda County, East Bay Municipal Utility District, the East Bay Dischargers Authority agencies, the State Legislature and Cal Water.

Eastern Municipal Water District

General Manager

Paul Jones has been the General Manager for Eastern Municipal Water District (EMWD) for the past year and a half. Prior to joining EMWD, Jones spent 13 years serving Irvine Ranch Water District (IRWD), fulfilling the role as General Manager for IRWD before his departure.

For the purposes of this case study, Paul Jones was interviewed to gather further detail about EMWD's consolidations. It is important to note that Jones felt that EMWD's consolidated history has little relevance to major service integration, especially as it pertains to the Tri-Valley Water Utilities project. Jones explained that his experiences at IRWD and its consolidations were more germane to the study and during the interview he provided responses about both EMWD and IRWD.

History of Integration

The Eastern Municipal Water District of Southern California was formed in 1950 to secure additional water for a lightly populated area of western Riverside County. EMWD now serves approximately 750,000 people throughout seven incorporated cities. In addition to water service, responsibilities now include wastewater service, sewage collection, water desalination and water recycling with a staff of 630 employees.

In March, 1951, EMWD made a formal application to join the Metropolitan Water District (MWD). MWD's annexation policy at the time was that all new member agencies would pay back taxes as if they had been a member from the beginning. The assessed valuation for the areas in the Eastern Municipal Water District had to be calculated for every year back to 1929. Based on MWD's tax rate over the years, Eastern owed MWD $911,420. Fortunately, MWD's policy did not require the back taxes to be paid all at once, and Eastern was allowed 30 years to pay. Including interest at the rate of three percent, the total came to $1,395,000. The annexation election was set for May 15, 1951 and on July 20, 1951, Eastern Municipal Water District officially became a member of the MWD.

EMWD also sells to eight other water agencies, which in turn, serve their own customers. They are Elsinore Valley Metropolitan Water District, Western Metropolitan Water District of Riverside County, Lake Hemet Metropolitan Water District, City of Perris, City of Hemet, Nuevo Water Company, City of San Jacinto, and Rancho California Water District.

The district has five water reclamation plants which typically reclaim 46 million US gallons (170,000 m^3) a day from an estimated 210,000 sewer connections, including those served by local water agencies and municipalities. EMWD produces two levels of reclaimed water treatment: Secondary treatment employs biological oxidation to remove nearly all suspended solids and other impurities, And, tertiary, or third level, of treatment which effectively removes bacteria, viruses and virtually all suspended solids.

Population grew significantly in EMWD's service territory in the last 30 years. During the mid-1980s through 1990, population growth exceeded 10% per year. In the early 1990s growth declined because of the economic recession. In the late 1990s, growth again was high leading to challenges for EMWD to develop new sources of supply and provide new facilities and infrastructure to provide water supplies to the new customers. Growth slowed between 2005 and 2010. Since 1990 the population has increased by 350,000. Population is projected to increase by another 400,000 over the next 25 years.

Source: Eastern Municipal Water District Case Study pdf prepared by California Sustainability Alliance
Source: Building the Future: The Story of the Eastern Municipal Water District

1. Primary Reasons for Consolidations

Interview Information

What were the reasons driving the consolidation?

EMWD is the single largest service agency in its area. With a larger service area, EMWD could provide economies of scale. Agencies approaching EMWD were also looking to insource some of the non-traditional services which can be realized through economies of scale, such as vehicle maintenance. In some cases, agencies can maintain certain areas of expertise, while consolidating agencies have an advantage of optimizing specialty services (which individual agencies may not specialize in). Those services/operations can be outsourced and contracted.

At the time of its formation and subsequent annexation in 1950, the primary reason for EMWD's creation and consolidation was to secure water services for its lightly populated area and felt confident knowing a larger agency such as the Metropolitan Water District could provide that security.

2. Governance Structure

EMWD is governed by a board of five directors, each representing comparably sized populations. This five-member board of directors is responsible to the members of the public of his or her division, and to the general public within the district, for proper conduct of district affairs. Board members are elected to four-year terms by the registered voters in five geographic divisions. These divisions are apportioned by population. Terms are staggered to ensure continuity with public elections held in at least two divisions every two years. Directors must reside within their elected division.

EMWD also has a fairly active committee process including: Operations and Engineering Committee, Finance and Administration Committee, Executive Committee and a Planning and Resources Committee (policy related).

Cities and regions represented by the Board of Directors are Riverside, Moreno Valley, City of Perris, Mead Valley, Good Hope, Quail Valley, Romoland, Menifee, Sun City, Canyon Lake, Temecula, Murrieta, Hemet, Valle Vista, Little Valley, Cactus Valley, Diamond Valley, Domenigoni Valley, Winchester, French Valley, and Murrieta Hot Springs.

Background Source – http://www.emwd.org/index.aspx?page=54

Interview Information

Conduct a good active strategic planning process, not just a 200-page document done every five years. Have good annual sessions and strategic, quarterly check points with the Board, as we do currently at EMWD. It would be good to involve middle management staff with the strategic planning and even the full staff when the planning is more developed. After adoption, every quarter, or perhaps semi-annually, there could be a half-day work shop with the Board to review tactics and review other topics, such as water bonds or the state's rate on property taxes. These meetings can review the strategic plan as well as other issues that may affect the organization.

3. Advantages

Based on the document *Building the Future: The Story of the Eastern Municipal Water District,* the initial advantage to consolidation was to secure current and future water needs

4. Disadvantages

Interview Information

What are the disadvantages of the consolidated arrangement?

There are always surprises and unforeseen issues, especially operationally, that pop up when consolidating. Sometimes customers don't want to transition, but the vast majority of customers tend to be aware of the changes taking place. Disadvantages can be fairly minimal, especially if the agencies were careful to establish and agree upon a pre-consolidation plan ahead of time.

5. Capital, Facility, Operational Issues (including Technology/Infrastructure)

Interview Information

If you were to identify specific operational, service, facilities or other capital components that would benefit from consolidating several agencies without full consolidation of the agencies themselves, what would these elements be?

EMWD is conducting a study with two other agencies, to be reviewed with a third party, evaluating a portion of service area served by two wastewater plants. It requires a tremendous amount of capital treatment capacity/investment in collaborating to do a regional wastewater treatment plant. EMWD is looking at what is the most logical way to take wastewater flows from all the communities in a collective service area and minimize pumping, lifting and to utilize trunk systems as best possible. The study is also looking at treatment currently available and what can

be done for best service and lowest cost through an interagency service agreement.

6. Short- and Long-Term Impacts

Interview Information
What were the short-term and long-term impacts after consolidation?

Although this primarily relates to the IRWD experience, human resources transition issues arose in the short term. Some people didn't like the culture change so labor relations became an issue.

7. What else did we not ask that would be important for the Tri-Valley Utilities as they identify opportunities for integration?

At some point in time, the legislature might force consolidation. Orange County has 26 agencies serving water, which does not make any sense. Being prepared for attempted forced consolidation is something to consider. By forcing special districts together, they can implement their utility rates and their reliance on the revenues from property taxes can be effectively eliminated. It made sense for special districts to provide service to separated communities, but now you have urban sprawl. When you cross the street, it's an easy possibility that you're now in a separate city or district.

EMWD never experienced consolidation in the way that IRWD did, but it did once annex a territory, the Fruitvale Mutual Water Company, back in the1970s where it absorbed its facilities and groundwater rights. According to Jones, who had little direct knowledge, it was a bad experience.

Local formation agencies can play a major role in consolidation and/or integration efforts, which necessitates communicating and updating them as deemed appropriate. They have both a legislative and planning function to be performed.

8. Lessons Learned

1. Initial cost efficiencies from consolidation can be achieved at the high level from cutting management positions.

2. Setting up a pre-consolidation agreement and governance transition plan (as was done with IRWD), helps to lay out the agreements between the agencies that are integrating or consolidating to understand the transition of governance between the agencies. What's more efficient is to eliminate the smaller board being annexed, set up an advisory committee, and ensure those rate payers are still represented.

3. The role and function of LAFCO needs to be clearly defined up-front.

Elsinore Valley Municipal Water District

General Manager
Ronald Young joined Elsinore Valley Municipal Water District (EVMWD) in 2002 taking the helm as General Manager after serving 20 years with Irvine Ranch Water District. Young will be retiring as General Manager at the end of January 2013.

History of Integration

- 1950 – Creation of Elsinore Valley Water District. On December 5, 1950, Lake Elsinore residents voted 9 to 1 in favor of the formation of the 52,502-acre Elsinore Valley Municipal Water District (EVMWD). Water tables were receding and local water rights were slipping into the hands of outsiders. The residents and community leaders saw the need for a municipal water district, a legal entity that could protect their water and secure imported water from Metropolitan Water District.
- In 1955, for the first time in its history, Lake Elsinore became public property. Voters approved a 1.6 million bond issue for construction of the 112,000ft loop line around the lake, construction of the Canyon Lake Water Treatment Plant and for construction of the Lakeview Siphon, the point of connection to the Metropolitan Water District (MWD) water through WMWD facilities. When the Railroad Canyon Storage Agreement was signed, EVMWD received permanent rights to store 3,000 acre feet of water in the Railroad Canyon Reservoir and the right to build a 15-million gallon per day (MGD) water purification plant on Temescal property beside the dam.
- During 1956 and 1957, construction proceeded on the loop feeder system in Improvement District No. 1. Also during this period, several small mutual water companies petitioned EVMWD to accept their physical facilities and operate them. These were Elsinore Valley Mutual, Kilmeny Lot Owner's Mutual, Landowner's Mutual, Grand Avenue Mutual, Lakeview Mutual, and Clayton Mutual water companies. The first delivery of Metropolitan water started on April 8, 1957.
- In February of 1959, Board members of the South Elsinore Mutual Water Company (which later merged with EVMWD), became the target of a disgruntled landowner who brought a gun to a board meeting and opened fire, causing the death of the agency's superintendent. Another person was shot while remaining board members jumped out of the windows. The board secretary confronted the killer and he laid down his weapon.
- In 1968, Canyon Lake area was annexed, adding an additional 1,800 acres to EVMWD. The formation of a $65,000 improvement district followed, funding water and wastewater facilities to the Canyon Lake area.
- 1969 – Acquisition of South Elsinore Mutual Water Company. The assets of South Elsinore Mutual Water Company were purchased for cash and the services in that area consolidated with regular operations.
- In 1984, EVMWD purchased the City of Lake Elsinore's aging sewer system. That same year, the District received state and federal loans and grants to fund a new regional sewer system under the Clean Water Act. The 0.75 MGD Railroad Canyon Wastewater Treatment Plant was completed and online serving the Canyon Lake Community.

- In 1986, needing additional imported water, the District entered into an agreement with Eastern Municipal Water District for capacity in the Auld Valley 36 inch pipeline from Lake Skinner. That project brought an additional 27,000 acre feet annually to the water system.
- In 1988, the District entered into an agreement with Rancho California Water District to provide sewer service to our southern division in Murrieta now known as California Oaks.
- 1989 – Acquisition of Temescal Water Company. EVMWD acquired the Temescal Water Company assets and assumed its operation following a friendly condemnation. Lawsuits against the acquisition that were filed by Lee Lake Water District and the cities or Riverside and Corona were unsuccessful. The Temescal service area became the Temescal Division.
- In 1990, the Cottonwood Hills annexation added 1,969 acres to the District.
- In 1992, the Temescal Canyon area was annexed, expanding District boundaries by 3,001 acres.
- 2011 – Consolidation with Elsinore Water District. On July 1, 2011, the consolidation of Elsinore Water District (EWD) into Elsinore Valley Municipal Water District was finalized by the Riverside LAFCO. The consolidation took effect July 1 and will allow EVMWD to make improvements to the EWD water system without increasing EVMWD's customer rates, according to an EVMWD news release. With the consolidation, EWD customers will pay the same rates as current EVMWD customers and some will experience lower monthly water bills as a result of EVMWD's water budget billing structure, the release stated. All EWD employees will now be employed by the Water Employee Services Authority (WESA), which employs all water and wastewater professionals at EVMWD. All current WESA employees will remain employed in their current positions and assignments. For the next two years, the current EWD Board of Directors will serve as an Advisory Committee to the EVMWD Board as needed and will help oversee the planned improvements of EWD's current water system.
- Nov 2012, EVMWD won the Public Relations Society of America's Polaris Award for exceptional work in their customer service campaign.

Source: http://www.evmwd.com/about/history/default.asp
Source: http://lakeelsinore-wildomar.patch.com/articles/lafco-finalizes-water-district-merger
Source: http://www.evmwd.com/civica/filebank/blobdload.asp?BlobID=6445
Source: http://fridayflyer.com/2012/11/16/evmwd-awarded-for-public-outreach-efforts

1. Primary Reasons for Consolidations

Interview Information

What were the reasons driving the consolidation?

Most recently, EWD's primary reason for consolidation with EVMWD was due to the fact that they were going bankrupt and the agency would not raise its rates. EWD was receiving property tax money, which it had been using to subsidize rates. When that became questionable, the Board became nervous about quality and redundancy of service and brought up the idea of consolidation. EWD's Board viewed consolidation as a "natural" thing to do, especially when facing financial uncertainty.

Prior to their annexation by EVMWD, EWD had very little debt and some cash on hand. They had borrowed money to buy trucks, but had no other major debts. EWD had been running like a small mom-and-pop business where they even borrowed money from a commercial bank.
As a part of the deal, it was agreed that EWD would retain their RDA funding and property tax money by having the County transfer both to EVMWD. EVMWD gained 1,400 customers that were already within their District's boundaries. EWD was already taking two-thirds of their water from the wholesaler interconnect basis, allowing for easier transmission. EVMWD could put those new customers on their rate schedule with pro-rata rates so that every person would be paying their share of fixed and commodity costs. The cost to operate and maintain EWD's system (adding 1,400 customers to a customer base of 14,000), would be about 2.5% of total operational costs. EVMWD would be collecting more revenue to alleviate operational expenditures and the additional revenue was set aside for capital improvements.

EWD did not lose RDA money as they were set up on a contractual obligation through the County due to capital service and debt projects; however, CIP far outstripped RDA money. As a part of the deal, although EVMWD had already upgraded to automatic meters, it was agreed that manual meter reading would be done every two months. Upgrading manual to automatic meter reading was a "million dollar deal" as a one-time infrastructure upgrade. Modernizing EWD's systems was a significant cost.

Was there opposition? Where did it come from and how did you overcome the opposition?

Young explained that there were the usual critics who opposed anything EVMWD tried to do, despite how much sense it made. When the consolidation was going through the process, those individuals went to the hearings, voiced their opposition, but there were less than 12 people and they all read the same script. In the end, the opposition was minimal and did not require much effort to overcome that backlash.

2. Governance Structure

The Elsinore Valley Municipal Water District is governed by a five-member Board of Directors who are elected to staggered four-year terms by registered voters within their divisions. The Board of Directors sets governing policy and is the final authority for related appeals. The Board is authorized to set rates, fees and charges for district services, operations, and debt financing of capital improvements.

Source : http://www.evmwd.com/bod/default.asp

Interview Information

Is this governance structure working well?

EVMWD, by principle, was not going to force EWD into any actions, but rather opened their doors for EWD to ask for their assistance. When EWD approached EVMWD, they filed a Resolution of Intent, agreed to rules for consolidation and a consolidation plan. They made sure

that it was a mutually beneficial exercise that the consolidation would look out for EWD's employees.

Immediately preceding the consolidation, EVMWD took on EWD's Board of Directors as an advisory committee and individuals attended monthly meetings for a year. During the second year, these were reduced to quarterly meetings. This was to ensure that EVMWD followed its accommodation agreement for the projects they said they would do. In July 2013, two years will have passed and the advisory committee will be dissolved. Out of their five board members, three have already resigned. (Young thought attending the meeting became a hassle, but he said the structure worked out well.)

What are the advantages of this arrangement?

EWD's Board of Directors understood the financial trouble they were in and had a good sense of public service. They knew their constituents needed quality service, they could not continue to provide it, but EVMWD could. One of EWD directors was a former Director of EVMWD and knew how EVMWD ran the business and that the change was inevitable. (According to Young, several elections took place where candidates who were sympathetic to the consolidation were selected to run and it was "rigged" so they would win. Young used the term "rigged" because they voted as a California Water District as opposed to a County Water District, so they vote by assessed value rather than by one person, one vote. When votes from Stater Bros, 7-Eleven, and Mobile and Arco Gas were accounted for, that was 75% of the votes.)

What are the advantages of this arrangement?

Young felt that there were no major disadvantages to this structural arrangement. He did advise that in order for an agreement like this to work, the key element to success was that no one was out to kill the deal. If there is a fraction, faction or vote with political clout, it is not that hard to do. Under LAFCO you can file protests and with a small percentage of protesting individuals, and they can call for a vote and an election. With more than 50% for the cause, you can kill a deal. A protest can be easily started if individuals start disseminating post cards.

3. Advantages

Interview Information

What are the benefits of the consolidated water district?

Governance became less confusing. People knew who to go to if they had a problem with water as it was all handled by just one agency. This was high on LAFCO's list of priorities – to establish an easily identifiable governance body. EVMWD already served sewer to EWD's population and had a platform to take over retail water. They were able to also reestablish a democratic vote (1 person, 1 vote) instead of assessed value, where individuals in the community felt that they were disenfranchised.

What savings were realized in the short and long term?

Financially, there were many gains. They were able to consolidate executive positions so that there was only one general manager, one treasurer, one accountant, etc. Aside from a reduction of redundant executive positions, EWD was able to economize by consolidating their loans and financial obligations with EVMWD's larger customer base.

EWD did not have any extraordinary assets or facilities to take over that provided much benefit to EVMWD, but EVMWD did benefit from the extra rate-paying customer base.

What customer service improvements were realized?

EWD was able to achieve a more reliable supply for fire flow and steady pressure for more reliable service. People used to complain that you could only take a shower during a certain time of the day, otherwise you would lose pressure from high usage.

4. Disadvantages

Interview Information

What are the disadvantages of the consolidated arrangement?

A downside from the consolidation included investing in updating EWD's system and infrastructure. But with the extended rate-paying customer base, it is affordable. EWD was a small entity that found it very expensive to build up their replacement/reserve fund. The amount of effort required from a small agency like EWD compared to a larger agency like EVMWD displays how economies of scale can be achieved when a larger agency can put a small fee in their rates to build up those funds faster with an extended customer base.

5. Capital, Facility, Operational Issues (including Technology/Infrastructure) No information found

Interview Information

What capital improvement advantages have been realized since the consolidation?

Although it was not really capital work, there were some isolated pockets where interconnections needed to be made. Their systems can be looped to be more stable and reliable. EVMWD is able to get reservoirs tested and interior coating that they had not be able to do prior.

What operational improvements have been experienced? Any problems? If so, what?

EWD had wells that went dry over the years, along with another well that was not dry but had high nitrates. EVMWD was able to take that well out of service and provide healthier water to EWD's customer base that met water quality standards. EVMWD had more groundwater and imported water that could easily move into EWD's blend of water, providing better use of local resources.

With the consolidation, EVMWD is able to respond to leaks and operational needs more quickly and resolve problems in a timely fashion. In the past, EWD had relied on contracting with

EVMWD for operational assistance when they lacked the resources. Now that they are consolidated, EVMWD can more aptly respond to emergencies and problems that arise in the field.

What capital, operational or facility advantages have been realized? Disadvantages or problems?

EWD had prior suffered with service areas built of "spaghetti lines" where the water pressure was so inconsistent that "one neighbor could flush the toilet, and the house next door would have cold water." With the consolidation, EVMWD was able to invest in upgrading this infrastructure.

If you were to identify specific operational, service, facilities or other capital components that would benefit by consolidation from several agencies without full consolidation of the agencies themselves, what would these elements be?

EVMWD has a groundwater management plan with a DWR grant, and, prior to the consolidation, EVMWD and EWD were the two primary users of this plan. The intent of this operation was to find a safe yield to schedule pumping and replenishment to protect their supplies. This could be done with an interagency agreement without full consolidation.

Other areas for integration without full consolidation could include landscaping costs, janitorial costs, any contracted services, as well as debt obligations if jointly purchasing or investing. Consolidate billing between different agencies is another potential area and service contracts are always good opportunities. Prior to consolidation, EWD and EVMWD had once talked about shared meter reading, but when EVMWD upgraded to automatic meter readers, the conversation was moot since EWD did not want to upgrade their systems.

Different agencies could also contract between each other for water and water treatment. EVMWD has plenty of wells and treatment plants, whereas EWD had some of their groundwater contaminated with arsenic. EVMWD had a treatment plant and ample water supply to either blend or treat water had EWD sought this service.

6. Short-Term Impacts

Interview Information

What were the positive and negative short-term impacts after consolidation?

Switching over the billing was an effort that took a lot of work. Letting the public know that their billing cycle was changing with a new rate system, along with making sure addresses for new customers were correct required significant effort. You can tell the public new information and repeat it, but they do not always pay attention. When billing was switched over post-consolidation it was a big deal with customers for a few months and phones rang off the hook.

7. Long-Term Impacts

Interview Information

What were the positive and negative long term impacts after consolidation?

Governance transition was positive, as discussed previously, along with the changes in service. Young recognized that these long-term impacts are not easily quantifiable, but they contributed to the greater good in service to the public.

8. Unintended Consequences

Interview Information

What were the unintended consequences of consolidation?

The naysayers who were not in favor of consolidation became part of the larger community who had more of a say and a direct vote. Young explained that now, after a few years have passed, most people have pretty much forgotten about the consolidation and transition.

9. What else did we not ask that would be important for the Tri-Valley Utilities as they identify opportunities for integration?

Young explained that the key elements for a successful consolidation include putting together an effective public relations and public education campaign so that people on all sides of the issue get the same information so no one can say, "I didn't know about this."

Political will is also paramount. About 15 years ago, the agencies were all lined up for consolidation, but at the time, the General Manager (GM) of EVMWD was asked during a public hearing, "Why do you think there would be any reason for it to not go through?" The GM responded that the only reason it would not go through is, "if the people were too stupid to see its benefits." This remark upset many people and created a political backlash which killed the consolidation proposal.

10. Major Lessons Learned

1. Political Will and Community Support

   Vital to the success of EWD's annexation by EVMWD were the successful public relations/educational outreach campaign to convince elected officials and public that consolidation was in the best interest for the sake of good governance. It provided greater financial backing for the agencies involved by achieving economies of scale, and it allowed customers from smaller agencies who were being annexed to receive higher quality water and service. Both the elected officials and the majority of the public needed to concur that consolidation was in the best interests of the public.

2. Infrastructure Investment

   Often, the obligations to upgrade aging and outdated infrastructure of a smaller agency can be unattractive to a larger agency considering their consolidation; however, the long term

financial benefits and service improvements can outweigh the short term infrastructure obligations.

In the case of EVMWD, EWD's consolidation included obligations to upgrade their infrastructure, build more connections for improved supply redundancy and consistent pressure, replace "spaghetti lines," close and replace dry and contaminated wells and upgrade meter reading systems to be automatic. These infrastructure upgrades resulted in significant investments by EVMWD, but with the expansion of their rate-payer base, a slight increase in customer rates through a temporary tax, and the additional property tax and RDA revenues, the long term revenue increase outweighed the cost of the short term infrastructure investments.

Irvine Ranch Water District Case Study

General Manager
Paul Cook, General Manager of Irvine Ranch Water District (IRWD), since October 2011, was the Assistant General Manager of IRWD through 2004. Cook preceded Paul Jones as General Manager. Paul Cook and Paul Jones were interviewed to gather details about IRWD's consolidations for the purpose of this case study.

History of Integration
During IRWD's history, five consolidations took place from 1997 through 2008. Each is described in further detail below.

- 1961 – Formation of IRWD
- 1997 – Merged with Santa Ana Heights Water Company
- 1998 – Merged with Carpenter Irrigation District
- 2001 – Merged with Los Alisos Water District
- 2006 – Merged with Santiago County Water District
- 2008 – Merged with Orange Park Acres Mutual Water Company

In 1961, the Irvine Ranch Water District was formed as a special district by landowners, with assistance from the Irvine Company, to supply irrigation to a population of 300. Ten years later, in 1971, the City of Irvine became incorporated. Unique to this region, IRWD was formed prior to the incorporation of most of the cities it serves today, as they were in unincorporated Orange County at the time.

In 1997, due to rising costs of imported water and lack of potable ground water supplies, the shareholders of the Santa Ana Heights Water Company elected to merge with IRWD.

The Carpenter Irrigation District (CID) was formed as a public agency in 1927, principally to issue bonds to pay for a portion of the new Santiago Dam, which was constructed as a joint project by CID, Serrano Irrigation District and the Irvine Company. Realizing their diminishing role as a water provider, the CID Board of Directors in 1970 entered into agreement with the Irvine Company to ensure that the obligations to remaining irrigation users would continue to be met. In 1974, IRWD became the successor to the Irvine Company (including its 1970 agreement with CID). In 1998, CID and IRWD adopted an amendment to the 1970 agreement that provided for the dissolution of CID and the detachment of its few remaining customers with annexation of these areas to IRWD. The two agencies applied to the Orange County Local Area Formation Commission for approval of the proposed reorganization and it became effective December 31, 1998.

Under the provisions of California Water District law, the Los Alisos Water District (LAWD) was formed by ranchers and land owners in 1960 over most of the Spanish land grant area of Rancho Canada de Los Alisos. The new district was formed primarily to obtain imported water from the Metropolitan Water District of Southern California (MWDSC) through the recently formed Orange County Municipal Water

District. In early 2000, LAWD entered into discussions with IRWD regarding potential consolidation. The primary goal was to improve water reliability in the LAWD service area, which at the time received two-thirds of its water supply from MWDSC. Upon approval by the Local Agency Formation Commission, the LAWD and IRWD were reorganized and consolidated effective January 1, 2001.

Established in 1962, the Santiago County Water District (SCWD) was located in northeast Orange County, east of the cities of Orange and Tustin. The District covered an area of 29,450 acres with land ranging from the foothills around Irvine Lake to mountainous canyons in the Cleveland National Forest. In 2005 the SCWD Board initiated a process to evaluate their future options as a district. A special subcommittee, the President's Advisory Board, was formed to study this issue. In July 2006, IRWD and SCWD were consolidated. The consolidation reduced operating costs and allowed for a significant reduction in SCWD rates and charges.

The Orange Park Acres Mutual Water Company (OPAMWC) was incorporated on March 13, 1929 to provide water service to 640 acres in the rural, unincorporated community of Orange Park Acres. To evaluate potential merger options with larger water service providers, the OPAMWC Board circulated a request for information in August 2006 to several agencies. Based upon the responses received, the OPAMWC Board elected to pursue discussions with IRWD. Annexation of OPAMWC into IRWD was approved by the Orange County Local Agency Formation Commission in December 2007 contingent upon subsequent shareholder approval. On April 10, 2008 the OPAMWC shareholders voted overwhelmingly to approve the merger with IRWD and the annexation became effective June 1, 2008.

Source: http://www.irwd.com/about-us/financial-information/consolidations.html

1. Primary Reasons for Consolidations

Interview Information

Reasons Driving the Consolidations

Based on the varying consolidations that IRWD experienced through its history, Paul Cook focused on some of the primary consolidations that may be most relevant to the magnitude of service integration and consolidation that the Tri-Valley agencies are evaluating.

In 2008, Orange Park Acres Mutual Water Company merged with IRWD. The merger included a capital component. There was significant "abnormal" growth comprised of a small customer base spread in patchwork neighborhoods with an aging infrastructure. OPAMWC could not keep up the demand for infrastructure improvements and maintenance based on its revenues, compelling the Board to seek consolidation with IRWD. With the capital and economies of scale that a larger agency like IRWD could afford, OPAMWC could improve its services to its ratepayers and lower rates as well.

In 1993, Paul Cook was working for the Los Alisos Water District and was there when it was

annexed by IRWD in 2001. This gave IRWD areas outside Irvine, including approximately one-third of the City of Newport Beach and one-third of the City of Tustin. Customers did not object. Prior to LAWD's establishment, the open undeveloped area was owned by the Irvine Company. They decided that it would be a lucrative opportunity to sell houses with Newport addresses. Newport was a full-service city and questioned the development of new houses where they did not provide utility services. Irvine Company, being the primary landholder, made a compromise so that the houses were given Newport Beach addresses and they provided water services. When LAWD realized the difficulties of maintaining a diverse and reliable water supply, coupled with the minimal revenues realized by a smaller agency, they sought better opportunities to provide reliable water supply to rate payers and achieve operational economies of scale.

Was there opposition and if so, where did it come from?

Opposition was almost never a factor when IRWD was annexing a smaller agency. Each agency that was consolidated under IRWD experienced improved operation and delivery services, a more reliable supply of water and lower rates due to the economies of scale that IRWD could afford.

While there may be always small parts of the community opposed to such projects, with the proper community outreach and education efforts, the public becomes aware of the benefits from consolidation and usually refrain from opposing the effort. Effective communication and outreach is the best way to help the public understand the benefits of consolidation and mitigate opposition.

There may be resistance should Board members or administrators oppose the idea of losing their positions. Board members of agencies to be annexed must also receive the proper education and information about the benefits of consolidation and how their rate payers will be taken care of through the consolidation process in order to minimize their resistance.

Key Reasons for Consolidation based on Public Information prepared by past IRWD General Manager Paul Jones

- Cost savings
- LAFCO pressure
- Escalating water rates from high per-customer costs relating to administrative overhead, inefficient scale, financing expense and regulatory compliance.
- Inability to provide a contemporary level of customer service and breadth of programs.
- Water supply diversity and system reliability.
- Water system condition and the inability to afford and/or finance replacements and refurbishments.
- Regulatory requirements (DPH violations, etc.).

2. Governance Structure

IRWD is governed by a five-member publicly elected Board of Directors. These five elected officials are responsible for District policies and decision making on a large range of issues. Board members participate in bi-monthly IRWD Board meetings and Committee meetings where they evaluate and provide guidance on important water resource and reliability projects including water recycling, water use efficiency programs, infrastructure projects and the water banking program.

Public elections are held every two years and directors serve four year terms. Terms are staggered to ensure continuity.

After the consolidations, a dissolved Agency Board gets reconstituted as an Advisory Committee to represent the former service area. The Advisory Committee meets monthly as a committee of the IRWD Board and makes recommendations about any issues pertinent to their former service area. The term of the Advisory Committee is consistent with the LAFCO Three-Year Plan of Service. After three years, the Advisory Committee designates community liaison(s) to continue to work with the Board of the consolidated agency.

Source: http://www.irwd.com/about-us/financial-information/consolidations.html

Interview Information

Is the governance structure working well?

Yes, IRWD is on par with local governing agencies as it is chartered by the State of California. Elections appear on the same ballot with council members and supervisors. IRWD predated the cities it now serves and has never officially agreed to any contracts, MOUs or intergovernmental agreements. Of course, IRWD wants a good relationship with the surrounding communities and conducts outreach to the public and public administrators/elected officials. IRWD technically doesn't have to perform such tasks, but they do make a strong effort to have a good working relationship, especially in crisis and rough times.

What are the benefits and detriments of this arrangement?

Cook finds that IRWD's form of governance and governance structure is very effective. Cities have a lot on their plates, including a lot of politics, whereas special districts are extremely focused on what they're doing. Special districts don't have to play favorites on whose pot holes to fill or other political issues that arise in cities. Special districts can also be effective in advocating for state and national water issues, which IRWD has been very active.

Paul Cook did not identify any detriments that have arisen with their form of governance.

3. Advantages

Interview Information

What are the benefits of the consolidated water district?

Consolidations allow for optimization of water resource management, such as groundwater basin sharing arrangements. These consolidations have proven to maximize water supply and reliability for the acquired agencies, including providing access to previously unavailable IRWD reliable groundwater sources.

Low Rates

IRWD has been very effective at keeping rates low with a high focus on customer service. When a customer calls and wants to discuss any issues with their water service, all service representatives are highly trained and can handle most questions. IRWD has received high ratings for resolving customer issues. The single focus of service representatives makes the agency extremely responsive (in contrast with a city where there are many other issues to be handled).

Emphasis on Conservation

Along with low overall water rates, IRWD's rate structure incorporates a strong water conservation program including tiered rates. Cook explained that water is "too darn cheap, especially when you compare it to cable." He also elaborated that when the public expresses worry about conversation and water waste, rate structure plays an important role. He has said, "Let me double your rate and I'll show you conservation." With water being so cheap, human behavior goes unnoticed, which leads to waste. IRWD sets an allocated water amount depending on the customer (i.e., family home of four or commercial facility) and when exceeded, the price goes up significantly with the increasing tiered rates.

Acquisition Balance Methodology for Buy-In

IRWD's size and approach to consolidation ensures the existing rate payers are not negatively impacted when a new organization joins the District. IRWD has healthy reserves paid for by existing customers and in a consolidation there must be a buy-in from the newly acquired agency/service area to replenish the replacement fund for aging infrastructure. Typically, IRWD has the lowest rates in Orange County, which is much desired.

IRWD establishes an acquisition balance. By doing so, IRWD is able to transition costs through the consolidation process and maintain desired low rates. For example, an annexed agency/service area had rates about 20% higher than IRWD's standard. Rates for the new service area were dropped to be 15% higher than IRWD's standard rate. The difference between IRWD's standard and the new service area's reduced rate is referred to as the "rate differential." The new service area receives a reduction in rates, but the amount exceeding the IRWD standard goes to pay off the acquisition balance, which was established by estimating the difference between assets and liabilities of the newly incorporated agency. Proceeds from "rate differential" multiplied by the volume of water consumed over a period of years, will allow the annexed agency to pay down the

acquisition balance. Although IRWD cannot guarantee a timeline of when the balance will be paid off so that the annexed area's rates match IRWD's standard low rate, it has proven to be an effective model for bringing in new agencies/service areas. According to Paul Cook, it usually takes about 4.5 years to complete the process, but the recent droughts have sped up the ability to pay the acquisition balance due to increased rates.

What savings were realized immediately? Long-term?

Immediate savings are always most effectively realized through administrative restructuring when positions are dissolved and functions are consolidated. This drop in personnel costs for executive and management positions always proves to be a significant savings in staffing costs.

According to information provided in a Consolidations and Acquisitions PDF, projected savings over the long-term can be significant. For example, IRWD indicates a savings of $7.5 million over 20 years for SCWD.

What customer service improvements were realized immediately?

IRWD'S public outreach program utilizes the latest communication avenues and technologies, as they are a critical element of the business plan. IRWD considers itself blessed with a customer base that is highly educated and tech savvy with a desire to self-serve, believing they can take care of issues at home. IRWD electronically engages the public via their YouTube videos, electronic bill payments (up to 70% of bills are done electronically through e-billing), e-notify and information on their website.

Aside from using technology for customer/public engagement, the advanced emergency notification system can alert staff when there are interruptions in service to more promptly address those problems. IRWD also has an integrated GIS system.

4. Disadvantages

Interview Information

What are the disadvantages of the consolidated arrangement?

There is a right size to every organization. If you're too big, it can affect responsiveness with the public. You can also be too small and inefficient. When consolidating, cost savings often come from reduction of upper layer of administrative/ personnel avoiding making your organization too large AND reducing costs at the expense of eliminating positions. The 2008 Orange Park Acres consolidation resulted in their general manager retiring, along with eliminating legal counsel (they also took on no staff). With another consolidated agency, only three of the five employees were taken on. However, despite the reduction in staffing and increase in service area, IRWD still receives great comments about customer service.

There might be some resistance from new populations being annexed as they might be more

accustomed to full-service cities. Unlike south Orange County, where there are many contract cities that regularly provide services like water, a newly acquired service area might have doubts about a consolidation of services under a special district. As mentioned previously, effective outreach is always the best way to combat this resistance.

Where any financial problems created as a result (for any one agency, customers, others)?

Current customers may worry about negative impacts or any detriments to their rates and service when annexing an agency and service base that was not as financially sound. IRWD had to be careful about not isolating current customers while at the same time permanently establishing a level of service throughout the entire service area.

What else?

One of IRWD's goals is to get the Board to maintain its focus at the policy level. Board members want to help and be a part of the agency, but they can get too much into the business where they start asking, "Who are you hiring? Who are you firing?" This can be an excessive level of involvement for a Board member and take away focus from other areas.

5. Capital, Facility, Operational Issues (including Technology/Infrastructure)

Interview Questions

What capital improvement advantages have been realized since the consolidation?

Capital activity advantages include the access to in-house staff expertise. With IRWD, they were able to conduct a $100 million plant expansion more successfully since they were able to afford to have highly qualified engineers and operations people to contribute in the design phase.

What operational improvements have been experienced? Any problems? If so, what?

IRWD has been able to reduce operational costs even while taking on new service areas and has a highly trained staff in a number of technical areas ready to meet future demand. In some instances, IRWD was able to utilize overtime work rather than hire another body.

Of the 300 IRWD employees, 150 to 180 or so are field positions, including water treatment, distribution positions. Before, water import used to be the primary operation but then IRWD started drilling wells, subsequently increasing demand for more technical expertise. Soon, IRWD will have three treatment facilities with planned advanced treatment technologies (i.e., micro-filtration membranes, reverse osmosis and other technologies). IRWD is well-positioned to have trained employees focused on these new treatment facilities. Specializing expertise makes employees more effective in the position and can reduce the need for an agency to hire additional employees.

What facilities advantages have been realized since the consolidation? Any problems? If so, what?

Regionalized facilities are also a huge advantage. For IRWD, treatment plants for water and wastewater were able to be consolidated (including staffing). Operationally, IRWD was also able to consolidate flows of sewage to go to the Orange County Sanitation District (OCSD). IRWD has a

recycling plant in Irvine that was able to be used for its annexed service areas, along with being able to send solids to OCSD.

What other capital, operational or facility advantages have been realized? Disadvantages or problems?

As the customer base needs are changing, IRWD is developing the capacity to provide services to a wider array of customers, i.e., there are now six golf courses that receive recycled water from IRWD. However, not all customers may be satisfied with the product, even if it is of quality and provided in a sound manner. One of the golf courses (Shady Canyon) in IRWD's service area, located in a more affluent area, has complained about the recycled water, even though the other five golf courses have no qualms.

If you were to identify specific operational, service, facilities or other capital components that would benefit by consolidation from several agencies without full consolidation of the agencies themselves, what would these elements be?

Service integration without full consolidation can bring many benefits. For IRWD, some of those benefits came from joint purchasing of chemicals along with opportunities to contract for shared services. In addition to working with another city and special district, you get to know what they have. For example, maybe sharing a sewage collection system can be beneficial, or perhaps the collaborative agencies can do the cleaning together on a contract basis.

Exit strategies as well are also important as well when looking at integration opportunities if an agency finds itself no longer willing to participate. If approaching a city or water district, it is important to be cautious about "getting married." Even with just integration, it is paramount that "political will" exists to see the project to completion.

6. Short-Term Impacts

Interview Information

What were the positive and negative short-term impacts after consolidation?

The initial integration and consolidation phases will require a lot of time to be dedicated to address any issues that arise and to insure implementation is effectively carried out.

Annexed agencies had an immediate reduction in rates (if they were higher than IRWD's standard), although still higher than IRWD's standard rate, so long as the acquisition balance is existent.

7. Long-Term Impacts

Interview Information

What were the positive and negative long-term impacts after consolidation?

The annexed agencies eventually paid off their acquisition balances allowing for the rates to drop further, along with updated infrastructure projects and utilization of shared assets (i.e., IRWD was

able to access and share groundwater sources from consolidated agencies to supplement potable water supplies).

8. Unintended Consequences

Interview Information

What were the positive and negative unintended consequences of consolidation?

Sequencing things operationally, financially and politically become critical as extensive lists of dependent tasks and due dates arise. These all require that managers stay organized and ensure all tasks and projects occur in an orderly fashion, including open communication with the staff.

Master planning for CIP can become more effective. For IRWD, the Planning Department had different plan functions being a larger agency. However, the smaller annexed agencies were able to more effectively work with local developers, develop a long term capital budget, a financing plan, a replacement fund plan, evaluations for connection fees for new units and water rates attributed to replacement fund, handle cash balances and reserves and make it all come together. Small agencies can conduct these financial plans and keep it up continuously.

There may be some specific services that annexed cities/special districts may inherit in acquiring an agency. For IRWD, they had to look at urban runoff, low flow (opposite) to provide nutrient removal before water gets into the Back Bay. IRWD had to add that service into the Charter, which was done on behalf of cities who had these permits. Political boundaries were overlaying the watershed.

9. What else did we not ask that would be important for the Tri-Valley Utilities as they identify opportunities for integration?

A hallmark of consolidation is the management committee where all Board members of the annexed agency are included in the consolidation process, where they may provide feedback and act as a direct conduit for communication between IRWD, staff and rate payers. Board members help maintain good relations with the community.

Staff can find value in integration and consolidation projects, but it also takes a lot of political will ar convincing that these integration or consolidation of services are what is best for the customer/rate payer.

LAFCO can make matters better or worse for public agencies partaking in these efforts of service integration and consolidation. It is important not to underestimate them.

10. Major Lessons Learned

1. Established rate payers of IRWD were concerned about taking on a financial burden and the need to recoup the costs of annexing a smaller agency which had less financial stability, higher rates and capital improvement needs. IRWD was able to alleviate this worry by calculating an

acquisition balance based on the annexed agency's assets and liabilities requiring the agency to pay a large sum over a period of time to make up for IRWD's costs. The annexed agency would receive a reduction in rates, albeit higher than IRWD's standard rates, allowing the differential of IRWD's standard rate and the annexed agency's new rate to be used toward paying off the acquisition balance.

Should there be a new, singular, omnipotent agency in the Tri-Valley or should one or more of the current agencies annex, integrate or consolidate with a smaller, less stable, agency, a similar acquisition balance could be established to protect current rate payers of the annexing agency from having to carry the financial burden to integrate the smaller agency.

2. Political will plays a major part in the integration or consolidation of agencies. As in the case with IRWD, each consolidated agency had to eradicate most, if not all, of its management positions, along with Board and elected positions. IRWD had to set forth pre-consolidation and consolidation plans to appease the needs and concerns of annexed agencies by proposing the establishment of advisory committees so Board members of annexed agencies could still unofficially represent their rate payers as they continued through the consolidation process. After three to five years, individuals from the annexed agency could then run for the IRWD Board.

   Should the Tri-Valley agencies integrate or consolidate services which impact staffing and elected positions, similar pre-consolidation and consolidation agreements should be established to encourage the political will of management and elected officials to go through with beneficial proposals.

Ventura Regional Sanitation District

Interviewee
Dave Burkhart retired after 23 years of service with the Ventura Regional Sanitation District where he last served as Assistant Chief Engineer/General Manager.

History of Integration

- The Ventura Regional Sanitation District (VRSD) is a public waste management agency organized in 1970 pursuant to the County Sanitation District Act, California Health Safety Code Section 4700. The District was instrumental in helping the cities of Oxnard, Ventura and Simi Valley secure grant monies for the expansion of wastewater treatment plants in the early 1970s. District employees were active in assisting the state in the development of the initial Comprehensive Water Quality Plan for Ventura County.
- While originally formed to address regional wastewater treatment and disposal issues, the District assumed operation of Ventura County's publicly owned landfills in 1972. Today VRSD is an enterprise public agency, serving the sanitation needs of Ventura County and providing valuable services to County residents.
- VRSD serves the Water/Wastewater and Solid Waste needs of Ventura County, including:
    - Eight cities: Camarillo, Fillmore, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula and Thousand Oaks; and
    - Eight special districts: Camarillo Sanitary, Camrosa Water, Channel Islands Beach Community Services, Ojai Valley Sanitary, Saticoy Sanitary, Triunfo Sanitation and Ventura County Waterworks Nos. 1 (Moorpark) and 16 (Piru).

Source: http://www.vrsd.com/

1. **Primary Reasons for Consolidations** No public information available

Interview Information

What were the reasons driving the consolidation?

Achieving more efficient economies of scale was the primary reason behind the consolidation. There was an opportunity to consolidate nine districts into one agency. The original plan was to consolidate all nine agencies into one with financial economies of scale being achieved. However, when the agencies starting receiving outside grants, it reduced the incentive for full consolidation. Along with the need for huge capital investments should all the agencies consolidate, everything went into slow motion. There were still economies achieved through the sharing of personnel but it was not as great as when the sharing of capital was envisioned.

Where did the opposition come from?

Although the original intent was to consolidate all of the local water and sanitation agencies, what had begun to occur was that the local sanitation superintendents suddenly began to see themselves as being in competition with their peers for the top job should full consolidation occur.

Also, there was a perception that agencies would lose control over land use entitlement and rates.

How did you overcome the opposition?

The political will for full consolidation was never achieved as the Ventura Regional Sanitation District is not a centralized public agency, but rather a primary labor contractor to all the local agencies. Although the original plan was never realized, VRSD was able to create a system of resource and labor contracting between the agencies.

2. Governance Structure

VRSD is governed by a nine-member Board of Directors composed of representatives from member agencies: City Council members from eight cities and one representative selected by special districts having sanitation responsibilities within the County sit on the VRSD Board.

Source: http://www.vrsd.com/board.htm

Interview Information

Is the governance structure working well?

Prior to being a nine-member Board, VRSD was originally managed by a Board of 25 members which made it very difficult for progress to be made. As the Board went through restructuring, it ended up with the current nine-member Board where each city designates its Board representative through their Mayor and the special districts vote among themselves to elect a representative. With this governance structure, decision-making has been made more efficient.

What are the advantages and disadvantages of this arrangement?

With the designation of each city it's their own Board member, it made each municipality, regardless of size, feel like more of an equal partner in the governance process.

When people don't share information it can make problems between the agencies. With the current arrangement, each city and special district has its own laws and policies in place that differs from one another and from VRSD itself. When any of the member agencies makes any action relevant to the business of VRSD, it is important that they share that information with the public and the other member agencies. Otherwise, it may create confusion and distrust.

What would the VRSD change if it could?

The contracting arrangement that was put in place made it so that each agency would still control their respective area. Sharing personnel becomes somewhat difficult when one agency wants a top tier plant and another agency may want to go the cheapest route. It may have worked better for an arrangement where there wasn't quite so much local control.

3. Advantages

Interview Information

What are the benefits of the consolidated water district?

Achieving economies of scale was the first and foremost benefit that came from consolidation. Although we did not experience nearly as much as was anticipated had534 there been full consolidation, the contracting arrangement did bring about many financial gains.

Many benefits were seen in the smaller plants. They were able to cut back on their own staff, which made scheduling easier. The smaller the plant, the greater the benefit. Licensed personnel are contracted so the agencies don't need as many highly licensed personnel on staff when sharing. This was especially important for specialization as trained personnel are hard to find. With the contractual arrangement of VRSD, specialized personnel can be shared among all the plants. This also provides a significant financial advantage.

What savings were realized in the short term and in the longer term?

The most significant savings were realized through personnel and labor costs. Most of the small plants were able to lay off a few individuals from their own staff and contract through VRSD for labor.

Another significant area for cost savings was through operational or service contracts made through VRSD where all the agencies could share costs in joint purchasing equipment, vehicles or chemicals and supplies.

What customer service improvements were realized immediately and in the longer term?

The individual agencies continued studying their monthly service charges. Individual agencies continued to control their own rates, own collections and billings. Many collected payments with their own water bill. If you can survive a dry period with cash flow financing, collection on property tax bill is the way to go.

4. Disadvantages

Interview Information

What are the disadvantages of the consolidated arrangement?

The arrangement of VRSD did not give the Board total control. It is more difficult to get things done quickly and efficiently when the local agencies still have autonomy over their services. It requires that the Board members be more skilled at convincing people they all want to do the same thing rather than following individual plans. When the agency was formed it had in its LAFCO formation papers, a restriction/limitation that it was not allowed to get into the local collection business. Every agency retained its authority. It was about land use and entitlements, which the agencies felt a consolidated authority had no say in. With such a stipulation, the

regional district never owned any capacity and it became primarily a straight labor contractor.

Were any financial problems created as a result (for any one agency, customers, others)?

On the wastewater side, all the local agencies had their own capital. They were never able to eliminate or consolidate two plants into one. Cities are geographically spread out, which makes it difficult to allocate certain operational costs. Agencies can become quite contentious when they have to transport their sewage five to ten miles and do not want to pay for that extra expense of transportation. There have been several attempts at cost allocation agreements, but they all failed.

When the need to automate operations to save money was discussed, the agencies had to be convinced that it was in their best financial interests. Again, local control became an issue when some agencies were willing to upgrade their technology and others were not willing to do anything in a cohesive effort.

5. Capital, Facility, Operational Issues (including Technology/Infrastructure) No information found

Interview Information

What capital improvement advantages have been realized since the consolidation?

Although VRSD has no capital ownership over the local agencies, there were financial gains for the local agencies from partaking in labor contracting, joint purchasing agreements and other service sharing deemed appropriate.

What operational improvements were experienced?

With straight labor contracting through VRSD, the local agencies not only achieved financial gains from personnel costs, but they were able to have access to specialized personnel that were shared among the agencies. Prior to this arrangement, a smaller agency may have had trouble enticing specialized personnel to join their staff or may have had trouble retaining veteran employees.

What facility advantages have been realized since the consolidation? Any problems?

Facility improvements were not as extensive as could have been achieved with a single consolidated agency. While each of the local agencies achieved some financial gain, they were able to make upgrades to infrastructure through the years as needed but no major facility advantages were made since none of the agencies was willing to consolidate their facility operations or ownership.

If you were to identify specific operational, service, facilities or other capital components that would benefit by consolidation from several agencies without full consolidation of the agencies themselves, what would these elements be?

The most obvious would be labor sharing where significant economies could be achieved. VRSD could negotiate contracting as well as practically anything within reason that the agencies wanted. For example, scrapers and bulldozers have been jointly purchased through VRSD by the local agencies when it was deemed necessary that new vehicles and equipment be purchased.

Stormwater is not yet a utility service authorized in state law, but there is great potential that it will become recognized in the near future. Stormwater offers significant economies of scale ranging from monitoring to vactor maintenance and upkeep to cleaning. Sharing personnel and equipment in stormwater services is a huge area for sharing services and costs without full agency consolidation.

Aside from labor and equipment, VRSD provides medical and dental benefits to supplement employee compensation for some of the smaller agencies who could not normally provide more attractive compensation packages.

6. Short-Term Impacts

Interview Information

What were the positive and negative short-term impacts after consolidation?

For VRSD, it was made evident early on in their consolidation that having too many Board members hindered their process to more effectively make decisions. Another problem identified earlier in their consolidation was that failing to fully consolidate all the agencies into a single authority left a lot of room for each local agency to prevent all the member agencies from achieving as much economy of scale if they ever disagreed on particular issues.

7. Long-Term Impacts

Interview Information

What were the positive and negative long-term impacts after consolidation?

Although VRSD's governance arrangement could be seen as a hindrance to their original plan for full consolidation, the agencies were still able achieve economies of scale through contractual agreements made through VRSD for labor, supplies, equipment and administrative costs.

8. Unintended Consequences

Interview Information

What were the unintended consequences of consolidation that were positive? Negative?

The major unintended consequence was that there never was a consolidation of facilities or ownership into a single entity.

9. What else did we not ask that would be important for the Tri-Valley Utilities as they identify opportunities for integration?

Although the agencies were never fully consolidated into a single authority, informal camaraderie made each agency feel more comfortable with one another. In doing so, they were more likely to express their thoughts and feelings more freely which could impact any possible group plans that involved the various district members.

10. Lessons Learned

1. Consolidation vs. Service Integration
   The VRSD consolidation never amounted into a single authority with primary control. Rather, VRSD became a mediator for contract agreements between the local agencies. Although the original intent was to eventually become a single consolidated agency, the willpower from the local agencies never allowed that to happen, as they feared loss of land use entitlements and rate control. A real hindrance was that VRSD's LAFCO formation documents stipulated that it would not partake in the local collection business which propagated the restriction of VRSD's influence to remain outside local agency control.

   While VRSD's structure today does not match the original intent of its creation, many benefits were achieved as a result of agencies working together who did not want to divest from their autonomy. This may have applicability to the Tri-Valley agencies as VRSD's members engage in various shared services and efficiencies have accrued from many different sources. These include managing a contractual labor pool between the agencies, managing capital projects, stormwater costs, joint chemical purchasing, joint equipment and vehicle purchasing, laboratory work, personnel training, employee compensation support for smaller agencies and the willingness to consider joint purchasing or contracting for anything deemed necessary and reasonable to the agencies.

2. Stormwater
   Burkhart identified stormwater utilities as an area not currently mandated by state law but one which has great potential to become recognized in the near future. Stormwater services are essentially ubiquitous in almost all municipalities whether managed by the municipality or a special district. Many water utility agencies, whether public or private, also invest in stormwater services due to the nature of their business in water. There can be many economies achieved without full consolidation by sharing costs, labor and resources needed for monitoring, maintenance and operation of vactors, and over management of stormwater utilities.

Attachment E – Existing Tri-Valley Utilities Collaborations

No	Current Collaborations (Status Quo)[19][20][21]	Description	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
1	Alameda County Clean Water Program	Facilitates local compliance with the Clean Water Act. It educates the public on how to prevent storm water pollution.	X		X		X	X
2	Committee of Valley Water Retailers	Elected officials who govern the Tri-Valley Water Retailers Cooperation Agreement.[57a]		X			X	X
3	Tri-Valley Water Retailers Group	Staff level counterpart of the Committee of Valley Water Retailers.		X			X	X
4	DSRSD EBMUD Recycled Water Authority (DERWA)	Develops and operates the San Ramon Valley Recycled Water Program project to supply recycled water to portions of DSRSD and EBMUD.		X				
5	Livermore Amador Valley Water Management Agency (LAVWMA)	Owns and operates 16-mile pipeline through which Livermore and DSRSD discharge wastewater treatment plant effluent to the East Bay Dischargers Authority (EBDA) for dechlorination and deep water outfall disposal.		X			X	X
6	DSRSD - Pleasanton Regional Agreement	DSRSD provides wastewater treatment for most of the City of Pleasanton (plus Castlewood via Pleasanton) under the terms of this Agreement.		X				X
7	Zone 7 Wholesale Water Agency Agreements	Zone 7 provides wholesale potable water service (importation, treatment, storage and groundwater basin management under the terms of these agreements).	X	X			X	
8	Zone 7 Groundwater Agreements[22]	Zone 7 provides groundwater to agencies with groundwater rights using Zone 7 wells.	X	X				

[19] Items 1-9, TMG Document: *Current Collaborations Table - Updated*
[20] Items 10-13, Document prepared by the Tri-Valley Agencies: *Tri-Valley Utilities Short- and mid-term collaboration items selected for further study*
[21] Item 14-15, TMG Document: *Tri-Valley Water Services Overview - Updated*
[57a]This group is being phased out; an existing Liaison Committee consisting of the Retail Water Agencies plus Zone 7 will eventually take its place

No	Current Collaborations (Status Quo)[19][20][21]	Description	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
9	MOU on Water Quality	Three way resolution among parties to work cooperatively for water quality improvements.	**X**	**X**				**X**
10	Bay Area Chemical Consortium	Joint chemical purchasing consortium that involves Tri-Valley agencies and approximately 30 agencies in total that jointly purchase approximately $10 million per year in water and wastewater treatment chemicals.	**X**	**X**			**X**	**X**
11	Storm Drain Cleaning	DSRSD currently cleans 13 storm interceptors for Dublin and provides emergency services for plug ups.		**X**	**X**			
12	Signage	The Pleasanton sign shop currently provides sign fabrication for DSRSD and Zone 7.	**X**	**X**				**X**
13	Conservation Rebate Program	Collaborative effort to administer a rebate program for conservation efforts. (Pleasanton, Livermore and DSRSD currently administer Zone 7's rebate program. Education and outreach are currently independent efforts.)		**X**			**X**	**X**
14	Wastewater Pre-Treatment	DSRSD currently provides services under contract to Pleasanton.		**X**				**X**
15	Livermore-Pleasanton Ruby Hill Sewer Agreement						**X**	**X**
X = Signifies if an agency is involved in a current collaboration								

[22] Pleasanton (and Cal Water) pumps all its own groundwater to which it has rights; Livermore, which has groundwater rights, neither pumps nor has an agreement with others to pump at this time

Attachment F – Short Term Collaborations for Immediate Implementation as Identified by the Agencies

#	Short Term Collaborations for Immediate Implementation[23]	Description	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
1	Equipment Sharing	Equipment could include, but not limited to, vactor trucks, backhoes, tractors and street sweepers/leaf removal equipment. Agencies could coordinate to schedule equipment and maximize time equipment is in operation.	**X**	**X**	**X**	**X**	**X**	**X**
2	Laboratories	Several agencies currently have similar lab equipment and capabilities. Some agencies also contract with private-sector labs for analysis that could be performed by another agency. Could also avoid redundant equipment purchases.	**X**	**X**			**X**	**X**
3	Training	Agencies perform mandated trainings at specific intervals, and could coordinate trainings to maximize attendance and eliminate duplication.	**X**	**X**	**X**	**X**	**X**	**X**
4	Signage	Signage for various facilities/activities made to meet legal specifications. The Manufacture and upkeep of signs represents opportunity for shared service among agencies. (Pleasanton currently provides this service to DSRSD and Zone 7 and may be able to expand.)	**X**	**X**	**X**	**X**		**X**
X = Notes the agencies that have expressed an interest in a short term collaboration for immediate implementation								

[23] Items 1-4, Document prepared by the Tri-Valley Agencies: *Tri-Valley Utilities Short- and mid-term collaboration items selected for further study*

Attachment G – Possible Near Term Collaborations as Identified by the Agencies

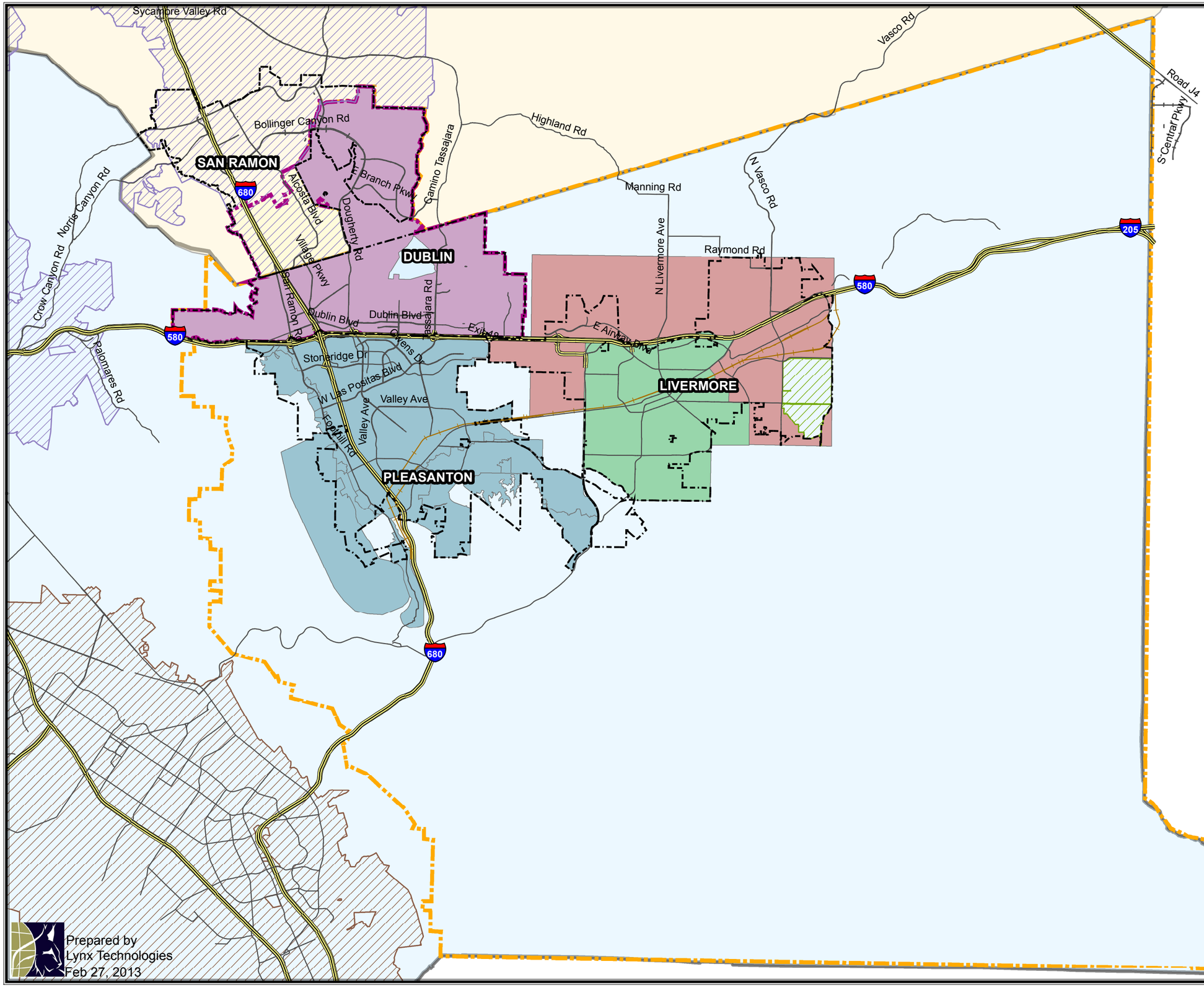
#	Near Term Collaborations[24]	Description	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
1	Grant Writing	Using an agency's employee to write applications for Federal, State or regional grants on behalf of two or more member agencies. One Agency may act as a centralized clearinghouse for all applicable grants.	X		X	X		
2	Reservoir Cleaning and Inspections	Water reservoirs must be regularly cleaned and inspected; this typically requires specialized firms and personnel retained under contract. Efficiencies may be realized if services are purchases for regional efforts.	X	X			X	X
3	Fire Hydrant Maintenance	All Fire Agencies in the Tri-Valley require hydrant maintenance. One or more water agencies could provide such service for other water agencies. (Cal Water currently provides service for Livermore and may be able to expand.)					X	
4	Video Inspection	Gravity pipelines must be surveyed to determine if repairs/replacement are necessary. Centralizing this service and/or sharing equipment could more fully utilize assets.			X	X		
5	Catch Basin Cleaning	Equipment replacement and acquisition may be appropriate for joint purchasing efforts. DSRSD currently cleans 13 storm interceptors for Dublin currently and emergency services for plug ups and may be able to expand.		X	X	X		
6	Landscape Maintenance	Landscape must be maintained for aesthetic and safety reasons at facilities and administrative offices. A common, regional contract or shared services among agencies may be more efficient. This could include tree maintenance, weed abatement and pest control, which may also be treated as separate activities.	X	X	X		X	X

[24] Items 1-10, Document prepared by the Tri-Valley Agencies: *Tri-Valley Utilities Short- and mid-term collaboration items selected for further study*

#	Near Term Collaborations[24]	Description	Zone 7	DSRSD	Dublin	San Ramon	Livermore	Pleasanton
7	Fleet Maintenance	Vehicles and equipment must be regularly maintained and repaired; shared services or a regional contract may be possible.	**X**	**X**	**X**		**X**	**X**
8	Subsurface Repair	Infrastructure such as pipelines, manholes, vaults, etc. may fail and must be repaired; this activity could be considered for shared services among agencies.			**X**			**X**
9	Street Maintenance & Grinding	Repairing and maintaining streets is necessary when subsurface infrastructure such as pipelines, etc. fail. This activity represents an opportunity for shared services among agencies.			**X**	**X**	**X**	
10	Custodial Services	Office space and facilities upkeep services could be considered for collaborative purchasing.	**X**	**X**	**X**	**X**	**X**	
X = Notes the agencies that have expressed an interest in a near term collaboration								

Attachment H – Service Area Maps

Tri-Valley Water Service Area



Water Service Area

- CalWater
- DSRSD
- Livermore
- Pleasanton
- Zone 7 *
- ACWD
- SFPUC
- EBMUD
- DSRSD Boundary

City Limits

County Boundary

- Alameda
- Contra Costa

* Zone 7 provides wholesale water to Pleasanton, Livermore, CalWater and DSRSD.

Prepared by
Lynx Technologies
Feb 27, 2013

Tri-Valley Wastewater Service Area

SAN RAMON
DUBLIN
LIVERMORE
PLEASANTON

Sycamore Valley Rd
Bollinger Canyon Rd
Crow Canyon Rd
Norris Canyon Rd
Alcosta Blvd
Village Pkwy
San Ramon Blvd
Dougherty Rd
Dublin Blvd
Tassajara Rd
Fallon Rd
Gleason Dr
Stoneridge Dr
N Canyons Pkwy
Valley Ave
Foothill Rd
Palomares Rd
Hacienda Dr
Owens Dr
E Airway Blvd
Highland Rd
Manning Rd
N Livermore Ave
Raymond Rd
Vasco Rd
N Vasco Rd
Road 14
S Central Pkwy
680
580
205

City Limits

DSRSD Boundary

Wastewater Treatment

DSRSD
LIVERMORE *

Collection Service Areas

DSRSD
LIVERMORE
PLEASANTON
PLEASANTON BY CONTRACT

County Boundary

Alameda
Contra Costa

* Ruby Hill area is treated at the Livermore Water Reclamation Plant by contract.

Base Map Prepared by
Lynx Technologies
Mar 13, 2013