

**MANAGEMENT AND NON-INFRASTRUCTURE
SOLUTIONS**

**DISADVANTAGED COMMUNITY WATER STUDY
TULARE LAKE BASIN**

DRAFT PILOT STUDY

OCTOBER 2013

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Prepared for:

County of Tulare

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ABBREVIATIONS

ACS.....	American Community Survey
AF.....	Acre-Feet
APWA.....	American Public Works Association
AWWA.....	American Water Works Association
CDBG.....	Community Development Block Grant
CDPH.....	California Department of Public Health
CEQA.....	California Environmental Quality Act
CFS.....	Cubic Feet per Second
CPUC.....	California Public Utilities Commission
CRWA.....	California Rural Water Association
CSA.....	County Service Area
CSD.....	Community Services District
CVP.....	Central Valley Project
CWC.....	California Water Code
CWD.....	County Water District
CWS.....	Community Water System
CWSRF.....	State Revolving Fund (Clean Water)
DAC.....	Disadvantaged Community
DBCP.....	Dibromochloropropane
DWR.....	Department of Water Resources
DWSAP.....	Drinking Water Source Assessment & Protection
EPA.....	United States Environmental Protection Agency
FEMA.....	Federal Emergency Management Agency
FRF.....	Fresno Regional Foundation
GIS.....	Geographic Information Systems
IRWM.....	Integrated Regional Water Management
IRWM.....	Integrated Regional Water Management Authority
JPA.....	Joint Powers Authority

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LAFCo	Local Agency Formation Commission
LPA	Local Primacy Agency
MCL	Maximum Contaminant Level
MHI	Median Household Income
MHP	Mobile Home Park
MOU	Memorandum of Understanding
MSR	Municipal Service Review
MWC	Mutual Water Company
NCWS	Non-Community Water System
NTNC	Non-Transient Non-Community Water System
PPB	Parts Per Billion
PPM	Parts Per Million
PPSAG or PSAG	Pilot Project Stakeholder Advisory Group
PUC	Public Utilities Commission
PUD	Public Utility District
PWS	Public Water System
RCAC	Rural Community Assistance Corporation
RMA	Resource Management Agency
RUS	Rural Utilities Service
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SDAC	Severely Disadvantaged Community
SDWA	Safe Drinking Water Act
SMD	Sewer Maintenance District
SOAC	Stakeholder Oversight Advisory Committee
SRF or SDWSRF	State Revolving Fund (Safe Drinking Water)
SSWS	State Small Water System
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWS	Small Water System
TCP	1,2,3-Trichloropropane

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TLB..... Tulare Lake Basin
TMF..... Technical Managerial & Financial
TNC..... Transient Non-Community Water System
USDA United States Department of Agriculture
WD Water District
WDR..... Waste Discharge Requirements
WWD..... Water Works District
ZOB..... Zone of Benefit

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EXECUTIVE SUMMARY

Introduction

Approximately 370 of the 533 small communities identified within the Tulare Lake Basin are disadvantaged or severely disadvantaged. These communities often suffer from a variety of problems related to the provision of water and sewer to their residents. Source water issues include insufficient supply and poor water quality. Wastewater challenges include reliance on septic systems that may be failing or potentially contaminating the groundwater, failing or insufficient sewer collection systems, or wastewater treatment and disposal facilities that are not capable of meeting their waste discharge requirements. Some communities also lack the technical, managerial and financial (TMF) abilities to properly operate and maintain their utility systems.

Four (4) pilot studies have been developed as part of the Tulare Lake Basin Disadvantaged Community Water Study, to present various types of solutions to these issues. This report identifies various management and non-infrastructure solutions that can be considered which may alleviate some of the ongoing problems that have been identified. Management and non-infrastructure solutions are improvements that can be implemented to improve system efficiency and affordability without making costly physical upgrades, and regardless of whether water supply, water quality, or wastewater system issues exist. They are low-cost strategies to enhance system efficiency, technical capability, financial solvency, and administration.

The other three pilot studies include Technical Solutions, New Source Development, and Individual Household Treatment.

Goal

The main goal of this pilot study is to provide useful information and tools that can function as a roadmap or guidelines for various audiences. Discussion items and recommendations should be considered from the perspective of the customer, the perspective of the water or wastewater service provider, the perspective of various agencies, and the legislative perspective.

The information presented in this report includes descriptions of actual community efforts toward solving water supply, water quality, and/or water system efficiency challenges. The information may also include recommendations for other communities to consider regarding:

- a) Steps toward solving remaining existing water supply and wastewater collection or treatment challenges,
- b) Identifying obstacles interfering with solving remaining existing water supply and wastewater collection or treatment challenges, and
- c) Steps toward preventing or mitigating future water supply and wastewater collection or treatment challenges.

Description of Problem

Several priority issues were developed during the Stakeholder Oversight Advisory Committee (SOAC) process. The specific priority issues that the Management and Non-Infrastructure Solutions pilot study aims to address include the following:

- Lack of Funding to Offset Increasingly Expensive Operations and Maintenance Costs in Large Part Due to Lack of Economies of Scale
 - Small systems serving primarily low-income households, especially in isolated locations cannot keep rates affordable and still generate enough revenue to run the system safely over the long term;
 - Lack of funding resources to operate and maintain water or wastewater systems at affordable levels and lack of funding for planning and replacement of infrastructure as it ages.
- Lack of Technical, Managerial and Financial (TMF) Capacity by Water and Wastewater Providers
 - Lack of adequately trained technical, legal, financial, and managerial professionals, as well as inadequate training and ongoing education and assistance for existing water and wastewater providers;
 - Lack of awareness of available training, assistance, and educational opportunities to support local employment in these sectors.

Description of Solutions

This report focuses on management and non-infrastructure solutions to reduce costs and improve efficiency. This is one of four pilot studies that comprise the Tulare Lake Basin DAC Water Study. The other three pilot studies, each presented in a separate report, are the “New Source Development” pilot to address water quality and water supply challenges, the “Technical Solutions” pilot to improve efficiency and reduce operation and maintenance costs, and the “Individual Household Treatment” pilot for private well owners and households on individual septic systems.

There are management and non-infrastructure solutions that can benefit both water and sewer systems, falling along a broad spectrum of formality. The management and non-infrastructure solutions that are presented in this report include:

- Internal Changes
- Informal Cooperation
- Contractual Assistance
- Joint Powers Authority
- Ownership Transfer
- County Operation of Multiple Zones of Benefit or County Service Areas

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- Regional Association Focusing on Sharing of Information
- Combinations of One or More Solutions

Internal Changes

Internal changes are modifications that can be made within an existing entity to reduce costs, improve service delivery, and/or improve efficiency. Some of the internal changes that may be considered include: assessing the existing rate structure to determine if adjustments to the user charges are appropriate; assessing the existing budget, financials, and reserves to determine if adjustments are necessary; and evaluating the existing management structure to see if changes to the structure may benefit the sustainability of the entity.

Informal Cooperation

Informal cooperation can involve two or more entities working together in a mutual aid arrangement, without contractual obligations. By sharing equipment, bulk supply purchases, backup operation and maintenance personnel, sampling and testing services, or similar items or services, the cooperating communities can reduce some of their individual expenses without the need for a formal agreement.

Contractual Assistance

Contractual assistance can be provided in various forms. An entity or group of entities can contract with a private third party entity to provide bookkeeping services, operation and maintenance services, management, engineering, or other services. This type of contract is under each individual system's control, and does not necessarily involve cooperation between two systems. Similarly, an entity can contract with a non-profit organization to provide any of a variety of services. This can involve an existing non-profit entity or one formed for the specific purpose of providing contract services to public or private water or sewer utilities. Alternatively, the contractual assistance can be between utility providers. In this case, an entity could enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment.

Joint Powers Authority

Inter-agency contracts can involve the creation of a new entity by several existing entities, which allows each of the member agencies to continue to exist as independent entities. Inter-agency contracts would most likely be in the form of a Joint Powers Agreement that can form a Joint Powers Authority (JPA). This is a more formal contractual approach than that described in the Contractual Assistance section above.

The new entity formed through the inter-agency contract provides one or more services for all participating entities; however the remaining services of each entity remain the responsibility of the individual agency. For example, the JPA may create a shared system management structure, while each participating entity continues to operate its

own system.

Ownership Transfer

Ownership transfer involves full consolidation of two or more systems into one existing or newly created system. This solution includes variants such as: acquisition and physical interconnection between the systems; or acquisition and satellite management (no physical interconnection). This report discusses both forms of consolidation; however this study focuses on the governance structure. Options for physical interconnection are developed further in the New Sources pilot study.

County Operation of Multiple Zones of Benefit or County Service Areas

Another type of solution may be to utilize County staff or contractors to provide management or operation services within multiple Zones of Benefit (ZOBs) or County Service Areas (CSAs). Many counties already manage ZOBs and/or CSAs within their jurisdictions. If a County has an efficient model in place to operate these service areas, or is willing to implement such a model, it could benefit many unincorporated communities by leveraging its considerable economy of scale and expertise.

Regional Association

A regional association focusing on sharing information can support and augment other solutions. The regional association would be a voluntary, independent association whose main objective would be to act as a clearinghouse of information, materials, and resources to those entities that choose to be a part of the association. Existing entities can continue to exist and function independently. Community members and entity leaders, staff and other interested parties can be potential members of this regional association. Included in this association, or as a separate program, could be training and education courses, including both leadership development and operator training programs. The association could also provide operation and maintenance services on a temporary or permanent basis.

Combinations of One or More Solutions

Any one or a combination of two or more of the solutions discussed in this report can be implemented. Each community is unique, and therefore the most appropriate or most beneficial solution or solution set will differ from system to system. This report does not aim to recommend a single specific solution; rather it presents a range of potential solutions that could be implemented alone or in combination, depending on the specific circumstances of a particular community. The solutions presented in this report could also be implemented in combination with solutions presented in the other pilot reports.

Implementation Process

The process of implementing a management or non-infrastructure solution is initiated when one or more entities decide to move forward in an effort to resolve their water or sewer system issues. From there, the system(s) can identify their needs and select the

best options for their specific situation.

The solutions identified in this report range in formality and levels of sharing, and the implementation process varies significantly for the various options. The communities can choose what level of sharing to implement depending on their needs and level of comfort with collaborating. Some considerations when implementing each of these types of solutions are discussed below.

Internal Changes

Internal changes can be implemented by the owning/governing entity. If the internal changes dictate the need for a rate change, public entities must go through a Proposition 218 process. The governance structure and decision making would remain unchanged.

Informal Cooperation

Informal cooperation requires no contracting of services and so each entity can still operate independently. Informal cooperation does not necessarily require an initial investment and can be initiated at any time. The key to the success of this alternative is the development of interpersonal relationships between the operators and/or personnel who will be involved in the partnership.

Contractual Assistance

Contractual assistance may take one of the following forms: contracting with private third parties to provide a specific service; contracting with a non-profit organization; or contracting with each other to share services and/or staff. In some situations, a group of local water systems may choose to jointly enter into a contract with a private entity to get a reduced rate from the private contractor. In this case, each entity would remain independent and would follow their individual Proposition 218 requirements. However, the contract would be drafted and agreed upon by all systems involved. This would require more time and legal service costs up front than if each water purveyor entered into a separate contract with the private operator, but has the potential to provide long term savings.

Contractual assistance may, alternatively, include contracting with a non-profit organization to operate a single or multiple systems. Similar to contracting with private third parties, the water or sewer provider could enter into a contract for services at any time with the non-profit organization. There would be some legal service costs associated with drafting and executing the contract.

Contracting between systems may include similar cooperation as with informal cooperation, but on a contractual level. It may also involve contracting for operations and maintenance with shared operators among the systems. This type of contract could be initiated at any time, but might require an initial investment for legal services to negotiate and prepare the contract. Since each entity is still separate, each entity would follow their individual Proposition 218 requirements, as necessary.

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Joint Powers Authority

A Joint Powers Authority could be created to provide a specific service(s) for the member agencies. Typically, JPAs would not impose charges directly to the customers, although there are situations where they do. Instead the arrangement is more often that the member entities charge fees of their respective customers and then pay into the JPA. This means that a Proposition 218 process would need to be run by each of the separate entities that are imposing their own fees. If fees are imposed by the JPA, the JPA would have to follow its own Proposition 218 process. Formation of a JPA would require an initial investment by the parties involved, and it would take time to negotiate terms and conditions, set up a Board of Directors, select executive officers, create a management structure, etc.

Ownership Transfer

There is also the option of full ownership transfer of multiple systems into one existing or newly created entity. The surviving entity may be a City if the smaller communities consolidate with a City, or it may be a special district, such as a Public Utility District (PUD) or Community Services District (CSD), either new or established. Alternatively, a special act district (see Types of Organizations definitions, Section 2.2.2) could be created, which would require approval through the State Legislature. Consolidation would take time and investment to develop, but it is consistent with State and Federal goals of creating more economies of scale and greater TMF capacity. This model provides the most efficient management structure by spreading costs among more customers, but does require significant initial investment. This also requires Local Agency Formation Commission (LAFCo) review and approval.

Example Projects/Case Studies

Many disadvantaged communities with water supply or water quality issues have applied for and received funding for improvements to mitigate their water supply and/or water quality problems. Many disadvantaged communities with wastewater issues have also applied for and received funding for sewer or wastewater treatment facility improvements. Various disadvantaged communities have implemented Management and Non-Infrastructure type solutions through funded projects, and many others have also implemented these types of solutions on their own. Local communities already demonstrating some of the solutions presented include: Pixley Public Utility District, Tipton Community Services District, and Woodville Public Utility District who share resources on an informal basis; Earlimart Public Utility District and Richgrove Community Services District who contract with the same distribution system operator; Porter Vista Public Utility District who contracts with the City of Porterville to provide sewer lift station maintenance as well as wastewater treatment; and Fairways Tract Mutual Water Company who consolidated their water supply and distribution system with the City of Porterville through annexation into the City. **Table A-2** in **Appendix A** presents a listing of some recently funded projects in the region.

Community Review Process

Two (2) pilot projects were selected from a list of multiple potential projects to evaluate the solutions presented in the report. Pilot Project #1 is the greater Porterville area, including East Porterville, Poplar and Williams (Cotton Center) and many other small communities surrounding Porterville. This study and community outreach effort was aimed at evaluating various partnership solutions. Pilot Project #2 is in the Western Fresno County area. This pilot study was contemplated to consider development of a training program/association to assist the water and wastewater systems in this region with both operations and leadership training. Pilot Project #2 is discussed herein, but was not included in the community review process.

Considerations for evaluation/community applicability criteria included:

- Distance between water/wastewater systems
- Common needs identified between systems
- Potential for larger regional effort (range of solutions including sharing/training/consolidation)
- Input from Pilot Project Stakeholder Advisory Group (PPSAG)

Prioritization considerations included:

- Politics – willingness of entities to work together to resolve common problems where there are common goals.
- Applicability of solution (see considerations for evaluation above)
- Severity of challenges with managing, operating, and financing the systems.
- Representation of other communities, *i.e.* the extent to which a like solution could be replicated in similar communities.
- Sustainability – ability to implement a physically and financially sustainable solution.

For this process, community review meetings were conducted to ground-truth ideas, to learn about what the residents in the community review focus area need and want, and to assess what they think of the proposed solutions within the draft pilot study. In general, participants were open to consider any of the solutions presented, if it meant they would have safe, reliable, and affordable drinking water, and quality service. One of the concerns that were brought up is that the management and non-infrastructure solutions would not directly improve their water quality. A new source or technical solution may be required, however a management and non-infrastructure solution may make one of the other solutions more feasible for the community.

Summary of Findings

In the Porterville focus area, approximately 23 water systems were invited to participate. Representatives from about 8 communities and the City of Porterville attended the first meeting, and representatives from 5 communities (Woodville PUD, Ducor CSD, Poplar CSD, Grandview Gardens, and E Plano), as well as a representative from the City of Porterville, Kings Basin Integrated Regional Water Management Authority (IRWMA) and the United Farmworkers Foundation attended the second meeting. Participants from the

participating communities included operators, board members, and residents.

Those who participated in the Porterville focus area meetings were open to considering the solutions presented in this report. They shared a common desire to get safe, affordable drinking water, and if the solution could help them achieve that, they would be satisfied. One of the main takeaways from our meetings was that there is a big need for education and training for operators, managers, board members, and residents. This includes formal training programs, presentation and discussion of successful case studies, education of available solutions, and engagement from the community, as well as educating the various stakeholders as to the roles they can play in the process.

Funding Opportunities

State regulators and funders can begin encouraging partnerships by providing educational material as well as funding opportunities. Funding opportunities and proposed drinking water legislation are presented in this report. Some of the traditional drinking water funding programs include the Safe Drinking Water State Revolving Fund (SDWSRF), Proposition 50, Proposition 84, Department of Water Resources (DWR) Integrated Regional Water Management Program (IRWM), Community Development Block Grant Program (CDBG), and United States Department of Agriculture (USDA) Rural Development. Some wastewater funding opportunities include the Clean Water State Revolving Fund (CWSRF), the Small Community Wastewater Grant program (SCWG), Community Development Block Grant Program (CDBG), and United States Department of Agriculture (USDA) Rural Development.

Obstacles and Barriers

Communities have identified and worked through obstacles to implementing a partnership solution. Based on the community review process in the Porterville focus area, the general consensus was that if a solution would provide the community with safe and affordable drinking water and good service, they would be willing to consider any of the solutions presented. However, some of the potential obstacles that have been identified include:

- Disadvantaged community water and/or wastewater systems lack the technical expertise, struggle to operate and maintain their systems, and often lack the resources to engage with other entities. Also, the difficulty DACs have with effectively operating and maintaining their systems can be viewed as a liability when attempting to develop relationships with other entities.
- Consolidation may result in a loss of identity for a local community. However, it is recommended that community residents weigh the ability to sustain a clean, reliable, and affordable water supply against what may be only a *perceived* loss of independence or identity. There are other community services that have already been consolidated such as schools, transit, senior citizens services, etc. With this in mind, it is important that local communities be given the opportunity to be involved and represented when decisions are made regarding their water

and wastewater systems.

- A system that consolidates other systems into its service area may absorb those acquired systems' debts. However, they may also acquire assets. The systems that have debts may have newer or up-to-date infrastructure, and so there could be a balance between liabilities and assets.
- The initial costs associated with holding meetings and discussing partnership solutions, soliciting community involvement, and other associated tasks may be a barrier. However, it may be possible for the region to receive help to facilitate the process.
- Local political barriers can be significant, but as mentioned above, cooperation and sharing of resources may allow the communities involved the ability to sustain a clean, reliable, and affordable water supply.
- Management goals of multiple systems may conflict. This will take additional efforts to coordinate and develop a management structure for the consolidated entity.

In trying to overcome these obstacles and barriers, it is important that the entities involved are encouraged to focus on the common need they are trying to resolve. The long term health and wellbeing of the residents within the region should be the primary goal, and should outweigh the other obstacles and barriers that may inhibit the communities from working together.

Sustainability of Program

Long term planning is critical to the success and sustainability of any system. Communities need to ensure that the solution to be implemented is sustainable. Some key steps that may be taken to improve the sustainability of the implemented program include leadership development, community involvement and community buy-in and long-term affordability.

Recommendations

For communities that are interested in pursuing one of the management and non-infrastructure solutions presented, additional action is recommended. To implement these solutions, the communities should work on the following:

- Seek funding to conduct a Feasibility Study to evaluate partnership solution alternatives
- Conduct a community survey of the customers, owners, and elected officials to understand their interests and needs
- Share data on budget, finances, etc., across communities involved
- Prepare a TMF Assessment of all communities involved
- Retain legal counsel to evaluate the available forms of governance and how a

different form of governance may change the responsibilities of an agency (if governance structure will be changed)

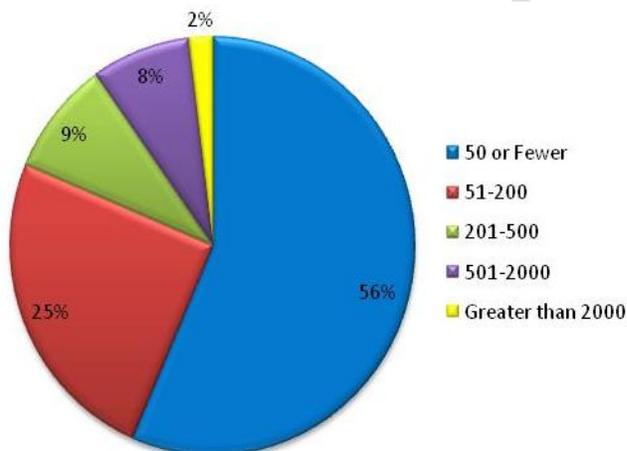
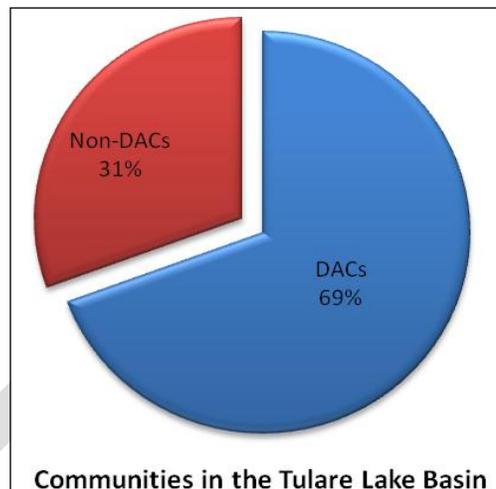
- Retain an accounting professional to evaluate the financial health of each agency and the feasibility of consolidating finances (if applicable)
- If full consolidation or ownership transfer is not the selected path, consider developing a shared services agreement (contractual assistance) for professional services (legal, engineering, accounting)
- Include funding and possibly consultant support for the feasibility study process to conduct public education and outreach

There will also be policy issues and recommendations that will be developed as part of this pilot, as well as for the overall Tulare Lake Basin DAC study.

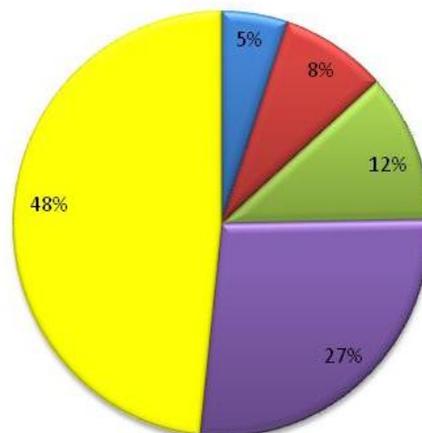
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1 INTRODUCTION

Approximately 370 of 533 identified small communities within the Tulare Lake Basin are disadvantaged or severely disadvantaged. The estimated population within these 370 communities is about 284,000. The water and sewer systems in these unincorporated communities throughout the Tulare Lake Basin vary in size, from those with individual water wells and onsite septic tank systems, to community systems serving more than 2,000 connections. The majority (81%) of the communities range in size from 15 to 200 connections, although a large percentage (87%) of the overall population lives in communities with greater than 200 connections. The number of connections as discussed in this pilot study is generally based on water system connections, since only about ten percent of the disadvantaged communities (DACs) in the Study Area have community wastewater collection and treatment systems.



Disadvantaged Communities in the Tulare Lake Basin
Number of Communities by Size



Disadvantaged Communities in the Tulare Lake Basin
Population by Community Size

These communities suffer from a variety of source water issues, including insufficient supply, unreliable water system infrastructure, and poor water quality. A source water quality issue, as defined in this report, is considered to be a single primary maximum contaminant level (MCL) exceedance within the three year period from 2008 through 2010. This does not necessarily constitute a violation, but is an indication that the system may be in danger of violating in the future and should be further evaluated. This simple approach was used to get a better understanding of where identified issues were present based on geography, community size, and other factors. Exceedance of maximum contaminant levels for arsenic, nitrates, and uranium are common in the Tulare Lake Basin region (study area), as shown in **Table A-1** in **Appendix A**.

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Insufficient water supply, as discussed in this report, is considered to be a water system with only one (1) active water supply well (e.g., no backup source). Communities with surface water as their single source of supply can also be vulnerable depending on the reliability of the surface water source and backup systems integrated into the water treatment plant.

Many disadvantaged communities with water supply or water quality issues have applied for and received funding for improvements to mitigate their water supply and/or water quality problems. **Table A-2** in **Appendix A** presents a listing of some recently funded projects. Systems that have received funding for water system improvements are usually on their way to resolving their water supply issues. While there are cases where the funded improvements resolve some, but not all of the system's water supply issues, a given funded project should be on the path toward the goal of delivering safe and sufficient potable water for a water system. Some communities lack the technical, managerial and financial (TMF) abilities to operate and maintain a new system or upgraded system, and, as such, may not be eligible to receive funding for construction. In these situations, a treatment solution or new water source solution may not be feasible without addressing the TMF issues. This pilot report aims to identify various Management and Non-Infrastructure solutions that can be considered which may alleviate some of the ongoing problems. It should also be noted that the management and non-infrastructure solutions presented herein can be implemented to improve system efficiency and affordability, regardless of whether a water supply or quality issue exists, and regardless of whether an upgrade to the system is needed. This report is one of four pilot reports as part of the Tulare Lake Basin DAC Study. The other three pilot studies include New Source Development, Technical Solutions, and Individual Household Treatment.

In addition to the source water issues faced by DACs in the Study Area, many communities also face issues with their wastewater. Wastewater challenges include reliance on septic systems that may be failing or are potentially contaminating the groundwater, failing or insufficient sewer collection systems, or wastewater treatment systems that are not capable of meeting the limitations set forth in the facility's Waste Discharge Requirements (WDRs). Wastewater treatment technologies are discussed in the Technical Solutions Pilot Project, and individual septic system considerations are addressed in the Individual Households Pilot Project. However, several of the management and non-infrastructure solutions presented in this report could benefit both water and wastewater systems. In fact, those communities that currently have either a community water system or wastewater system, but not both, could potentially benefit by increasing the number of services provided through both water and wastewater service, creating a better economy of scale.

The management and non-infrastructure solutions that are presented in this pilot report include:

- Internal Changes
- Informal Cooperation

SECTION ONE**SOLUTIONS PILOT STUDY**

- Contractual Assistance
- Joint Powers Authority
- Ownership Transfer
- County Operation of Multiple Zones of Benefit or County Service Areas
- Regional Association Focusing on Sharing of Information
- Combinations of One or More Solutions

Internal Changes

Internal changes are the modifications that can be made within an entity to reduce costs, improve service delivery, and/or improve efficiency. Some of the internal changes that may be considered include: assessing the existing rate structure to determine if adjustments to the user charges are appropriate; assessing the existing budget, financials, and reserves to determine if adjustments are necessary; and evaluating the existing management structure to see if changes to the structure may benefit the sustainability of the entity.

Informal Cooperation

Informal cooperation can involve two or more entities working together in a mutual aid arrangement, without contractual obligations. By sharing equipment, bulk supply purchases, backup operation and maintenance personnel, sampling and testing services, billing services, or similar items or services, the cooperating communities can reduce some of their individual expenses without the need for a formal agreement.

Contractual Assistance

Contractual assistance may take one of the following forms: contracting with private third parties to provide a specific service; contracting with a non-profit organization; or contracting with each other to share services and/or staff. In some situations, a group of local water systems may choose to jointly enter into a contract with a private entity to get a reduced rate from the private contractor. In this case, each entity would remain independent and would follow their individual Proposition 218 requirements. However, the contract would be drafted and agreed upon by all systems involved. This would require more time and legal service costs up front than if each water purveyor entered into a separate contract with the private operator, but has the potential to provide long term savings.

Contractual assistance may, alternatively, include contracting with a non-profit organization to operate a single or multiple systems. Similar to contracting with private third parties, the water or sewer provider could enter into a contract for services at any time with the non-profit organization. There would be some legal service costs associated with drafting and executing the contract.

Contracting between systems may include similar cooperation as with informal cooperation, but on a contractual level. It may also involve contracting for operations

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and maintenance with shared operators among the systems. This type of contract could be initiated at any time, but might require an initial investment for legal services to negotiate and prepare the contract. Since each entity is still separate, each entity would follow their individual Proposition 218 requirements, as necessary.

There are various options with each of these types of contractual assistance, as is discussed in this report.

Joint Powers Authority

A Joint Powers Authority can involve the creation of a new entity by several existing entities, which allows each of the member agencies to continue to exist as independent entities. Inter-agency contracts are most likely be in the form of a Joint Powers Agreement that can form a Joint Powers Authority (JPA). The new entity formed through the inter-agency contract provides one or more services for all participating entities; however the remaining services of each entity remain the responsibility of the individual agency. For example, the JPA may create a shared system management structure, while each participating entity continues to operate its own system.

Ownership Transfer

Ownership transfer involves full consolidation of multiple systems into one existing or newly created entity. The surviving entity may be a City if the smaller communities consolidate with a City, or it may be a special district, such as a Public Utility District (PUD) or Community Services District (CSD), either new or established. Alternatively, a special act district (see Types of Organizations definitions, Section 2.2.2) could be created, which would require approval through the State Legislature. Consolidation would take time and investment to develop, but it is consistent with State and Federal goals of creating more economies of scale and greater TMF capacity. This model provides the most efficient management structure by spreading costs among more customers, but does require significant initial investment. This also requires Local Agency Formation Commission (LAFCo) review and approval.

This report will discuss both forms of consolidation; however this Management and Non-Infrastructure pilot study will focus on the governance structure and the physical interconnection will be discussed further in the New Source Development pilot study.

County Operation of Multiple Zones of Benefit or County Service Areas

County operation of multiple Zones of Benefit (ZOBs) or County Service Areas (CSAs) is another type of solution. County staff or contractors may be utilized to provide management or operation services within multiple ZOBs or CSAs. Many counties already manage ZOBs and/or CSAs within their jurisdictions. If a County has an efficient model in place to operate these service areas, or is willing to implement such a model, it could benefit many unincorporated communities by leveraging its considerable economy of scale and expertise.

Regional Association

A regional association focusing on sharing information can support and augment other solutions. The regional association would be a voluntary, independent association whose main objective would be to act as a clearinghouse of information, materials, and resources to those entities that choose to be a part of the association. Existing entities can continue to exist and function independently. Community members and entity leaders, staff and other interested parties can be potential members of this regional association. Included in this association, or as a separate program, could be training and education courses, including both leadership development and operator training programs.

Combinations of One or More Solutions

Any one or a combination of two or more of the solutions discussed here can be implemented. Each community is unique, and therefore the most appropriate or most beneficial solution or solution set will differ from system to system. This report does not aim to recommend a single specific solution; rather it presents a range of potential solutions that could be implemented alone or in combination, depending on the specific circumstances of a particular community.

This report describes potential alternative management and non-infrastructure solutions, the implementation process for each solution, as well as several example projects that have been implemented, demonstrating the result of these solutions. Some potential projects or regions within the Tulare Lake Basin study area are also identified, for which further vetting and evaluation will be required. Additionally, this report discusses funding opportunities, the sustainability of the solutions identified, operation and maintenance impacts associated with implementation of the solutions, as well as obstacles and barriers that need to be overcome to implement the solutions.

2 BACKGROUND

The Safe Drinking Water Act was originally passed by Congress in 1974 and amended in 1986 and 1996, to protect public health by regulating the nation's public drinking water supply. The Safe Drinking Water Act affects every public water system (PWS) in the United States. It is noted that any supplier delivering water for human consumption to less than 15 service connections or less than 25 regularly served persons is not considered to be a PWS, as defined by the Safe Drinking Water Act. The key provisions of the Safe Drinking Water Act are the National Primary Drinking Water Regulations, which are national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. Early on, the Safe Drinking Water Act primarily focused on treatment as a means of protecting drinking water, but in 1996 the Act was amended to include source water protection, operator training, funding for water system improvements, and public information as important components of protection.

Compliance with the Safe Drinking Water Act at the federal and state levels requires public water systems, regardless of size, to have (1) adequate and reliable sources of water that either are or can be made safe for human consumption; and (2) the financial resources and technical ability to provide services effectively, reliably, and safely for workers, customers, and the environment. Small public water systems must meet the same requirements as larger utilities, but with fewer financial resources available to them due to their smaller customer base. The ability of users to cover system costs is further reduced in disadvantaged communities where household incomes are further limited, resulting in an increased challenge in meeting the financial resources requirement. Federal and state programs do provide these small public water systems with extra assistance, such as training and technical assistance, but operational subsidies are almost nonexistent and many small and disadvantaged community water systems continue to struggle to remain in compliance.

A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 year long residents of the area served by the system are considered by CDPH as Community Water Systems (CWS), and are regulated either by CDPH or the Local Primacy Agency (LPA). The EPA has designated CDPH as the Primacy Agency responsible for the administration and enforcement of the Safe Drinking Water Act (SDWA) requirements in California. CDPH has adopted statutes and regulations to implement the requirements of the SDWA. CDPH has regulatory responsibility over water systems including tasks such as issuance of operating permits, conducting inspections, monitoring for compliance with regulations and taking enforcement action to compel compliance when violations are identified.

CDPH has delegated the drinking water program regulatory authority for small public water systems serving less than 200 service connections to 35 counties in California. The delegated counties (Local Primacy Agencies or LPAs) are responsible for regulating approximately 4,000 small public water systems statewide. CDPH retains the

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regulatory authority over water systems serving 200 or more service connections and any small water systems not delegated to an LPA.

Tulare County and Kings County are the Local Primacy Agencies under the State Department of Public Health in monitoring compliance for and in enforcing EPA's Safe Drinking Water Act in those counties. Communities in Tulare County with less than 200 connections are therefore monitored by the Tulare County Health & Human Services Agency, Environmental Health Division. In Kings County the County Department of Public Health Environmental Health Services Division provides this service.

In Fresno and Kern Counties, CDPH maintains responsibility for regulating small public water systems.

2.1 Water Quality and Supply Issues

There are approximately 370 disadvantaged communities (DACs) within the Tulare Lake Basin study area. Of these 370 DACs, approximately 206 are severely disadvantaged communities (SDACs). The water systems within these communities face challenges related to the quality of their water and/or the number of supply sources available. The water quality primary MCL exceedances reported include coliform bacteria, arsenic, nitrate, uranium, fluoride, DBCP, perchlorate, PCB, and disinfection by-products such as trihalomethanes. Based on the database information collected and analyzed, arsenic, nitrate, and uranium are the contaminants of greatest concern in the region. Coliform exceedances are also common, but coliform is readily treatable as discussed and documented in the Technical Solutions pilot study.

Approximately 117 out of the 370 DACs in the region reported at least one water quality exceedance between 2008 and 2010. A single exceedance does not always constitute a violation, but does indicate a potential issue. A breakdown of the water quality exceedances by contaminant is presented in the Technical Solutions pilot study. Limited reliable water supply is also a concern within the region, since many communities only have a single source of water supply, usually from groundwater. The communities with the various water supply and quality issues are illustrated on the maps shown as **Figures B-5** through **B-8**, included in **Appendix B**. As noted, these systems are not all in violation of water quality standards. A list of compliance orders for the Fresno, Visalia and Tehachapi Districts of CDPH are presented in **Appendix F**.

Information that was prepared or provided by others was relied on to develop and analyze the types of problems that exist, as well as to develop potential solutions. The database is a collection of data from PolicyLink, CDPH, Self Help Enterprises, County of Fresno, and County of Tulare, as well as other sources, which has been reviewed to evaluate the pollutant water quality and supply source issues in the Study Area. This is the best available data, but it is not a complete and comprehensive database of all water supply systems in the Study Area, and as such should be considered a work in progress for future updating. It is likely that there are systems with water quality problems that have not been specifically identified because water quality data for those systems are sometimes contained within individual reports and are difficult to track.

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Very small water systems (15 connections and less) are likely to have the most limitations in data availability. Their problem types, however, will fall within the family of problems identified to exist for other communities in the database. Very small water systems and individual household systems are discussed in the Individual Households pilot study.

There are also some emerging contaminants of concern that will be discussed in the Technical Solutions pilot study. The solutions presented in this Management and Non-Infrastructure pilot can be of benefit to all communities, regardless of the water quality contaminants involved. The contaminants of most imminent concern are Hexavalent Chromium (Chrome-6) and 1,2,3-Trichloropropane (TCP). CDPH published a draft regulation for Chrome-6 in August 2013. The proposed maximum contaminant level (MCL) is 10 parts per billion (ppb). CDPH has also developed a public health goal for TCP and is in the process of developing an MCL. It is anticipated that many of the DACs within the Tulare Lake Basin will be impacted by implementation of MCLs for Chrome-6 and TCP, and they could be expensive problems to mitigate.

2.2 Definitions

2.2.1 Definition of Water Systems

The following are definitions from Title 22 California Code of Regulations, related to various categories of water systems. The emphasis of this study is on small water systems, state small water systems, and community water systems. Non-community water systems, non-transient non-community water systems, and transient non-community water systems do exist within the study area, but are not a focus of this pilot study. A decision tree, published by the California Department of Public Health, illustrating the classification of water systems as defined below, is presented as **Figure 2-1**. The decision tree provides a visual depiction of the terms defined herein.

Constructed Conveyances: Any manmade conduit such as ditches, culverts, waterways, flumes, mine drains or canals.

Community Water System (CWS): A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 year long residents of the area served by the system.

Non-Community Water System (NCWS): A public water system that is not a community water system. A NCWS can serve either a transient or a non-transient population (see *Non-Transient Non-Community Water System* and *Transient Non-Community Water System*)

Non-Transient Non-Community Water System (NTNC): A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year. This may include local schools or hospitals with their own water system.

Public Water System (PWS): A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more

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service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

Small Water System (SWS): A community water system, except those serving 200 or more service connections, or any non-community or non-transient non-community water system.

*It is noted that the U.S. Environmental Protection Agency (EPA) uses a different definition for small public water systems as follows: Public water systems with fewer than 1,000 service connections and a population served of less than 3,300.

State Small Water System (SSWS): A system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

Transient Non-Community Water System (TNC): A non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

2.2.2 Types of Organizations

Community Services District (CSD): A community services district is an entity formed by residents of an unincorporated community, which is authorized to provide a wide variety of services, including water, garbage collection, wastewater management, security, fire protection, public recreation, street lighting, ambulance services, and graffiti abatement. A CSD may span unincorporated areas of multiple cities and/or counties. A CSD may form bonds, or form an improvement district for the purpose of issuing bonds, as any City or County might do. Any bond issuance or other long-term debt will require a 2/3rds majority approval of registered voters residing within the CSD.

County Service Area (CSA): The County Service Area Law created in the 1950's allows residents or county supervisors to initiate the formation of a County Service Area. A CSA is authorized to provide a wide variety of services, including extended police protection, fire protection, park and recreation facilities, libraries, low power television and translation facilities and services. CSAs also may provide other basic services such as water service and garbage collection if they are not already performed on a countywide basis. A CSA may span all unincorporated areas of a county or only selected portions.

County Water District (CWD): This type of district establishes rules and regulations for the sale, distribution, and use of water. The district also stores and conserves water for present or future beneficial use, and is authorized to run recreational facilities, sanitation facilities, and fire protection.

Joint Powers Agency/Authority (JPA): The Joint Exercise of Powers Act allows public agencies, ranging from federal government to the smallest special district, to enter into an agreement with each other to jointly exercise a common power.

Mutual Water Company (MWC): A mutual water company is a privately owned, public utility, regulated by the California Public Utilities Commission (CPUC). MWCs are most

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commonly formed as general corporations or as nonprofit mutual benefit corporations, although other structures are sometimes used for tax or other reasons.

Principal Act: The principal act of a special district is the law that enables a district of that type to form and gives it authority to operate. Each special district type (for example, flood control, public utilities, or community services districts) has its own principal act. (See *Special Act definition*)

Public Utility District (PUD): This district type maintains the infrastructure for public service and provides public utility service such as electricity, natural gas, sewer, waste collection, wholesale telecommunications, water, etc., to the residents of that district.

Special Act: Special acts are laws that the Legislature passes to address the specific needs of a community and establishes a district to address those needs. These specific districts (rather than district types) are uniquely created by the Legislature. (See *Principal Act definition*)

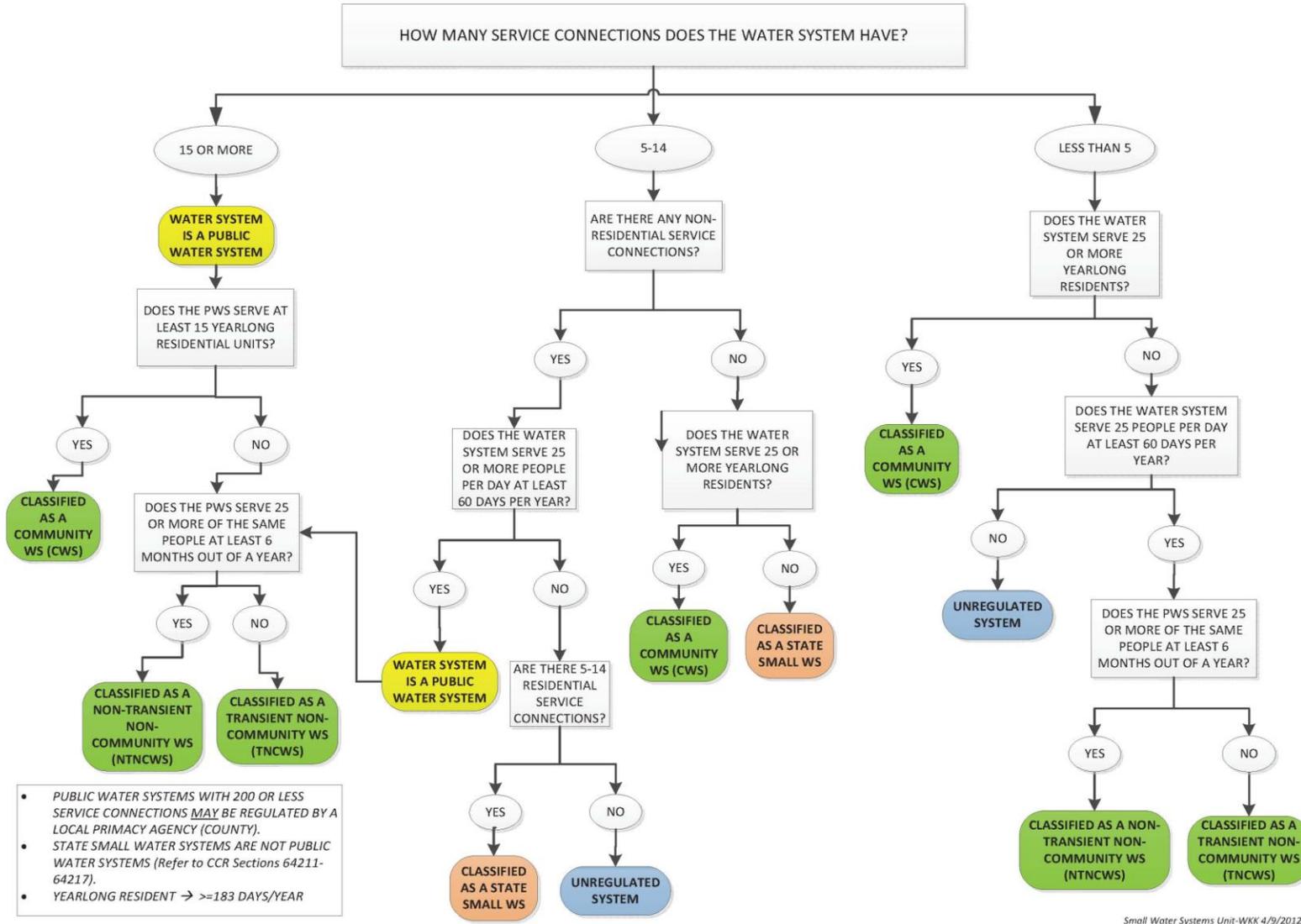
Special District: Special districts are a form of local government created by a local community to meet a specific need (for example water or sewer service). When residents or landowners want new services or higher levels of existing services, they can form a district to pay for and administer those services.

Water District (WD): A water district is a district that performs at least one of three specific duties: water delivery, waste disposal (sanitation), and flood control and water conservation. A water special district can be created either by forming under a general water district act or through a special act of the Legislature.

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Figure 2-1. Decision Tree for Classification of Water Systems (CDPH)

DECISION TREE FOR CLASSIFICATION OF WATER SYSTEMS



Small Water Systems Unit-WKK 4/9/2012

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2.2.3 Other Definitions

Affordability Level: CDPH considers 1.5% of the Median Household Income (MHI) as the affordability level for water service for disadvantaged communities. At a DAC MHI of \$40,000, this would equate to \$600 per year, or \$50 per month. At a SDAC MHI of \$30,000, this would equate to \$450, or \$37.50 per month.

Affordability thresholds set by other organizations and used in other studies range from 1.5% of the MHI to 3% of the MHI. For the purposes of this report, a threshold of 1.5% of the MHI is used.

Disadvantaged Community (DAC): A community whose median household income is 80 percent or less of the statewide median household income. For the purposes of this study, the American Community Survey (ACS) for 2006-2010 was used. The California Median Household Income (MHI) for 2006-2010 was \$60,883. A DAC is therefore a community whose MHI for the 2006-2010 ACS dataset is \$48,706 or less.

Economy of Scale: The increased efficiencies inherent in providing services or delivering products by increasing the number of units over which the fixed costs are spread. Often operational efficiency is improved with increasing scale, leading to lower variable and overall costs.

Local Agency Formation Commission (LAFCo): A local agency formation Commission (LAFCo) is an independent commission working within the boundaries of each county to help control the borders of cities and special districts, to discourage sprawl and encourage orderly government. The Knox-Nisbet Act of 1963 established LAFCo's in law. There is a list of 14 factors that LAFCo's consider when conducting any of the nine boundary changes. As part of this effort, LAFCo's conduct sphere of influence assessments and municipal service reviews.

Non-Profit or Not-for-Profit: An entity that is exempt from taxes under United States Internal Revenue Code Section 501(c), 26 U.S.C. 501(c).

Proposition 218: Proposition 218, officially titled the "Right to Vote on Taxes Act", was approved by California voters in 1996. It established additional substantive and procedural requirements and limitations on new and increased taxes, assessments, and property related fees and charges. When referred to in this Report, Proposition 218 refers to the requirements associated with changes to fees and charges imposed by an agency for water or sewer service (water/sewer rates). Prior to adopting or increasing a property-related fee or charge subject to Proposition 218 (such as a water or sewer rate increase), the agency must conduct a public hearing at which property owners can protest the rate change. The hearing must be held at least 45 days after the mailing of the notice of the proposed fee or change to record property owners. At the hearing, the agency must consider all protests against the proposed fee or charge; however, when evaluating whether the number of protests defeats the imposition or increase of the fee or charge, only written protests are counted. "If written protests against the proposed fee or charge are presented by a majority of owners of the identified parcels, the agency shall not impose the fee or charge." (California Constitution, Article XIID, § 6,

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Subdivision (a), Part (2).) If a majority (50% plus one) of owners or renters (utility rate payers) do not submit a written protest, the fee or charge proposed can be imposed.

Receivership: Whenever the [State Department of Public Health] determines that any public water system is unable or unwilling to adequately serve its users, has been actually or effectively abandoned by its owners, or is unresponsive to the rules or order of the department, the department may petition the superior court of the county within which the system has its principal office or place of business for the appointment of a receiver to assume possession of its property and to operate its system upon such terms and conditions as the court shall prescribe. The court may require, as a condition to the appointment of the receiver, that a sufficient bond be given by the receiver and be conditioned upon compliance with the orders of the court and the department, and the protection of all property rights involved. The court may provide, as a condition of its order, that the receiver appointed pursuant to the order shall not be held personally liable for any good faith, reasonable effort to assume possession of, and to operate, the system in compliance with the order (California Statutes Related to Drinking Water, Health & Safety Code, Division 104, Part 12, Chapter 4, Article 9, §116665).

Severely Disadvantaged Community (SDAC): A community whose median household income is 60 percent or less of the statewide median household income. For the purposes of this study, the American Community Survey for 2006-2010 was used. The California Median Household Income (MHI) for 2006-2010 was \$60,883. A SDAC is therefore a community whose MHI is \$36,530 or less, per the 2006-2010 ACS dataset.

Operator Certification Levels (Distribution System Operators: D1-D5; Treatment Plant Operators: T1-T5)

Operator certification helps protect human health and the environment by establishing minimum professional standards for the operation and maintenance of public water systems. In 1999, EPA issued operator certification program guidelines specifying minimum standards for certification and recertification of the operators of community and non-transient non-community public water systems. These guidelines are implemented through State operator certification programs.

The California Regulations Related to Drinking Water, Title 22 Code of Regulations, Chapter 15 Domestic Water Quality and Monitoring Regulations, Article 2 General Requirements describes the classification of water treatment facilities and distribution systems.

Water treatment facilities are classified pursuant to Table 64412.1-A of the California Code of Regulations.

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Table 2-1. California Code of Regulations Table 64413.1-A - Water Treatment Facility Class Designations

<i>Total Points</i>	<i>Class</i>
Less than 20	T1
20 through 39	T2
40 through 59	T3
60 through 79	T4
80 or more	T5

The calculation of total points for a water treatment facility is described in the California Code of Regulations, and depends on the water source, water quality, and treatment method.

Distribution systems are classified pursuant to Table 64413.3-A of the California Code of Regulations.

Table 2-2. California Code of Regulations Table 64413.3-A - Distribution System Classifications

<i>Population Served</i>	<i>Class</i>
1,000 or less	D1
1,001 through 10,000	D2
10,001 through 50,000	D3
50,001 through 5 million	D4
Greater than 5 million	D5

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2.3 Community Characteristics

The Management and Non-Infrastructure Solutions pilot study documents organizational issues with small communities and delivery of water and sewer services to the residents of those communities. Water systems are emphasized in this report, but all of the solution sets discussed are applicable for either or both water and sewer systems. Communities are grouped by size as follows: 50 connections or less, 51 to 200 connections, 201 to 500 connections, 501 to 2,000 connections, and greater than 2,000 connections. In general, the number of connections refers to the number of water system connections. These ranges were chosen to look for operational correlation that might be dependent on community size. This section includes general assumptions related to communities of various sizes. **Table 2-3** summarizes the number of communities in each size range within the Tulare Lake Basin. This table includes the total number of communities in each category, as well as the number owned by a public agency (versus those that are privately owned). The publicly owned systems are separated out in this table to illustrate that smaller systems are most often privately owned, while the larger systems are increasingly publicly owned systems, as shown in **Figure 2-2**. This is important because most funding sources are available only to publicly owned systems.

Table 2-3. Community Size Ranges

Community Size Range (connections)	Number of Communities		Number of Connections/Dwellings		Population	
	Total	Owned by Public Agency	Total	Owned by Public Agency	Total	Owned by Public Agency
50 or Fewer	209	7	4,533	213	15,358	869
51 through 200	92	12	9,111	1,387	28,757	4,493
201 through 500	33	16	10,633	5,245	31,293	18,218
501 through 2,000	29	18	29,232	16,415	88,302	55,738
Greater than 2,000	7	5	37,068	24,255	120,669	78,671
Total	370	58	90,577	47,515	284,379	157,989

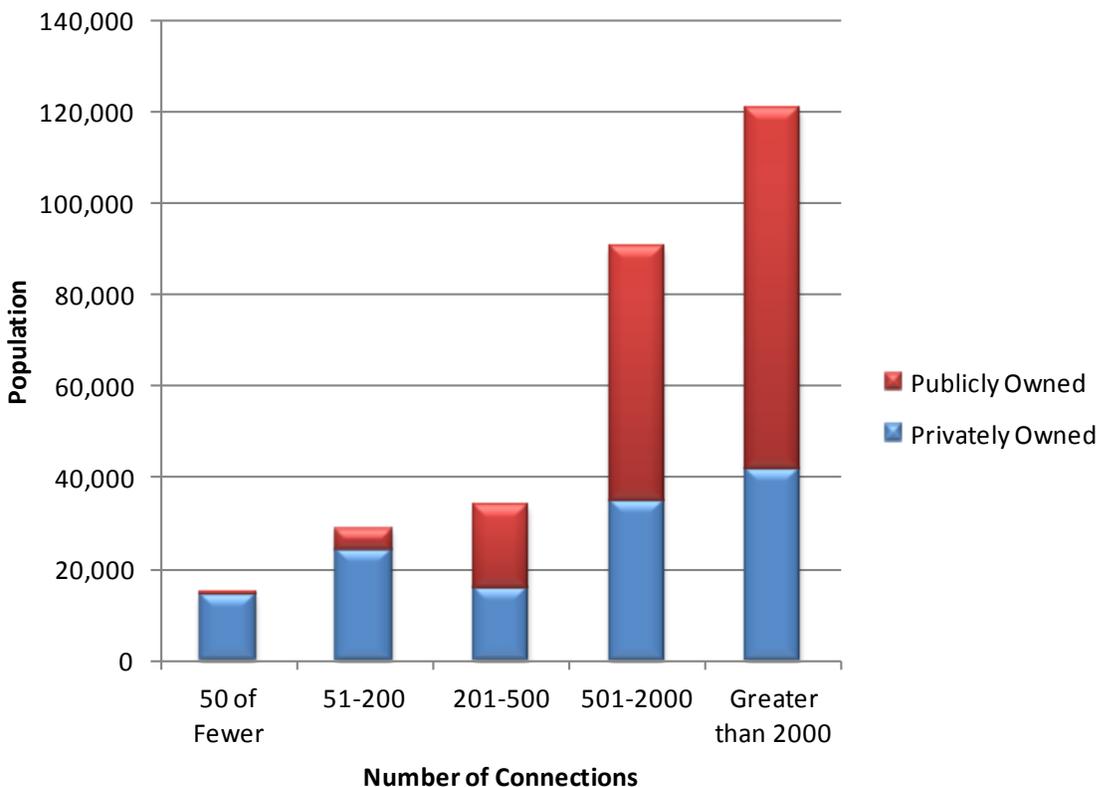


Figure 2-2. Disadvantaged Communities by Community Size

A summary of community characteristics for a representative selection of the communities studied is presented in **Table 2-4**. A selection of community profile descriptions are provided in **Appendix C**.

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Table 2-4. Summary of Community Characteristics

Name of Community	County	Population	Number of Connections	Water Source (GW/SW)	Community Water (Y/N)	Community Sewer (Y/N)	Ownership (Public/Private)	MHI ^{2,3} (DAC/SDAC)
50 or Fewer Connections								
Camden Trailer Park	Fresno	100	25	GW	Y	N	Private	\$25,982 (SDAC)
Mettler CWD	Kern	157	42	GW	Y	N	Private	\$28,000 (SDAC)
Lemoore MHP	Kings	125	38	GW	Y	N	Private	\$37,303 (DAC)
Central Mutual Water Co.	Tulare	115	23	GW	Y	N	Private	\$33,271 (SDAC)
51 to 200 Connections								
Lanare CSD ¹	Fresno	600	169	GW	Y	N	Private	\$26,375 (SDAC)
Raisin City (Fresno CSA#43)	Fresno	350	60	GW	Y	N	Public	\$24,167 (SDAC)
Athal	Kern	150	62	GW	Y	N	Private	\$27,465 (SDAC)
Lost Hills	Kern	1,991	434	GW	Y	Y	Private	\$31,875 (SDAC)
El Dorado MHP	Kings	297	90	GW	Y	N	Private	\$28,757 (SDAC)
Allensworth CSD	Tulare	471	119	GW	Y	N	Public	\$22,625 (SDAC)
Yettem (Tulare Co. RMA)	Tulare	350	64	GW	Y	Y	Public	\$31,736 (SDAC)
201 to 500 Connections								
Biola CSD	Fresno	749	206	GW	Y	Y	Public	\$32,667 (SDAC)
Del Rey CSD	Fresno	950	240	GW	Y	Y	Public	\$26,458 (SDAC)
Buttonwillow CWD	Kern	1,266	472	GW	Y	Y	Public	\$28,370 (SDAC)
Kettleman City CSD	Kings	1,439	366	GW	Y	Y	Public	\$25,988 (SDAC)
Stratford PUD	Kings	1,215	240	GW	Y	Y	Public	\$29,205 (SDAC)
Alpaugh CSD	Tulare	1,026	360	GW	Y	N	Public	\$24,688 (SDAC)
Plainview MWC	Tulare	945	240	GW	Y	N	Private	\$15,500 ⁴ (SDAC)
501 to 2000 Connections								
Caruthers CSD	Fresno	2,103	672	GW	Y	Y	Public	\$29,750 (SDAC)
Riverdale PUD	Fresno	3,000	930	GW	Y	Y	Public	\$29,886 (SDAC)
Armona CSD	Kings	3,239	1,179	GW	Y	Y	Public	\$32,790 (SDAC)
Pixley PUD	Tulare	3,310	800	GW	Y	Y	Public	\$35,759 (SDAC)
Richgrove CSD	Tulare	2,882	600	GW	Y	Y	Public	\$28,261 (SDAC)
Greater than 2000 Connections								
Lamont PUD	Kern	15,120	3,500	GW	Y	Y	Public	\$33,799 (SDAC)
East Niles CSD	Kern	24,900	7,338	GW/SW	Y	Y	Public	\$47,663 (DAC)

1. Lanare CSD's water system was placed into receivership by CDPH in 2010.
2. California Median Annual Household Income = \$60,883 (American Community Survey 2006-2010); DAC =< \$48,706; SDAC =< \$36,530.
3. MHI for each community is generally based on American Community Survey 2006-2010 data.
4. MHI is based on community survey results. The American Community Survey MHI was not deemed accurate for this community, so a community survey was conducted.

2.3.1 Communities with 50 or Fewer Connections

The majority of communities in the Study Area with fewer than 50 connections have privately owned water systems (approximately 97%). Water systems of fewer than 15 connections are all privately owned (within the Tulare Lake Basin Study Area), and are usually run by one individual, often one of the property owners using the system, with minor maintenance done by that property owner. When there is a major maintenance issue that needs to be addressed, the responsible owner of the system will often call whoever they know, who can fix the problem, sometimes a qualified contractor, but not necessarily. Experience has generally shown that systems of 6 connections or less have an easier time working out issues between neighbors as problems arise. Systems between 7 and 15 connections, based on experience, tend to have more difficulty resolving issues. This makes sense because consensus is harder to reach as a group gets larger. General operations are commonly carried out by unpaid volunteers.

Typically for these very small systems, the system owner collects money for expenses. Engineers and legal representatives rarely get involved. If they do, there may be a critical issue to resolve and the system may be in crisis mode. Many of these small entities are very difficult to operate on a sustainable basis. It is difficult for these small entities to budget even for basic expenses, including insurance which can protect the owner(s) from liabilities. It can be virtually impossible for entities of this size to budget sufficient funds to cope with large-scale emergencies or capital improvements.

Systems of 15 connections or more are considered by CDPH as Community Water Systems (CWS), and are regulated either by CDPH or the Local Primacy Agency. CWSs with fewer than about 50 connections are still limited due to lack of resources and economies of scale. As with the very small systems (14 connections or less), there is often a need for volunteerism to keep the system running and rates as affordable as possible.

The presence of volunteerism can lead to the perception that systems of this size can be viable from a water rate perspective, but this is misleading because having a volunteer manage or operate the system does have unaccounted-for costs associated with that volunteer's time and resources. In general, this is not a reliable and repeatable model for long term sustainability of systems. That said, there are systems that do operate successfully in this manner for many years.

2.3.2 Communities with Between 51 and 200 Connections

The EPA has designated CDPH as the Primacy Agency responsible for the administration and enforcement of the Safe Drinking Water Act (SDWA) requirements in California. CDPH has adopted statutes and regulations to implement the requirements of the SDWA. CDPH has regulatory responsibility over water systems including tasks such as issuance of operating permits, conducting inspections, monitoring for compliance with regulations and taking enforcement action to compel compliance when violations are identified.

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CDPH has delegated the drinking water program regulatory authority for small public water systems serving less than 200 service connections to 35 counties in California. The delegated counties (Local Primacy Agencies or LPAs) are responsible for regulating approximately 4,000 small public water systems statewide. CDPH retains the regulatory authority over water systems serving 200 or more service connections and any small water systems not delegated to an LPA.

Tulare County and Kings County are the Local Primacy Agencies under the State Department of Public Health in monitoring compliance for and in enforcing EPA's Safe Drinking Water Act in those counties. Communities in Tulare County with less than 200 connections are therefore monitored by the Tulare County Health & Human Services Agency, Environmental Health Division. In Kings County the County Department of Public Health Environmental Health Services Division provides this service.

In Fresno and Kern Counties, CDPH maintains responsibility for regulating small public water systems.

Many small DACs in the Tulare Lake Basin have user rates over the affordability level of 1.5% of median household income that CDPH uses as a benchmark, often because the community systems lack economies of scale, yet these small systems must meet the same regulatory requirements of much larger systems. A comprehensive study of water (or sewer) rates has not been conducted in this region, so it is not known exactly how many DACs are paying more than their calculated affordability level. However, the lack of affordable rates was highlighted as a major issue through the SOAC's process of identifying issues.

Systems at the lower end of this size range may still rely on volunteerism, but systems closer to 150 or 200 connections should have at least a part-time office person to perform administrative tasks and a contract or part-time D1 Distribution Operator, or possibly a T1 Treatment Plant Operator (See Section 2.2.3 for operator classifications).

Systems in this size range tend to have a better ability to acquire resources, but they still face challenges related to customer affordability and insufficient economies of scale. In order to be sustained long term, a system should generate more revenue than the short term on-going expenses. Surpluses should be placed into a reserve account to cover future emergencies, increases in operational expenses, debt service (if a loan is being repaid) and future system replacement costs. In the TLB, many small systems are fortunate if they even have a savings account in addition to one general checking account, and most lack a plan or policy for systematic accumulation of reserves.

Another measure of the health of the water system purveyor is how the water system is operating. Does the responsible party (owner/board of directors) adopt annual budgets and set rates based on those budgets? Is the system operating in the black? If there is a board, does it meet on a regular basis? Does the board operate according to its bylaws or as per state statutes? All of these factors are important regardless of the size of the system. While there are some well-run smaller systems, generally the smaller systems have difficulty maintaining the resources to meet these requirements.

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2.3.3 Communities with Between 201 and 500 Connections

Systems with between 201 and 500 connections are usually more viable than the smaller systems described above. Some systems of this size can be sustained at a higher level of operation, and may even have a full time manager. They may also have part or full-time maintenance personnel and some office staff. Operators can be contracted or in-house staff.

The Kings Basin Disadvantaged Community Water Study identifies an approximate efficiency level, where, based on the data available, it appears that a system becomes more viable, rates stabilize, and the system is able to run more efficiently. The Kings Basin DAC study suggests this level may be at approximately 600 connections, although this number is dependent on a variety of community characteristics. The analysis is highly dependent on the level of volunteerism available and utilized, operations costs specific to each water system (e.g. if treatment is required, costs will be higher than if there is no treatment), source of water supply (groundwater versus surface water), and other variances between communities. It is not possible to realistically prescribe a specific number of connections at which a system becomes optimally “efficient”. In other words economies of scale are very dependent on the specific circumstances of the individual systems and communities. Generally larger systems have greater potential for economies of scale, which is beneficial, regardless of the circumstances specific to a given community or system. While the size at which a system realizes the benefits of economies of scale cannot clearly be defined, a system with greater than 200 connections can most often be sustainable.

Drawing conclusions from rate comparisons should be done with caution, and must include evaluation of several community characteristics, such as geography, climate, service area, use of taxes, subsidies, and grants, etc. The determinants of utility rates are varied and complex and do not necessarily reflect the true cost of service. A low rate or a high rate does not necessarily mean that a utility is more or less efficient.

2.3.4 Communities with Between 501 and 2,000 Connections

Systems with between 501 and 2,000 connections are typically sustainable and self-reliant, and due to the economy of scale they are able to have the resources necessary to deal with emergencies situations. Typically systems of this size will have a full time manager, full time maintenance personnel, and a bookkeeper. Full time operators can be contracted or on staff. Systems in this category can become part of the solution for surrounding communities.

2.3.5 Communities with Greater than 2,000 Connections

Unincorporated communities with more than 2,000 connections are similar to small cities in the San Joaquin Valley. There are approximately six (6) communities of this size within the study area, all of which are in Kern County. Any system, no matter the size, will have ongoing challenges. However, communities of this size are able to utilize the economies of scale available with the increased population and are able sustain full

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services on an ongoing basis. These communities are generally able to sustain themselves and have potential for regional solutions.

One of the challenges faced by communities of this size is retention of staff. As with small cities, qualified personnel are often trained in a small community organization and then move on to larger organizations where there are more opportunities.

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3 GOAL

The main goal of this pilot study is to provide useful information and tools that can function as a roadmap or guidelines for various audiences. Discussion items and recommendations should be considered from the perspective of the customer, the perspective of the water or wastewater service provider, the perspective of various agencies, and the legislative perspective. This section discusses each of the considered perspectives.

The information presented in this report includes descriptions of actual community efforts toward solving water supply challenges. The information may also include recommendations for other communities to consider regarding:

- a) Steps toward solving remaining existing water supply and wastewater collection or treatment challenges,
- b) Identifying obstacles interfering with solving remaining existing water supply and wastewater collection or treatment challenges, and
- c) Steps toward preventing or mitigating future water supply and wastewater collection or treatment challenges.

3.1 Consumer Perspective

The impact to the consumer is critical when alternatives to address water supply and wastewater challenges are evaluated. Impacts may include:

- The cost of receiving service. The costs may be in the form of initial capital costs and/or monthly service charges
- Restrictions regarding the use of water
- Level of funding, affordability, and ability to pay
- DAC (household income levels versus water service costs)

Assessment of management and non-infrastructure solutions requires an individual perspective. Each participating leader or community member needs to consider various questions regarding partnership solutions.

- What are the pros and cons of the proposed solution(s)?
- Can a partnership solution proceed while allowing each entity involved to maintain a level of quality that is acceptable to the customers?
- Will all entities involved have the same rate structure, or will it differ by community?
- Will there be more staff needs / less staff needs?

- In what condition are the finances of the new partners?
- How will delinquent accounts and difficult customers be handled?
- What information or resources are available to help evaluate/implement these types of solutions?
- What will implementation look like, and how long will it take to fully implement the solution(s)?

3.2 Provider Perspective

- Provider Perspective – Are annual revenues sufficient to offset expenses?
- Leadership and Governance Issues
 - Is there a manager?
 - How are formal decisions made? How are emergency decisions made?
 - Will changes/consolidations reduce/increase the number of board members/managers/employees?
 - How will community engagement/buy-in be developed?

3.3 Agency Perspective

Considerations from the various agency perspectives focus on whether regulations are being met, including water quality standards, water demand objectives, and waste discharge requirements. At the agency level, various policy considerations could also benefit the ability to provide safe, reliable drinking water and wastewater services.

3.3.1 County Level

- Existing development policies – Land use control/zoning/building permit (e.g., new development must pay its own way with regard to water/sewer infrastructure)
- County Environmental Health Departments – individual well and on-site sanitary sewer facilities (e.g., minimum lot size requirements)
- Sustainability – require means to sustain the facilities prior to allowing construction

3.3.2 Regulatory Agencies

The perspectives of regulatory agencies to be considered include California Department of Public Health (CDPH), California Department of Water Resources (DWR), Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), and United States Environmental Protection Agency (EPA)

- Permitting requirements for new systems
- Guidelines/directives to correct violations
- Sharing knowledge
- Sustainability – require means to sustain the facilities prior to allowing construction
- Identification of impacts to DACs when new regulatory requirements are imposed

3.3.3 Funding Agencies

- Impacts regarding funding assistance and requirements to receive funding assistance
- Assistance with funding applications
- Assistance with administering approved grant/loan funding

3.4 **Legislative Perspective**

- Identification of new legislation to facilitate funding assistance opportunities
- Routine identification of impacts to DACs when new legislation is proposed or implemented
- Develop funding incentives through legislature

Provide new legislation and funding opportunities to encourage and promote the development and use of regional cooperation, partnerships, and consolidation of services. This may begin with regulation of any new system within a municipality or within ½ mile radius of an existing entity providing water or sewer service to attempt to obtain service from that provider. For existing public water systems that are struggling to meet compliance or have a history of non-compliance, promote or enforce action towards regionalization for any system that violates a final order.

4 DESCRIPTION OF PROBLEM

4.1 SOAC Defined Issues

Several priority issues were developed during the Stakeholder Oversight Advisory Committee (SOAC) process, which was convened as an initial task of this study. The details of the SOAC, including the purpose of the committee and actions performed, are described in the main body of the Final Report. The specific priority issues that the Management and Non-Infrastructure Solutions pilot study aims to address include the following:

- Lack of Funding to Offset Increasingly Expensive Operations and Maintenance Costs in Large Part Due to Lack of Economies of Scale
 - Small systems serving primarily low-income households and remote locations cannot keep rates affordable and still generate enough revenue to run the system safely over the long term;
 - Lack of funding resources to operate and maintain water or wastewater systems at affordable levels and lack of funding for planning and replacement of infrastructure as it ages.
- Lack of Technical, Managerial and Financial (TMF) Capacity by Water and Wastewater Providers
 - Lack of adequately trained technical, legal, financial, and managerial professionals, as well as inadequate training and ongoing education and assistance for existing water and wastewater providers;
 - Lack of knowledge of available training, assistance, and educational opportunities to help local employment in these sectors.

4.2 Description of Issues

4.2.1 Lack of Funding

Funding that is available is typically in the form of grants or loans for capital improvement projects. While this funding is critical in assisting communities with water and/or wastewater system improvements necessary to keep the system in compliance, the ongoing operations and maintenance costs must still be financed by the service provider. These costs may be particularly high if treatment is needed. These operations and maintenance costs also impose an increased hardship on small systems serving primarily low-income households. These systems struggle both with a lack of economies of scale, which drives up the cost per household, and, due to the low income of many of these residents, the costs for service become a higher percentage of their overall income. According to CDPH, a reasonably acceptable cost for water service is approximately 1.5 percent of the median household income (MHI). According to *Assessing Water Affordability* (Christian-Smith et al, 2013), communities in the Tulare

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Lake Basin pay water rates ranging from 0.5 percent to 3.4 percent of their MHI. Nine of the 51 water systems (approximately 17%) within the Tulare Lake Basin that were analyzed exceed the water affordability threshold. An affordability threshold of 2% was used for that study, versus the 1.5% affordability threshold used herein. However, *Assessing Water Affordability* (Christian-Smith et al, 2013) also analyzed water affordability on a household level (rather than the typical method of evaluating based on the MHI of the entire water system), and found that nearly 30% of households within the Tulare Lake Basin spend more than 2% of their household income on drinking water services.

As a result of the lack of funding for ongoing operations and maintenance expenses and the limited affordability for residents, many disadvantaged communities in the Tulare Lake Basin do not have the revenue to set aside reserve funds in order to plan for replacement of equipment and infrastructure as it ages. With inadequate planning, these replacement needs that may be part of a scheduled plan for larger more financially secure systems, become emergency fixes. Without funding to be proactive, maintenance efforts often become reactive.

4.2.2 Lack of Technical, Managerial, and Financial Capacity

Technical, Managerial, and Financial capacity limitations stem from a lack of formal education, lack of technical skills, and lack of leadership within the community. Water and wastewater personnel who do have a higher level of education and technical skills do not typically stay very long in these small communities where support, pay, and benefits are generally limited. Instead, the more skilled workers are likely to move up to larger communities and cities where there are more resources. This leads to a high turnover rate, which also contributes to the lack of TMF capacity.

The lack of TMF capacity in many of these small DACs is in large part due to the lack of funding available to retain adequately trained technical, legal, financial, and managerial professionals. There is also insufficient training and ongoing education for the existing water and wastewater providers to help develop their technical and managerial capacity. There are some training, assistance, and educational opportunities available, however many water and wastewater providers are not aware of these programs, or they do not have the funding to send personnel to participate in these programs.

Water rates were collected from 44 disadvantaged communities in Fresno, Kern, Kings and Tulare Counties. This included 9 communities with 50 or fewer connections, 19 communities with between 51 and 200 connections, 9 communities with between 201 and 500 connections, 6 communities with between 501 and 2,000 connections, and one community with greater than 2,000 connections. The water rate data was collected from Christian-Smith et al, and Self Help Enterprises. As shown in **Figure 4-1**, the water rates vary significantly at all size ranges, and it is therefore not practical to develop a realistic trend. The trendline shown is misleading, as there is only one data point represented for communities larger than 2,000 connections. The wide variability in rates is caused by many variables that make each community unique. Some of these variables include size of water system, source of water, water quality constraints,

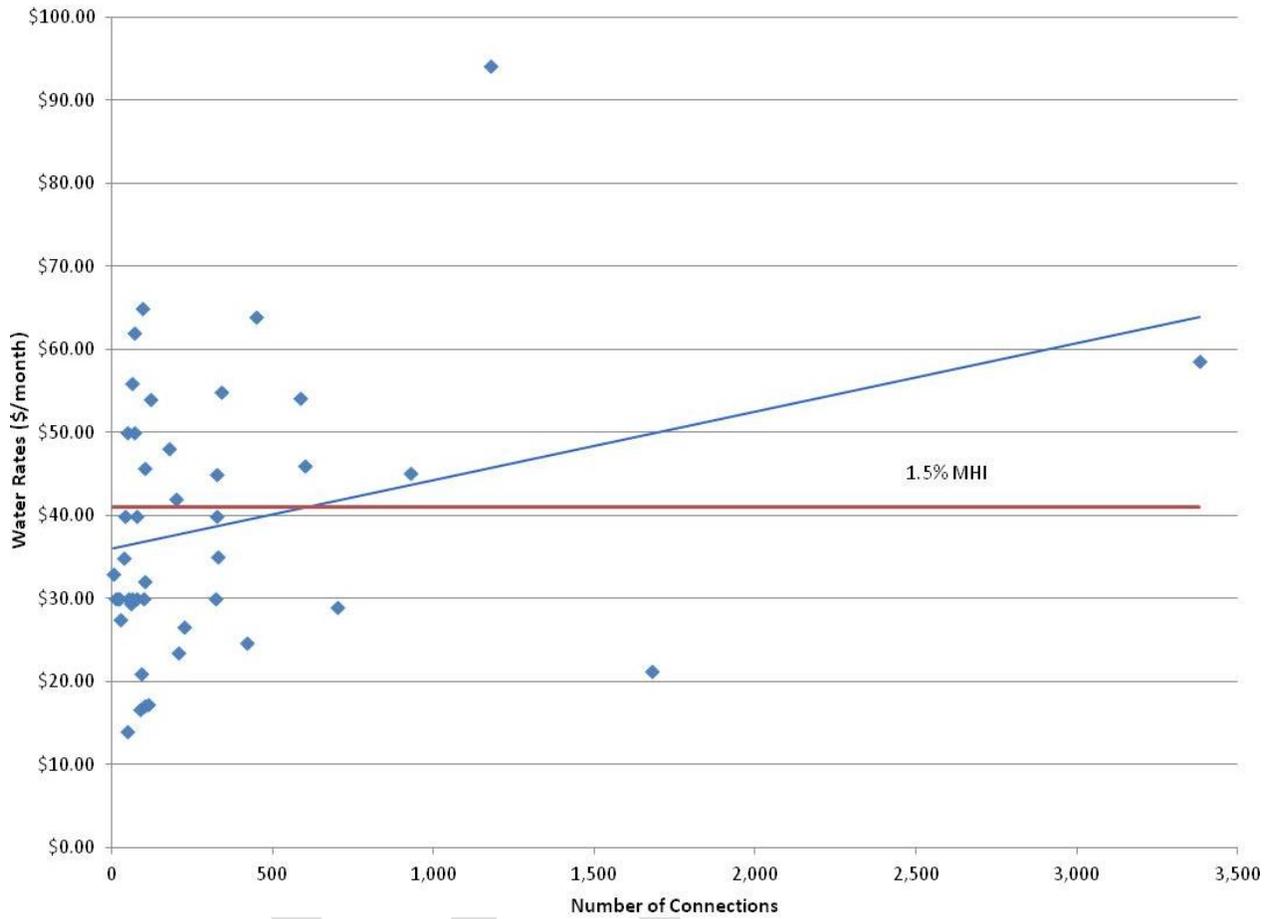
groundwater level, water treatment, geographic isolation, level of service, number of staff and staff wages, as well as other community specific issues. The fact that a 2,000 connection system may have a higher water usage rate than a 200 connection system does not contradict the fact that increased economy of scale can benefit these communities; rather that many of these variables may be driving up the cost due to the unique community situation, and possibly that more services are provided and additional staff is able to be hired and to be paid better wages.

Figure 4-2 shows the water rates versus affordability (1.5% of the median household income) for the communities analyzed. The affordability level of 1.5% of the median household income is shown in red, while the water rates are shown by the blue data points. The blue line is a linear trendline of the water rates. This may show a general trend, but water rates are highly variable due to many community specific issues as described above. Those water rates shown below and to the right of the red affordability line are considered to be affordable (less than 1.5% of the MHI for the community). Those water rates shown above and to the left of the red affordability line are not considered to be affordable (greater than 1.5% of the MHI for the community). The majority of these communities are shown to have affordable water rates, based on this method of analysis. This does not, however, indicate that water is affordable for everyone in the community, as discussed in *Assessing Water Affordability* (Christian-Smith et al, 2013). For that reason, *Assessing Water Affordability* calculated water affordability based on household incomes, in addition to median incomes for an entire community. They found that, while only about 17% of water systems in the Tulare Lake Basin region had unaffordable rates based on the median household incomes for communities, 29% of households had unaffordable rates, indicating the problem of water affordability may be greater than has been acknowledged.

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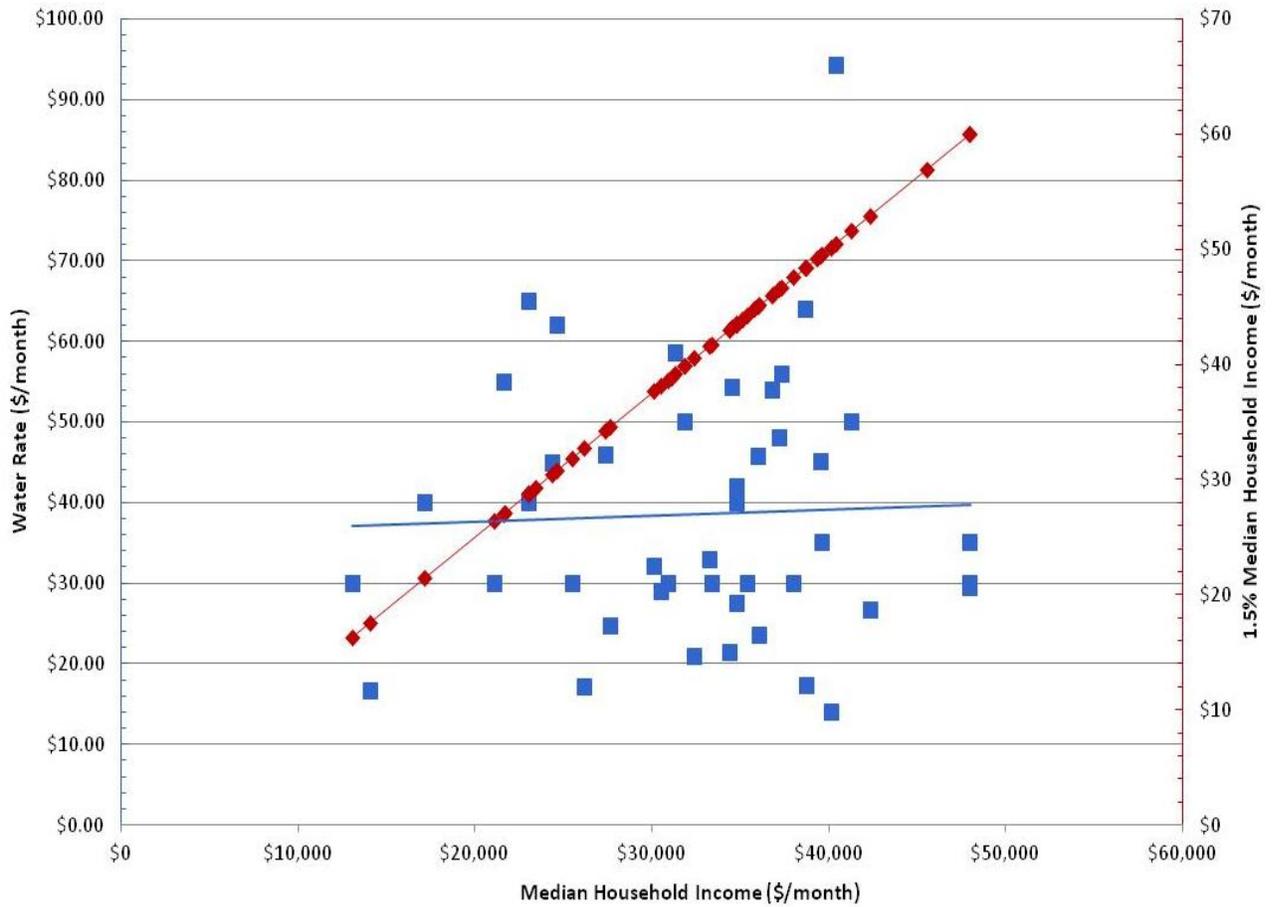
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Figure 4-1. Tulare Lake Basin Water Rates by Community Size



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Figure 4-2. Tulare Lake Basin Water Rates vs. Median Household Incomes



5 DESCRIPTION OF SOLUTIONS

Four potential solution sets were identified to be analyzed through the pilot projects. This section focuses on management and non-infrastructure solutions to reduce costs and improve efficiency. These solutions are aimed to help resolve the problems described in the previous section, primarily lack of funding and lack of technical, managerial, and financial capacity.

The other three pilot studies are covered as a part of the overall project in three separate pilot project reports. This section will describe the solutions recommended as part of the Management and Non-Infrastructure Solutions pilot study, only.

5.1 Range of Potential Solutions

The Management and Non-Infrastructure Pilot Project includes solutions ranging from sharing of resources on a small scale, such as sharing of personnel or purchasing pools, increasing to larger scale governance approaches and full organizational consolidation, all with the goal of reducing costs, improving efficiency, and/or increasing technical, managerial, and financial capacity. Various types of potential solutions include:

- Shared purchasing – Such as pooled purchasing and shared use of vehicles (pickup trucks, small dump trucks, backhoes, etc.), chemical supplies and operational and testing equipment, spare parts for repair and maintenance of system components.
- Pooled insurance – small systems often have no insurance, groups of small communities could pool together to get more affordable insurance.
- Use of same auditing, engineering, legal, financial/bookkeeping, or other professional services firms in a coordinated basis. For instance combining efforts in acquiring engineering or legal services that are common among communities.
- Use of and coordination with the same contract water and wastewater operators between communities.
- Shared management – opportunities for adjacent or close-by operations to share management functions – coordinating board meetings, assigning daily operational tasks, cash flow/billing function, planning for present and future needs, hiring contractors, evaluating employees, etc.
- Shared equipment such as mentioned in shared purchases above or sharing equipment where one entity purchases the backhoe and another entity supplies a sewer cleaning vacuum truck (for example).
- Backup of maintenance/operator personnel – operator of one system can help operate a neighboring system while that operator is on vacation (for example).
- Various governance approaches (JPA, consolidation).

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- Association formation to provide ongoing support to water/wastewater system operators within the Tulare Lake Basin region (or encourage utilization of existing associations).
- Training and education programs – programs to develop education, technical skills, and leadership (develop new programs and encourage utilization of existing programs)

A system partnership may include two or more systems working together to overcome challenges and build capacity to create a mutually beneficial situation for all systems involved. There is a range of levels of collaboration between systems that can be implemented. **Table 5-1**, developed from the webinar ‘Partnering Over Time’ (EPA, 2011), illustrates a broad spectrum of partnership solutions. On the far left, there is informal cooperation, such as operator-to-operator mentoring, or sharing equipment. Next, there is contractual assistance, such as contracting operations or management services. Next are inter-agency contracts, such as a joint powers agreement to form a joint powers authority, which is where systems can get together and form a new entity to share some or all services, functions and responsibilities. Finally, there is complete ownership transfer. This can sometimes involve physical consolidation of the systems, but physical connection is not required. This report will discuss consolidation in terms of ownership transfer, both for systems that physically connect and those that do not. This study focuses on the governance changes associated with consolidation, while the physical interconnection will be discussed further in the New Source Development pilot study.

Table 5-1. Spectrum of Partnership Solutions¹

→ Increasing Transfer of Responsibility →			
Informal Cooperation	Contractual Assistance	Joint Powers Authority	Ownership Transfer
Work with other systems, [without contractual obligations] each system maintaining own functions	Requires a contract, but contract is under each system’s control	Creation of a new entity by several systems that continue to exist as independent entities, but assign some functions to the JPA	Takeover by existing or newly created entity
Examples:	Examples:	Examples:	Examples:
Sharing equipment	Contracting operation and management	Sharing system management	Acquisition and physical interconnection
Sharing bulk supply purchases	Contracting legal or financial services	Sharing operators	Acquisition and satellite management
Mutual aid arrangement	Purchasing water	Sharing source water	One system transferring ownership to another to become one system or entity

1. This table originated from the 2011 EPA webinar, “Partnering Over Time”, and has been modified for purposes of this report.

5.2 Types of Solutions

This section presents solutions from the internal changes that an individual system can implement to achieve and maintain sustainability, to options that include achieving and maintaining sustainability through partnerships with other systems.

Sharing resources or developing partnerships can promote other operational efficiencies such as economies of scale, benefits to employees where benefits may not have been provide before, and many other benefits associated with developing a larger entity.

5.2.1 Internal Changes

Various changes within an individual system can be implemented to reduce costs, improve efficiency, and assess whether technical, managerial, and financial (TMF) capacity can be improved. Internal changes that may be recommended include the following:

- Assess the existing rate structure to determine if adjustments to the rate structure can be made to increase revenue and/or encourage water conservation.
- Assess the budget, financials, and reserves. Many communities do not maintain sufficient reserves to be prepared in case of equipment or other failure. It is important to evaluate the budget, and make adjustments as necessary to sustain the system.
- Evaluate the management structure to see if changes may be beneficial to the operations and sustainability of the entity.
- Reorganize the public agency to provide both water and sewer service (if not done already).
- Install water meters on all services. This will allow for a metered rate structure, which may encourage water conservation and increase revenue from those high water users.

5.2.2 Informal Cooperation

Informal cooperation involves two or more entities working with each other in a mutual aid arrangement, but without contractual obligations. Informal cooperation could involve:

- Sharing equipment
- Sharing bulk supply purchases
- Sharing operator and maintenance personnel (backup personnel)
- Coordinating/sharing sampling and testing services
- Sharing of billing and bookkeeping services

5.2.3 Contractual Assistance

Contractual assistance could be provided in various different forms. An entity or group of entities could contract with a private third party entity to provide bookkeeping

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services, operation and maintenance services, management, or other services. This type of contract would be under each individual system's control, and would not necessarily involve cooperation between two systems. Similarly, an entity could contract with a non-profit organization to provide any of a variety of services. This could involve an existing non-profit entity or one formed for the specific purpose of contracting service, which would offer goods or services to public or private water or sewer service entities. Alternatively, the contractual assistance could be between service suppliers. In this case, an entity could enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment.

5.2.3.1 Contract with Private Third Parties

This option requires a contract that would be made with a private/outside company. Some examples of this type of contractual assistance may include:

- Contracting bookkeeping/financial services
- Contracting operator services
- Contracting management services
- Contracting engineering services

A group of public and/or private entities could collectively enter into a contract with a private, third party entity, for the provision of goods and/or services at a "group rate". For example, a contract operations company could agree to provide professional services to a consortium of entities under a "master" contract at agreed upon, discounted rates.

This would be one of the least complicated options, as each individual entity could choose to participate as it so desires, on an item by item basis. There would need to be no action taken by the entity, except for the board to authorize participating in the contract.

In the case of a public entity, the statutory provisions relative to hiring the specific service, or purchasing the particular type of goods, would be applicable.

This solution would provide the benefit of improving technical or managerial capabilities, although it will come at a cost. Hiring the services of a contract operator, for example, may be more expensive than hiring a staff operator, but would have the ability to provide more reliable and efficient services.

5.2.3.2 Contract with Non-Profit Organization

An existing non-profit entity, or one formed for the specific purpose of contracting services, could offer to contract to provide goods and/or services to public and private entities. It is not unusual for a public entity to create a non-profit organization for the purpose of providing one or more specific services. For example, cities and housing authorities have created non-profits to develop, build, own and/or operate low- and moderate-income housing. The public entity in turn contracts with the non-profit so that one provides services to the other.

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The primary advantage of contracting with a non-profit versus contracting with a private third party entity would be the potential for the lower cost of providing service since there is no profit.

There are precise legal and procedural steps required to be followed to form the non-profit organization and obtain tax-exempt status from the IRS. The non-profit would have its own board of directors and staff, separate from the contracting entities. The by-laws could be written so that public and/or private entities which create the non-profit can assure themselves that they would have a director's position on the board.

As with the previous alternative of contracting with a private third party, contracting with a non-profit organization would provide the benefit of improving technical or managerial capabilities, although it does cost money to provide those services. The non-profit organization may be less expensive than a for-profit company, however a non-profit organization for the desired services may be less readily available.

5.2.3.3 Contract to Share Services and/or Staff

Both public and private entities could choose to enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment. The process for acquiring such goods and services, and for entering into such contracts would have to follow the requirements of the public entity members (which are generally more restrictive), such as competitive bidding (if required by law).

One entity could agree to provide all or selected specific services to other entities under a contract agreement. Thus, for example, a district with a full time manager could agree to provide managerial services to other entities. Multiple contracts could be developed, each applying to different services. Likewise, an entity with a certain piece of equipment could agree, by contract, to permit other entities to have access to the equipment, and, if so desired, provide an operator for the equipment.

This arrangement has the advantage of being very flexible, since both public and private entities could participate, and any variety of services or equipment could be shared. In addition, different entities could provide different services so that the entity with the best available staff or resources could provide the services of that staff to others. Increased economies of scale and increased levels of expertise would result.

To accomplish this result, the board of the participating entities need only agree to enter into a contract for the agreed upon services.

5.2.4 Joint Powers Authority

A joint powers agreement would allow creation of a new entity by several systems, which would each continue to exist as independent entities. This new entity may be in the form of a Joint Powers Authority (JPA) to operate the system as one entity, but maintain other independent processes (billings, budget, bookkeeping). The JPA could be formed by two or three entities, or it could be a larger regional authority with a large number of participating entities. Government Code Section 6500 governs JPA's. Section 6502 requires that only public entities can be part of a JPA, unless otherwise

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permitted by the Chapter (6500 et seq). One exception identified is for Mutual Water Companies (MWC), which may enter into a joint powers agreement with any public agency for the purpose of jointly exercising any power common to the contracting parties (Section 6525). The JPA can only carry out functions which are common to ALL of its members. Examples of functions that may be provided through the JPA include:

- Shared system management
- Shared operators
- Shared source water

The model for formation of a JPA already exists among irrigation and water districts in the Central Valley. An example is the Friant Water Authority, a Joint Powers Authority comprised of irrigation and water districts that receive irrigation water from Friant Dam and the Central Valley Project. There is the potential for flexibility with this option, as the member districts can determine which powers and responsibilities to convey to the JPA and which to retain within the individual districts.

Only public entities can become part of a JPA (with the exception of MWCs). If a private entity wishes to become a member of a JPA, the citizens and voters within the entity must carry out the process of creating a public entity, which generally means the private company, cannot be directly involved; however the private company can facilitate the start of the process and assist. To create a public entity involves the County Board of Supervisors, LAFCo, and an election, as well as a group of interested and concerned citizens and voters. The private company can express its willingness to convey its assets to a newly formed public entity and to dissolve when the new public entity is formed. The JPA's powers would be contained in an Agreement, and would be limited to those powers common to all members. For example, if only four out of the five member districts provide sewer service, sewer service cannot be a function of the JPA.

The governing board of each potential member district of the JPA would have the power and authority to join the JPA without the requirement of an election, although member boards could choose to put an advisory election before their voters.

Each entity joining the JPA would have one member on the JPA board (or perhaps two to three if the number of member entities is small). The JPA could operate all or parts of the infrastructure of the members under a contract. The board of each entity would control the rate setting within their individual boundaries.

Interested entities would need to meet and direct someone to draft a joint powers agreement document. This would be reviewed and discussed by the individual member boards. Eventually, each individual member board would vote on executing the document, joining the JPA, and appointing a representative to the JPA board.

Formation of a JPA would provide a benefit of economies of size and expertise (technical capacity) for those functions performed by the JPA. There should also be added strength and political impact resulting from the JPA representing the cumulative interests of the member districts. This option also has the flexibility of crossing county lines and the advantage that it does not require co-terminus borders (more flexible geographically).

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5.2.5 Ownership Transfer

Ownership transfer would be in the form of full consolidation of two or more systems into one existing or newly created entity. This may include acquisition and physical interconnection (discussed in further detail in the New Source Development pilot report), or acquisition and satellite management (no physical interconnection).

Depending on the type of entities consolidating and the resulting consolidated entity, full consolidation may require separate concurrent elections to merge the various districts. The voters of each existing district involved would have to approve the consolidation and creation of the new entity (if applicable). This would require special approval from the Local Agency Formation Commission (LAFCo) if the consolidation results in the creation of “islands” within the larger service area. LAFCo would also have to approve the consolidation. In addition, LAFCo may require the expansion of services into areas not currently being served, to compensate for the creation of “islands” that may result from consolidation. There is opportunity for LAFCo’s to take a proactive role in facilitating this type of consolidation.

A critical consideration, depending on the arrangement of the ownership transfer and types of entities involved, would be the size and makeup of the new Board for the consolidated entity. If one or more entities consolidate into an existing entity and are subsequently absolved from providing their original services, this may not be a major consideration. However, if several entities consolidate into a new entity or restructured existing entity, the size and makeup of the new Board will be an important consideration, since it is likely each of the current existing entities would want to have a representative on the new Board. The new “super” District may have to create service areas or zones to accommodate the different levels of service and rates.

Consolidation with a neighboring system that has sufficient and safe water supply can be one of the most effective long-term solutions. Consolidation refers not only to the physical interconnection of water systems, but also the regionalization and restructuring of the two water systems, which may or may not include physical connection. Full consolidation may take years to complete but initial activities could include development of operator agreements that may lead to future consolidation.

Consolidation of smaller community systems into one larger system increases the rate-payer base, makes treatment more affordable, and may also increase management efficiency and oversight of system resources.

There are many potential benefits to consolidation, including the following:

- Increase economies of scale, spreading capital, operation, and maintenance costs over a larger population to lower the per customer base ratepayer costs.
- Increase ability to apply for and obtain funding for capital improvements, including improvements necessary to meet existing water quality requirements.
- Reduce costs associated with equipment, maintenance, billing, and other management issues by sharing resources across communities.
- Increase reliability with respect to number of water sources.

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- Improve the ability to access and hire more skilled employees, and provide those employees with full-time work, rather than on-call or part-time work.
- Retention of existing staff that may be looking for career advancement

5.2.6 County Operation of Multiple Zones of Benefit or County Service Areas

In unincorporated areas, basic services like water, sewer, police and fire protection may be provided by the county. Since counties often consist of large and diverse geographical areas, providing a consistent and adequate service level across all areas can be difficult. The County Service Area Law (Government Code §25210.1 et seq.) was created in the 1950's to provide a means of providing expanded service levels in areas where residents are willing to pay for the extra service.

The law allows residents or county supervisors to initiate the formation of a CSA. A CSA is authorized to provide a wide variety of services, including extended police protection, fire protection, park and recreation facilities, libraries, low power television and translation facilities and services. CSAs also may provide other basic services such as water, sewer, and garbage collection if they are not already performed on a countywide basis.

A CSA may span all unincorporated areas of a county or only selected portions. CSAs allow small communities in unincorporated areas to pay for and receive specific services from the county. If residents are willing to pay, they can receive the types of services and improvements not available in other areas of the county. There is no cost to residents of other areas of the county who do not wish to receive the additional services.

The advantage to this approach is the ability to rely on sustainable County staff that will remain in place long term. The challenge to this approach is finding County staff and/or contract operators to do the work within a budget that provides affordable customer rates. This approach has been utilized in the Tulare Lake Basin counties of Fresno and Tulare as well as the neighboring county of Madera. This option should be considered for its ability to sustain services long term, however, review of financial statements indicates that some of these county operated systems are operating in the red, even with rates exceeding 1.5% of the communities' median household incomes.

5.2.7 Regional Association Focusing on Sharing of Information

A regional association focusing on sharing information would entail the creation of a voluntary, independent association whose principal goal and objective would be to act as a clearinghouse of information, materials, and resources to those entities that choose to be part of the association. The association could also organize and coordinate ongoing education and training programs on subjects of interest to water service providers, sewer service providers, and other interested parties in the industry. These could include operator training, business and budgeting of small systems, and management and leadership training for existing and potential managers and other decision-makers. An association could also potentially provide temporary operation and

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maintenance services to DACs. The existing entities would continue to exist and function independently.

For a determined fee, entities could become part of the association and receive information, documents, training, etc. on what is working best among the members. This could be very similar to the existing support entities, such as the League of California Cities, California State Association of Counties, California Special District's Association, California Rural Water Association, etc., but on a regional basis with a focus on the various kinds of services provided by members. Education and training opportunities could be provided through the association, or it could be that the association informs participating entities of training and educational programs that are available through other organizations. Other solutions presented in this pilot study, as well as other studies, will have limited benefit if there is insufficient staff available with proper education and training to manage and operate the system improvements.

This entity could also serve as a centralized voice for attempting to obtain legislation and/or funding needed to assist the members in the delivery of services. Clearly, this type of entity could cross County lines.

An association could also provide representation for DACs in the Integrated Regional Water Management (IRWM) planning process. The association could help to address some of the challenges DACs face when trying to participate in IRWM planning groups.

Integrated Regional Water Management groups could also provide the benefits of a regional association. Integrated Regional Water Management is a collaborative effort to manage all aspects of water resources in a region. IRWM crosses jurisdictional, watershed, and political boundaries. It involves multiple agencies, stakeholders, individuals, and groups, and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions. The Department of Water Resources (DWR) offers a number of grant funding opportunities for IRWM groups.

5.2.8 One or More Combinations of Solutions

The options that have been presented in this section are not mutually exclusive. Various combinations may prove to be the most beneficial for different entities and circumstances. A regional association could serve as a clearinghouse of information on the other alternatives discussed, providing the pros and cons of each.

Given the significant number and variety of entities in the area, with their divergent circumstances and needs, and the political, financial and practical differences among them, it is not likely that a single alternative is best for all situations, nor is it likely to be adopted by all interested parties. On the other hand, it is evident that there is a very real need to assist existing entities in the delivery of domestic water and wastewater services to their constituents, and one or more of the solutions presented herein can help provide the necessary assistance.

6 IMPLEMENTATION PROCESS

6.1 Implementation Process

Cooperation between public water systems can provide the opportunity for systems to share resources to reduce capital and operating costs, and to mitigate concerns regarding meeting Safe Drinking Water Act requirements. Potential arrangements include improving education and technical assistance available, sharing skilled operators and other personnel, consolidating managerial and billing tasks, sharing centralized treatment systems, and sharing water resources. Regional cooperation can take many forms, ranging from informal cooperation and assisting neighboring utilities during times of need, to consolidating with a neighboring city or consolidating various entities into a regional entity.

As is common to most rural water systems, distressed rural economies preclude straight-forward capital-intensive solutions without outside sources of funding. Creative solutions for sharing common functions (billings, operations, etc.) could help free up resources for capital investment.

There are several steps that can be taken to develop the partnership solutions described in this report. The process of implementing a partnership solution will involve the following steps:

1. Identify a facilitator to lead the implementation of partnership solutions;
2. Conduct a follow-up study to re-screen identified areas, determine the appropriate level of partnership for the participating public water systems, define participant roles and responsibilities, and determine the preliminary engineering and financial feasibility of sharing or consolidating system resources;
3. Establish an agreement between the participating systems;
4. Apply for grants and/or loans to fund the project; and
5. Implement partnership solution between systems or system resources.

It has been the experience of the Rural Community Assistance Corporation (RCAC) of New Mexico, where many regionalization efforts have been successful, that in most cases, regionalization happened with help from persons and agencies outside the of the communities involved. Most communities are busy dealing with day to day issues and community members do not realize that other neighboring communities are dealing with the same issues. They do not have the time or resources to learn about options on their own. The potential for a partnership or consolidation effort is often identified by a funding agency, regulatory agency, or a technical assistance provider familiar with funding sources and options available. These outside entities have the ability to see information from more than one community at a time. In most cases, this outside person or agency will plant the seed within the community to begin the process.

Collaboration between entities usually begins with one person. This person could be a community member who recognizes the need for a partnership solution, or it could be an outside entity recommending a solution. You, the person reading this guide, could be the visionary who will start the process. Every regional project takes a leader who will be willing to look beyond how things have “always been done” and move to do what is best for the local community or group of communities.

The process of implementing one of the management and non-infrastructure solutions is initiated when two or more entities decide to coordinate in an effort to resolve their water or wastewater system issues, perhaps through the work of this visionary or leader to introduce the concept. The water and/or wastewater systems must then identify their needs; these needs may include needing an adequate water supply, meeting regulatory compliance, being able to afford capital improvements, getting volunteers to serve on the board, etc.

When should partnership solutions be considered?

1. Lack of Funding to Offset O&M Costs
 - Sustaining aging infrastructure is not feasible
 - Meeting drinking water requirements is a challenge
 - Drinking water sources are not meeting capacity
2. Lack of Technical, Managerial, and Financial Capacity by Water or Wastewater Service Providers
 - Retaining adequately trained staff is a challenge

Systems that suffer from lack of funding or lack of TMF capacity to satisfactorily operate their water or wastewater system will recognize the benefit from sharing resources to optimize system operation, reduce costs, and maintain compliance with the Safe Drinking Water Act. They can begin a conversation with neighboring systems or they can talk to assistance providers, state agencies, funding agencies, or other technical assistance providers, about helping to facilitate a process to discuss regional collaboration and partnerships.

Some issues or characteristics that should be considered in approaching a partnership solution include: community size, DAC or SDAC status, relative location to other systems, etc. It could be that a region is made up of similar size communities all with similar issues, or it could be that one or more smaller systems consolidates or partners with a large community or City to take advantage of the existing system already in place and economies of scale realized by that larger community. Each regional effort will be unique due to geographical constraints, water quality issues, water sources available, political issues, economic issues, and many other deciding factors. Flow charts showing the selection and implementation process are presented in **Appendix D**.

Once the communities decide to move forward, then it should be discussed what the best partnering options are for the specific collaboration being considered. It may begin with some internal changes, or that the communities involved may internally review their

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respective management and financial practices before implementing a partnership approach.

Several levels of change are discussed below. These are generally ordered from the least to the greatest level of commitment involved by the partnering communities.

6.1.1 Internal Changes

There are internal changes that can be made to improve the viability of a system without necessarily implementing a partnership solution. Some of these changes include installing meters to improve efficiency, changing the billing system, reviewing and modifying the rate structure as appropriate, or reorganizing the district to provide both water and sewer service (increase economy of scale). Other examples include revising Ordinances and/or policies to reduce or eliminate instances where connections and/or monthly service fees are not being required; improving the collection policies to be certain that all revenues are being collected, etc.

Internal changes can be implemented by the owning/governing entity. If the internal changes dictate a change in rates, public entities must go through a Proposition 218 process. The governance structure and decision-making would remain unchanged.

The process to implement internal changes would depend on the changes to be made, and whether funding is available. There would likely be some staff costs and consultant fees associated with the changes, but would not be anticipated to require a major capital cost, except in the case of installing meters or similar physical improvements. Funding opportunities are available for installation of water meters. If implemented correctly, these internal changes should reduce ongoing costs or improve revenues to offset these costs.

6.1.2 Informal Cooperation

Informal cooperation is the start of developing a working relationship, which may or may not lead to more formal cooperation or ownership transfer. Informal cooperation may include working together to buy bulk items, share backup operations, share equipment and other resources, and potentially seek funding together.

Informal cooperation may require only minimal contracting of services and still allow each entity to operate independently. Informal cooperation does not require an initial investment and can be initiated at any time. The key for the success of this alternative is the development of interpersonal relationships between the operators and/or other personnel who will be involved in the partnership.

While informal cooperation does not require executing a contract, a memorandum of understanding (MOU) should be prepared to document what is agreed upon.

6.1.3 Contractual Assistance

Three different types of contractual assistance are presented. For each of these types of contractual assistance, there are similar items that need to be taken into

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consideration during the implementation phase. Some of the considerations to discuss include:

- Define scope of work (services to be provided)
- Define fees for the service to be provided
- Define responsibilities and liabilities of each party involved
- Define where each party involved can hold each other harmless
- Define insurance needs/limits for the contractor
- Define cost sharing parameters
- Define conditions and parameters for dissolution of contract

6.1.3.1 Contract with Private Third Parties

Contractual assistance may include contracting with a private company to operate a single or multiple systems. In this case, each entity still has to follow their respective Proposition 218 requirements. In most cases, each individual entity would develop a contract with the private operating contractor. In this case, the water purveyor and private contractor could, at any time, enter into a contract for services. There will be some legal service costs associated with drafting and executing the contract.

In some situations, a group of local water systems may choose to jointly enter into a contract with the private entity to get a reduced rate from the private contractor. In this case, each entity would still be independent and follow their individual Proposition 218 requirements. However, the contract would be drafted and agreed upon by all systems involved. This would require more time and legal service costs upfront than if each water purveyor entered into a separate contract with the private operator, but it should be less expensive for each participant because said costs would be shared.

6.1.3.2 Contract with Non-Profit Organization

Contractual assistance may, alternatively, include contracting with a non-profit organization to operate a single or multiple systems. Each entity still has to follow their respective Proposition 218 requirements, and each individual entity would develop a contract with the non-profit organization for operating or management services. In this case, the water purveyor and non-profit organization could, at any time, enter into a contract for services. There will be some legal service costs associated with drafting and executing the contract.

6.1.3.3 Contract to Share Services and/or Staff

Contracting between water systems may include similar cooperation as the Informal Cooperation section, but on a contractual level. It may also involve contracting for operations and maintenance with shared operators running both (or all) systems. This type of contract could be initiated at any time, but would require a nominal investment for legal services to negotiate and prepare the contract. Each entity would still follow their respective Proposition 218 requirements.

SECTION SIX**6.1.4 Joint Powers Authority (JPA)**

Joint Powers Authority (JPA) contracts would likely be in the form of a Joint Powers Agreement for public agencies. However, contracts could be developed among private entities as well. The JPA may conduct full joint operations of the system as one entity, but more likely the JPA would have an agreement to consolidate one duty, perhaps either operations or billings. The other system duties would remain the responsibility of each entity.

In the alternative, the JPA could agree that various services and duties could be handled by different members. Thus, for example one member could be responsible for billing and collection for all members while another member could be responsible for maintenance services for all members. Payment for such services could be made through the JPA or directly to the member providing the service. The JPA could directly provide one or more services for the members as well.

Similar to the contractual assistance solution, several considerations must be taken into account during the implementation phase of a JPA, including the following:

- Define scope of work (services to be provided)
- Define fees for the service to be provided
- Define responsibilities and liabilities of each party involved
- Define where each party involved can hold each other harmless
- Define insurance needs/limits for the contractor
- Define cost sharing parameters
- Define conditions and parameters for dissolution of contract
- Develop joint powers agreement documents for approval
- Define makeup of Authority officers, board members, and management governance structure
- Define decision making process
- Define individual entity operations and services independent of the JPA

The JPA would be a separate legal entity. It would not need to have much staff or directly perform many functions. JPAs are generally restricted to public entities, although MWCs are allowed to join JPAs.

This option allows communities to share operations while retaining separate oversight by each individual community. The JPA would have a Board of Directors, and each member entity would typically appoint a director and an alternate. The JPA would have the same requirements for Brown Act, Public Records Act, conflicts of interest 1090, and political reform act. This creates additional restrictions and costs, but increases transparency.

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Typically, JPAs do not impose charges directly to the customers. Instead the arrangement is more often that the member entities charge fees of their respective customers and then pay into the JPA. This means that typically a Proposition 218 process would need to be run by each of the separate entities that are imposing their own fees. If it is the case that the JPA is imposing the fees, it could be one Proposition 218 process for the JPA, if there is one rate policy applied equally across the JPA jurisdiction.

Creation of a JPA requires consent of each member agency Board, preparation of a Joint Powers Agreement and bylaws, and decisions being made on the role and responsibilities of the JPA. The primary purpose of pursuing a JPA (or other alternative solutions presented) would be to save money to the participants. There would be added costs for a JPA associated with having to maintain separate records, documents and financial books, as well as the costs for complying with the Public Meetings Law and the Public Records Act, but these should be more than offset by the savings to be generated in economies of scale and joint use/sharing of staff and expertise.

Differences in size of area, population, and financial circumstances will have to be discussed, and the makeup of the governing board will have to be negotiated.

To form a new public entity other than a JPA, requires one or more persons to begin the process by petitioning the County Board of Supervisors, engaging an attorney for legal advice, engaging an engineer and a planner to draw up proposed boundaries, etc. Thereafter, the Board of Supervisors would hold public hearings and if they were supportive, would then require the calling of an election for the voters to approve the formation and elect an initial governing body. This would generally be a 6 to 8 month process and would involve considerable expense, which would have to be paid up front by someone, although upon formation such costs could be repaid by the District. This cost would likely be around \$15,000 to \$25,000.

Formation of a JPA is less expensive than full consolidation, because it does not require LAFCo involvement or elections. JPAs are also easier and faster to implement than consolidation. It is easier to start, easier to form, and easier to dissolve if necessary. A JPA can be constructed to fit the specific needs of the entities involved. The entities will work together to set the parameters of what function the JPA is and is not going to do.

6.1.5 Ownership Transfer

This option involves full consolidation of multiple water systems into one existing or newly created entity. Full consolidation as discussed in this report refers to full organizational consolidation, which may or may not involve physical connection. The surviving entity may be a City if the smaller communities had consolidated with a City, or it may be a special district, such as a Public Utility District (PUD) or Community Services District (CSD). Alternatively, a special act district (see Types of Organizations definitions, Section 2.2.2) could be created, similar to the Kings River Conservation District, as an example. If a special act district is created, it must be done through the State Legislature.

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Any type of special district would be subject to the same requirements for the Brown Act, Public Records Act, Conflict of Interest 1090, Political Reform Act, and other general local election and government code requirements. Board members can be elected and removed if constituents are unsatisfied with their performance.

The Proposition 218 process would depend on how the rate structure is set. If there is a different charge for different zones, then separate Proposition 218 processes may be needed for each zone. However, with full consolidation where all customers have the same rate structure, only one Prop 218 process would be required for the whole entity.

Consolidation is most likely to occur with a small community (or communities) consolidating with a city. Ownership transfer between communities is often less feasible because there are many more issues to address and resolve.

Consolidation is consistent with State and Federal goals of creating more economies of scale and greater TMF capacity. This provides the most efficient management structure by spreading costs among more customers. This process does, however, take several years to implement, and significant capital cost. It is possible to get funding for the capital investment. There are also geographic restrictions and political issues that can be obstacles. The process to implement full consolidation with physical connection is described further in the New Source Development pilot report.

Some of the steps that are necessary to implement a consolidation include:

1. Understand budgets and rate structure in each entity.
2. Explore how to combine the financial obligations.
3. Develop full list of responsibilities, including maintenance, testing, operations, management, financial, etc.
4. Define rules for ownership transfer (what is being transferred and what is not). Ownership transfer may include one or more of the following services:
 - Water
 - Sewer
 - Fire
 - Police
 - Streets
 - Other
5. Comply with LAFCo requirements, Proposition 218 requirements, and other state law requirements.
6. With some cities this may require annexation.

One of the major obstacles to consolidation is the governance structure of the resulting entity. Existing governing boards may fear that the interests of their respective constituencies will no longer be represented or advanced with the same energy as

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before. It should be noted that Section 61030 (a) of the CSD law allows LAFCo to increase the number of members to serve on the initial board of directors of the resulting entity from 5 to 7, 9, or 11. Terms to be served by the new board of directors can also be set by LAFCo in accordance with Section 56886 (n). The expanded board of directors can be elected by division, with division boundaries being drawn according to community boundaries to ensure that customers of existing districts continue to have adequate representation on the new board.

6.1.6 County Operation of County Service Areas

A CSA is initiated by a petition of registered voters or by adoption of a resolution at the county level. Once proposed, the formation of the CSA will be subject to public notice and a public hearing. If more than 50% of registered voters or landowners protest, the CSA may need to be subject to voter approval at a special election. Once approved, the CSA is normally granted limited powers and the county board of supervisors act as the CSA board.

When a CSA exists, the property owner will pay taxes and fees to the CSA instead of the county for the services provided. These will be billed as line items on the county property tax bill. The taxes may take a variety of forms.

- General property taxes may be levied depending upon Proposition 13 constraints. These taxes are based on the assessed value of the property.
- Special taxes may be levied for specific purposes. These taxes must be approved by a 2/3 vote of the CSA residents.
- Benefit assessments may be levied for specific purposes and are based on the direct benefit each parcel receives from the improvements or services financed. These charges are subject to annual approval at a public hearing.
- Water and sewer standby charges may be levied to ensure future availability of service, subject to certain limitations.

Additionally, the CSA may charge these fees and taxes according to zones to more accurately bill residents for the particular services provided to their individual property. (www.californiataxdata.com)

6.2 Public vs. Private Governance Structure

The solutions described will generally apply for public water systems, although private water systems can also participate. Public systems have greater access to state funding; however there are funding opportunities available for private systems, but often only as loans and not grants. It is also possible that private water systems can convert from private to public to allow a partnership solution to be implemented. Private water systems, such as a Mutual Water Company, have the ability to extend services to public or private water systems, either through a simple provision of service or by purchasing

the entire system. In some circumstances, public funding may be available for such consolidations if the funding is provided directly to the public water system.

6.3 Policy Issues

Various existing policies and programs are beneficial to, or can encourage implementation of partnership solutions. There are also some policies that could potentially be implemented to further assist or encourage these types of solutions. Some existing policies include:

- Incentives for consolidation using funding at state level
- Opportunities for formation of a legal entity (Pre-Planning and legal Entity Formation Assistance Program)
- Various funding programs described in Section 9

Some potential policy issues that could be considered to further encourage these types of solutions include:

- Funding assistance for pre-work (initiating the process, outreach and communications)
- Additional opportunities for incentives
- Land use planning restrictions to ensure safe and reliable water can be provided
- Farm labor housing policy amendment to restrict construction of such housing where safe and reliable water is not available

6.4 Costs by Community Size and Setting

Usually, the group that begins to collaborate together will set up a budget for expenditures that may include costs such as mailings, filing of documents, meeting space, etc. Later the group may also identify the cost of having a consultant complete a feasibility study for consolidation. The feasibility study would include a financial plan for the new entity, rate structure, budget, ordinances, staff, office, administration, operation and maintenance, etc. If a small system is consolidating with a City, or other larger existing entity, development of a financial plan may not be necessary, as the City's rate structure, budget, etc., would be maintained.

It is not practical to try to develop costs to implement these solutions at this phase because the costs vary significantly based on the number and size of systems involved, the level and type of partnership to be developed, existing water quality (treatment needs), condition of existing systems, financial and managerial situation, geography, etc. There are too many variables to provide representative costs for the entire region. Once a specific group of communities is identified, associated costs can be considered and developed specific to that group.

7 EXAMPLE PROJECTS/CASE STUDIES

7.1 Local Examples

There are various examples within the Tulare Lake Basin region of projects that have been implemented or are in the process of being implemented that are representative of the solutions presented herein. Several example projects within the study area are summarized in **Table 7-1**. The projects summarized are only those relevant to the Management and Non-Infrastructure Solutions presented in this report. Some of the communities have implemented or are implementing other solutions to their water and wastewater issues that include new sources or treatment solutions.

These example projects are presented to help communities learn about the solutions that are available, provide real life examples of how these types of solutions can be successfully implemented, and to provide a sense of what it takes to implement these solutions. The goal is that these examples will help build confidence and trust in the solutions, and maybe even inspire communities to explore these solutions because they can see the outcomes of implementation in other similar communities.

7.1.1 Internal Changes

Lanare CSD

Lanare CSD has recently installed water meters. These were installed as a result of the failure of their water treatment plant bringing light to the excessively high water usage in the community. The water meters have been installed within the past year, but the results of the water meter installation will indicate how much water residents are actually using, how consumers change their usage when they are charged a metered rate, and how the Lanare CSD can better operate and manage their system when they have an increased level of control and/or knowledge of the water usage in the community.

7.1.2 Informal Cooperation

Pixley PUD, Tipton CSD, and Woodville PUD

Tipton CSD, Pixley PUD, and Woodville PUD share backup operators, sewer cleaning equipment, backup generator, and other equipment. They also talk with each other regularly and share knowledge, experiences, and other resources. This informal cooperation between the operators of each entity allows the systems to be operated more efficiently and effectively.

The shared jet sewer cleaner is an approximately \$20,000 piece of equipment. Woodville PUD originally purchase the unit, then Tipton CSD and Pixley PUD each bought in, so they are all 1/3 owners. The three entities share the cost for maintenance. They also improve the usefulness of the sewer cleaner. Since each system only uses the sewer cleaner once or twice per year, they rotate it so it is used more frequently, which is better for the cleaner than letting it sit in storage for six months at a time.

SECTION SEVEN**SOLUTIONS PILOT STUDY**

Tipton, Pixley, and Woodville are each about five miles from each other, and the ongoing informal cooperation between each, as well as other nearby communities, is beneficial to all. A flow chart showing the path followed by these communities to implement their informal cooperation is shown as **Figure 7-1**.

7.1.3 Contractual Assistance

Richgrove CSD and Earlimart PUD

The Richgrove CSD contracts with the operator of the Earlimart PUD system, on his own time, to operate Richgrove's water and wastewater systems. Richgrove is located approximately 15 miles southeast of Earlimart.

Porter Vista PUD and City of Porterville

Porter Vista PUD (East Porterville) contracts with City of Porterville for sewer lift station maintenance and wastewater treatment. Porter Vista provides sewer collection service, and pumps the sewerage to the City of Porterville for treatment and disposal.

East Porterville areas such as Fairways Tract that were previously unincorporated but are now annexed into the City of Porterville are still provided sewer collection from the Porter Vista PUD. Porter Vista continues to contract with the City of Porterville to treat Fairways Tract's wastewater.

A flow chart showing the path followed by these communities to implement their informal cooperation is shown as **Figure 7-2**.

7.1.4 Joint Powers Authority

Alpaugh Joint Powers Authority

Tulare County Water Works District #1 and Alpaugh Irrigation District formed a JPA for water service in 2003. At the time, the formation of the JPA allowed the greater Alpaugh area to receive a \$2,100,000 grant from the State Department of Water Resources to replace a large part of the water distribution system both in and outside the community. The JPA also provided the governance structure for the area to receive over \$2,000,000 in USDA and other funding to drill a new well, construct a water storage tank and make other improvements to the system. However, the JPA structure had its problems. One of these problems was that each of the two districts appointed 3 board members to the JPA creating a 6 member board. At times, deadlocks on the decision making process of the JPA were reached with 3-3 votes. Another issue was financial. The two original boards still met, paid director's fees, insurance, engineering, legal and audit fees. The JPA also had the same cost categories to cover. The JPA stayed in existence for roughly 10 years until the Alpaugh Community Services District (ACSD) was formed. The ACSD now owns and operates the domestic water system that the JPA used to operate. The Alpaugh Irrigation District now only deals with issues related to providing irrigation water to farmers. The old Tulare County Water Works District #1 has been dissolved. The community is back to being represented by only two water related entities saving the cost of operating a third district.

SECTION SEVEN**SOLUTIONS PILOT STUDY**

From 2003 until December 2012, the Alpaugh water system was managed by the Alpaugh Joint Powers Authority, a JPA between Alpaugh Irrigation District (AID) and Tulare County Waterworks District No. 1 (TCWWD). Previously, TCWWD provided domestic water to residents within the one-square-mile townsite of Alpaugh, and the AID provided domestic water to its more rural irrigation district customers for several square miles around Alpaugh. In 2003, the two agencies entered into a joint powers agreement to run the domestic water system, with each contributing its existing distribution system pipelines. AID also contributed the use of its Well No. 45 (under lease to the AJPA), which exceeded even the old arsenic standard of 50 ppb. The use of this well was abandoned by the AJPA once AID Well 10 and AJPA Well 1 were completed. AID constructed and contributed Well 10 with USDA funding. The TCWWD contributed Well 1 and its well site with storage facilities, also financed by USDA, along with replacement of roughly 10 miles of distribution lines.

Per the joint powers agreement, the intent was for the Authority to be an interim measure, a step on the way to forming one public agency for the provision of water service to the entire Alpaugh area. The formation of a Community Services District was approved by Alpaugh voters on the November 2012 ballot.

The AJPA board of directors was comprised of six directors, three each from the two member agencies. All six were appointed by their parent agency and "...serve at the pleasure of the [agency] who appointed [them] and may be replaced at any time by the [agency] who appointed them." (Joint Exercise of Powers Agreement, 2003) This led to constant turnover and frequent partisanship, along with the obvious voting problems that come with a board comprised of an even number of directors. No provisions existed for tie-breaking votes.

The joint powers agreement also provided for an executive director appointed by the board. The executive director (ED) could be a member of the Board of Directors, or not; the ED could be the same person as the secretary and/or treasurer, or not. The joint powers agreement vested the ED with the authority to discipline employees and conduct day-to-day operation of the system. This, too, has proven problematic; sometimes the ED has been a volunteer and it's a rather large job for a volunteer to take on. The joint powers agreement did not specify the need for a general manager and so presumably meant for the ED to serve in such role. Prior to the dissolution of the AJPA in December 2012, the AJPA had a general manager in place whose contract identified him as the ED, essentially combining these two roles into one. The newly formed Alpaugh CSD hired the previous AJPA ED and the CSD's General Manager. The current manager/previous ED is a local resident, and has been able to get everyone moving in the same direction in a much more effective manner than previous EDs hired from outside.

Cutler-Orosi Joint Powers Wastewater Authority

The Cutler-Orosi regional wastewater treatment plant serves a 23,040 acre rural area including the communities of Cutler, Orosi, Sultana, East Orosi, Seville, and Yettlem, with a combined population of about 13,190 residents. The Cutler-Orosi Joint Powers

SECTION SEVEN**SOLUTIONS PILOT STUDY**

Wastewater Authority (JPWA) operates the plant, which was originally constructed in 1958. The Cutler-Orosi JPWA was formed in 1983.

The Cutler-Orosi JPWA is a good example to highlight some of the pros and cons of a JPA. The issues related to the Cutler-Orosi JPWA are primarily related to the governance structure. There are two member agencies, Cutler and Orosi. Each of the two member agencies has three representatives on the board, and so there is the potential for decisions to be split 3-3 between the two if the two boards in disagreement, which could lead to frustration for operators and staff. In practice, it appears that such deadlocks have been minimal.

Additionally, there are four other communities served by the JPWA, including Seville, Yetttem, East Orosi, and Sultana. These four communities have no representation on the board.

The Cutler-Orosi JPWA also sees the benefit of economies of scale with the increased user base of all six communities being served.

Selma-Kingsburg-Fowler County Sanitation District

The Selma-Kingsburg-Fowler County Sanitation District is a public agency formed in 1971 through the Fresno County Board of Supervisors through authority granted in the County Sanitation Districts Act and the Health and Safety Code of the State of California. The District collects, treats and disposes wastewater from the three member cities (Selma, Kingsburg, and Fowler), as well as parts of unincorporated Fresno County. The District, which currently serves an estimated population of 40,000, operates and maintains the wastewater treatment plant and the sewer collection system. The District refurbishes and replaces each city's facilities. The member cities own the local sewer collection system, which includes sewers, lift stations, and appurtenances not owned by the District. Each member city is responsible for expanding the facilities that it owns. The District was formed in 1971, but the wastewater treatment plant was not completed until 1974.

7.1.5 Ownership Transfer

No Physical Consolidation:

Alpaugh CSD

The Alpaugh JPA (as discussed in Section 7.1.4 above), reorganized to a Community Services District. The ownership/managerial reorganization increased efficiencies and reduced the duplicative costs of the previous JPA and its entities.

Goshen – Cal Water

In the 1990s the Goshen Community Services District sold their water system to California Water Service Company (Cal Water). They used the proceeds from the sale to help fund construction of the community's sewer system in 1999. The Goshen CSD contracts with the City of Visalia to treat Goshen's wastewater. Cal Water purchased

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City of Visalia's system in the late 1990s and the provided a physical interconnection between the two systems.

In 2012, the Plainview Mutual Water Company purchased the adjacent Central Water system. On the positive side, the additional user base of 42 connections has helped the revenue stream of the Mutual since the cost of operating the adjacent system is incrementally small. On the negative side, the Central Water system's sole well produces water exceeding the Nitrate MCL and is therefore out of compliance. In response, the Mutual has submitted a SDWSRF planning application to CDPH to seek a solution.

Lost Hills Utility District

Lost Hills Sanitary District purchased the community's water system, that previously was privately owned, and subsequently changed its name to Lost Hills Utility District to reflect its operation of both a sewer and water system. This allows for an increased economy of scale with a single district operating both the water and sewer system. The Lost Hills Utility District is still organized under the Sanitary District Act and is still a sanitary district. However, in 1986, the District was able to obtain special legislations to give it powers under the County Water District Act to operate the water system. The legislation is codified in Health and Safety Code Section 6512.6.

The special legislation was adopted in order for the District to be able to purchase a private water system from Chevron Oil Company, which served the town site but also served the Interstate 5 and Highway 46 interchange, properties east of the interchange, and properties west of the town site. The District eventually purchased the water system and has been operating it since 1987. The District later acquired another private water system operated by Mobil Oil Company, and just recently acquired the domestic water system for the Berrenda Mesa Water District in a transfer negotiated between the two districts. Lost Hills Utility District has also worked with Chevron, Paramount Farms, and the County in providing expanded services to the town site of Lost Hills, most notably with regard to the park site.

Richgrove CSD

Richgrove reorganized the Mutual Water Company that operated the water system to a Community Services District to allow the new District to qualify for State grant funding to upgrade the community's water system and to construct and operate community's sewer system. This reorganization has allowed for an increased economy of scale with a single district operating both the water and sewer system.

Tipton CSD

The previous Tipton Mutual Water Company operated the water system and the Community Services District operated the sewer system. The MWC transferred assets and liabilities to the CSD, which now operates both water and sewer systems. This allows for an increased economy of scale with a single district operating both the water and sewer system.

SECTION SEVEN**SOLUTIONS PILOT STUDY**

Physical Consolidation:

Many example or demonstration projects that involve physical consolidation are described in the New Sources pilot study. A few example projects are highlighted in this section.

Fairways Tract/City of Porterville

The Fairways Tract Water Company was formed in 1948. The Water Company had to deal with numerous nitrate MCL violations, and was required to notify customers that the water was unsafe to drink. The previous water distribution system was also old and prone to leaks. Volunteer board members would make repairs when they could, while major breaks would be repaired by contractors at a much greater cost. With only one operating well, the Water Company had no back-up source of water when the pump was down. In addition, there were no isolation valves on the old water systems to allow sections to be taken out of service without impacting the entire system. When line repairs were made, the whole system had to be shut down.

The Fairways Tract Water Company received grant funding from CDPH to design and build a new water distribution system with an intertie to the City of Porterville's water system. The Water Company was dissolved in 2012 since the neighborhood has been annexed into the City of Porterville and the water supply and distribution system was physically consolidated with the City.

Beverly Grand/City of Porterville

The Beverly Grand Mutual Water Company has about 28 connections. The system's has only one water supply well, and no back-up source of water. Water pumped from the community's sole well has exceeded the nitrate MCL multiple times over the past 10 years, with levels typically around 65 mg/L, and as high as 91 mg/L.

The MWC has successfully applied for and received a Proposition 84 Planning grant from CDPH to design a new water distribution system with an intertie to the City of Porterville's water system. Negotiations have begun on the annexation of the Beverly Grand Area to the City.

Physical consolidation with the City of Porterville would resolve the water quality problems of residents served by Beverly Grand MWC and possibly neighboring properties served with private domestic water wells.

Matheny Tract (Pratt MWC)/City of Tulare

The Pratt Mutual Water Company (PMWC) water system has increasingly, experienced problems associated with water quality and supply over the last few years. The PMWC has been issued violations for being out of compliance with state and federal drinking water standards and permit requirements, including nitrate and total coliform. Well 2 was condemned in 2002 due to high nitrate levels. The remaining wells remain in service, but dropping water levels have required the pumps be lowered. In 2006, with the adoption of the new MCL for arsenic, the system was found in violation for arsenic concentrations of 15 and 20 µg/L.

SECTION SEVEN**SOLUTIONS PILOT STUDY**

A Preliminary Engineering Report was prepared in 2006 to evaluate the alternatives for improving the water system. The alternatives include: 1) new water well; 2) install treatment facilities; 3) install a tank and blend the existing water supply with a new water supply; 4) consolidate with City of Tulare; 5) Install a master meter connection to the City of Tulare; 6) do nothing. Through thorough analysis, Alternative 4 was selected "Consolidation with City of Tulare".

The project was implemented through a grant from CDPH for planning/engineering services and another grant for construction services. The Preliminary Engineering Report was started in December 2005 and completed in December 2006. The plans, specifications, and engineer's estimate of probable construction costs were started in late 2010 and completed in April 2012. The project went to bid in April 2013, was awarded in August 2013 and started construction September 2013. The anticipated completion date is July 2014. From beginning to estimate construction completion, the project will have taken 7 years, 7 months from concept to end of construction.

The project will improve the service provided for Matheny Tract. Prior to the project completion, the residents experienced reduced water pressure, no water supply, contamination notices, boil water orders, etc, on a frequent basis. Once the project is completed, the residents of Matheny Tract will have reliable, safe drinking water on a consistent basis.

The planning grant was \$500,000 and the construction grant is \$5,000,000.

West Goshen with Goshen-Cal Water (underway through emergency funding)

This is an example of how an emergency situation can spur consolidation.

7.1.6 County Operation of Multiple Zones of Benefit or County Service Areas

Fresno County Service Areas

The Fresno County Department of Public Works and Planning administers 128 County special districts. These 128 districts serve more than 30,000 residents throughout the unincorporated area of Fresno County. The special districts include 35 County Service Areas, 5 Waterworks Districts, 7 Maintenance Districts, 1 Highway and Lighting District, and 80 Road District Zones of Benefit.

Special Districts Administration is responsible for managing funds made available by each district's assessments, fees, grants, and/or loans to provide a specific service to each district. Services provided include one or more of the following: community water, community wastewater, street lighting, snow removal, storm drainage, structural fire protection, landscaping, refuse collection, park maintenance, wetlands monitoring, and road maintenance. Fresno County is responsible for 22 community water systems and 12 community wastewater systems.

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Fresno County – Community Water Systems

CSA Number	CSA Name	Number of Connections
CSA 01	Tamarack Estates	38
CSA 05	Wildwood Estates	144
CSA 10	Cumorah Knolls	47
CSA 10A	Mansionette Estates No. III	29
CSA 14	Belmont Manor	41
CSA 23	Exchequer Heights	16
CSA 30	El Porvenir	50
CSA 32	Cantua Creek	78
CSA 34A	Brighton Crest	91
CSA 34B	Ventana Hills	3
CSA 34C	Bella Vista	45
CSA 39	Beran Way / Prospect Grove	142
CSA 43W	Raisin City	70
CSA 44C	Riverview Ranch	12
CSA 44D	Monte Verdi Estates	119
CSA 47	Quail Lake	583
CSA 49	O'Neill / Five Points	46
WWD 37	Mile High	47
WWD 38	Sky Harbour	55
WWD 40	Shaver Springs	65
WWD 41W	Shaver Lake	869
WWD 42	Alluvial / Fancher	103

Fresno County – Community Wastewater Systems

CSA Number	CSA Name	Number of Connections
CSA 01	Tamarack Estates	38
CSA 30	El Porvenir	50
CSA 31B	Shaver	690
CSA 32	Cantua Creek	74
CSA 34A	Brighton Crest	91
CSA 34C	Bella Vista	45
CSA 44A	Friant Mobile Home Park	98
CSA 44D	Monte Verdi Estates	118
WWD 38	Sky Harbour	55
WWD 40	Shaver Springs	64
WWD 41S	Shaver Lake	668
CSA 47	Quail Lake	557

SECTION SEVENTulare County Service Areas

Tulare County provides water and sewer service to unincorporated communities through County Service Area #1 Zones of Benefit, County Service Area #2 (Wells Tract) and through the Terra Bella Sewer Maintenance District. The County has limited funds available for operations and maintenance, and therefore there are limits on the level of maintenance, replacement and upgrades of the systems. The County of Tulare contracts with the Fresno based firm Water Dynamics to operate the county's water and sewer systems. Tulare County is responsible for four (4) water systems, seven (7) sewer collection systems, five (5) sewer lift stations, and three (3) wastewater treatment facilities. According to Water Dynamics, equipment and facilities are mostly out of date and toward the end of their useful life. Equipment is therefore starting to fail. At present, these systems are maintained at only a basic level which negatively affects their sustainability, and therefore Tulare County does not see ownership favorably. As an example, the El Rancho sewer system, owned by Tulare County, has 26 connections. Residents have protested any rate increases, and it cannot pay for itself.

The Tulare County Board of Supervisors is the acting Board for all of the County owned sewer and water systems, as well as for Terra Bella Sewer Maintenance District and Seville Water Company.

The Tulare County owned water and sewer systems were primarily built in the late 1980's and early 1990's. Prior to their construction, residents in these rural areas used private septic systems for wastewater and were on private, often contaminated wells. In the late 1980's it became apparent that proper sewer systems were needed as more and more of the private septic systems fell into disrepair and began to negatively impact the water quality in these areas. By the mid 1990's many of the residents were linked to newly built sewer and/or water systems. All of the systems are located in County Service Area No. 1, with the exception of the Wells Tract water and sewer systems near Woodlake which are located in County Service Area No. 2. Each system in County Service Area #1 has a defined, "Zone of Benefit" to define their specific service areas.

With the exception of El Rancho, all County owned systems receive a monthly bill for the services provided. Payment may be made by personal check, cashier's check or money order via mail. Cash payments are accepted at the Tulare County Resource Management Agency, Monday through Friday during normal operating hours. El Rancho's service fees are assessed through the Tulare County Tax Collector on the parcel owner's tax bill each year and receive no bill each month. Terra Bella Sewer Maintenance District is billed by the Resource Management Agency business office every two months. Payments are accepted in the same manner as County owned systems. However, Terra Bella residents may also pay their bill in person at the Tulare County road yard, located in Porterville.

Many of the systems face budgetary challenges due to the small number of connections supporting the system. These challenges are becoming larger as the systems age.

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7.1.7 Regional Association Focusing on Sharing of InformationAssociations:

American Public Works Association (APWA) is an existing association serving public works professionals, with various chapters throughout North America. APWA is a not-for-profit organization that provides varied educational and networking opportunities that help public works personnel to grow in their professionalism and directly impact the quality of life in all the communities they serve.

American Water Works Association (AWWA) is a nonprofit scientific and educational association dedicated to managing and treating water. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance quality of life. AWWA offers education to water professionals, advocates for safe and sustainable water, collects and shares knowledge, and creates volunteering opportunities.

California Rural Water Association (CRWA) is an existing regional association that provides education and training services. CRWA provides on-site technical assistance and specialized training for rural water and wastewater systems. CRWA can assist systems with tasks such as developing a new rate schedule, setting up testing methods, understanding government regulations, or updating operator certification requirements. <http://www.calruralwater.org/>

Rural Community Assistance Corporation (RCAC) is a nonprofit organization that provides technical assistance, training and financing to help rural communities achieve their goals and visions. RCAC's employees serve rural communities in 13 western states. RCAC's work encompasses a wide range of services, including technical assistance and training for environmental infrastructure, affordable housing development, economic and leadership development, and community development finance. These services are available to a variety of communities and organizations including communities with populations of fewer than 50,000, other nonprofit groups, and tribal organizations.

Training Courses:

Tulare County Government 101 Series Seminars – Tulare County has held a series of four seminars, Government 101 through 104, with Government 105 scheduled for December 2013. The seminars are geared toward Special District Boards, and the emphasis has been on various aspects of the Brown Act, Boardmanship and employment issues, including sexual harassment issues. Government 105 will include AB-1234 training, banking issues, and embezzlement problems faced by the Districts. Government 101 was audio taped, and Government 102 through 104 were audio/video taped. The seminar recordings and reference information are available to the general public on the Tulare County website (<http://tularecounty.ca.gov/board/index.cfm/governance/>). These seminars provide useful information for many purveyors of water and wastewater services throughout the Tulare Lake Basin.

SECTION SEVEN**SOLUTIONS PILOT STUDY**

The San Joaquin Valley Rural Community Leadership Institute – June-September 2013. This San Joaquin Valley Rural Community Leadership Institute is a direct result of RCAC New Mexico (Olga Morales and Blanca Surgeon) making a presentation at a Tulare Lake Basin Disadvantaged Community Study SOAC meeting. The RCAC presentation inspired a group of interested people to bring some sort of leadership capacity building program to the rural communities in the San Joaquin Valley. Several interested people met with the Fresno Regional Foundation (FRF) to investigate a way to initiate such a program. FRF began a new funding source specifically for rural community capacity building, especially related to water issues. Community Water Center applied for and was awarded the new FRF grant. Community Water Center also connected with RCAC, which led to additional funding for the Institute. With a lot of work and outreach, a program was developed and the Institute provided a training program during the summer 2013.

There are many other training opportunities available in this region. California Rural Water Association, or other local associations, can provide information on existing training opportunities.

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Table 7-1. Summary of Example Projects

Name of Community	County	Type of Organization	Water or Sewer Solution	Population	Number of Connections	Source Water Issue ¹	Implemented Solution	Status of Implementation	Funding Source
Contractual Assistance									
Richgrove CSD	Tulare	Public	Water/Sewer	2,700	600	A	Contract with Earlimart operator	Complete	N/A
Earlimart PUD	Tulare	Public	Water/Sewer	5,531	1,483		Shared office with DEID	Complete	N/A
Porter Vista PUD	Tulare	Public	Sewer	5,528	1,675	N/A	Contract WW Treatment with City of Porterville	Complete	N/A
Fairways Tract	Tulare	Private	Sewer	275	63	N/A	Contract sewer collection with Porter Vista	Complete	N/A
Joint Powers Authority									
Alpaugh JPA	Tulare	Public	Water	1,000	340	A	JPA	Formed in 2003, disassembled in 2012	
Cutler-Orosi JPWA	Tulare	Public	Sewer	13,190		N/A	JPA	JPWA formed in 1983	
SKF County Sanitation District	Fresno	Public	Sewer	40,000		N/A	JPA	Formed in 1971	
Friant Water Authority	Fresno	Public	Water			N/A	JPA		
Ownership Transfer – No Physical Connection									
Alpaugh CSD	Tulare	Public	Water	1,000	340	A	Reorganized to CSD	Completed in 2012	
Goshen CSD	Tulare	Public	Water	2,794	697		Consolidated with Cal Water	Complete	
Lost Hills Utility District	Kern	Public	Water/Sewer	1,991	434	A	Sanitary District purchased water to provide water and sewer	Complete	
Richgrove CSD	Tulare	Public	Water/Sewer	2,700	600	A	Reorganized to CSD to provide water and sewer	Complete	
Tipton CSD	Tulare	Public	Water/Sewer	1,792	587		MWC transferred assets to CSD to provide water and sewer	Complete	
Ownership Transfer – Physical Interconnection									
Fairways Tract	Tulare	Private	Water	275	63	N	Consolidated with City of Porterville	Complete	

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SOLUTIONS PILOT STUDY

Beverly Grand	Tulare	Private	Water	108	28	N	Consolidate with City of Porterville		SDWSRF
Matheny Tract	Tulare	Private	Water	1,980	325	A, N	Consolidate with City of Tulare	Design Complete, Construction Funding pending	Prop 84, SDWSRF
West Goshen	Tulare	Private	Water	200	69	N	Consolidate with Goshen/Cal Water		SDWSRF
County Operation of Multiple Zones of Benefit or County Service Areas									
Fresno County CSAs	Fresno	Public	Water/Sewer	Various	Various	Various	Multiple existing County Service Areas		
Tulare County CSAs	Tulare	Public	Water/Sewer	Various	Various	Various	Multiple existing County Service Areas		

1. Source water issues are defined as the following:

- a. **S** = Single Source of Supply
- b. **A** = Arsenic MCL exceedance
- c. **N** = Nitrate MCL exceedance
- d. **U** = Uranium MCL exceedance
- e. **O** = Other MCL exceedance

Figure 7-1(a) – Pixley PUD, Tipton CSD, Woodville PUD

MANAGEMENT AND NON-INFRASTRUCTURE SOLUTIONS EVALUATION

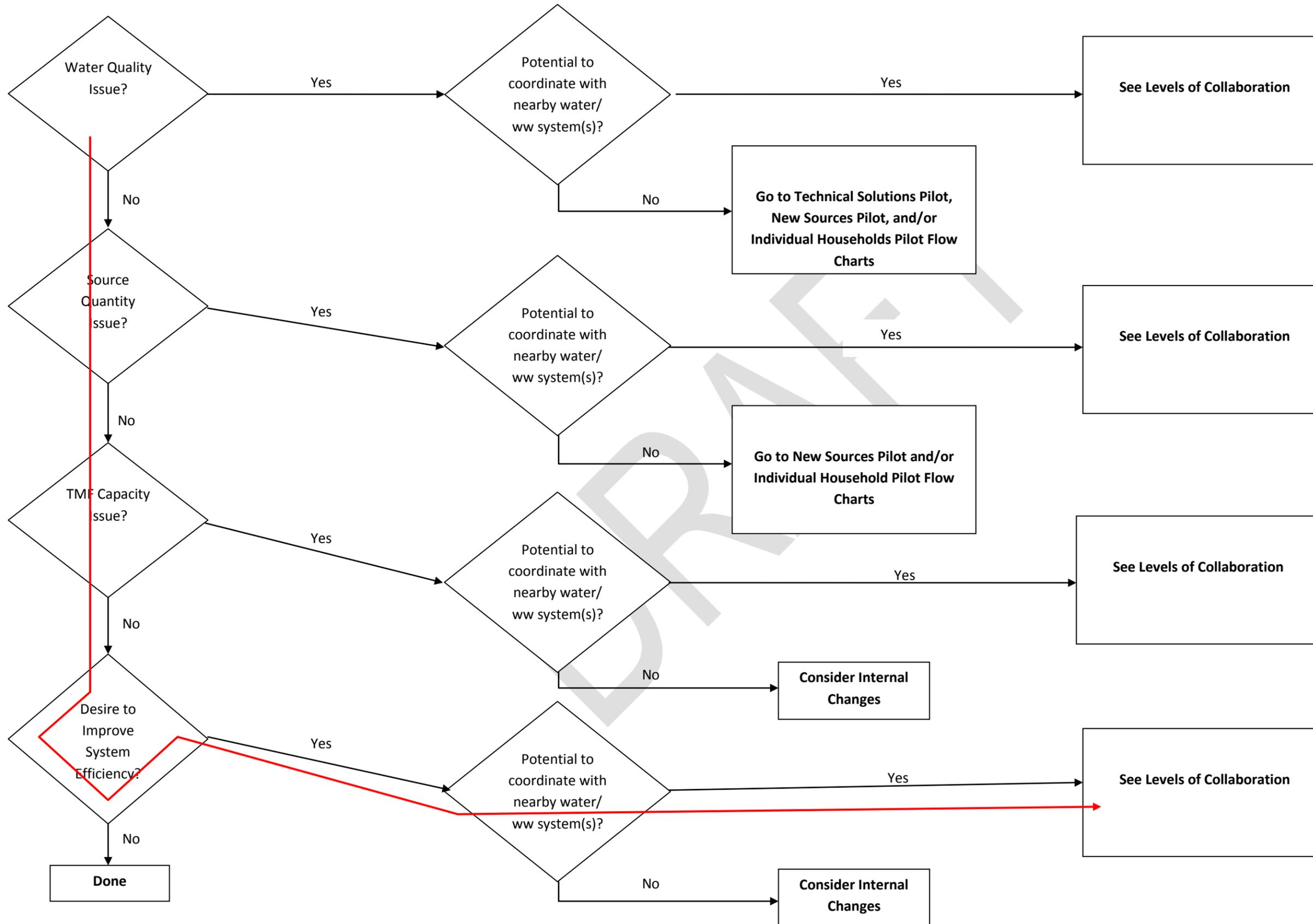


Figure 7-1(b) – Pixley PUD, Tipton CSD, Woodville PUD

LEVELS OF COLLABORATION

Levels of Collaboration

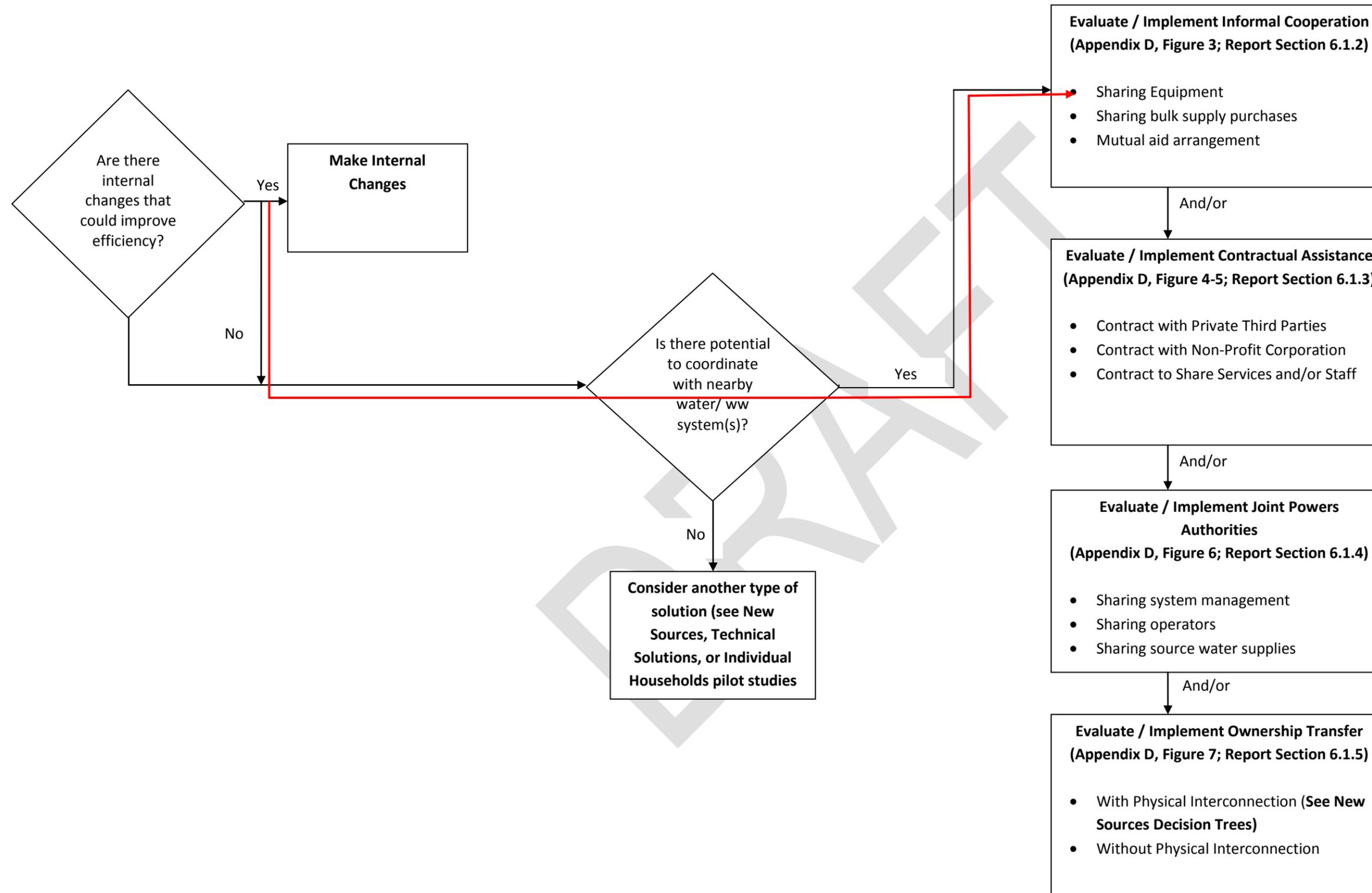
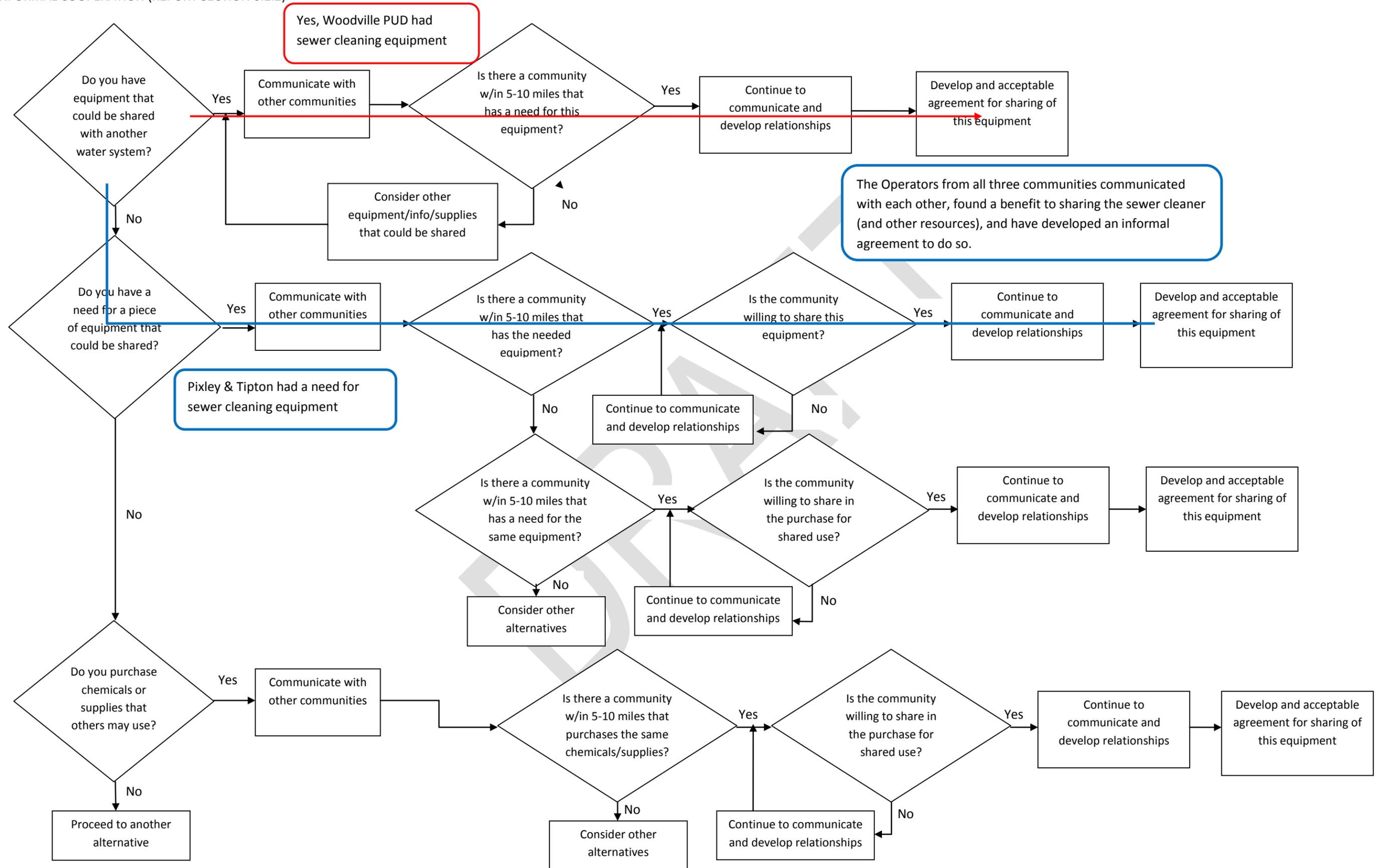


Figure 7-1(c) – Pixley PUD, Tipton CSD, Woodville PUD

INFORMAL COOPERATION (REPORT SECTION 6.1.2)



Yes, Woodville PUD had sewer cleaning equipment

The Operators from all three communities communicated with each other, found a benefit to sharing the sewer cleaner (and other resources), and have developed an informal agreement to do so.

Pixley & Tipton had a need for sewer cleaning equipment

Figure 7-2(a) – Porter Vista PUD (East Porterville)

MANAGEMENT AND NON-INFRASTRUCTURE SOLUTIONS EVALUATION

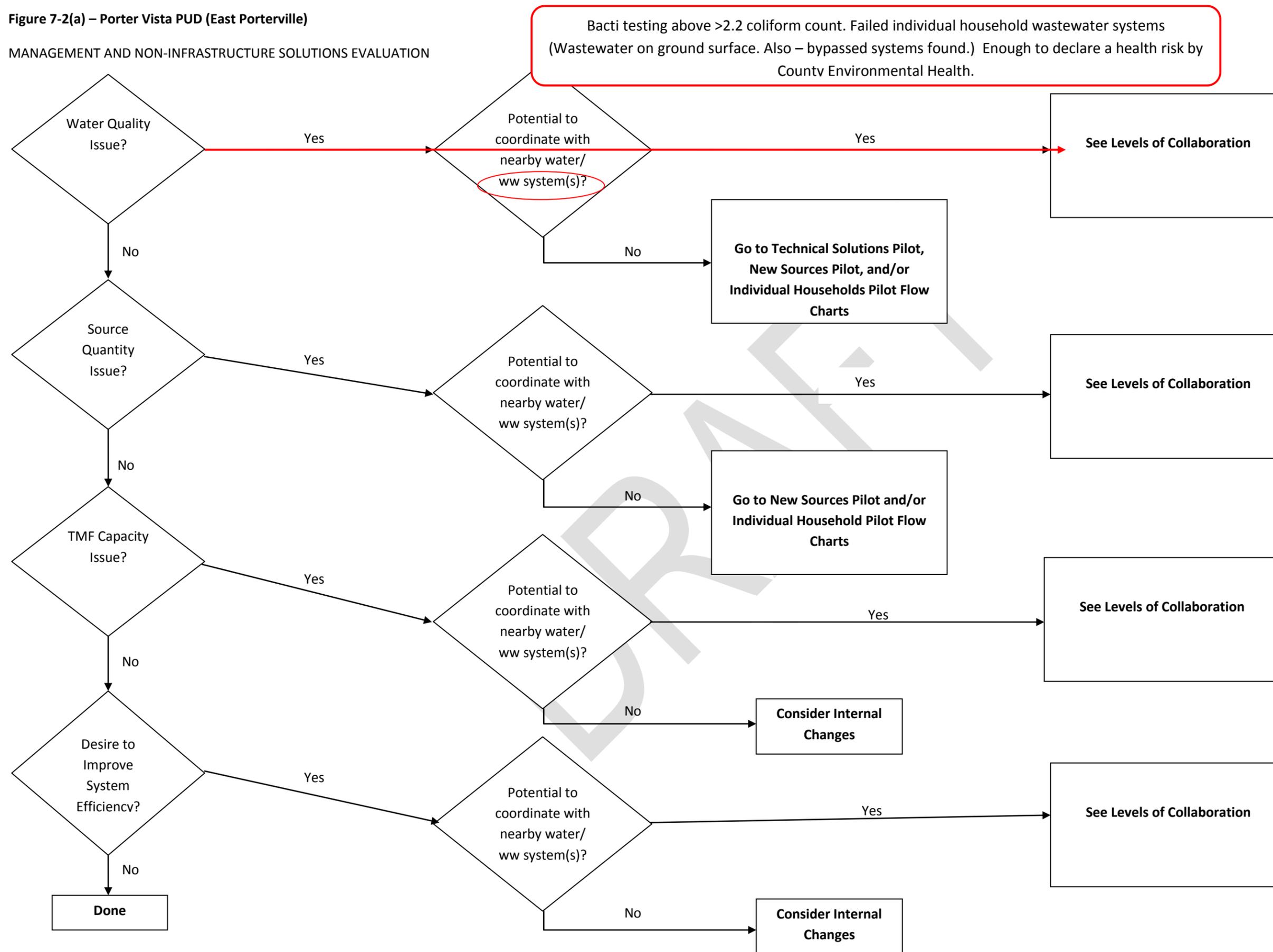


Figure 7-2(b) – Porter Vista PUD (East Porterville)

LEVELS OF COLLABORATION

Levels of Collaboration

Public System built with Clean Water Grant (maybe also Farmer Home Grant). Farmer Home Loans help individuals with abandonment of old systems and hookup to new system.

Porta Vista PUD was formed with five member board. Hired Manager and support staff.

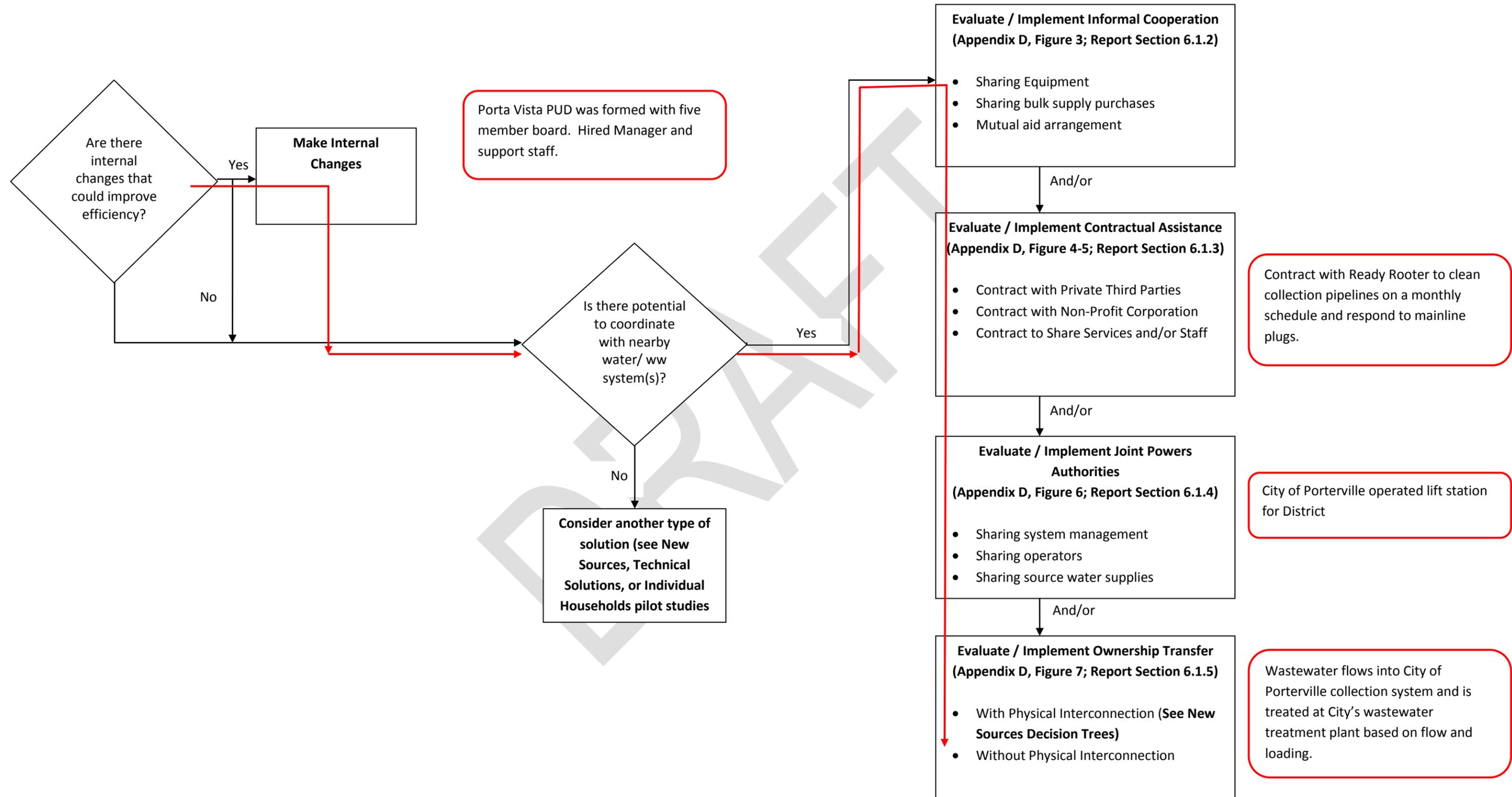


Figure 7-2(c) – Porter Vista PUD (East Porterville)

INFORMAL COOPERATION (REPORT SECTION 6.1.2)

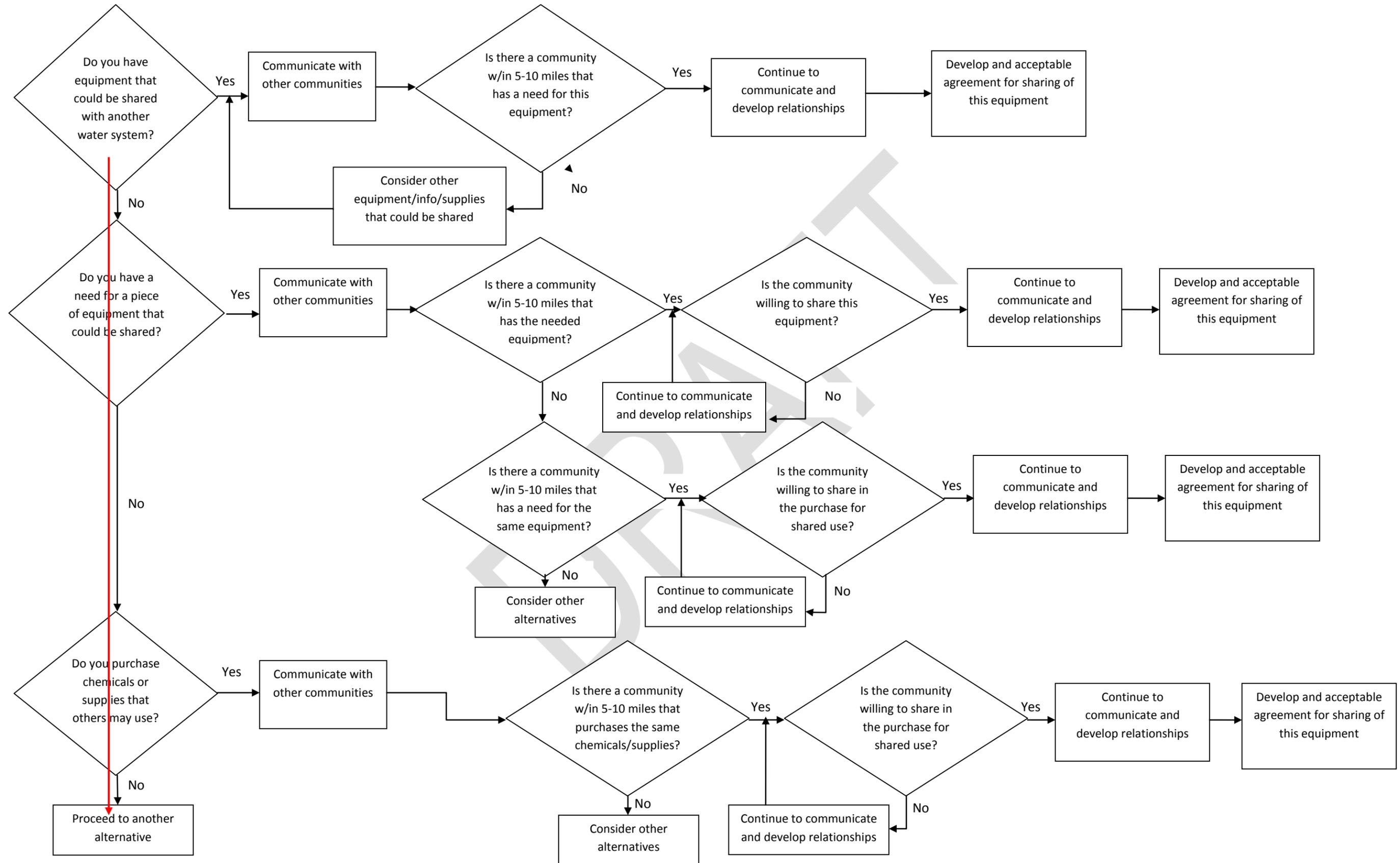


Figure 7-2(d) – Porter Vista PUD (East Porterville)

CONTRACTUAL ASSISTANCE WITH PRIVATE THIRD PARTY OR NON-PROFIT ORGANIZATION (REPORT SECTION 6.1.3.1 & 6.1.3.2)

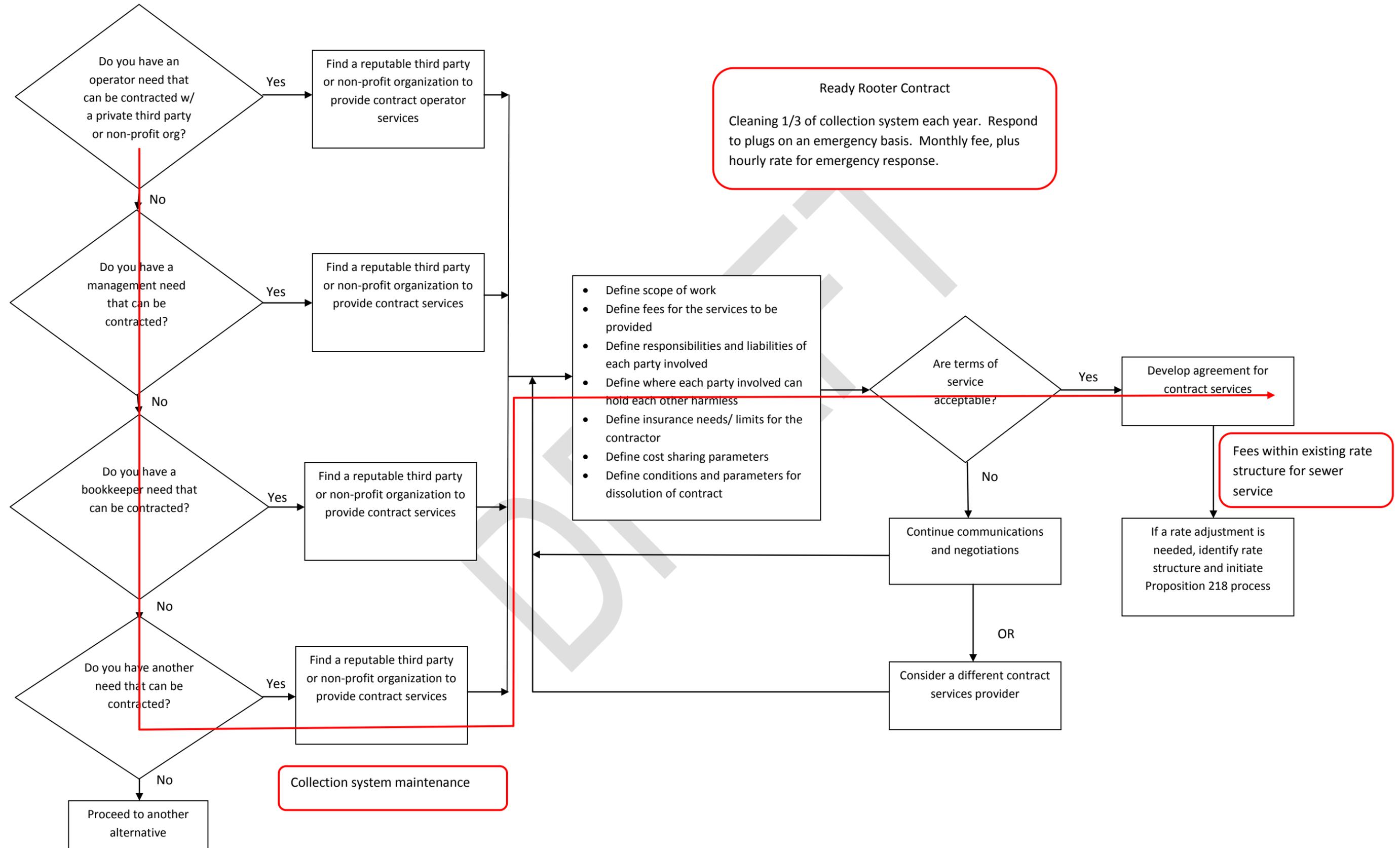


Figure 7-2(e) – Porter Vista PUD (East Porterville)

CONTRACTUAL ASSISTANCE TO SHARE SERVICES AND/OR STAFF (REPORT SECTION 6.1.3.3)

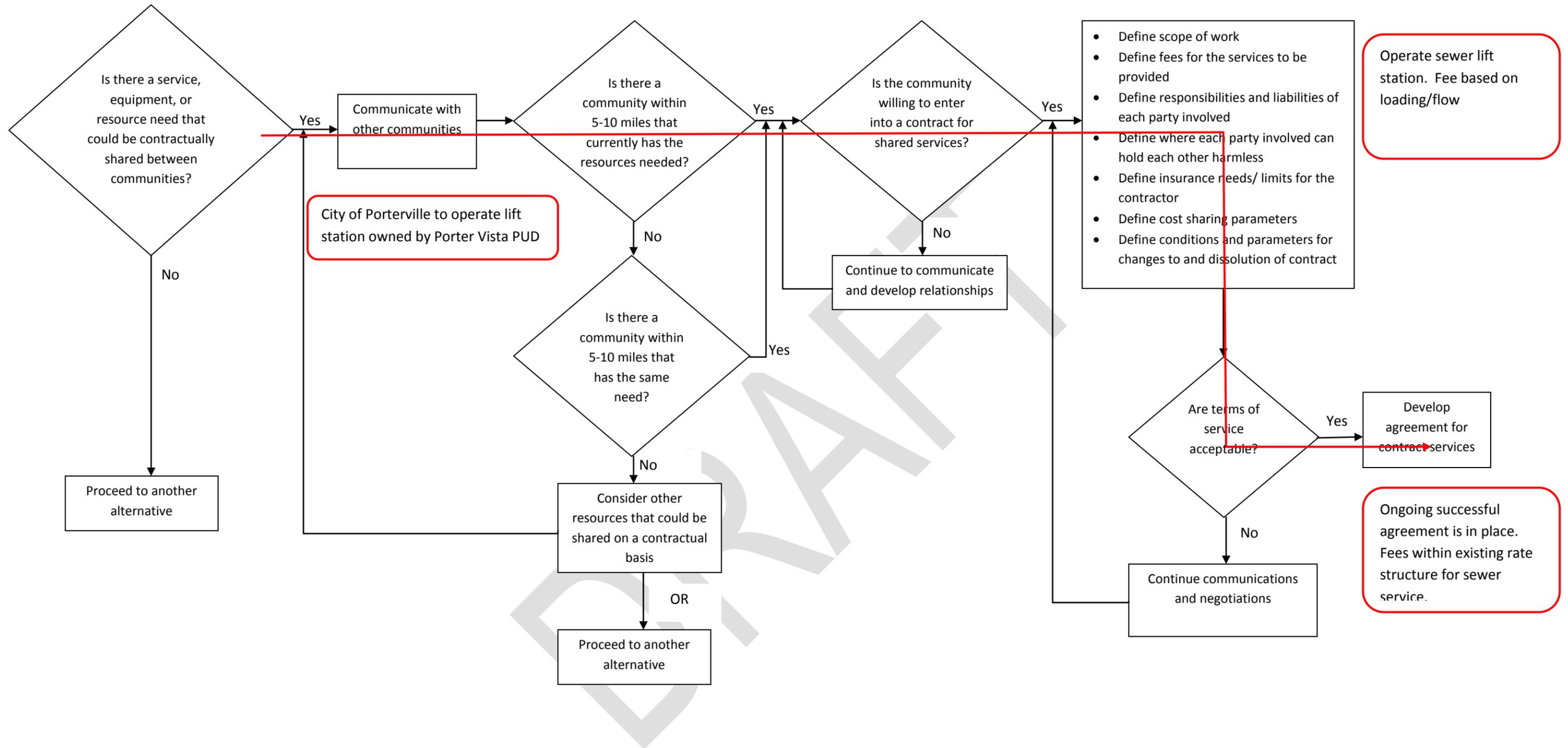


Figure 7-2(f) – Porter Vista PUD (East Porterville)

JOINT POWERS AUTHORITY (REPORT SECTION 6.1.4)

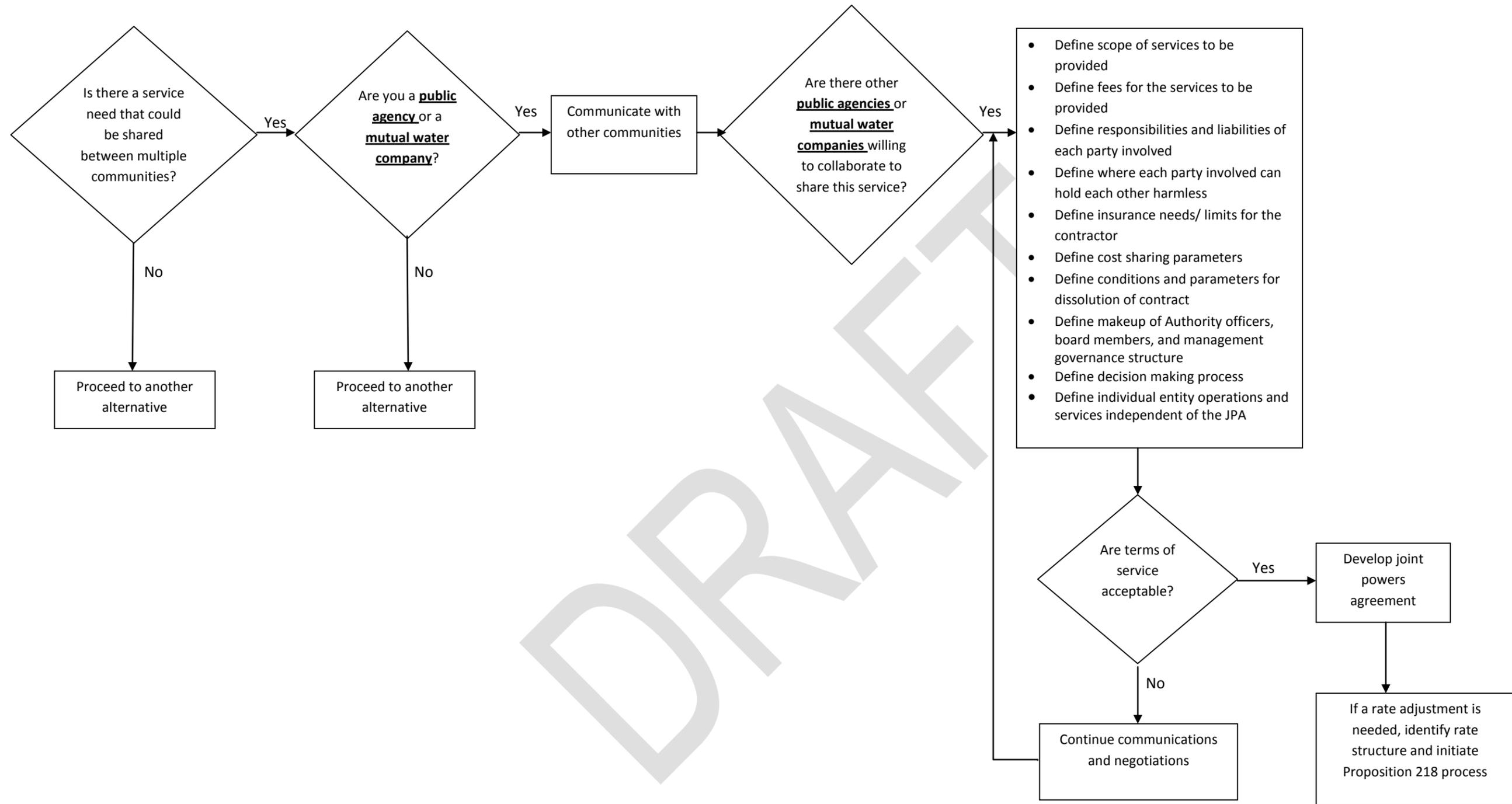
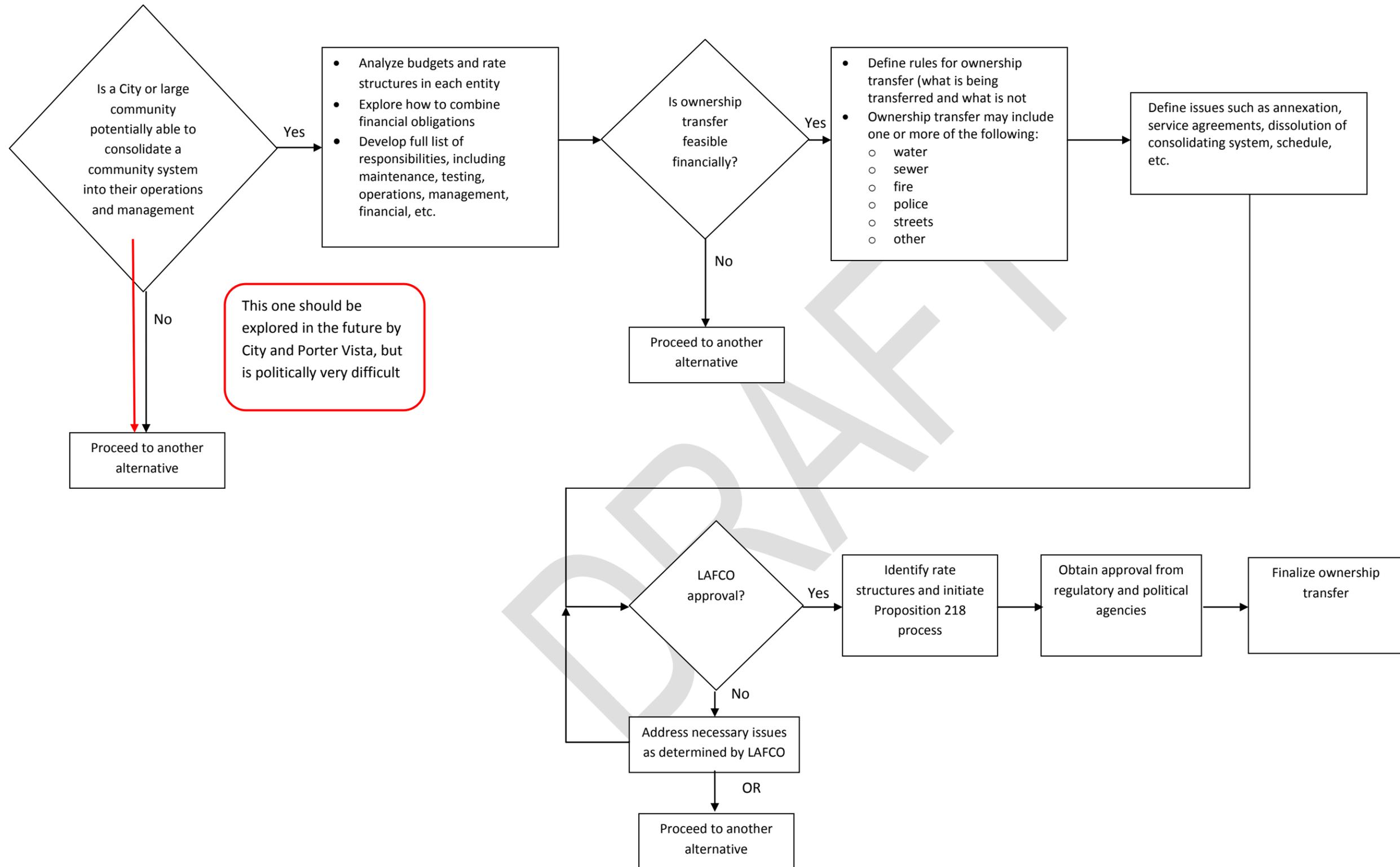


Figure 7-2(g) – Porter Vista PUD (East Porterville)

OWNERSHIP TRANSFER (REPORT SECTION 6.1.5)

(Managerial consolidation only; for physical consolidation, see New Sources pilot study)



7.2 Other Regional Projects

Several large scale regionalization projects have been completed in other areas. These larger scale regional projects would be difficult to implement in many areas within the Tulare Lake Basin area due to the large number of very small systems that are often geographically isolated; however there are potential locations within this region where this may be a feasible long term solution. Smaller scale partnership approaches as described in this report are recommended as a first step, unless relationships between communities are already developed. However, it is good to highlight some of the regional project successes that have been implemented in other regions, including:

- East Bay Municipal Utility District, Oakland, California
- Lower Rio Grande Public Water Works Authority (and other regions), New Mexico (link to Lower Rio Grande Public Water Works Authority documentary video: <http://www.lrgauthority.org/aboutusquienessomos.html>)
- Jackson County and Vinton County, Ohio
- Logan/Todd Regional Water Commission, Kentucky

In many cases, it seems that these regionalization projects have followed severe droughts, groundwater contamination, cost of treatment, or other severe events causing loss of water supply. This was the case for the Logan/Todd Regional Water Commission in Kentucky. According to the EPA webinar, Communicating to Gain and Maintain Buy-in, 2012, following a severe drought in the late 1980's, "county water supply planning" was mandated by the state of Kentucky. The result of the county water supply planning was significant. In 1999 Kentucky's 120 counties had 479 public, community water providers, including systems that produced and distributed water, those that were distributors only, and 1 regional water commission. These systems provided access to drinking water for approximately 85% of the population in Kentucky at that time. By late January 2012, the number of water systems was down to 367 (a 23% reduction in the number of systems), and now includes four regional commissions, including Beech Fork, Logan-Todd, Greater Fleming, and Cave Run. Collectively, all systems provide access to drinking water to approximately 95% of the population in Kentucky.

The status of wastewater service providers is much different. In 1999 Kentucky had 265 public community wastewater providers, including both systems that collected and treated as well as those that collected only and delivered to a neighboring system for treatment. These services provided access to public system wastewater services to approximately 55% of Kentucky residents at the time. By the end of January 2012, Kentucky had 259 public community wastewater providers. These systems provide access to public wastewater services to approximately 70% of Kentucky residents. They had found that 'big pipe' solutions would not solve Kentucky's wastewater problems, and should only be considered one of an array of possible solutions. Kentucky's public wastewater systems are now beginning to take on a role of the 'responsible management entity' for environmentally sound onsite-wastewater programs (EPA 2012).

8 COMMUNITY REVIEW PROCESS

This section presents representative communities in the Tulare Lake Basin region for which a management or non-infrastructure solution may be viable. This is based mainly on system size and proximity. It is understood that the communities may collaborate based on identifying common needs and common solutions. These potential community pairings are presented as an illustration for the reader to better understand the solutions described. These potential projects may or may not be viable in reality, and the communities themselves must initiate the process and be ready to move forward with a partnership approach. By presenting these potential projects, we are not necessarily recommending that they be implemented. Further evaluation and community outreach will be required.

8.1 Potential Projects

Some of the criteria considered in evaluating communities to determine if these solutions may be applicable include:

- Distance between water/wastewater systems
- Common needs identified between systems
- Potential for larger regional effort (range of solutions including sharing/training/consolidation)
- Input from Pilot Project Stakeholder Review Group

A Pilot Project Stakeholder Review Group (PSAG) meeting was held on April 16, 2013. At this meeting, PSAG members were asked for general input on the solutions presented, and also specific input related to potential projects and regions that may be suitable to conduct a community review.

This section identifies some of the potential projects identified with the assistance of the PSAG, based on the criteria above.

8.1.1 Seville, Yettem, Cutler, Orosi, East Orosi, Sultana, and Monson

Seville, Yettem, Cutler, Orosi, East Orosi, Sultana, and Monson are considered to have potential for a regional partnership solution, since they are all located near each other, and suffer from similar water supply and quality challenges. There are existing positive relationships that exist between Seville, Yettem, Monson, and Sultana, as well as interest from local users to evaluate these types of solutions.

A shared services study for Seville, Yettem, Cutler, Orosi, East Orosi, and Monson was conducted as a pilot project for the Kings Basin DAC Study. The Kings Basin DAC pilot project for this Northern Tulare County subregion evaluated the impacts of combining services for all or portions of the various districts' operations. The initial goal of the shared services study was to evaluate the possibility of sharing services such as legal, engineering, accounting, and/or operators. By pooling cost and funding for these services, the pilot project would attempt to identify efficiencies and possibly

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opportunities for reduced costs. After collecting water system specific information such as budgets, expenditures, and staffing characteristics, it was difficult to accurately extract water system data that would allow a commensurate (apples to apples) evaluation. Therefore, metrics that are more common and accurately maintained were identified to help evaluate cost distribution for the water systems. The number of water connections and water rates were selected to be the basis for water system comparisons.

By comparing water systems using these common characteristics and industry standards, some general conclusions about the distribution of costs and/or the economies of scale were developed. Therefore, the goal of the pilot project was revised to identify a trend of improved cost distribution, and when or at what point could this trend transform into a noticeable economy of scale.

8.1.2 Lanare-Riverdale

The Kings Basin DAC study also considered sewerage Lanare CSD, which is currently on individual septic systems, and installing lift stations and force mains to the existing Riverdale PUD wastewater treatment plant for treatment and disposal. This Tulare Lake Basin DAC water study would consider the potential of consolidating Lanare CSD's water system with Riverdale PUD to provide water supply and treatment. Both communities have had water quality violations, with arsenic being the constituent of greatest concern. Riverdale PUD is operating well and has a project in process to install a new well and water treatment facility. Lanare CSD installed a new water treatment plant in 2006, however it was too expensive to operate, mostly due to chemical costs because water usage rates were much higher than expected. This plant is still in place, but it is no longer in operation. Lanare CSD would benefit from a more sustainable treatment facility, and Riverdale PUD could gain additional revenue by serving users in Lanare.

8.1.3 Communities in West Fresno County along the California Aqueduct

There are many communities in western Fresno County, along the California Aqueduct that are all approximately 5 miles from each other. All of these communities use surface water as their potable water supply, and therefore have similar surface water treatment needs and THM issues. A project in western Fresno County could include a regional treatment facility, continued operation of several water treatment facilities, but with a single operator contracted to assist all of the communities in that subregion, contracting for shared billing or management services, or other potential shared options. The project that is being considered for this area as part of this Management and Non-Infrastructure Solutions pilot study is a training program that would provide segments of both leadership training and operator training. Lack of leadership and qualified people to manage and operate all of these systems has been identified as an issue in this area. With so many communities in this area with similar leadership and operations needs, a training program could be developed to benefit many of these systems.

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8.1.4 Communities Surrounding the City of Porterville

Communities surrounding the City of Porterville including East Porterville to the east, and Poplar, Williams and Woodville to the west, could develop a combined management structure, consolidate with the City of Porterville, or contract with a private water company familiar with dealing with public water systems. There are more than 20 small water systems within a 5-10 mile radius of the City of Porterville that could benefit from a partnership solution.

8.1.5 Raisin City – Perry Colony

Perry Colony and Raisin City are located directly adjacent to each other. Raisin City only has one active water source identified. Physical consolidation or a contractual agreement for emergency backup service may help provide additional reliability for both systems.

8.1.6 Alpaugh/Angiola/Allensworth

Alpaugh and Allensworth have had ongoing arsenic problems. This is a huge unresolved issue, and a regional project could be a solution. A Strategic Growth Council grant was awarded to Tulare County in 2012 to investigate the feasibility of a regional solution for Allensworth and Alpaugh, building on a potential partnership with Agniola Water District, located south of Corcoran.

8.2 Community Review

The goal of the community review process was to further evaluate and perform a pilot study of one or two of the identified potential projects, in order to ground truth the solutions presented and help inform the development of a roadmap. The roadmap that is developed with the assistance of the community review process will be useful to guide other communities considering the same types of solutions. The community review process also aims to help initiate conversations between communities that have potential to implement these types of solutions.

The level of partnership will not be dictated at the onset of these pilot studies, but rather will be established by the communities involved through community surveys, meetings, and other human interactions to determine the level of readiness.

Based on the selection of potential projects that was developed, prioritization considerations were taken into account to select 1-2 potential projects to further evaluate through a community review process. Prioritization considerations included:

- Politics – willingness of entities to work together to resolve common problems where there are common goals
- Applicability of solution (see criteria for evaluation in Section 8.1)
- Severity of problem, with managing, operating, and financing the systems
- Representative of other communities

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- Sustainability of solutions for the considered area

Identified communities with potential will not be further evaluated under this study if the answer to any of the following is “Yes”:

- Is one of the other three pilot studies (New Sources, Technical Solutions, or Individual Household Solutions) more applicable to this community/region?
- Was this community/region evaluated through the Kings Basin DAC study?
- Does the community/region already have a funded project in progress or completed to address the identified issues?

8.2.1 Porterville Region Community Review Focus Area

The communities surrounding the City of Porterville were identified as communities where there is a potential for Management and Non-Infrastructure type solutions.

The Porterville region community review focus area was selected based on the criteria used to identify communities where there is potential for implementation of Management and Non-Infrastructure solutions. The Porterville focus area met the community applicability criteria as follows:

- Distance between water/wastewater systems – there are many DACs (approximately 30) within approximately 5-10 miles of the City of Porterville, as shown on the focus area map, **Figure 8-1**.
- Common needs identified between systems – Most of these systems suffer from technical, financial and managerial (TMF) limitations, and many have water quality and supply problems, as shown in **Figure 8-2**.
- Potential for larger regional effort (range of solutions including sharing/training/consolidation) – Due to the large congregation of communities within a relatively small area, this could be an ideal candidate for a regional solution, ranging from informal sharing or resources to potentially fully consolidating services. It is anticipated that in any region we will not get full participation. While some communities in the Porterville area may opt not to participate, there are enough communities in the area that we think a partnership solution can thrive.
- Input from the PPSAG – We presented this region to the technical review group and they felt it was an appropriate region to investigate.

Prioritization considerations for the Porterville focus area were as follows:

- Politics – willingness of entities to work together to resolve common problems where there are common goals – We will not be able to fully understand this until we begin interacting with the communities and hold a community review meeting; however, due to the number of communities

invited to participate within the region, it is anticipated that there will be enough communities willing to participate to make it worthwhile.

- Applicability of solution (see considerations for evaluation above) – based on the considerations discussed above, management and non-infrastructure type solutions are very applicable for this region.
- Severity of problem, with managing, operating, and financing the systems. To be determined.
- Representative of other communities – this will be representative of many other communities in the region. There is a mix of public and private systems to contend with, and undoubtedly some history and politics that will present obstacles we will need to address. We anticipate that we will face many challenges in this area, which will provide useful information related to overcoming obstacles and encouraging communities to work together for the greater good of all involved. This will assist in partnership solutions in other areas as well.
- Sustainability – we will need to communicate with these communities to get a feel for how willing they are to work together, but the goal of this project is to develop solutions that will be sustainable. If we determine it will not be sustainable, we will not recommend the project move forward.
- Is one of the other three pilot studies (New Sources, Technical Solutions, or Individual Household Solutions) more applicable to this community/region? No
- Is this community/region being evaluated through the Kings Basin DAC study? No
- Does the community/region already have a funded project in progress or completed to address the identified issues? No

Tulare Lake Basin Disadvantaged Community Water Study

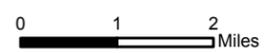
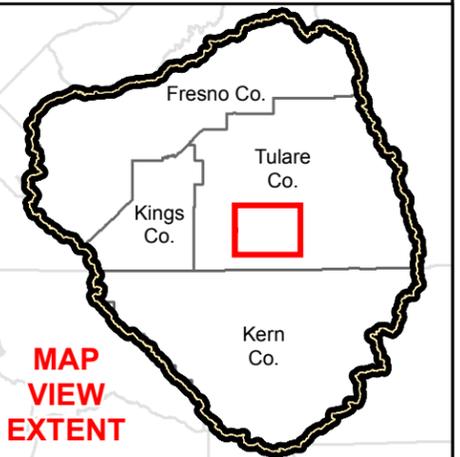
Porterville Region Focus Area

FIGURE 8-1

Legend

-  Tulare Lake Basin
-  DAC or SDAC Community
-  Major Canal
-  Community Review Focus Area

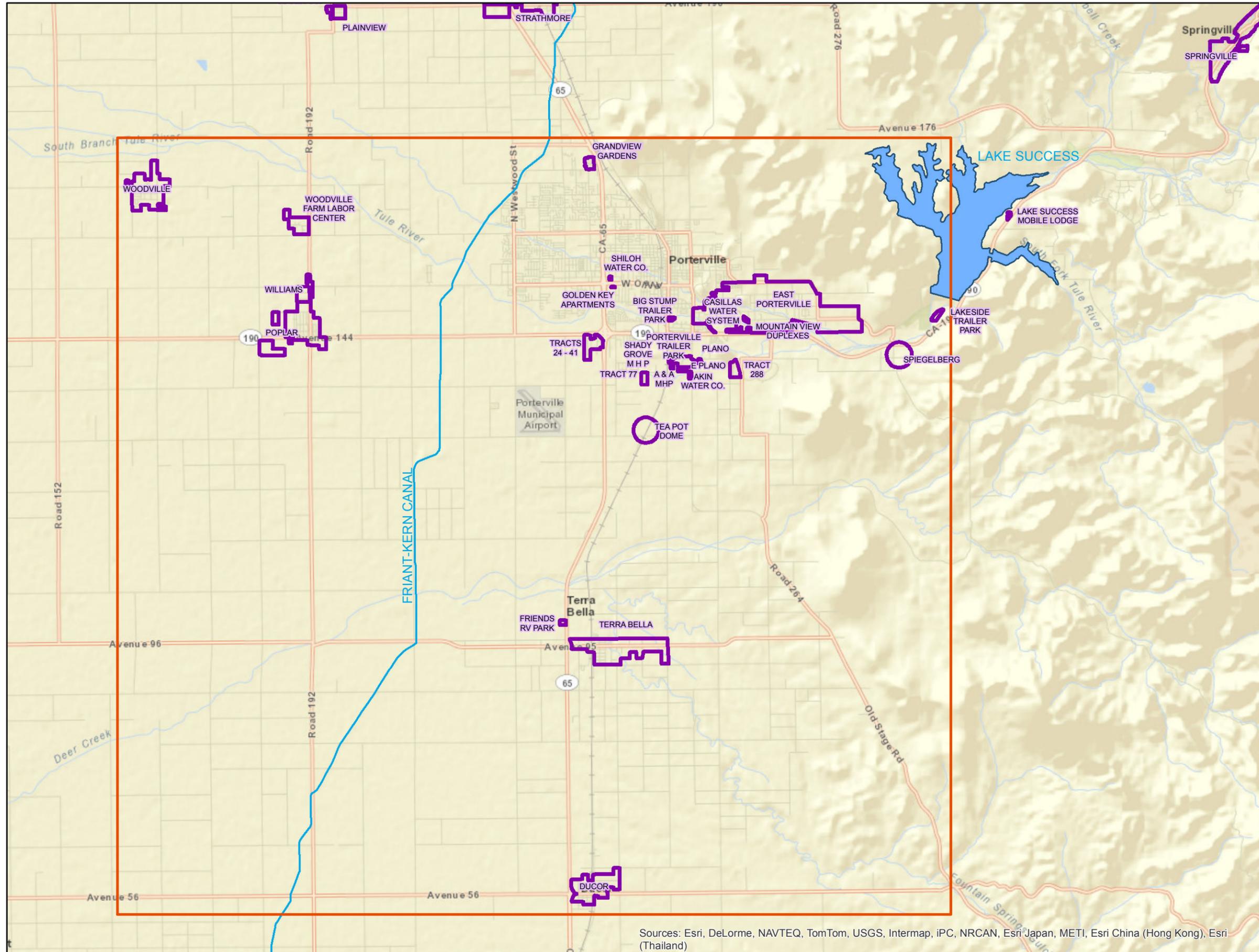
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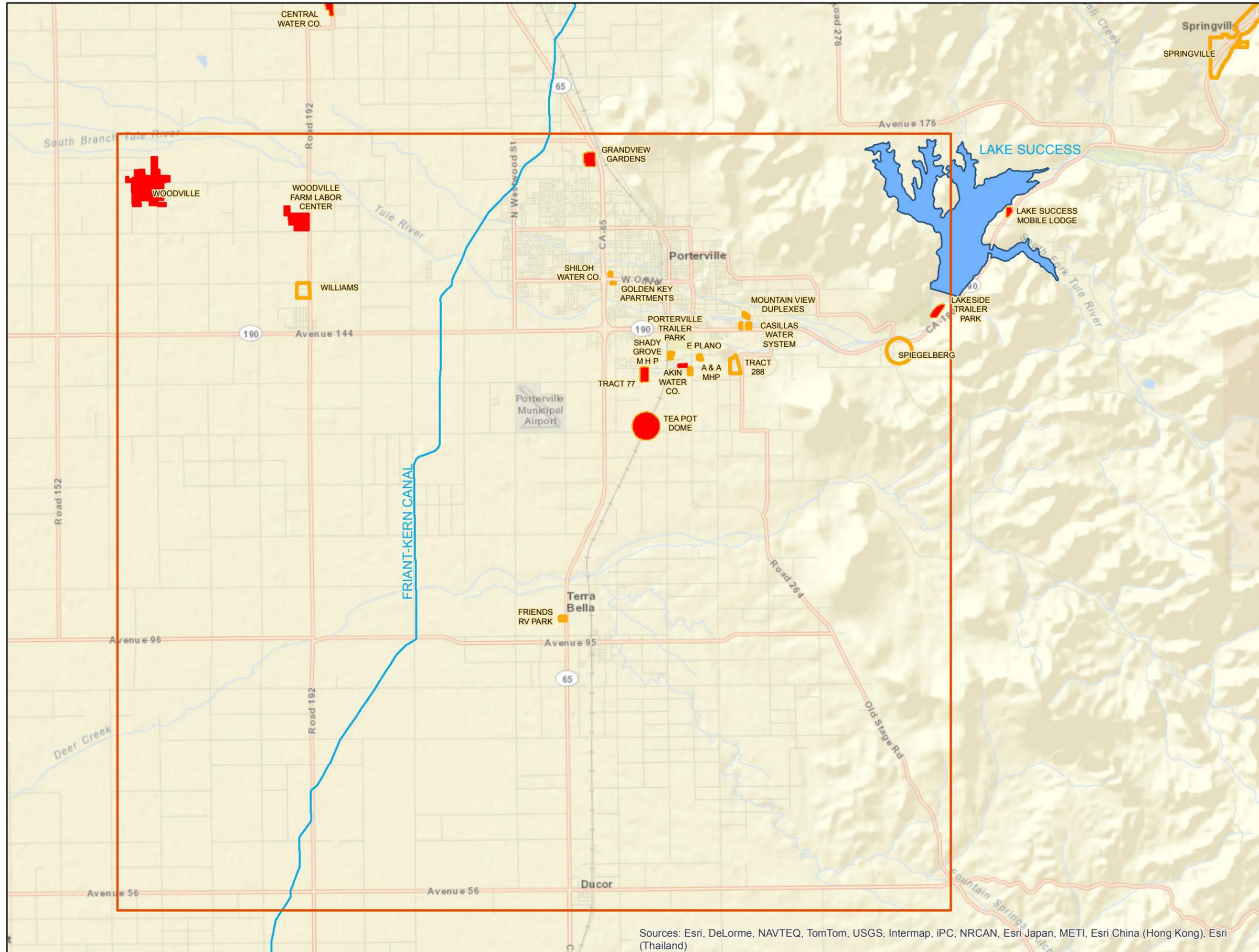
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**Tulare Lake Basin
Disadvantaged Community
Water Study**
Porterville Region Focus Area
Water Supply and Water Quality
Issues
FIGURE 8-2

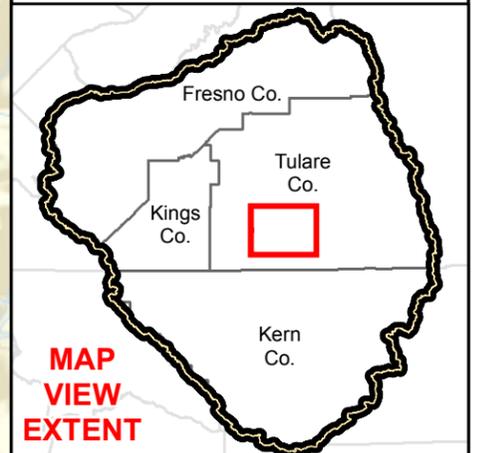


Legend

- Tulare Lake Basin
- *Source Exceeded MCL for either Nitrate of Half Nitrate (2008-10)
- 1 Active Water Source Identified
- Major Canal
- Community Review Focus Area

*Source exceeded MCL in one or more samples collected from 2008-2010. Source status is AU (Active Untreated), CU (Combined Untreated), AT (Active Treated), or CT (Combined Treated). Considered as delivered water.

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SECTION EIGHT**SOLUTIONS PILOT STUDY**

8.2.2 Goals of the Porterville Area Community Review

The goals of the Porterville area community review process included:

- Provide information to the community participants about the goals and objectives of this Tulare Lake Basin DAC study and the Management and Non-Infrastructure pilot study
- Develop an understanding of the local water and wastewater needs and opportunities for solutions
- Provide a summary of the solutions identified in the Management and Non-Infrastructure pilot study
- Identify if there is interest in supporting the development of solutions for the focus area
- Get feedback on the solutions identified, and determine what is needed to implement these solutions (inform the development of a roadmap), based on information and feedback provided by the community participants

8.2.3 Results of the Porterville Area Community Review**Community Review Meeting #1**

Two community review meetings were held for the Porterville focus area. The first meeting was held on June 26, 2013 and was attended by representatives from about 8 communities and the City of Porterville. Participants of the first meeting included:

1. Casillas Water System (owner)
2. Central Mutual Water Company (owner/operator)
3. Ducor CSD (water board member, community member)
4. East Plano – Del Oro Water Company (contract operator)
5. Grandview Gardens – Del Oro Water Company (contract operator)
6. Poplar CSD (community members)
7. Terra Bella Irrigation District – provides water service to Terra Bella (operations superintendant)
8. Woodville PUD (operator)
9. City of Porterville (City engineer, community members)

The first meeting introduced the goals and objectives of the Tulare Lake Basin DAC study and the Management and Non-Infrastructure pilot study. Participants were asked to share about the water and wastewater challenges faced in their community. The Project Team then provided a summary of the solutions identified in this report. Participants indicated that there was interest in these solutions, and that we should

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continue the community review process with a second meeting. Meeting notes from Porterville focus area meeting #1 are included in **Appendix E**.

Potential solutions noted from the first community review meeting include:

1. Central Mutual Water Company (about 30 customers)
 - a. Tie in to Porterville
 - b. Hire contract operator
2. Woodville Public Utility District
 - a. Already involved in shared solutions with various neighboring communities, both informal and contractual assistance
3. Ducor CSD
 - a. Physical consolidation with Terra Bella ID (water service)
 - b. Physical consolidation with Terra Bella Sewer Maintenance District (SMD) or Richgrove CSD (sewer service)
 - c. Shared resources and information

Note: The New Source Development pilot may further review this area.

4. Del Oro Water Company
 - a. Expand contract operation and/or contract management services to other nearby communities
5. Poplar CSD and Cotton Center (Williams MWC)
 - a. Physical consolidation
 - b. Managerial consolidation
 - c. Shared resources
6. MHP/apartment/RV Park owners generally want to be left as is (no participation). A different approach will likely be necessary to get their participation. Regulators and residents could play a role in encouraging their participation and encouraging them to see the benefits, as they may be fearful of losing part of their business.

Community Review Meeting #2

The second community review meeting for the Porterville focus area was held on September 3, 2013. This meeting was attended by representatives from 5 communities as well as representatives from the City of Porterville, the Kings Basin IRWMA, and the United Farmworkers Foundation. Participants of the second meeting included:

1. Ducor CSD (water board member)
2. East Plano – Del Oro Water Company (contract operator)

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3. Grandview Gardens – Del Oro Water Company (contract operator)
4. Poplar CSD (community member)
5. Woodville PUD (operator)
6. City of Porterville (community member)
7. Kings Basin IRWMA
8. United Farmworkers Foundation

At the second meeting, the Woodville PUD operator, Ralph Gutierrez, gave a presentation on the various types of sharing he is involved in. As described in the Example Projects section, Woodville PUD, Tipton CSD, and Pixley PUD are involved in informal cooperation. Ralph Gutierrez also contracts with other small neighboring communities to operate their water systems. This helps to earn additional money for Woodville PUD to purchase tools and equipment, which can also be used in these other communities. He also hires college students to help operate the Woodville PUD system. This helps Woodville's system to have additional personnel on hand for operations and maintenance services. It also provides valuable training to young students who are interested in learning about water and wastewater system operations. These are all good examples of the mutual benefit that can be achieved through partnership solutions.

After providing a summary of the Management and Non-Infrastructure solutions considered in this pilot study, and hearing the case study presented by the Woodville PUD operator, the group broke out into two tables to further discuss the potential solutions presented. Community Water Center and Self Help Enterprises facilitated the breakout sessions. The facilitators followed the guidelines presented below.

1. Introduce yourself and ask each member of the group to state their name and who they represent. Encourage participants to follow ground rules and share their expertise, "wear their expert hat".
2. Provide a summary of the identified solutions of focus for the table
 - Use Handout "Levels of Sharing"
 - Table 1:
 - i. Informal Cooperation
 - ii. Contractual Assistance
 - Table 2:
 - iii. Agreements between Organizations
 - iv. Ownership Transfer (Full Consolidation)
3. Ask each participant to answer each of the following questions: Have each of them share their responses and ask follow up questions whenever possible to get good feedback. Ask transcriber to document who is providing responses, e.g. water board member, operator, community resident, and other.

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Applicability

- How well does this solution meet the needs or interest of your community?
 - Is the solution addressing a specific need or providing an opportunity for improvement?
 - What issues can the solution address or make better?
 - What can you share and who are you willing to share with?
 - Will your community like or benefit from the solution?
 - What would they like about and what would be some of the benefits?
 - Is the solution the best one for my community?
 - If not, what do you see as a better solution for your community?

Implementation

- What does your community need to begin and fully implement the solutions (based on what you know about your community and what you learned about other successful case studies?)
 - What do you need to get started?
 - If it begins with a conversation, who needs to be part of it, how do you get started and what information do you provide?
 - What is going to be challenging?
 - What challenges/barriers will you have to address?
 - How will you address them?
 - What interest/resources do you have available in your community to begin implementation or discussion on the solutions?
 - What can be done with what is currently available?
 - What else would be needed?
 - What tools, maps or information or resources would you need?
 - What tips/suggestions do you have for other DACs seeking to implement these solutions?

Leadership/Capacity Development

To ensure solutions are successful and sustainable (second main challenge faced by DACs, e.g. Lack of Technical, Managerial and Financial (TMF) Capacity by Water and Wastewater Providers; Unable to hire or retain trained staff and Lack of info on available training, assistance, and educational opportunities) leadership and capacity development is needed.

- Who needs to be part of the development/implementation of these types of solutions?
 - What is needed to engage them?

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- What types of trainings/educational material/information do you and others need to be effective in promoting and implementing solutions?
 - Have you attended any water or wastewater related trainings?
 - If so, specify which ones.
 - Are you aware of trainings available for communities like yours?
 - If so, please specific.
 - How can we make sure communities have access to information on available trainings and resources?
 - What is the best format to provide the information?
4. Help the group identify common themes and areas of priority.
 5. Ask the group to identify who is willing to report back to the larger group.

Meeting notes from Portville focus area meeting #2 as well as the “Levels of Sharing” handout are included in **Appendix E**.

The general thoughts and considerations that resulted from this meeting included:

- Education/training is a big need
 - Improve operations/service
 - Improve budget if more appropriately managed
 - Better understanding of what is really needed
 - Better understanding of roles and duties of the board members
 - Better understanding of how community members can participate
 - A water/wastewater operator mentorship program could be useful to address the lack of certified water and wastewater operators
 - Most information on trainings and upcoming opportunities is provided
 - IRWMPs and/or counties could be a vehicle for dissemination of information and trainings
- For the most part, people seem willing to consider a shared solution if it is going to provide them safe and reliable water, and good service
- Relationship between the water operator and board is key to ensure resources are maximized and potentially shared
- Water operators could help identify needs and opportunities to collaborate with neighboring districts
- Successful local case studies can help generate interest and confidence in Management and Non-Infrastructure solutions
- Private companies such as Del Oro may be able to provide a range of contracted services (such as billings and/or operations), without being owners of the water system.

SECTION EIGHT**SOLUTIONS PILOT STUDY****8.2.4 Recommended Future Action**

If communities in the Porterville focus area decide to move forward with any of the potential projects identified for this region, additional work will be necessary to further define the project and proceed with implementation. Some of the tasks that will be required for future action include:

- Further Define the Problem and Impacts
 - Further define the problem (water supply, water quality, wastewater, TMF capacity, etc.)
 - Consider the impact to consumer (cost per connection)
 - Consider the population impacted
 - Consider the impact to water system owner (revenues versus expenses)
 - Consider the impact to regulatory agencies – does the solution satisfy regulatory requirements?
 - Consider the impact to Legislature – are there recommendations for legislation regarding funding assistance, land use planning, other?
- Timeline and cost
 - Outline the timeline for completion project.
 - Need for additional consultant services
- Data Gathering Needs
 - Outline what data is needed to for the pilot project and how it will be collected.
- Financial Analysis
 - Evaluate affordability
 - Revenue sources
 - Estimated capital costs
 - Estimated Operation and Maintenance costs
 - Estimated Debt Service
 - Propose rate adjustments, if needed
- Community Leadership Development
 - Outline the tools / process that will be used to build leadership development in conjunction with the pilot.
- Additional outreach to overcome obstacles or barriers as necessary

8.2.5 West Fresno County Community Review Focus Area

The Western Fresno County area communities were identified as communities where there is a potential for Management and Non-Infrastructure type solutions.

The Western Fresno County region community review focus area was selected based on the criteria used to identify communities where there is potential for implementation of Management and Non-Infrastructure solutions. A community review was not completed for this area, but the review criteria and considerations are discussed in this

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section. The Western Fresno County focus area met the community applicability criteria as follows:

- Distance between water/wastewater systems – in this region there are approximately 40 DACs, all spaced approximately 5 miles from each other, as shown on the focus area map, **Figure 8-3**.
- Common needs identified between systems – these systems are all somewhat isolated from each other, where a physical consolidation may not be feasible in many cases, but can still work together.
- Potential for larger regional effort (range of solutions including sharing/training/consolidation) – Due to the large number of communities within this area with similar needs, it is a great opportunity for a regional association and/or training program.
- Input from Technical Review group – We presented this region to the technical review group and they felt it was an acceptable region to investigate.

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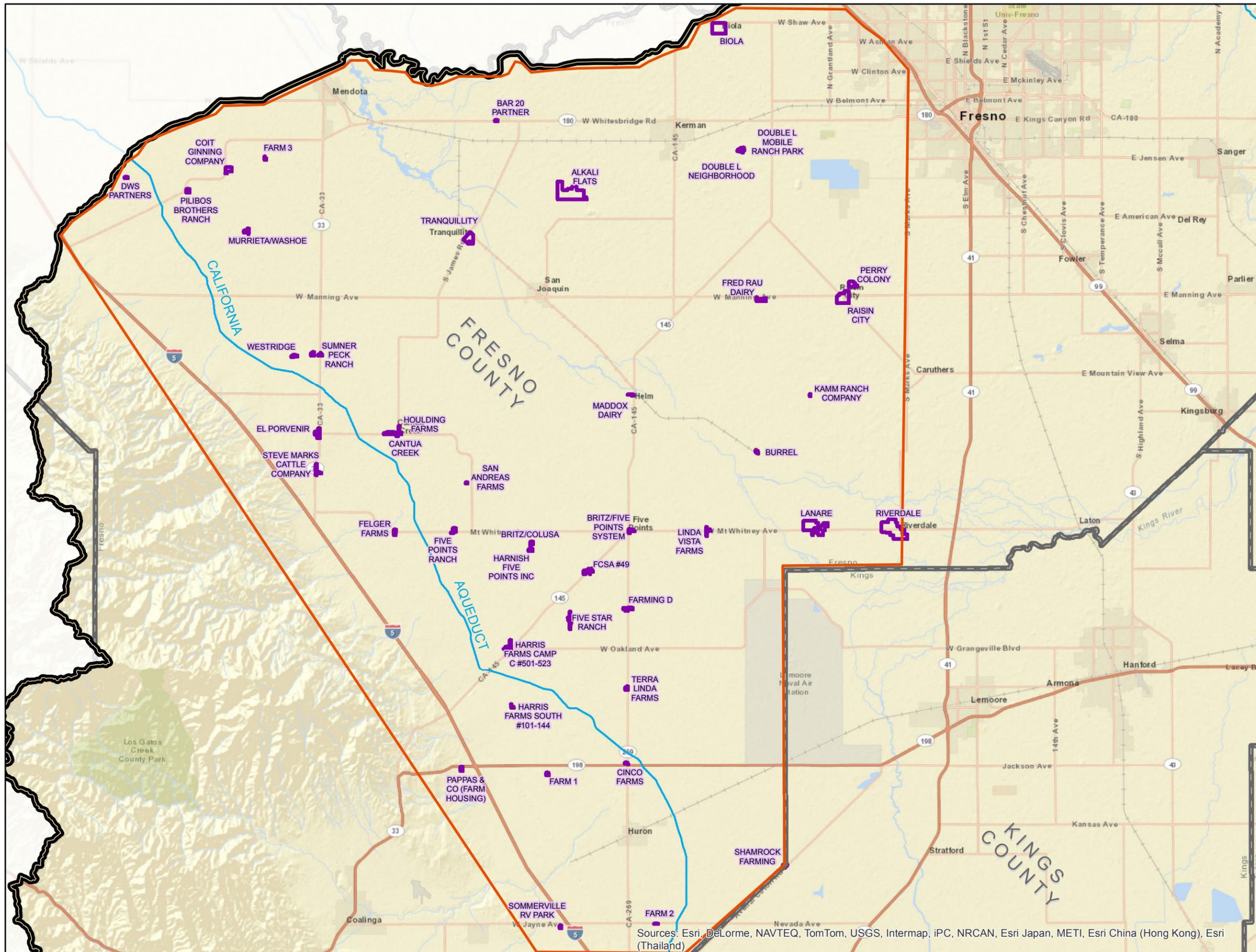
**Tulare Lake Basin
Disadvantaged Community
Water Study**

Western Fresno County
Focus Area

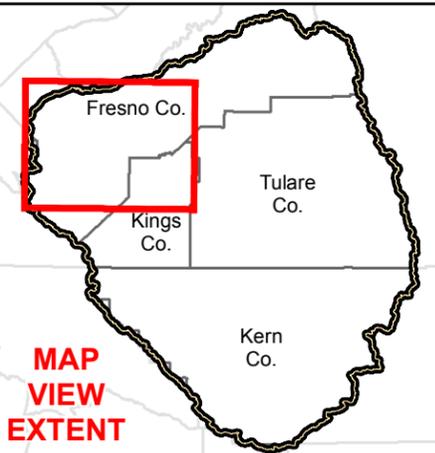
FIGURE 8-3

Legend

-  Tulare Lake Basin
-  County
-  DAC or SDAC Community
-  Major Canal
-  Community Review Focus Area



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**MAP
VIEW
EXTENT**



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Sources: Esri, DeLorme, NAVTEQ, TomTom, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand)

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Prioritization considerations for the Western Fresno County focus area were as follows:

- Politics – willingness of entities to work together to resolve common problems where there are common goals – We would not be able to fully understand this until outreach is conducted; however, due to the number of communities considered within the region, it is anticipated that there would be enough communities willing to participate to make it worthwhile.
- Applicability of solution (see considerations for evaluation above) – based on the considerations discussed above, management and non-infrastructure type solutions are applicable for this region.
- Severity of problem, with managing, operating, and financing the systems. To be determined.
- Representative of other communities – this will be representative of many other communities in the region. There is a mix of public and private systems to contend with, and undoubtedly some history and politics that will present obstacles we will need to address. We anticipate that we will face many challenges in this area, which will provide useful information related to overcoming obstacles and encouraging communities to work together for the greater good of all involved. It is also apparent that leadership and operational type training programs will be beneficial throughout the Tulare Lake Basin area. While some may exist, there are many regions that still lack training opportunities.
- Sustainability – we would need to communicate with these communities to get a feel for how willing they are to work together, but the goal of this project is to develop solutions that would be sustainable. If we determine it will not be sustainable, we will not recommend the project move forward.
- Is one of the other three pilot studies (New Sources, Technical Solutions, or Individual Household Solutions) more applicable to this community/region? No
- Is this community/region being evaluated through the Kings Basin DAC study? No
- Does the community/region already have a funded project in progress or completed to address the identified issues? No

8.2.6 Goals of the West Fresno County Community Review

The West Fresno County area communities were identified as communities where there is a potential for Management and Non-Infrastructure type solutions. The goal for this region would be to hold a meeting with the various communities identified to garner interest in a training program, which would ideally include segments for leadership development and other segments for operational training. This training program may be a part of, include, or help to initiate an association in the area aimed at sharing knowledge. The leadership portion of this training program would be aimed at developing the leadership skills and confidence in the managers of each of these systems in order to operate more efficiently. The operator training would help to educate the operators of these systems to be able to better operate their system (both water and

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wastewater systems). Some of these systems have contract operators, who may not need this type of training themselves, but it is possible that they could be of assistance in a training program. This training program will also help to get community leaders and/or operators from these various communities into one room and encourage the start of relationship building, which could potentially lead to other types of partnership down the road. Based on this outreach effort, the goal is for a model to be developed, perhaps in the form of a flow chart, which will be applicable to other areas in the Tulare Lake Basin as well.

One of the challenges of this pilot project would be to identify funding sources that have potential to be sustainable long term. Identifying probable funding sources would therefore be a goal of this process. We also want to develop a program that will allow for growth/expansion of the training programs over time. We would envision this area having a training program for leadership development as well as operator training that could be expandable to other portions of the region.

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9 FUNDING OPPORTUNITIES AND REVENUE SOURCES

State regulators and funders can begin encouraging these partnerships by providing educational material as well as funding opportunities. Some existing funding opportunities and proposed drinking water legislation are included in this section.

Funding alternatives that may be available to DACs would generally include grants, loans, and rate adjustments. Specific sources of funding assistance may include:

- State of California Bond Measures such as Proposition 50 and Proposition 84
- Safe Drinking Water State Revolving Fund (SDWSRF)
- Department of Water Resources (DWR)
- State Water Resources Control Board (SWRCB)
- United States Department of Agriculture (USDA) Rural Utilities
- Environmental Protection Agency (EPA)
- The Department of Housing and Urban Development (HUD) – Community Development Block Grant (CDBG) program
- United States Bureau of Reclamation (USBR)
- California Infrastructure and Economic Development Bank

Each of the funding alternatives has qualifying requirements and specific application requirements. The community may qualify for the funding opportunity, or the community may need to coordinate the application through another entity such as a County or Integrated Regional Water Management Authority (IRWMA).

Additional information on the funding sources listed above may be found through the California Financing Coordinating Committee (CFCC) at www.cfcc.ca.gov. The CFCC has available a Common Funding Inquiry Form that may be completed and submitted for review by all CFCC member agencies. The community would then receive feedback regarding potential funding assistance opportunities for the community and the specific needs identified. The CFCC conducts Funding Fairs each year to provide education regarding the various funding assistance programs, and to provide interested parties an opportunity to meet with representatives of specific funding agencies.

9.1 Traditional CDPH Drinking Water Funding Programs

CDPH currently administers and oversees several sources of funds to address drinking water quality issues. The sources of these funds are summarized below.

9.1.1 Safe Drinking Water State Revolving Fund (SDWSRF)

CDPH uses the resource of the SRF for low interest loans or grants to enable water systems to fund necessary infrastructure improvements. CDPH manages SDWSRF resources to fund projects to ensure that public water systems are able to provide an adequate, reliable supply of safe drinking water that conforms with federal and state

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drinking water standards. The funds are provided from the federal government, with 20 percent state matching. Interest and loan repayments are re-incorporated into the fund. The SRF currently provides ongoing allocations of approximately 100 to 150 million dollars per year.

9.1.2 Proposition 50 Funding

California voters passed Proposition 50 – Water Security, Clean Drinking Water, Coastal and Beach Protection Act, in 2002. CDPH is responsible for portions of this act that deal with water security, safe drinking water, and treatment technology. Proposition 50 allocated approximately 500 million dollars to CDPH for use as direct grants and loans to community water systems for infrastructure development, construction, and maintenance. Proposition 50 also allocated funds to the State Water Resources Control Board (SWRCB) and to the Department of Water Resources (DWR). CDPH's portion of the Proposition 50 funds has been fully allocated, and CDPH is no longer accepting applications for this funding source.

9.1.3 Proposition 84 Funding

California voters passed Proposition 84 – Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act, in 2006. Proposition 84 allocated approximately 250 million dollars to CDPH for grants and loans to communities for drinking water planning an infrastructure. This 250 million dollar allotment included 60 million dollars specifically earmarked for use as grants to reduce or prevent contamination of groundwater that serves as a source of drinking water. Proposition 84 also allocated funds to DWR for sue in Integrated Regional Watershed Management planning and development. The CDPH component of Proposition 84 is fully allocated and CDPH is no longer accepting applications for this funding source.

9.1.4 DWR IRWM Program

In 2002, Senate Bill 1672 created the Integrated Regional Water Management Act to encourage local agencies to work cooperatively to manage local and imported water supplied to improve the quality, quantity, and reliability.

DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. DWR's IRWM Grant Programs are managed within DWR's Division of IRWM by the Financial Assistance Branch with assistance from the Regional Planning Branch and regional offices.

9.1.5 State Water Resources Control Board

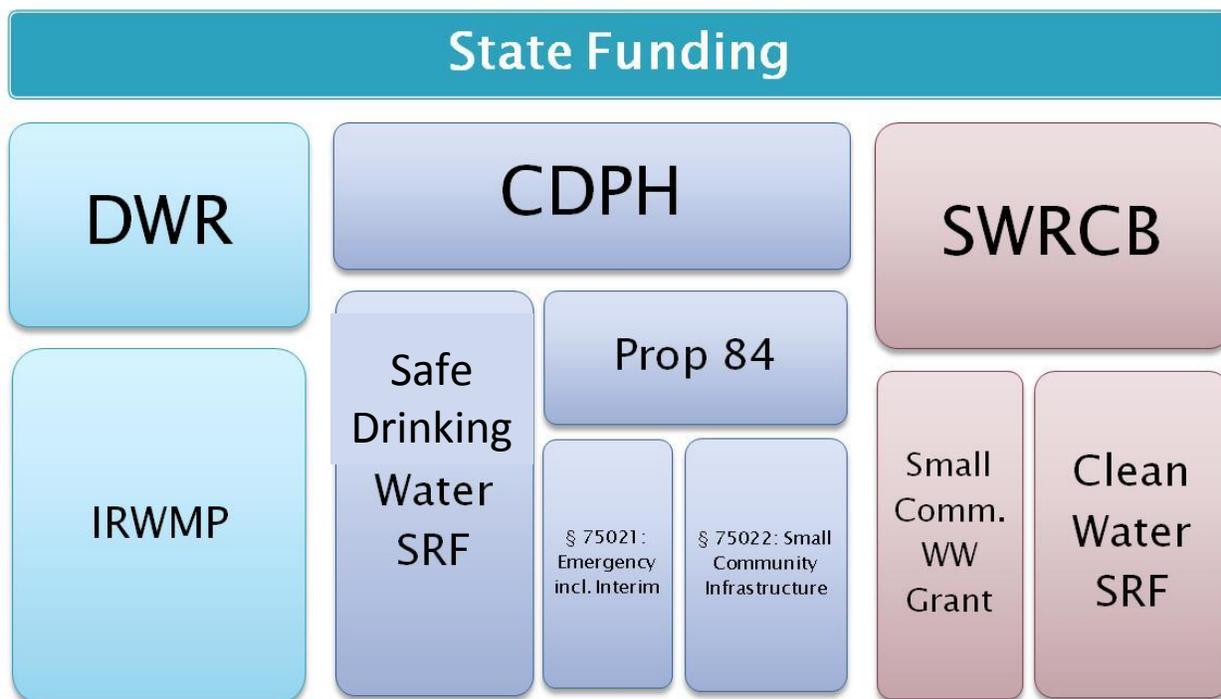
The SWRCB's Division of Financial Assistance (Division) funds wastewater projects that serve DACs. The Clean Water State Revolving Fund (CWSRF) can provide loan and principal forgiveness (grant) funding for planning, design and construction of wastewater infrastructure to serve disadvantaged communities. The Small Community Wastewater

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Grant Program (when funds are available) can provide grants of up to \$2,000,000 to cover planning, design and construction of wastewater infrastructure to serve disadvantaged communities. In general, a DAC must bring its sewer rates to at least 1.5% of the MHI for the community before grants can be issued.

[http://www.swrcb.ca.gov/water_issues/programs/grants_loans/]



9.2 Federal Funding Programs

9.2.1 Community Development Block Grant Program

The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. The CDBG program is a federally funded program run by the Department of Housing and Urban Development (HUD). The CDBG program was created by the Housing and Community Development Act of 1974 and continues to provide funding. Grants through this program are only given to cities and counties.

DACs can compete for CDBG funds to resolve water, wastewater and storm drain/flooding issues. The HUD CDBG program is broken into two primary components. Cities and counties with larger population centers such as Fresno and Kern Counties receive an annual formula-driven allotment of CDBG funds which is considered an entitlement. Smaller cities and counties including Kings and the non SMA portions of Tulare counties compete on an annual basis for CDBG discretionary

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“small cities program” funds administered by the State Department of Housing and Community Development. [<http://hcd.ca.gov/fa/cdbg/index.html>]

Under the entitlement program in Fresno and Kern Counties, communities compete for funding at the County level. An advisory committee makes recommendations to the Fresno County Board of Supervisors which makes the decisions on CDBG funding provided the proposed project meets HUD criteria. In the unincorporated portions of Kings and Tulare Counties, the local Board of Supervisors selects projects to compete for funding at the state level.

CDBG funding is one of the few sources available to cover project-related work on private property. Such work may include sewer and water connections and abandonment of old water wells and septic tanks.

Some entitlement counties small cities have opted out of Fresno County’s entitlement program because there is the potential that a larger amount of funding could be secured through the competitive process through the Small Cities Program. On the flip side, the jurisdiction may receive no CDBG funding in an annual funding cycle if their application does not compete well. This is a highly competitive program and in order to compete, the City would need to emphasize health and/or safety issues related to water, wastewater or storm water needs that would be resolved by the proposed project. To be competitive, the community would also need to have a very high percentage of low income households.

Under the discretionary small cities program, pre-design Feasibility Study costs can be applied for through CDBG’s Planning and Technical Assistance grants for a maximum of \$50,000.

9.2.2 USDA Rural Development, Rural Utility Service

United States Department of Agriculture (USDA) Rural Development provides program assistance funding through direct loans, guaranteed loans, and grants. USDA Rural Development provides direct loans and grants to develop water and waste disposal systems in rural areas and towns with a population not in excess of 10,000. These funds are available to public bodies, non-profit corporations, and Indian tribes. Additionally, USDA Rural Development provides loan guarantees for the construction or improvement of water and waste disposal projects serving the financially needy communities in rural areas. The water and waste disposal guarantee loans are to serve a population not in excess of 10,000 in rural areas.

- USDA Rural Utilities Service (RUS) has been the largest funding source for rural water and wastewater system improvements over the years. RUS funding is often quicker to secure than State funding but there is usually less grant available and the community normally takes on a higher percentage of loan. In recent years, RUS’s loan interest rate has been lowered to rates competitive with State-operated SRF programs.

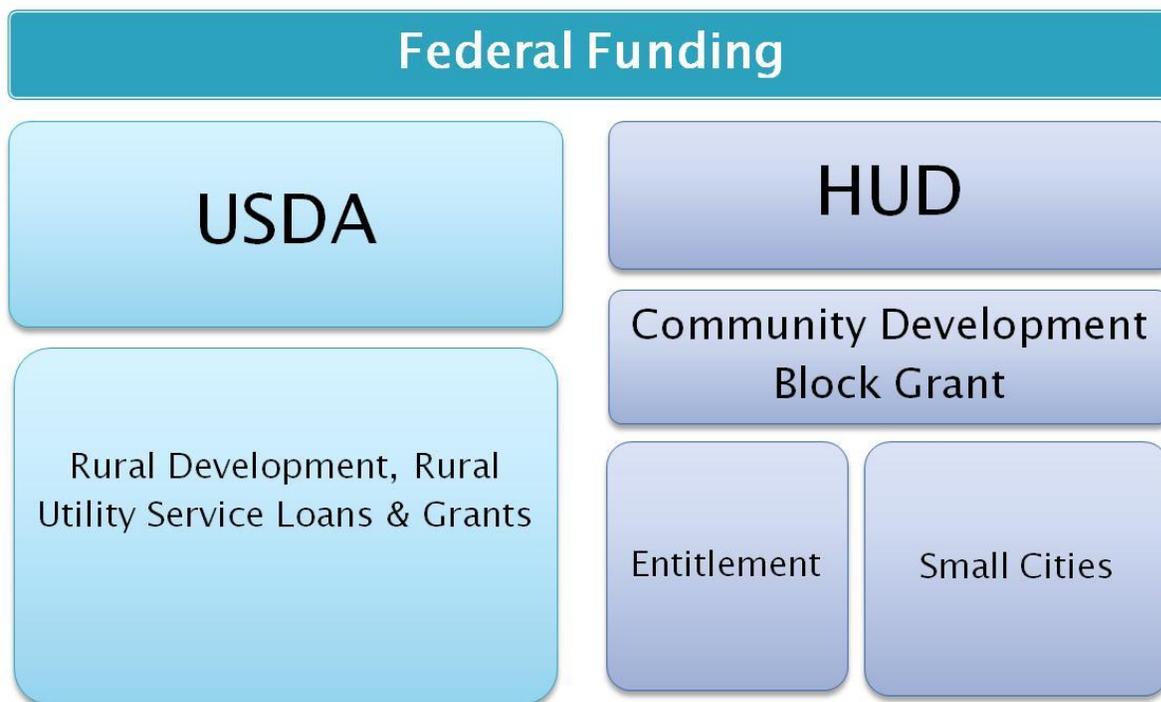
[http://www.rurdev.usda.gov/UWEP_HomePage.html]

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- RUS funding usually covers a broader definition of eligible project costs than many State operated programs. This simplifies the process when USDA is the sole source of project funding. When USDA funding complements other funding sources, USDA can often finance costs ineligible in other programs such as land purchase and contingencies (not eligible in SWRCB programs for example) or replacement of a water distribution system (often times ineligible in CDPH programs). In “unusual cases” (RUS Instruction 1780) USDA water and wastewater program funds can be used to fund water and sewer service connections on private property and the abandonment of old private wells and on-site septic systems.
- Individual loan applications may be submitted by income eligible property owners that reside on their property to USDA’s 504 housing rehabilitation program. This program can cover the costs of water and sewer service connections and/or the abandonment of old water wells or on-site septic systems, though funding is often limited.

[http://www.usda-rural-development-direct-mortgage.com/504_repair_loan_and_grant.htm]



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9.3 Newer and Emerging CDPH Funding Programs

9.3.1 Funding for Pre-Planning and Forming Public Water Systems

CDPH has proposed a new program to assist communities of private well owners to consolidate with state small water systems (state smalls) and other existing PWSs. This program would also fund efforts to consolidate multiple existing state smalls or PWSs, into a new water system or where an otherwise eligible entity is not yet formed.

Program Eligibility and Application Information:

Currently, communities of private well owners and state smalls¹ (systems between 5-14 connections) do not qualify for funding under the Safe Drinking Water State Revolving Loan Fund (SDWSRF), which grants millions of dollars a year to PWSs for water related projects. Under a new set-aside, communities of private wells or state smalls that want to create a new water system or be consolidated into existing PWSs are eligible to receive SDWSRF funding. Funding is primarily for pre-planning, including formation of new legal entities (i.e. PWSs).

9.3.2 The Small Water Systems Program Plan (SWSP)

In 2012, CDPH announced plans to concentrate funding and other resources on 177 specific small public water systems (PWSs)¹ in need of meeting drinking water standards. Most of the water systems are in disadvantaged communities. This program outlines specific actions that CDPH intends to take that will incrementally reduce the number of small systems not meeting the State's water quality standards. CDPH staff have set a goal of bringing 63 of the 177 identified small systems into compliance by the end of 2014 and most of the remaining others within three years.

Specific Actions Taken by CDPH Staff:

CDPH and third-party providers will prioritize these small systems over other systems for receiving available technical and financial resources and work with stakeholders to identify opportunities for consolidation.

CDPH will track progress towards resolving problems and provide stakeholders an annual report on the status of all water systems still listed.

CDPH staff, working with counties, will prepare a one-page summary for each system on the list that identifies issues and barriers that keep water systems from executing permanent drinking water solutions.

CDPH will create a small system specific webpage, with technical information and updates.

Program Eligibility and Application Information:

¹ State small system serves at least five, but not more than 14 service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

Eligible communities are those with small systems with fewer than 1,000 service connections and a population up to 3,300. Communities that meet these criteria and are currently out of compliance, with one or more drinking water quality violations, will be contacted by CDPH with further details on how to participate in this program. CDPH intends to work closely with third party provider to fully implement this program. Communities in the Central Valley, that believe they qualify for this program, but aren't listed as one of the 177 identified communities should contact CDPH Drinking Water Program staff, the Community Water Center, or a respective regional third party provider (Rural Community Assistance Corporation (RCAC), California Rural Water Association (CRWA) and Self Help Enterprises). ***San Joaquin Valley Contact List:*** CDPH Drinking Water Program (916) 552-9127, Marques.Pitts@cdph.ca.gov; Community Water Center (559) 733-0219 or (916) 706-3346; Self Help Enterprises (559) 651-1000.

9.4 Proposed Drinking Water Legislation

9.4.1 Assembly Bill 21 (Alejo): Small Community Safe Drinking Water Grant Fund

This bill would provide funds for disadvantaged communities without safe drinking water by authorizing the assessment of a charge in lieu of interest payments on loans and depositing the monies into a newly created grant fund. The new grant program would allow disadvantaged communities who are unable to repay interest-bearing loans to apply for grants to remedy their unsafe drinking water.

This bill was signed by Governor Brown on October 8, 2013.

9.4.2 Assembly Bill 30 (Perea): Small Community Grant Funds

The State Water Pollution Control Revolving Fund Small Community Grant Fund (SCG Fund) finances wastewater treatment projects in small disadvantaged communities. The SCG Fund is scheduled to sunset in 2014. This bill would extend the sunset date to 2019.

This bill was signed by Governor Brown on October 8, 2013.

9.4.3 Assembly Bill 115 (Perea): Small Community Consolidation

This bill would clarify applicant eligibility for state drinking water funding and encourage existing PWSs, and private well owners, primarily in disadvantaged communities with unsafe drinking water, to consolidate and form a new or revised PWS.

This bill was signed by Governor Brown on October 8, 2013.

10 SUSTAINABILITY OF PROGRAM

This section discusses the steps that may be taken to insure the long-term sustainability of the solutions presented in this report, when they are implemented. A few of the key contributors to the sustainability of a project include:

- Leadership development
- Community involvement and community buy-in
- Planning for operations and maintenance impacts
- Securing funding for improvement and O&M impacts

10.1 Leadership Development

Leadership development is critical to the sustainability of any system or program. It is important the leaders of the community water or wastewater system continue to seek additional education and training. As mentioned previously, there are existing leadership development and other training programs available. Ultimately, continued education and training will enable water and wastewater system purveyors to be better leaders for their staff, it will help them to more efficiently run the system, and may inform them of potential funding opportunities that are available to make improvements to the system.

Long term planning is also critical to the success and sustainability of a system. Once the system is operated and managed by an entity (newly created or existing), then the decision makers can focus on long term planning and completing different tools for the effective management of the systems. These may include Asset Management Plans, Water Conservation and Drought Management, Capital Improvement Plans, etc.

10.2 Community Involvement

Every community has unique characteristics that create challenges as well as opportunities. These unique characteristics must be identified and addressed for each of the communities involved.

Local decision makers must involve the community in the process, and invite assistance providers if necessary to explain the collaborative effort. Public meetings should be held about the regional entity being proposed. These meetings should be held at different communities within the region, since many will feel more comfortable in their 'home' setting. Rather than holding meetings at a "central" location, holding meetings at the various small communities involved may encourage cooperation and get the communities engaged.

In addition to communicating with board members, decision makers, and council members, it is important to reach out to the community and get them involved. Often the community members (customers) do not care about loss of control. They care about quality of service, including reliable supply and water quality, and reasonable rates.

Often, community members are not aware of the water system needs that exist. The community members need to be educated on the deficiencies and needs of their water systems, and understand the water quality issues. By showing community members actual costs to operate and maintain a water system, they may begin to understand and appreciate the cost of the service to deliver water to the customer's tap.

10.3 Operations and Maintenance Impacts

Consideration of the operations and maintenance impacts can sometimes be difficult to convey to users. Sometimes the costs per connection are higher at the beginning, and the economies of scale do not begin to show strongly for years of sound management. This may be because system maintenance has been neglected due to inadequate revenue, and so there may be capital improvement needs that must be completed. Once the system has been improved and "brought up to speed" as far as appropriate maintenance activities, they may have had to taken on some debt and increased rates, but their infrastructure will be good, and the rates will stabilize. It would be difficult to state or show this generally in a way that would be meaningful to all communities. A cost benefit analysis would need to be completed for any potential project that is being considered.

11 OBSTACLES AND BARRIERS

11.1 Potential Obstacles and Barriers

For many reasons, DACs often struggle to engage with each other, neighboring agencies, or the IRWM process. Communities have identified and worked through some common obstacles to implementing a partnership solution. These obstacles are not present for all DACs in the region, and most of them can be overcome with some work. Some of the potential obstacles that have been identified include:

- Disadvantaged community systems lack the technical expertise, struggle to operate and maintain their systems, and often lack the resources to engage with other entities. Also, the difficulty DACs have with effectively operating and maintaining their systems can be viewed as a liability when attempting to develop interagency relationships.
- Consolidation may result in a loss of identity for a local community. However, it is recommended that community residents weigh the ability to sustain a clean, reliable, and affordable water supply against what may be only a perceived loss of independence or identity. There are other areas of the communities that have already been consolidated such as schools, senior citizens services, etc.
- Systems that merge or acquire other systems may absorb those acquired systems' debts. However, they have also acquired assets. The systems that have debts generally have newer or up-to-date infrastructure, and so there is a balance between liabilities and assets. There may also be funding incentives to make improvements to the acquired system, if necessary, to make the consolidation more amenable to the remaining entity.
- The initial costs associated with holding meetings and discussing partnership solutions, soliciting community involvement, and other associated tasks may be a barrier. Substantial staff time investment may be required of consolidating systems or cities, with little chance of direct compensation for that time. The cost of the election can be significant. There may be opportunities to receive assistance for this process, but a funding program to assist communities through this process would be beneficial.
- Local political barriers can be significant, but as mentioned above, it should be emphasized that cooperation and sharing of resources may allow the communities involved the ability to sustain a clean, reliable, and affordable water supply.
- Management goals of multiple systems may conflict. This will take additional efforts to coordinate and develop a management structure for the consolidated entity.
- Language barriers can make communications difficult, both within a system or with other systems. Many districts hire a translator for board meetings to overcome this obstacle, and translators can be utilized for other communications as well.

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- Participation from small, private systems is often difficult to attain. Based on experience from the community review process for this study, as well as other local studies, small, private water systems generally do not have an interest in participating in shared solution type discussions, especially mobile home parks or apartments where the owner may not be local, or he may have an investment interest in keeping a water system with little care for the water quality. There are, however, some mobile home parks, such as Lacey Courts Mobile Home Park and Four Seasons Mobile Home Park in Kings County, who have a project in process to consolidate with the City of Hanford.

Due to these real or presumed views, efforts to work together are challenging and can make it difficult to forge new relationships. Discussing the barriers that are seen in this region is not meant to be discouraging, but is meant to be a first step toward a resolution. By identifying the obstacles and barriers, we can begin to work toward solutions to overcome those barriers.

Through the outreach efforts in the Porterville region community focus area, participants generally indicated that they would be willing to consider any of the solutions presented, if it would provide them safe, reliable water service.

11.1.1 Education and Training Opportunities

Many obstacles and barriers to implementing a shared solution, and also to more effectively operating the existing system, stem back to a lack of education or training. Operator training could help improve system operations and service. Management or board training could help give the board a better knowledge of what job duties they are responsible for, what work is really needed and what is not, improve budget and more appropriately manage a system. Specific training on roles and duties of the board members would be very helpful in educating board members as to the roles of the manager, the board, the operator, the engineer, community members, etc., so that the system can be more efficiently managed, and resources are not wasted by having the inappropriate person performing a task. More education and training will also garner more interest and participation.

11.1.2 Putting Aside Historic Rivalries

Some obstacles may be rooted in historic rivalries or political barriers between partnering communities, which could completely stop a partnership from getting off the ground. These rivalries can be rooted in school traditions, or other social or political rivalries. The effect of these challenges cannot be minimized or forgotten when approaching a partnership. It is important to communicate and discuss these barriers when they are recognized, and encourage the communities involved to look past those differences for the common good of all involved. The ability to sustain a clean, reliable, and affordable water supply will hopefully outweigh any barriers between the communities. It is the same rationalization for communities who fear the loss of perceived independence or identity. That being said, if a community (or group of communities) is not ready to partner with a neighboring system, it should not be forced

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upon them. The communities identified as being candidates for a regional solution should be educated as to the benefits of a regional approach, but the decision to move forward should still lay with each individual community.

Due to the community identity and rivalry type issues that may be faced, transparency is key. The partnership development process should be documented and available to the public.

11.1.3 Learning About Each Other

The facilitator(s) of any partnership should be sensitive to the fact that each entity involved is bringing different assets and different challenges to the table. Due to these differences, one community or system may feel like a neighboring community benefits more, which can lead to the feeling that partnership is somehow unfair or skewed. This sense of unfairness can create a barrier to forming partnerships. However, respect and caring for each other's issues invites cooperation.

It is important to help people understand that it is impossible for everyone to be equal. Not everyone will benefit exactly the same way or in the exact same amount from a partnership solution. However, it should be emphasized that each entity will benefit well enough to justify their participation. However, it may be that there is a larger community involved that may be included to provide a solution for the other communities, and may not be in need of the partnership itself. However, the deal must be beneficial in some way to that community. Perhaps, in exchange for annexing one or more small, neighboring systems into their system, they may receive funding for a new well or improvements to their water or wastewater treatment facility.

11.1.4 Building Trust and Commitment

Another concern or barrier that these communities may feel is loss of control if their system is being merged into another entity. This is a real concern, but it could be that, although they may be losing control on some level with one part of their system, they may have the ability to stay informed and involved in their system. Developing this comfort level is a large reason why it can be beneficial to start small, with informal agreements. Then as trust is gained, the communities can (but do not have to) progress toward contractual agreements and potentially full consolidation. There are situations when full consolidation is the first and only way to a solution, but some communities may prefer to hold out until they develop a certain level of comfort with the other community.

11.1.5 Visionary Leaders and Communities

The broader community should be invited to engage in decisions about a partnership. When an entity becomes part of a regional system, there is a possibility that the entity can actually gain control over larger or critical issues that have been put off within its own system. If an entity, for example, decides to contract operator services, it can free

them up to really manage the system (not just operate the plant) and focus on issues that would not only benefit the community now but will benefit future generations.

One thing to note is that a system's customers, the people who are drinking the water, generally do not have as much concern about loss of control as long as there is quality of service and reasonable rates. It is the system managers, decision makers, and elected officials that are most concerned about the loss of control. It is usually a "me" issue rather than a community benefit issue that the leadership works through once they understand the greater benefits and feel trust and confidence in the process.

If the decision about a partnership is brought to the broad community, they may understand the benefits with less concern regarding the obstacles discussed herein. For that reason, it may be beneficial for the facilitator of a partnership to reach out and get closer to the community by holding meetings at churches, schools, or the local volunteer fire department.

11.2 Overcoming Obstacles and Barriers – Facilitating the Process

Communities who are interested in pursuing one of these partnership solutions should conduct an in-depth shared services study, including all potential communities that may be involved. Through the shared services study, the communities would have the opportunity to learn about each other, find out what and how they can gain by partnering with each other, determine the level of sharing that is appropriate, and then decide whether or not to opt in. This process would be facilitated in a manner that would work towards eliminating or overcoming the obstacles present for that particular community or region. Some of the items of focus during this process are discussed in this section.

11.2.1 Focus on Common Needs versus Common Goals

In order to get past some of the obstacles and barriers that may be preventing communities from working together to find a common solution, it is important that there is a facilitator to assist in the process, and that the facilitator of the partnership focus on the common need that they are trying to resolve. The goal is to find a way to work together to meet the common needs of the region. It should be emphasized that the long term health and wellbeing of the residents within the region should be the primary goal, and should outweigh the other obstacles and barriers that may be inhibiting the communities from working together.

The facilitator must encourage communities to focus on the future. A regional partnership may be the solution needed to supply sufficient potable water to the communities involved, without interruption, for years to come. Focusing on the future and the health of the local residents and the property value may encourage communities to begin to look beyond the history discussed above and think about 10 years from now, and think about the benefit they can provide for their children and grandchildren. A property without water has no value for future generations. The focus should be centered around the long term goal of providing a safe, healthful, and sufficient water supply, not the politics or rivalries that may exist.

SECTION ELEVEN**11.2.2 The Economies of Scale: Dividing the Cost by Many Helps Everyone**

Another solution to overcoming some of the obstacles mentioned is to make the project about the numbers as much as possible. Presenting the numbers can help to deal with things more concretely. For a specific region or group of communities proposed, the adjustments in rates and revenues can be presented based on actual demonstrable cost. In most cases, it is anticipated that the regional or consolidated rate will be less than if each party tried to resolve their individual issue on their own through treatment or drilling new wells. It should be noted that this will not likely mean rates will be reduced, but that rates will not require as much of an increase as would be required to bring each individual system into compliance. Focusing on the numbers helps to take the distrust out of the equation.

11.2.2.1 Infrastructure Solutions

The intent of a regional solution is to provide a win for all parties involved. If the solution is not projected to be beneficial, it will not be recommended as a solution. In regionalizing and working together, whether it includes informal cooperation with a neighboring system to full consolidation, communities are able to provide additional redundancy and resilience, and also provide economies of scale, which in most cases will bring individual costs down. An idea that tends to hit home with people is the idea of resiliency through redundancy. A regional water system can build redundancy into the system, making the system resilient to failures within the system. Additionally, if a member no longer has to treat their water, or there is a regional treatment facility, that enables them to concentrate on the distribution system and make that more efficient.

11.2.2.2 Funding is a Big Benefit

A regional project may also have more immediate political benefits, in that funding agencies and state legislatures may applaud the move towards regionalization. A regional approach may give the project an advantage in finding funding because the funding agencies will recognize and appreciate partnerships. A regional project will provide a unified voice for funding that each individual entity probably does not currently enjoy on its own.

11.2.2.3 Technical Assistance

Regulatory agencies can also be partners in the process to help with messaging and providing technical information to the communities. As technical experts, CDPH could help educate the community about the state of the water system and the implications related to public health. CDPH could participate in public meeting, explaining what the regulations are, and explaining what non-compliance means for the system. CDPH can explain the effect of poor water quality on public health. It may be beneficial for both sides to have CDPH available to educate and help promote a water system partnership effort, rather than interacting with the system in an enforcement action. In communicating in this manner, it may help develop more of a relationship between the water systems and CDPH and make coordination and cooperation better in an ongoing basis.

12 RECOMMENDATIONS FOR FUTURE ACTION

The solutions presented in this report are expected to be viable options for communities that choose to move forward with a partnership approach. There are implementation steps that need to be done by any specific group of communities that may choose to move forward with one of these solutions. Complimentary to the solutions presented in this report, there needs to be an education campaign throughout the Tulare Lake Basin region to educate board members, operators, and residents on the water issues that are faced by communities in the area, and begin to plant the seed regarding potential solutions.

In the implementation phase, the communities will need to work on the following:

- Seek funding to conduct a Feasibility Study to evaluate partnership solution alternatives
- Conduct a community survey of the customers, owners, and elected officials to understand their interests and needs
- Share data on budget, finances, etc., across communities involved
- Prepare a TMF Assessment of all communities involved
- Retain legal counsel to evaluate the available forms of governance and how a different form of governance may change the responsibilities of an agency (if governance structure will be changed)
- Retain an accounting professional to evaluate the financial health of each agency and the feasibility of consolidating finances (if applicable)
- If full consolidation or ownership transfer is not the selected path, consider developing a shared services agreement (contractual assistance) for professional services (legal, engineering, accounting)
- Include funding and possibly consultant support for the feasibility study process to conduct public education and outreach
 - Public education is critical, particularly for the local government officials who are involved in key decisions in relation to the restructuring of existing water systems. Public outreach is also critical to the general public. The general public needs to acquire full understanding of the steps, potential associated costs, impacts and benefits. Open discussions on issues that will impact and change the lifestyle of community residents is a key element in the successful completion of a regional project.
- Consider the impact to consumers (cost per connection)
- Consider the impact to water system owners (revenues versus expenses)
- Consider the impact to regulatory agencies – does the solution satisfy regulatory requirements?

- Consider the impact to Legislature – are there recommendations for legislation regarding funding assistance, land use planning, other?

DRAFT

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APPENDICES