

APPENDIX C
WESTERN FRESNO COUNTY PILOT PROJECT

**DISADVANTAGED COMMUNITY PILOT PROJECT
WESTERN FRESNO COUNTY SUB-REGION
LANARE SEWER SYSTEM**

**FINAL
APRIL 2013**

Prepared for:

Kings Basin IRWM Authority

Prepared by:

EST. 1968
**PROVOST &
PRITCHARD**
CONSULTING GROUP
An Employee Owned Company

TABLE OF CONTENTS

1	Introduction	4
1.1	Development of the Project Scope.....	6
2	Lanare Sewer System.....	8
2.1	Project Alternatives	11
2.1.1	Alternative 1: Interconnection with Riverdale PUD at WWTF	13
2.1.2	Alternative 2: Interconnection within Riverdale PUD.....	15
2.1.3	Alternative 3: Lanare CSD Wastewater Treatment Facility.....	18
3	Next Steps and Feasibility Study	20
3.1	Feasibility Study.....	20
4	Potential Funding Sources	22
5	Bibliography/References	23

LIST OF FIGURES

Page

Figure 1-1:	Kings Basin IRWM Sub-Region Map	5
Figure 1-2:	Western Fresno County Sub-Region Map	6
Figure 2-1:	Lanare Community Map.....	9
Figure 2-2:	Project Alternatives	12

LIST OF TABLES

Page

Table 2-1:	Riverdale’s Wastewater Flow Characteristics	10
Table 2-2:	Lanare CSD Wastewater Treatment Capacity Requirements	10
Table 2-3:	Lanare CSD Sewer Collection and Treatment Options	13
Table 2-4:	Alternative 1 Cost Estimate	14
Table 2-5:	Alternative 1 Advantages and Disadvantages.....	15
Table 2-6:	Alternative 2 Cost Estimate	16
Table 2-7:	Alternative 2 Advantages and Disadvantages.....	17
Table 2-8:	Alternative 3 Cost Estimate	18
Table 2-9:	Alternative 3 Advantages and Disadvantages.....	19

APPENDIX

A..... Lanare CSD IRWM Grant Pre-Application

ABBREVIATIONS

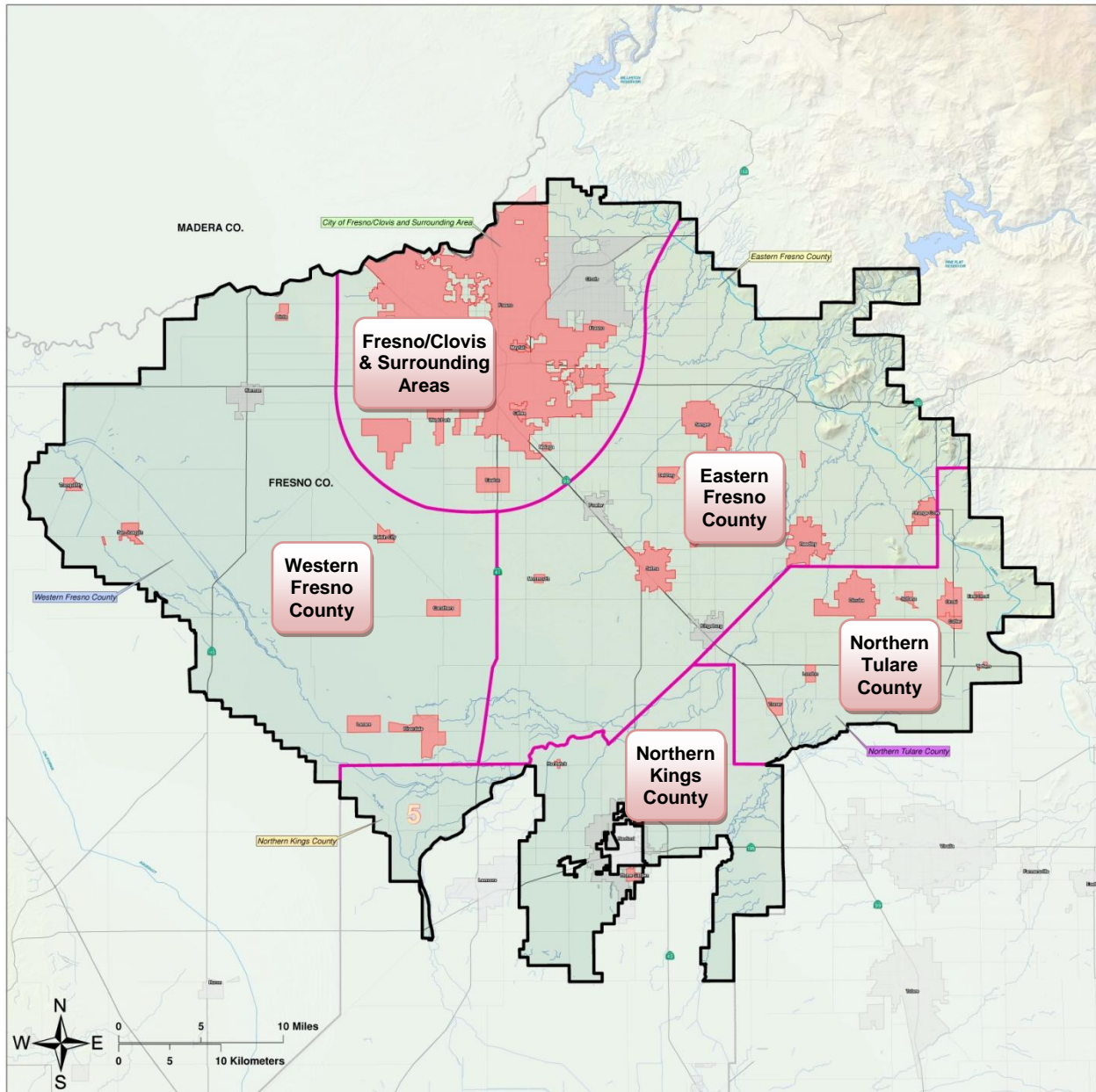
AWWA..... American Waterworks Association
CSA..... County Service Area
CDP..... Census Designated Place
CDPH..... California Department of Public Health
CSD..... Community Service District
DAC..... Disadvantaged Community
IRWM..... Integrated Regional Water Management
IRWGMG..... Integrated Regional Water Management Group
LAFCo..... Local Agency Formation Commission
MHI..... Median Household Income
MSR..... Municipal Service Review
PUD..... Public Utility District
SDAC..... Severely Disadvantaged Community
WWTF..... Wastewater Treatment Facility

1 INTRODUCTION

The Kings Basin Integrated Regional Water Management (IRWM) Authority (Authority) received a grant from the State of California, Department of Water Resources, to develop a pilot project or series of projects within the IRWM boundary focusing on water, wastewater or storm water problems and issues faced by Disadvantaged Communities (DACs). A DAC is defined as a community with a Median Household Income (MHI) of less than 80% of the statewide MHI.

The Kings IRWM boundary extends over the majority of Fresno County plus portions of northern Tulare and Kings Counties and contains nearly 100 DACs. In an effort to develop pilot projects that would address common problems and benefit multiple DACs, the IRWM region was divided into five sub-regions: Northern Tulare County, Fresno/Clovis and Surrounding Areas, Western Fresno County, Eastern Fresno County and Northern Kings County (See **Figure 1-1**).

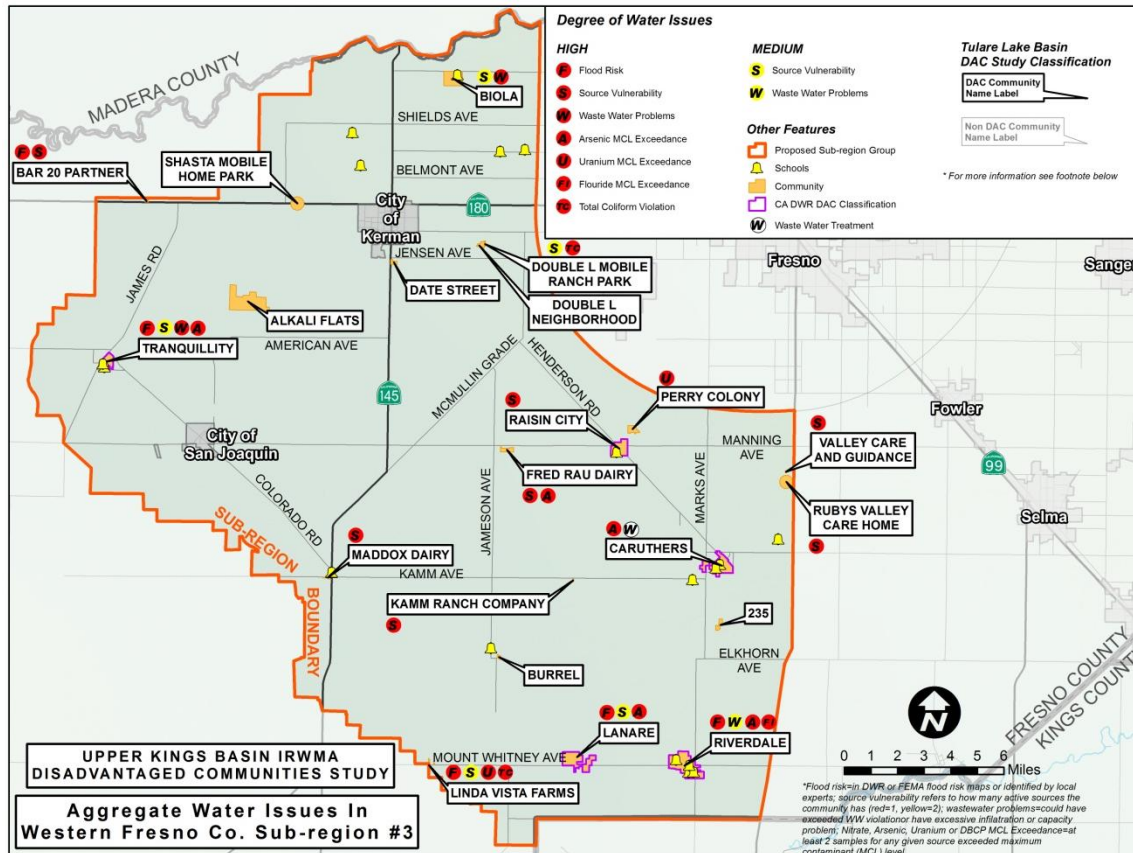
Figure 1-1: Kings Basin IRWM Sub-Region Map



SECTION ONE

The Western Fresno County Sub-Region has numerous DACs (See **Figure 1-2**). Extensive outreach was performed to all agencies within the Sub-Region in an effort to educate them about Integrated Regional Management Planning and to seek their participation to help identify pilot projects for the Sub-Region. Representatives from several water systems, communities, school districts, cities and residents actively participated in the pilot project process including, Biola, Caruthers, Raisin City, Perry Colony, Riverdale, Lanare, Burrel, City of San Joaquin, CDPH, and City of Kerman.

Figure 1-2: Western Fresno County Sub-Region Map



1.1 Development of the Project Scope

Stakeholders such as community residents, board members, consultants (representing agencies), and school personnel from the communities came together through several sub-region meetings to discuss their regional concerns and problems with a goal of developing a pilot project to address their common issues and concerns regarding operations of their water, wastewater or storm drainage systems.

Through consensus, the participating representatives determined the highest-priority issue for their communities is the lack of a sewer collections and treatment system for the community of Lanare. The region selected this project because the severity of the wastewater problem in Lanare; there is a regional solution by collaboration with the

SECTION ONE

Riverdale Public Utilities District (PUD) and the need to pursue funding for a Feasibility Study for evaluating and developing a preferred alternative. During the pilot project selection meeting, on several occasions, the topic of fostering improved communications and seeking Riverdale PUD's involvement was discussed. Focusing on these issues, the group selected a pilot project to evaluate the possibility of constructing a sewer collection system, connecting the properties in Lanare then connecting to the Riverdale PUD's Wastewater Treatment Facility (WWTF) and expanding the capacity to accommodate Lanare's sewer flow.

A Feasibility Study involves conducting a detailed engineered analysis of the most viable infrastructure options, evaluating governance alternatives, permitting, developing potential customer fees for the preferred alternative, and preparing recommendations for many other important aspects of the project. The purpose of a feasibility report is to identify a preferred project alternative, and proceed with the design and engineering tasks. The ultimate goal of this pilot project is to conduct the preliminary engineering and technical analysis so a grant application can be prepared to fund a feasibility study.

The pilot project will identify viable options (not all options) to transition the existing developed properties within the Lanare Community Services District (CSD) from private septic systems to a community sewer collection and treatment system, and preparing the pre-application for planning funding through the Kings Basin Integrated Regional Water Management Group (IRWWMG). This will allow Lanare to consider starting outreach and initiate discussions with key stakeholders in their community and Riverdale PUD.

Riverdale PUD is a key partner in this project and the pilot project has been focused to help provide technical data and information needed to foster discussions between the Lanare CSD, and Riverdale PUD (Districts). The alternatives presented are intended to identify the physical improvements necessary. If an alternative involving the interconnection of the Districts is deemed viable, the Districts will need to discuss operational and governance structure and responsibilities. Specific topics have been identified and listed in the Next Steps section of this report for the Districts to consider, and may need a certain level of consensus prior to submitting a funding application for a Feasibility Study.

On January 8, 2013 the Lanare CSD sewer pilot project was introduced to the Riverdale PUD board. The purpose of attending the board meeting was to inform the board of the project and seek support to share information about Riverdale's sewer system. However, the item was not on the agenda so the project manager returned on February 5, 2013 and the board approved the sharing of information for the pilot project.

2 LANARE SEWER SYSTEM

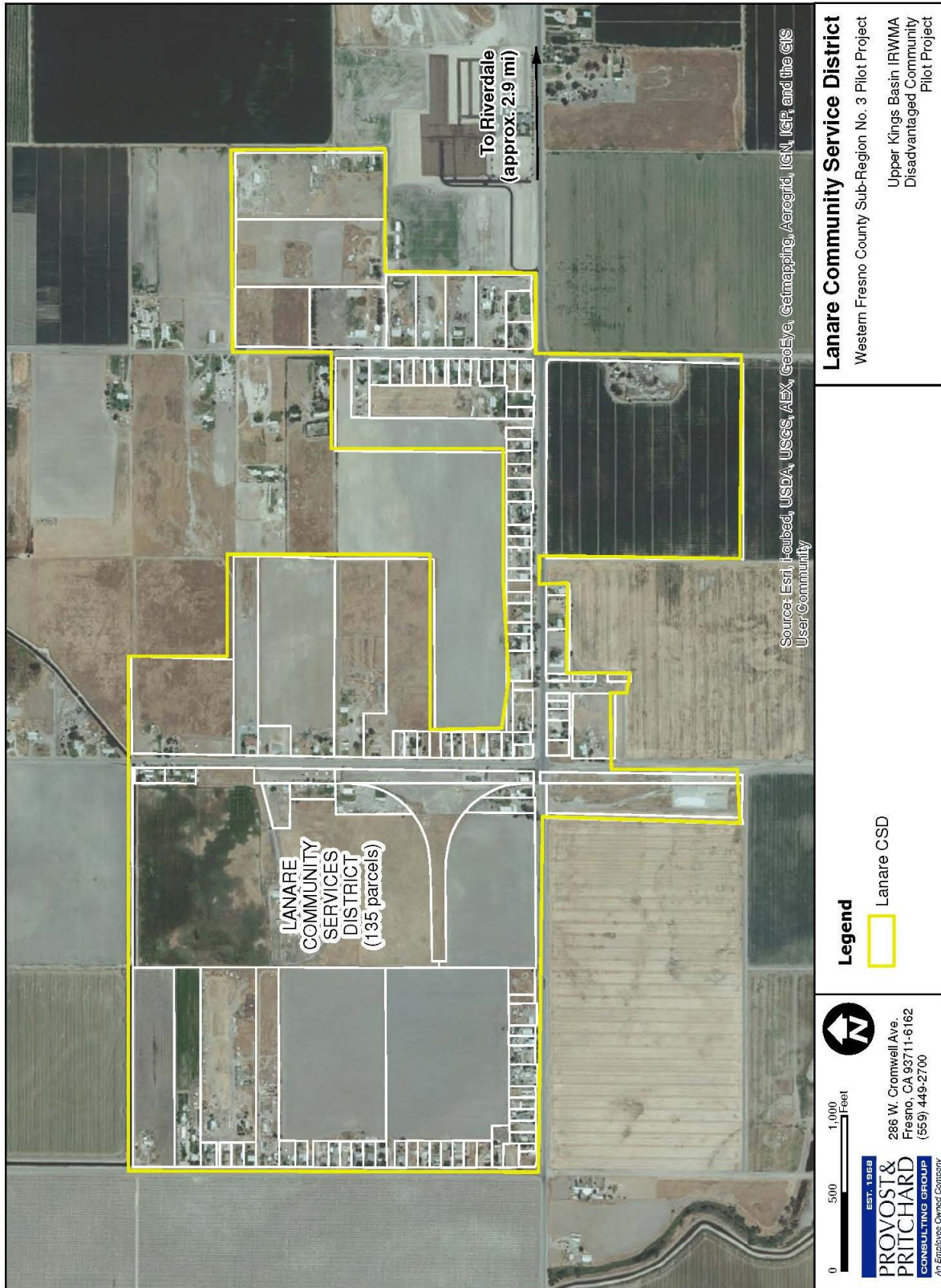
Lanare, community and census-designated place (CDP) in Fresno County as shown in **Figure 2-1**, located about 24 miles south-southwest of the City of Fresno, and approximately 3.5 miles west of the community of Riverdale. The community formed a Community Services District (CSD) in 1971 to manage their water system, which serves water to approximately 150 connections, several of which are outside of the District boundary.

The community of Lanare currently relies on individual septic systems in lieu of a wastewater collections and treatment system. There have been several septic system failures and resulting sewer overflows, creating a public health concern. A secondary concern is groundwater quality; it is the sole source of supply for Lanare and other nearby communities, and is therefore a critical resource to protect.

SECTION TWO

DISADVANTAGED COMMUNITY PILOT PROJECT
WESTERN FRESNO COUNTY SUB-REGION

Figure 2-1: Lanare Community Map



SECTION TWO

There are approximately 135 residences with an estimated overall population of 589, within the Lanare CSD. The actual wastewater production is unknown due to the presence of onsite septic tanks. However, it can be assumed the sewer flow for the residents of Lanare CSD would be similar to the residents of Riverdale PUD. Riverdale PUD's WWTF is essentially at capacity, and there has been some preliminary planning evaluating the expansion of the WWTF. If the existing community of Lanare CDS were to connected to Riverdale PUD's WWTF, it is assumed the project would have to include an expansion of Riverdale's WWTF in addition to the capacity needs for Riverdale PUD. Sizing of the expansion estimate as a result of only Lanare's connection has been calculated using the following assumptions and calculations:

Table 2-1: Riverdale's Wastewater Flow Characteristics				
Riverdale PUD Maximum Month, Average Day (MMAD)		Riverdale PUD MMAD 2010/2011 Average	2010 Census Population	Average Daily Flow Per Person (gpcd)
11/2010	248,267 GPD	247,484 GPD	3,153	79
11/2011	246,700 GPD			

Utilizing the calculated average day flow per person from Riverdale PUD's system, the anticipated Wastewater Treatment capacity requirements are calculated in **Table 2-2**.

Table 2-2: Lanare CSD Wastewater Treatment Capacity Requirements		
Unadjusted Average Daily Flow Per Person (gpcd)	a	79
Rain Inflow, Infiltration and Peaking Factor (gpcd)	b	10
Adjusted Average Daily Flow Per Person (gpcd)	c = a+b	89
Population	d	589
Average Day Flow Total (gpd)	e=c*d	52,500
WW Treatment Capacity Requirements (MGD)	f=e/1,000,000	0.053

Additional assumptions for the system include:

- Existing residences: 135
- Existing population: 589
- Existing commercial connections: 1
- Wastewater production rate (Adjusted Average Daily Flow): 89 gpcd

SECTION TWO

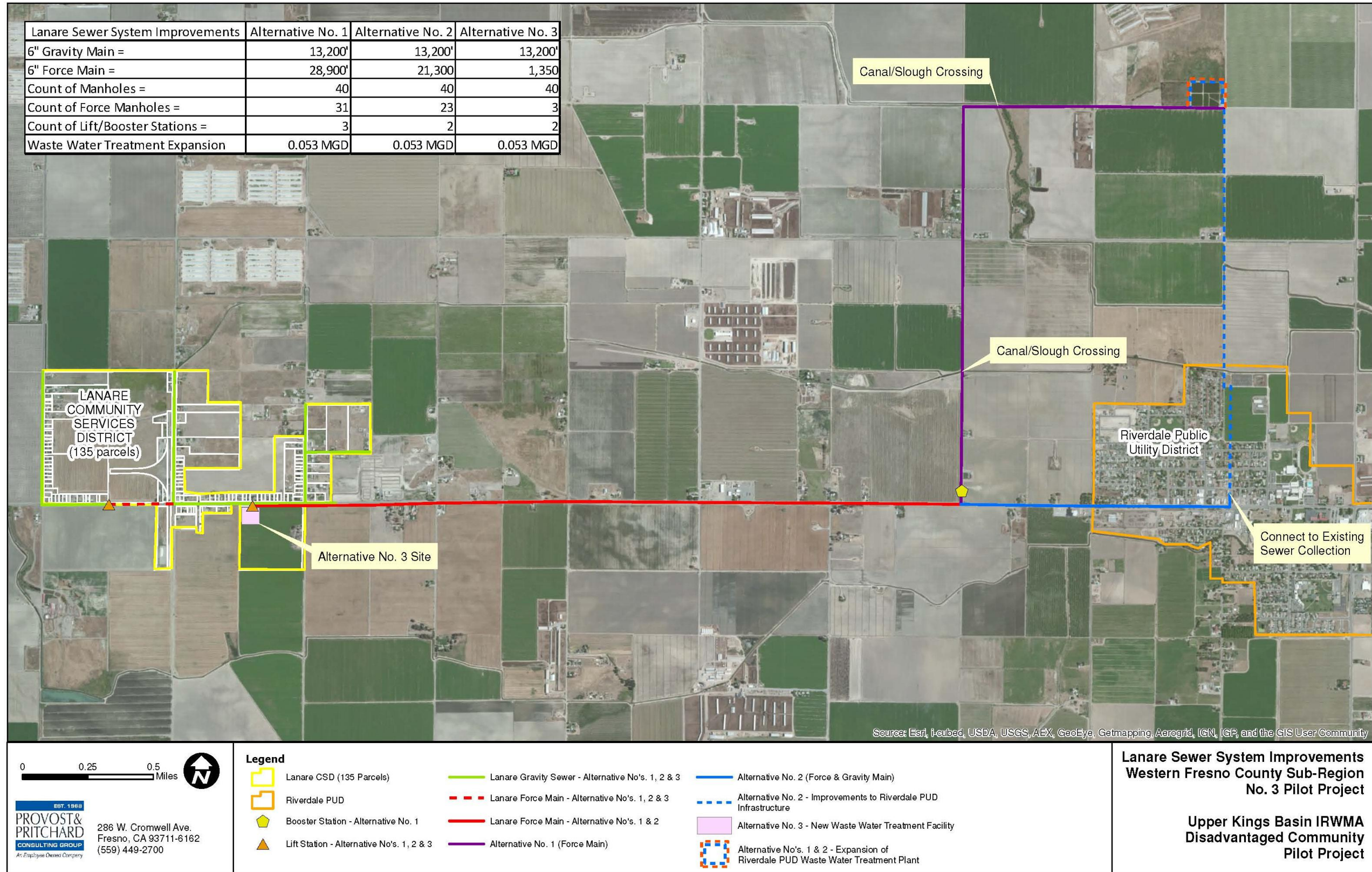
- Growth projections: The pilot project proposed a system sized for existing developed properties, and growth has not been used to size treatment capacity. However, some funding sources allow for growth assumptions, and the scope of the Feasibility Study can be adjusted depending on the funding source.
- Existing Riverdale PUD WWTP Capacity: 0.25 mgd
- Existing Riverdale PUD wastewater flows: 0.23 mgd
- Design Velocity (gravity): 2 fps (minimum) @ maximum flow
- Minimum pipe size (gravity): 6-inch
- Design Velocity (force main): 3 fps (minimum) @ average design flow
- Minimum pipe size (force main): 6-inch
- Lift stations installed when depth of sewer approaches 20 feet
- Project will be constructed to Riverdale PUD Standards

2.1 Project Alternatives

The proposed sewer system collections systems include the construction of gravity sewer mains, sewer force mains, manholes, and lift stations, and proper abandonment of the existing onsite septic systems within the Lanare CSD.

In total, the pilot project presents three different alternatives, as shown in **Figure 2-2**.

Figure 2-2: Project Alternatives



SECTION TWO

The three options present the most logical alternatives relative to the construction of the sewer system infrastructure and treatment; ongoing operations costs, permitting, rates and interagency cooperation are all issues that will need to be evaluated in a future Feasibility Study that could impact the viability of the alternatives.

Table 2-3: Lanare CSD Sewer Collection and Treatment Options		
Alternative No.	Collection System Solution	Treatment Solution
Alternative 1	Lanare Collections System	Interconnection with Riverdale PUD at WWTF
Alternative 2	Lanare Collections System Connects to Riverdale’s Collection System near Mt. Whitney and Valentine Avenues	Wastewater Treatment Conducted at Riverdale PUD at WWTF
Alternative 3	Lanare Collections System	Wastewater Treatment Plant Constructed in or near Lanare CSD

The treatment of the sewer flow is evaluated using two alternatives: treatment at Riverdale PUD’s WWTF (Alternatives 1 and 2) or the construction of a new WWTF within the Lanare CSD (Alternative 3).

The pilot project is not selecting or recommending a preferred alternative, only presenting viable alternatives. However, the District’s agreement on operations and governance can impact the alternatives and the type of infrastructure needed. Therefore, early discussions and consensus about operations, maintenance and governance are encouraged between the Districts.

The abandonment of the on-site septic systems has been included in each option. However, most funding sources will not allow for improvements to be constructed on private property. In the Section 4 of this report, options for funding the abandonment of the on-site septic systems are discussed. More importantly, the Feasibility Study will need to address this issue in greater detail.

2.1.1 Alternative 1: Interconnection with Riverdale PUD at WWTF

2.1.1.1 *Alternative Description*

This alternative would involve constructing a sewer collection system and treating wastewater at the existing Riverdale PUD wastewater treatment plant (WWTP). This alternative includes the construction of gravity sewer mains, sewer force mains, manholes, lift stations, upgrades to the existing Riverdale WWTP necessary to accommodate current flows from Lanare, and some level of consolidation with Riverdale PUD. This alternative would also include proper abandonment of the existing onsite septic systems within Lanare.

The new collection system would deliver wastewater from customers within Lanare CSD directly to the existing Riverdale PUD Wastewater Treatment Plant. This alternative would include the following components:

SECTION TWO

- Approximately 13,200 feet of 6-inch diameter gravity sewer main;
- Approximately 28,900 feet of 6-inch diameter sewer force main;
- Approximately 135 sewer service connections;
- Approximately 40 manholes (gravity);
- Approximately 31 pressure manholes;
- Approximately 2 lift stations;
- Approximately 1 booster station; and
- Expansion/upgrades to the existing Riverdale PUD WWTP, as required to accommodate the additional flow from Lanare CSD.

The components listed above are based on preliminary, schematic level design; quantities may change when more detailed engineering information is available and analyzed.

The existing capacity of the Riverdale PUD WWTP is approximately 0.25 million gallons per day (mgd). Riverdale currently produces approximately 0.23 mgd on an average annual basis, and is therefore in need of an upgrade even without considering providing service for Lanare. It is estimated that Lanare CSD customers currently produce about 0.053 mgd of wastewater, for a total combined production of approximately 0.28 mgd that would be treated at the existing WWTP. Although it is not known what the final expansion capacity should be, the cost estimate is based on the incremental amount of capacity needed for the Lanare CSD.

2.1.1.2 Cost Estimate

The preliminary engineer’s opinion of probable construction costs is attached. As shown, it is estimated that Alternative 1 would cost approximately \$9,035,587. These costs will be modified and updated when additional engineering data is available and more detailed design is developed.

Table 2-4: Alternative 1 Cost Estimate	
Construction Cost	\$6,547,532
Construction Contingency (20%)	\$1,309,500
Engineering, Construction Management, etc (15%)	\$1,178,555
Total Preliminary Cost Estimate	\$9,035,587

Some key assumptions used to prepare the preliminary engineer’s opinion of probable cost for Alternative 1 include:

- Bore and jack of force main under two canal crossings
- Two lift stations and a Booster Station

SECTION TWO

- 30% of the Force Main would not require road re-surfacing
- All pipelines would be constructed in existing right-of-way
- No costs have been included for the development of interagency agreements, governance changes, service area changes or the Fresno County Local Agency Formation Commission (LAFCo) process
- A contingency of 20 percent of the estimated construction costs was used to account for some of the unknowns at this conceptual level of design
- Operation and maintenance costs have not been included in this estimate

2.1.1.3 Alternative Advantages and Disadvantages

Alternative 1 has several advantages and disadvantages. This evaluation has been prepared to provide the Districts and stakeholders with additional details to increase the understanding of potential solutions.

The main advantages and disadvantages of the project are:

Table 2-5: Alternative 1 Advantages and Disadvantages	
Advantages	Disadvantages
Provides the Lanare CSD with a sewer collections and treatment system	27,000+ feet of sewer force main
Reduces the public health concern and overflow of raw sewage	Depending on governance discussions between the Districts possible adjustments to services areas
Reduces the potential for nitrate contamination of the groundwater	High capital costs for construction
Provides funding to expand Riverdale PUD's WWTF to accommodate Lanare's sewer flows	Sewer rates for Lanare residents
Capitalizes on economies of scale potentially improving operational efficiencies	
Potential higher ranking of funding application due to a regional solution and the project benefiting a DAC	
Potential for a principal forgiveness loan or a grant because the project benefits an SDAC	

2.1.2 Alternative 2: Interconnection within Riverdale PUD

2.1.2.1 Alternative Description

This alternative is nearly identical to Alternative 1; however, rather than connecting the sewer system directly at the WWTF, Alternative 2 proposes to connect to the existing Riverdale PUD system near the intersection of Mt. Whitney and Valentine Avenues.

SECTION TWO

This alternative would have less new pipe construction but would require replacement of existing facilities within Riverdale PUD’s system.

This alternative would include the following components:

- Approximately 13,200 feet of 6-inch diameter gravity sewer main;
- Approximately 21,300 feet of 6-inch diameter sewer force main;
- Approximately 135 sewer service connections;
- Approximately 40 manholes (gravity);
- Approximately 23 pressure manholes;
- Approximately 2 lift stations; and
- Expansion/upgrades to the existing Riverdale PUD WWTP, as required to accommodate the additional flow from Lanare CSD.
- The capacity improvements to Riverdale PUD’s collection system was not specifically evaluated. However, the cost estimate assumes approximately \$250,000 to increase pipeline capacity and expansion of the lift station.

The components listed above are based on preliminary, schematic level design; quantities may change when more detailed engineering information is available and analyzed.

The recommended capacity expansion would remain the same as Alternative 1; with an expansion of Riverdale PUD’s WWTF capacity by 0.053 mgd (see Table 2-2).

2.1.2.2 Cost Estimate

The preliminary engineer’s opinion of probable construction costs is attached. As shown, it is estimated that Alternative 2 would cost approximately \$8,089,146. These costs will be modified and updated when additional engineering data is available and more detailed design is developed.

Table 2-6: Alternative 2 Cost Estimate	
Construction Cost	\$5,861,740
Construction Contingency (20%)	\$1,172,300
Engineering, Construction Management, etc (15%)	\$1,055,106
Total Preliminary Cost Estimate	\$8,089,146

Some key assumptions used to prepare the preliminary engineer’s opinion of probable cost for Alternative 2 include:

- Two lift stations
- 30% of the Force Main would not require road re-surfacing
- All pipelines would be constructed in existing right-of-way

SECTION TWO

- No costs have been included for the development of interagency agreements, governance changes, service area changes or the LAFCo process
 - A contingency of 20 percent of the estimated construction costs was used to account for some of the unknowns at this conceptual level of design
- Operation and maintenance costs have not been included in this estimate

2.1.2.3 Alternative Advantages and Disadvantages

The advantages and disadvantages of Alternative 2 are similar to Alternative 1 with one notable exception; the overall cost of Alternative 2 is less and an advantage to Riverdale PUD is this project would provide improvements to some of the existing sewer system infrastructure.

Table 2-7: Alternative 2 Advantages and Disadvantages	
Advantages	Disadvantages
Provides the Lanare CSD with a sewer collections and treatment system	21,000+ feet of sewer force main
Reduces the public health concern and overflow of raw sewage	Depending on governance discussions between the Districts possible adjustments to services areas
Reduces the potential for nitrate contamination of the groundwater	Temporary construction work to Riverdale PUD's collection system
Provides funding to expand Riverdale PUD's WWTF to accommodate Lanare's sewer flows	Sewer rates for Lanare residents
Capitalizes on economies of scale potentially improving operational efficiencies	
Improvements to Riverdale PUD's collections system and lift station	
Potential higher ranking of funding application due to a regional solution and the project benefiting a DAC	
Potential for a principal forgiveness loan or a grant because the project benefits a SDAC	

SECTION TWO

2.1.3 Alternative 3: Lanare CSD Wastewater Treatment Facility

2.1.3.1 Alternative Description

This alternative would involve constructing a sewer system and wastewater treatment facility (WWTF) within Lanare CSD boundaries. This alternative includes the construction of gravity sewer mains, manholes, and a new WWTP to accommodate current flows from Lanare. This alternative would also include proper abandonment of the existing onsite septic systems within Lanare.

The new collection system would deliver wastewater from customers within Lanare CSD directly to a new Lanare CSD WWTF. This alternative would include the following components:

- Approximately 13,200 feet of 6-inch diameter gravity sewer main;
- Approximately 1,350 feet of 6-inch diameter sewer force main;
- Approximately 135 sewer service connections;
- Approximately 40 manholes (gravity);
- Approximately 3 pressure manholes; and
- The capacity of the Lanare CSD WWTP would be approximately .053 mgd.

The components listed above are based on preliminary, schematic level design. Quantities may change when more detailed engineering information is available and analyzed.

The proposed WWTF would be sized to accommodate the flow from Lanare CSD customers; approximately 0.053 mgd. For this amount of sewage a small package plant would be an ideal solution. However, as part of a more detailed analysis, several WWTF designs should be explored.

Construction of a new WWTF within Lanare CSD’s boundaries would require modification of the CSD to include providing sewer services.

2.1.3.2 Cost Estimate

The preliminary engineer’s opinion of probable construction costs is attached. As shown, it is estimated that Alternative 3 would cost approximately \$6,946,207. These costs will be modified and updated when additional engineering data is available and more detailed design is developed.

Table 2-8: Alternative 3 Cost Estimate	
Construction Cost	\$5,033,480
Construction Contingency (20%)	\$1,006,700
Engineering, Construction Management, etc (15%)	\$906,027
Total Preliminary Cost Estimate	\$6,946,207

SECTION TWO

Some key assumptions used to prepare the preliminary engineer’s opinion of probable cost for Alternative 3 include:

- Two lift stations
- All pipelines would be constructed in existing right-of-way
- No costs have been included for the development of interagency agreements, governance changes, service area changes or the LAFCo process
- A contingency of 20 percent of the estimated construction costs was used to account for some of the unknowns at this conceptual level of design
- Operation and maintenance costs have not been included in this estimate

2.1.3.3 Alternative Advantages and Disadvantages

Alternative 3 has several advantages and disadvantages. This evaluation has been prepared to provide the Districts and stakeholders with additional details to increase the understanding of potential solutions.

The main advantages and disadvantages of the project are:

Table 2-9: Alternative 3 Advantages and Disadvantages	
Advantages	Disadvantages
Provides the Lanare CSD with a sewer collections and treatment system	Lanare would own and operate their own WWTF
Reduces the public health concern and overflow of raw sewage	Does not capitalized on the economies of scale
Reduces the potential for nitrate contamination of the groundwater	Does not regionalize wastewater treatment opportunities and requires special permitting
Less pipeline infrastructure to maintain	Cost of WWTP operation may drive the waste water fees above the affordability level
The WWTF could be expanded without involving another agency in the future if the community experiences growth	Lack of agency experience to operate the system according to state standards
Reduced construction costs	Governance Change for Lanare CSD
	Sewer rates for Lanare residents
	Potential lower ranking of funding application due to solution not being regional

3 NEXT STEPS AND FEASIBILITY STUDY

The Districts should consider submitting the attached grant application to fund a Feasibility Study through the Kings Basin IRWMA that would evaluate alternatives in enough detail that a preferred alternative could be identified. A commitment letter or a memorandum of understanding that identifies the basis for agreement between the Districts on key aspects of the project such as governance, minimum infrastructure requirements, operations and maintenance should be attached to the grant application.

Continued involvement in the Upper Kings IRWMA is encouraged, and below are a few tips that can help the Districts stay involved:

- The Districts should continue to educate themselves and become more familiar with Integrated Regional Management Planning. Information is available at the following website <http://www.krcd.org/water/ukbirwma/>. Agencies such as the Community Water Center (559-733-0219) and/or Self Help Enterprises (559-802-1681) can help provide information about the Upper Kings IRWMA.
- The State of California has a website that provides additional information <http://www.water.ca.gov/irwm/grants/index.cfm>.
- Attending the Upper Kings Board or Advisory Committee Meetings. The meetings are posted on the following website <http://www.krcd.org/water/ukbirwma/agenda.html>.
- Becoming an Interested Party or a Member could help provide access to funding. Call the Kings River Conservation District at (559) 237-5567 to obtain additional information about becoming a member or interested party.

3.1 Feasibility Study

The pilot project has identified a few key items the scope of the feasibility will need to include and address:

- The Lanare sewer solution needs be designed with the understanding there would be no negative impact to Riverdale PUD's operations or its customers.
- A potential long-term benefit to a consolidated sewer system between the Districts is the capitalization of the economies of scale by increasing the number of connections, costs can be distributed over a larger customer base.
- The preferred sewer solution for Lanare needs to have a detailed rate impact analysis conducted to ensure the customers can afford the sewer rates.

SECTION THREE

- Additional residential or commercial properties outside the current Lanare CSD boundaries will need to be investigated. LAFCo has initiated discussions to modify or change the service area for the Lanare CSD.
- Permitting, growth assumptions, governance, operation and maintenance are all items that will require additional investigation.
- A Technical, Managerial and Financial analysis should be conducted.
- The cost for the Feasibility Study is estimated to be approximately \$350,000.
- The range of costs for Engineering and Design is estimated to be \$600,000-\$800,000.

4 POTENTIAL FUNDING SOURCES

The ability to achieve the next steps discussed in Section Three is primarily tied to funding. Due to the cost of the project, and the work needed on private property, multiple sources of funding will be necessary. The Planning grant is often 100% grant, however in some cases multiple sources will be necessary. The Construction funding will likely require multiple funding sources, typically a mix of grants and loans. To improve the possibility of receiving grants or forgivable loans, a MHI needs to be determined for Lanare to determine if the community is a SDAC.

The following list details potential funding sources that apply to this type of project.

- Upper Kings IRWMA Proposition 84
- The State Water Resource Control Board's (State Water Board) Division of Financial Assistance (Division) are proposing a streamlined process to administer approximately \$13 million in "residual bond funds" to small disadvantaged community (SDAC) wastewater projects. Some of the bond funds previously committed to SDAC wastewater projects have gone unused for various reasons. Those funds have been disencumbered, and can be used to fund new projects.
 - Clean Water State Revolving Fund Program - EPA has supported and encouraged such state efforts. In 2010, EPA released procedures for the Clean Water and Drinking Water SRF Programs to set forth administration priorities and address requirements included in 2010 appropriations law. In 2011 EPA released a Clean Water and Drinking Water Infrastructure Sustainability Policy that helps ensure that federal investments, policies, and actions support water infrastructure in efficient and sustainable locations to support existing communities, enhance economic competitiveness, and promote affordable neighborhoods.
 - Small Community Wastewater Grant
 - In some cases these funds can be 100% Grant
- Community Development Block Grant
 - Often 100% Grant
 - Very Competitive
- USDA
 - Good funding source for "uncovered costs", can be used to fund the abandonment of the on-site septic systems.

5 BIBLIOGRAPHY/REFERENCES

Census 2010, American Factfinder <http://factfinder2.census.gov>, December 2012, US Census Bureau

Lanare Community Services District Municipal Service Review and Sphere of Influence Update, December 2007, Pacific Municipal Consultants

DAC Pilot Study Master Database, August 2013, Provost and Pritchard Consulting Group

APPENDIX A



PROJECT INFORMATION FORM

Project Review Process is described by Chapter 7 of the IRWMP
Form Revised 8-23-12

Project Name Lanare CSD Sewer Feasibility Study and Design

Project Proponent(s) Lanare CSD

Project Location The community of Lanare is located about 24 miles south-southwest of the City of Fresno, and approximately 3.5 miles west of the community of Riverdale.

Project Description The project will evaluate the feasibility of building a new wastewater collection system within Lanare CSD including either a localized wastewater treatment and disposal facility solely serving the Lanare Community Services District (CSD) or via an interconnection with the nearby Riverdale Public Utility District (PUD) wastewater facility.

The project was conceptualized due to concerns regarding the condition of septic systems within the Lanare CSD. The first steps in the feasibility study will include a septic system survey of the community in which residents will be asked about the conditions of their septic systems, any problems they have noted with systems and residents' willingness to connect to a community wide sewer system if one was developed.

Project Status

Project Status	Put X next to which stage best describes project status
Conceptual (no feasibility or study work initiated)	X
Planning (feasibility study and analysis work initiated)	X
Preliminary Design (feasibility study completed)	
Ready for Construction	

Lanare CSD was the subject of a Pilot Study completed as part of the work associated with the Upper Kings Basin IRWM Disadvantaged Community (DAC) Pilot Study project. The summary of the DAC Pilot Project for the Lanare CSD suggests that the next steps should include a feasibility study in an effort to evaluate the need for and support for a community wide sewer system. The next step would be to analyze and identify a preferred alternative solution for the wastewater challenges within Lanare CSD.

NOTE: Forms must be submitted in MS Word format to eosterling@krcd.org at least 12 business days prior to a regularly scheduled Advisory Committee meeting. Upcoming meeting dates, and a copy of the IRWMP can be viewed online at www.kingsbasinauthority.org



PROJECT INFORMATION FORM

Project Review Process is described by Chapter 7 of the IRWMP
Form Revised 8-23-12

Background

(75)

The community of Lanare formed a Community Services District (CSD) in 1971 to own, operate and manage the community's water system, which serves approximately 160 connections, several of which are outside of the District boundary. The community of Lanare currently relies on individual septic systems in lieu of a community wastewater collection and treatment system. There have been several septic system failures and resulting sewer overflows, creating a potential public health concern. A secondary concern is groundwater quality; it is the sole source of supply for Lanare and other nearby communities, and is therefore a critical resource to protect.

The Kings Basin Integrated Regional Water Management (IRWM) Authority (Authority) received a grant from the State of California, Department of Water Resources, to develop a pilot project or series of projects within the IRWM boundary focusing on water, wastewater or storm water problems and issues faced by Disadvantaged Communities (DACs). Stakeholders such as community residents, board members, consultants (representing agencies), and school personnel from the communities came together through several sub-region meetings to discuss their regional concerns and problems with a goal of developing a pilot project to address their common issues and concerns regarding operations of their water, wastewater or storm drainage systems. The IRWM boundary was divided into five sub-regions, of which Western Fresno County was one. Through consensus, the participating representatives in the Western Fresno County sub-region determined the highest-priority issues for their sub-region is the lack of a sewer collection and treatment system for the community of Lanare.

Current progress for the Lanare CSD sewer system includes the attached DAC Pilot Project report.



PROJECT INFORMATION FORM

Project Review Process is described by Chapter 7 of the IRWMP
Form Revised 8-23-12

Project Workplan (75-400)

The project includes preparation of a Feasibility Study to analyze the wastewater challenges and potential solutions for the community of Lanare. The tasks necessary to complete the project are as follows:

Administration: this task consists of the project administration related work including project status reporting, preparation of invoices, and other deliverables as required.

Septic System Survey: this task will entail a survey of the community in which residents will be asked about the conditions of their septic systems, any problems they have noted with systems and residents' willingness to connect to a community wide sewer system if one was developed.

Income Survey: this task consists of conducting an income survey to validate the median household income for the area and determine if the community is a DAC or a severely disadvantaged community (SDAC). This income survey can be undertaken at the same time as the septic system survey.

Governance Facilitation: this task will entail exploring options and facilitating meetings between Lanare residents and CSD representatives, the County of Fresno and Riverdale PUD representatives to determine barriers, concerns and benefits for the potential operation of a new wastewater system to serve Lanare as well as a potential interconnection with Riverdale PUD's Wastewater Treatment Facility (WWTF). This task will include meetings, discussions with legal and LAFCO personnel, and potentially obtaining services of legal staff to evaluate the possible governance structures and aid in selection of the best solution for the agencies involved.

CSD Boundary Expansion: this task consists of the investigation of expanding Lanare CSD boundaries to include several homes that are adjacent and clearly part of the community. Additional items within this investigation include expanding the scope of the CSD to include sewer services, a Prop 218 election and related administration.

TMF Analysis: this task consists of data collection and analysis to determine the technical, financial and managerial viability and sustainability of the governance option selected in the Governance Facilitation task

Study Preparation: this task consists of compiling and further analyzing the data, alternatives and information obtained for the project. The Feasibility Study will rank the construction solution alternatives and recommend a preferred alternative.

Initial Environmental Documents Preparation: this task would consist of the preparation of a CEQA Initial Study including Environmental Checklist.



PROJECT INFORMATION FORM

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Form Revised 8-23-12

Regional Goals (75)

Put 'X' by one Primary Goal	Put 'X' by Secondary Goals that apply	No.	Goal
		RG1	Halt, and ultimately reverse, the current overdraft and provide for sustainable management of surface and groundwater
	X	RG2	Increase the water supply reliability, enhance operational flexibility, and reduce system constraints
X		RG3	Improve and protect water quality
		RG4	Provide additional flood protection
		RG5	Protect and enhance aquatic ecosystems and wildlife habitat.

The primary IRWMP Regional Goal that applies to this project is RG3. Installation of a wastewater collection system will enable the residents to discontinue use of their septic systems. The groundwater in the area is showing signs of nitrate contamination due, in part, potentially to the extensive and long-term use of septic systems. By discontinuing their use, the septic systems will cease contributing to the contamination of the groundwater. The secondary Regional Goal that applies to the project is RG2. The project's goal of correcting groundwater quality contamination sources will ultimately allow Lanare to provide higher quality water on a more consistent basis, which would be considered an increase in Lanare's water supply reliability.

NOTE: Forms must be submitted in MS Word format to eosterling@krcd.org at least 12 business days prior to a regularly scheduled Advisory Committee meeting. Upcoming meeting dates, and a copy of the IRWMP can be viewed online at www.kingsbasinauthority.org



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Form Revised 8-23-12

Measurable Objectives (75)

Put 'X' by one Primary Goal	Put 'X' by Secondary Goals that apply	No.	Objective
		MO1	Increase amount of groundwater in storage with intent to eliminate the groundwater overdraft in 20 years
	X	MO2	Identify opportunities and Projects
X		MO3	Identify DAC priority needs and promote/support solutions to DAC water issues
		MO4	Increase average annual supply and reduce demand
		MO5	Increase dry year supply
		MO6	Increase regional conveyance capacity
		MO7	Compile baseline water quality data for ground & surface water
		MO8	Encourage Best Management Practices, policies & education that protect water quality
	X	MO9	Identify sources of water quality problems & promote/support solutions to improve water quality
		MO10	Increase surface storage
		MO11	Sustain the Kings River Fisheries Management Program
		MO12	Pursue opportunities to incorporate habitat benefits into projects
		MO13	Increase public awareness of IRWM Efforts
		MO14	Involve local water districts and land use agencies in generating and confirming the current and future water needs to ensure compatibility and consistency with land use and water supply plans.
		MO15	Comply with SBx7-7

The primary Kings Basin IRWMP Measurable Objective is MO3. The Project provides the opportunity to solve issues critical to the health and safety of members of the Lanare community. A solution to potential of groundwater contamination from the use of septic systems in Lanare will accomplish improved health and safety conditions and reduction of a pollution hazard.

The secondary IRWMP Measurable Objectives that apply to this project are MOs 2, and 9:

MO2: The proposed project will provide an opportunity to identify a solution to wastewater issues in the community of Lanare and take steps towards implementing the future construction project for a wastewater collection system to serve the community.

MO9: The continued use of failing septic systems has the potential to further pollute the local groundwater; therefore this project allows an analysis to take place to determine a viable solution and begin improving the local water quality.

The Lanare CSD Sewer Project performance of meeting Objectives will be measured by the number of septic systems that are abandoned and tracking sanitary system overflows and discharge characteristics post-construction project from the new wastewater system.

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Form Revised 8-23-12

Resource Management Strategies (50)

Category	Strategy	Put X by all that apply
Reduce water demand	Agricultural water use efficiency	
	Urban water use efficiency	
Improve operational efficiency and transfers	Conveyance - regional/local	
	Water transfers	
Increase water supply	Conjunctive management and groundwater storage	
	Precipitation enhancement	
	Recycled municipal water	
	Surface storage - regional/local	
Improve water quality	Drinking water treatment and distribution	
	Groundwater remediation/Aquifer remediation	X
	Matching quality to use	
	Pollution prevention	X
	Salt and salinity management	
	Urban runoff management	
Improve flood management	Flood risk management	
Practice resource stewardship	Agricultural lands stewardship	
	Economic incentives (loans, grants & water pricing)	
	Ecosystem restoration	
	Forest management	
	Land use planning and management	
	Recharge area protection	
	Water-dependent recreation	
	Watershed management	
Other strategies	Crop idling for water transfers	
	Irrigated land retirement	
	Rainfed agriculture	
	Drought planning ¹	

The Regional Management Strategies (RMS) that apply to this project are groundwater/aquifer remediation and pollution prevention. Conducting a study to provide a solution to the ongoing use of septic systems will enable the community to evaluate the degree of septic system problems that can result in health and pollution hazards and recommend a long term solution to sanitary sewage disposal in the community of Lanare. The project will take steps towards decreasing the amount of percolation of septic effluent entering the groundwater aquifer by removing the use of septic systems (the systems themselves will be emptied and destroyed in place). This reduction of potential contamination is a component of water supply pollution prevention. Additionally, by removing a contaminant source, the groundwater supply is being remediated, which is another RMS.

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DAC Water Needs	The project provides benefit to a DAC by eliminating a source of potential nitrate contaminant to the ground water aquifer. The community is defined as a DAC; their MHI is reported as \$36,806 (2010 Census), which is 60% of the state MHI, but is likely lower.
Project Schedule	All tasks are expected to be completed within 18 months of receipt of funding.
Estimated Cost	The total project cost is estimated at \$950,000.

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