Nevada Irrigation District

Staff Report

for the Board of Directors Meeting of December 13, 2017

TO: Board of Directors

FROM: Gary D. King. PE, PhD, Engineering Manager
Chip Close, Water Operations Manager
Shannon Wood, Business Services Technician

DATE: December 6, 2017

SUBJECT: **2006 Expansion of Water Service Within NID (Sauer's Study) Review**

ENGINEERING

RECOMMENDATION:
Discuss the 2006 Expansion of Water Service within NID (aka the Sauer's study) and the District's efforts to meet the intent of this study and District priorities as reviewed at the Administrative Practices Committee on November 7, 2017

BACKGROUND:
The purpose of this staff report is to review the Sauer's Study and the District's efforts to meet the intentions of this study.

The attached Sauer's study gives an outline of how to use tax money to extend water lines. This study responded to a desire by the District to expand water systems into existing unserved areas of need. This report supports the District's objective to "Proactively expand water services to existing and new customers within the service territory."

In the eleven years since the report was completed numerous changes have been completed by the District. As outlined in this memorandum, the District went beyond what was envisioned by the report.

Community Investment Program (CIP)
Pursuing the objective began with the budgeting of Waterline Extensions (WLE) in the 2007 budget with no identified projects. In 2008, the Community Investment Program (CIP) was developed and identified individual projects then referred to as "the list". The CIP budget in 2008 was $881,000, which included fire hydrants for these specific projects. The table below indicates the approved budget for the CIP from 2007 to 2017.

	CIP	BEP
2007	$ 150,000	
2008	$ 881,000	
2009	$ 775,000	
2010	$ 6,426,000	
2011	$ 500,000	
2012	$ 500,000	
2013	$ 250,000	
2014	$ 1,474,722	$1,000,000
2015	$ 875,000	$1,000,000
2016	$ 2,025,000	$1,000,000
2017	$ 1,225,000	$1,000,000
2018	$ 800,000	$1,000,000
Total	$15,881,722	$5,000,000

The CIP programmatic budget includes the District Financed Waterline Extensions (DFWLE), Assessment District (AD), Community Facility District (CFD), and new Fire Hydrants are within the Community Investment Program (CIP). These budgets did not include staff time for these projects which is included in the general expense for the District.

The AD and CFD have proven to be expensive to set up and only apply to larger projects. Larger projects have proven complicated since it requires voting of the group and forces non-participants to participate based on their location within the project boundaries.

Policy, Rules and Regulations, Budget, and other Changes

To implement the District objective, the District had to change numerous District systems such as policies to assist in the programs moving forward. The below is a list of completed items to support the District's objective to extend water lines.

- Temporary Service Line (TSL) in the rules and regulations
- Removal of payment of additional funds for maintenance on large lot projects
- District initiated annexations for Exclusion Areas - ongoing
- Waterline Extensions budget in 2007– changed to Community Investment Program in 2008
- Revisions to Capacity Charges to include Tanks, Pump Stations, and Pressure Reducing Valves (PRVs) – Approved by Board September 5, 2007.
- Backbone Extension Program (BEP) – Discussed with Board on February 13, 2013, and budgeted that next year
- Backbone Extension Program rubric discussed at Engineering Committee on April 24, 2013 (see attached Memorandum)

- Pipeline Reimbursement Policy- Approved by Board June 26, 2013
- DFWLE rules and regulations, and policy changes on September 26, 2017, November 13, 2013, April 14, 2010, February 14, 2012, and March 12, 2014
- Community Investment Program on website – November 10, 2014
- High-pressure water services – April 13, 2016
- Community Investment Program Stabilization Fund – Board November 9, 2016

Backbone Extension Program

The Sauer's report never considered combining District transmission mains with distribution mains. The first project to combine was the Rattlesnake/Wheeler Cross project, which shared costs between capacity fees for oversizing and the residents. This program allows for the extension of water mains to meet local needs and District needs. Ultimately, these transmission/distribution mains will allow for future distribution mains for additional water services for property owners within the District. As part of BEP, a rubric was developed and discussed in Engineering Committee on April 24, 2013, in order for projects to be placed and prioritized on the list as on the attached staff report. As like the Community Investment Program the Backbone Extension Program is a budget cost for each year to work on these programs.

Projects Completed

The following is a list of projects completed since 2006, which can be considered related to the Sauer's report.

Project –Work Order	Cost	Linear Foot	Year
Hoskins Lane (DFWLE) - 6701	$ 41,136	711	2007
Fay Road (Landowner/DFWLE)	$ 10,201	1,565	2008
Horseshoe Lane (DFWLE)	$ 91,143	842	2010
Rodeo Flat (AD) - 5327	$ 1,876,906	8,080	2011
Cement Hill (CFD) - 6737	$10,775,677	64,004	2012
Rattlesnake/Wheeler (DFWLE/BEP) - 6905	$ 584,177	2,860	2012
Lower Cascade Project (treated water)-6593	$ 2,474,535	23,567	2013
Winter Moon (DFWLE) - 6935	$ 446,689	2,181	2015
East Hacienda (DFWLE/BEP) – 6959/6968	$ 967,098	10,234	2015
Salt Creek (BEP) -1080	$ 370,826	2,490	2015
Brewer Road/Lodestar (BEP) – 6952/7027	$ 2,286,410	9,756	2016
Lodestar/Conestoga (BEP) -1080	$ 1,972,070	10,635	2017
Table Meadows (DFWLE) - 1042	$ 949,740	5,558	2017
Option 3 - Table Meadows - 2059	$ 859,490	8,665	2017
E. George to Cascade Shores (BEP) -6994	$ 3,555,245	21,069	2017
Total	$27,261,343	172,217	

Over the past few years, the District has installed approximately 172,217 linear feet of pipeline for new customers which is approximately 32.6 miles of waterline. The increase in the treated water system is approximately 9 % (32.6 miles/ (394-32.6)). The District has 394 miles of treated water pipeline at this time of this memorandum.

Please note that of the fourteen projects listed above all but 2 (Cement Hill and Rodeo Flat) were surveyed, designed, and managed (design and construction) using District staff. All management (design and construction) for Cement Hill and Rodeo Flat was done using District staff.

Map of currently completed and proposed projects and areas of work
The attached maps indicate the areas of completed work and areas that are currently considered for extensions.

Use of Programmatic Budgets
Currently, the CIP and BEP are programmatic budgets whereas a sum of tax money is made available to do work on that year. This system allows staff to work on multiple projects with typically one in construction with others in preliminary design, hydraulic analysis, or CEQA analysis. One of the reasons for this 32.6 miles of pipeline is that the District uses a flexible and performance-based (use it or lose it) budget system. Also, the programmatic budget system can be seen in the successful Pipeline Replacement Program which has installed approximately 9.7 miles of pipeline since it started.

BUDGETARY IMPACT:
The Community Investment Program (CIP) and Backbone Extension Program (BEP) are budgeted yearly. From 2007 to 2017, the District has collected $116,546,838 in tax funds. The District has completed $27,261,343 in expansion-related projects which are approximately 23.4 percent of the taxes funds received. This is 3.4 percent over the Method B recommendation in the Sauer's report. The Sauer's report considered 20 percent a maximum to be considered appropriate for funding.

Attachments: Maps
Sauer's Report

GDK

Cement Hill Project

Proposed E. George to LWW

Horseshoe Ln Project

Winter Moon Project

Banner Cascade Project

E. George to Cascade Shores Project

Proposed Idaho Maryland

LEGEND

- E. George to Cascade Shores Project
- Banner Cascade Project
- Cement Hill Project
- Winter Moon Project
- Horseshoe Ln Project
- E. George to LWW (Proposed)
- Idaho Maryland (Proposed)
- Existing Treated Water Pipes
- Lake Vera, Rock Creek and South Bloomfield Study Area

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NID

NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

2006 EXPANSION OF WATER SERVICE WITHIN NID STUDY REVIEW MAP

Drawn By: D. HUNT Date: 10/31/2017 Scale: NO SCALE Sheet: 1 of 2

Proposed Rattlesnake Project

Rattlesnake Wheeler Cross Rd Project

Fay Rd Project

Proposed Fay Rd-2 Project

Brewer Rd/Lodestar Project

Proposed Lodestar/Victoria

Lodestar/Conestoga

Salt Creek

E. Hacienda Project

Proposed Montclaire Project

Proposed Iron Horse Dr Project

Rodeo Flat Project

Table Meadow Option 3

Table Meadow

LEGEND

- Rattlesnake WheelerCross Project
- Rodeo Flat Project
- Fay Rd Project
- E. Hacienda Project
- Brewer Rd/Lodestar Project
- Salt Creek
- Lodestar/Conestoga
- Table Meadow
- Table Meadow Option 3
- Rattlesnake Project (Proposed)
- Lodestar/Victoria (Proposed)
- Montclaire Project (Proposed)
- Iron Horse Dr Project (Proposed)
- Fay Rd-2 Project (Proposed)
- Existing Treated Water Pipes

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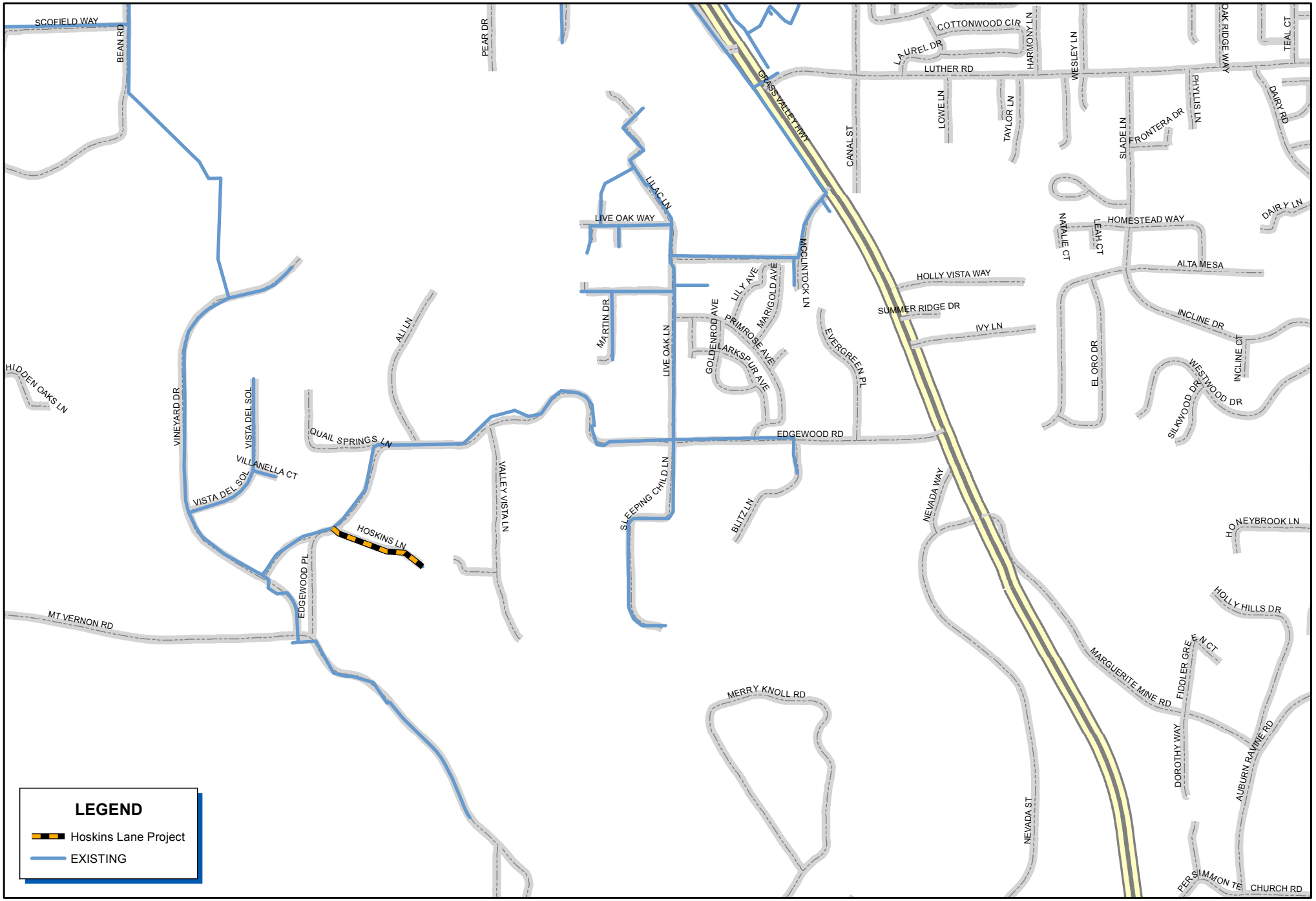
NID

NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

2006 EXPANSION OF WATER SERVICE WITHIN NID STUDY REVIEW MAP

Drawn By: D. HUNT Date: 10/31/2017 Scale: NO SCALE Sheet: 2 of 2



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NID

NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

2016 EXPANSION OF WATER SERVICE WITHIN NID
STUDY REVIEW MAP

Drawn By: D. HUNT Date: 11/16/2017 Scale: 1" 900' @ 8-1/2x11 Sheet: 3 of 3

Nevada Irrigation District

Memorandum

for the Engineering Committee Meeting of April 24, 2013

TO: Engineering Committee

FROM: Gary King, Chief Engineer

DATE: April 15, 2013

SUBJECT: **Discussion of approval process and rubric for adding projects to the Backbone Extension Program (BEP)**

ENGINEERING

ACTION TO BE TAKEN:
The purpose of this item is to discuss an approval process and rubric to add projects to the Backbone Extension Program.

BACKGROUND:
The core mission of the program is to extend the treated water system, provide benefit to the existing rate payers, and provide an opportunity for future customers. A process is needed for qualifying and placing a project on the Backbone Extension Program (BEP). The following is a recommended process.

1. Projects can be identified by either staff or Board members
2. The projects will be evaluated by staff of whether to be included in the BEP. The four criteria and weighting of each item as shown below. Each criteria will be ranked 1 through 5 by each department head and the weighting applied to the rankings. The four rankings will be added for each head and then added to the other department head rankings for a total recommended project.

On current master plans as transmission	25%
Remedies existing problems in the system	25%
Creates redundancy for current system	25%
Provides transmission main to growth areas beyond master planned areas	25%

Once a project is recommended by staff as a BEP project then it will be added to the budget through the Engineering Committee. A memorandum outlining the project will be presented to the engineering committee for approval.

3. Once projects are approved as BEP projects, then projects will be prioritized. Prioritization will be done by staff. Prioritization will consist of ranking each project based on the following criteria and weighting and then the projects will be prioritized based on the highest ranking. As indicated in item 2, the criteria will be ranked 1 through 5 and then multiplied by the weighting factor and then added for each reviewer's scores. The following is the evaluation criteria and percentage.

Benefits to current rate payers using the average ranking from item 2 of this memorandum	30%
Simplicity of CEQA	20%
Project in public right of way	15%
Number of direct customers benefitted	10%
Number of indirect customers benefitted	10%
Recognized active landowners groups	5 %
Health and safety issues	10%
Total	100%

4. Yearly, the Engineering Committee reviews the 10 year budget and Engineering Department budget which includes the BEP projects. BEP projects and the priorities can be evaluated every year.

This process is similar to the process used for Community Investment Projects for the District.

BUDGETARY IMPACT:
No budget impact at this time

GDK

Nevada Irrigation District

Strategic Plan 2005 - 06

Expansion of Water Service Area Within NID

Use Existing Property Tax Revenue To Reduce Up-Front Water Project Costs

And

Use Future Property Tax Revenue To Reduce Water Project Costs

August 2006

Prepared By
Keith Sauers, P.E.
14499 Osborne Hill Road
Grass Valley, CA 95945

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Executive Summary

When any portion of the District not receiving water service wants to have service expanded to its area, that area must pay the cost of new facilities and expansion of its share of existing facilities. Under existing policies, that financial burden is too expensive for most property owners to pay, so water service does not get expanded. This report explores two strategic goals: The use of existing property tax revenue to reduce up-front water project costs, and the use of future property tax revenue to reduce water project costs. Two financial incentives to make the proposed projects feasible are described. One incentive, Method A, uses property tax revenue paid by the proposed project beneficiaries to help amortize the project cost. Method B uses grants from the District to partially finance the project.

Three Test Case Projects, which have been unaffordable, are used in this study to test the effect of the financial incentives. The three projects vary in size from $1 million to $7.5 million. Their capital costs, without financial aid, are typically about $30,000 per participant. (Chapter 4.)

Under Method A two to five years of pre-project tax revenue is sufficient to reimburse the District for the expense of preparing a Preliminary Project Report which describes the proposed project and includes a preliminary estimate of project cost. Alternatively a Method B grant could pay the up-front costs. (Chapter 6.)

Method A economic models are prepared using property tax revenue, growing at 2% per year, along with participant annual payments to amortize the project cost. Participant annual payments are from 11% to 29% less than when no financial aid is provided. Method B 20% grant incentives are also applied to economic models, reducing loan payments by 21% to 22%. (Chapters 8. & 9.)

Historically, tax revenue has been increasing at a rate of about 9.3% per year since 2000. This is due to a strong real estate market causing resales, and on a strong home construction condition, both increasing the assessed valuation. Using either Method A or B incentives takes advantage of the strong tax revenue stream to assist local area water project development.

Applying tax revenue to project cost amortization would result in a short term loss of revenue to the General Fund. This revenue loss would be offset by expansion of the District facilities in the amount of $6.9 million, by new revenue from service area water sales and taxes, and by improved community good due to improved fire protection and public water supply availability.

1. Introduction

Nevada Irrigation District (NID or District) is the second largest irrigation district in California in terms of acreage. Within the District's boundary are many miles of canals transporting untreated water, and many miles of pipelines transporting potable water. However, there are potential water users in the District who do not have water service available to them. Their lands may be undeveloped and have never had access to irrigation or potable water. Or they may have untreated (irrigation) water available, but need potable water for the best use of their property. Or perhaps they are located inside the District boundary and have no water service, but are not a part of the District because their lands were not included in the original formation of the District.

It is desirable from several points of view to serve water to the un-served, or under-served, lands. The property owners would benefit by being able to put their lands to their potential use. The District, which has sufficient water to serve its projected needs, could make that water available to its constituents. By putting the water to beneficial use, the existing water rights are more protected from loss to other water-deficient areas of California. The community-good is better served through the general availability of water to District land owners. In many cases fire protection is improved through the distribution of public water supply. The overall prosperity of the District's service areas will increase as a result of the broader availability of water. And the District will receive increased revenue from new water sales.

In order to distribute water to un-served or under-served lands, expansion of existing water supply facilities is needed. It can be very expensive to construct the necessary additional water system. By policy and historical precedent, it is the responsibility of the benefitting properties to expand the water system to their area. Addressing the many issues associated with expansion of water service within the District is the primary objective of the District's Strategic Plan 2005-06. The report you are reading analyzes two of those issues. Method A uses property tax revenue to finance a portion of the "up-front", or "start-up" costs; and uses future property tax revenue to reduce overall project costs. Method B uses grant funds to subsidize the expansion of the water systems.

This study looks at any apparent legal constraints to the application of property tax revenue collected by the District being applied to the cost of construction of water systems and related expenses (Chapter 2.). A discussion of the costs associated with expansion of the water supply facilities will serve to better understand the expense faced by potential new service areas (Chapter 3.). Next, three potential water supply projects, which have been unable to proceed because of their high costs are reviewed (Chapter 4.). That is followed by an evaluation of the affect of Method A and B financial aid on the cost of each of the three projects.

Appreciation is expressed to Ron Nelson, NID General Manager, and to Tim Crough, Assistant General Manager, for their input during several strategy sessions while preparing this report. The report could not have been prepared without their help. Tim also arranged for use of information from NID files shown in Tables 1 - 3 and Figures 1 - 3. Valuable comments regarding project

financing were provided by Greg Ghironzi, financial consultant and Managing Director of N|B|S Local Government Solutions. NID legal counsel Jeff Meith of Minasian, Spruance, Meith, Soares and Sexton, LLP, prepared the legal opinion regarding the use of property taxes in Chapter 2.

2. Legal Issues Regarding the Use of Property Tax Revenue

The enabling statute governing the formation, powers and authority of irrigation districts in California is set forth in Division 11 of the Water Code of the State of California. Part 10 of Division 11 sets forth the general authority of irrigation districts to levy ad valorem assessments, and the purposes to which said assessments can be placed. The authority to levy assessments is no longer effective because Article XIII A of the California Constitution, passed in 1976, effectively rolled all such authority into the County's authority to levy property taxes. However, the authority to use property tax revenues remains in Division 11, and those uses include payment of bonded debt and interest, acquiring property necessary for the district, paying for power to pump water, paying warrants to come due in the next year, paying judgements, paying operation and maintenance costs of the district, and other purposes.

Therefore, while an irrigation district no longer possesses the authority to levy an ad valorem property tax, the broad authority of a district to use the revenues from assessments, including ad valorem assessments levied by the Counties and conveyed to irrigation districts, remains.

3. The Development Costs of a Local Water Supply Project.

A lay person is usually surprised at the high cost of public works projects. In the case of the three test projects discussed later in this report, the estimated cost per parcel for expansion of water service is approximately $30,000. In some cases the unexpected expense is related to the many ancillary costs discussed in this chapter.

One issue which affects the cost estimates includes a legal requirement in California that all public works construction labor be paid an hourly rate established by the State, called the "Prevailing Wage Rate". These rates are determined for each type of labor (equipment operator, carpenter, laborer, etc.) working on the job based on local union contract provisions. So the service pipeline from the water main to the customer's property line constructed by the contractor being paid "Prevailing Wage Rates" may cost $30 per lineal foot, while the continuation of the service line to the house by the Owner's non-union contractor will likely cost something less per foot.

Another issue often overlooked is that the public works water project includes fire protection. The pipelines are sized to transport fire flow to each fire hydrant as well as domestic water flow to each customer. The storage tanks hold sufficient water for domestic needs and the estimated fire flow. Pump stations are built to convey domestic water needs and fire flow. For each of these system components, fire flow is typically a larger flow than domestic flow. If a homeowner compares the cost of a new well to the cost of his share of a public water supply project, he needs to factor in the additional benefit of fire protection, and the reliability of public agency owned infrastructure.

The following is a discussion of the many cost components of a typical project to expand water supply facilities to serve a new area.

Preliminary Project Study Following a request by unserved or under-served property owners for the expansion of water service to their neighborhood, the District's Engineering Department prepares an analysis of the service area; a review of the existing District facilities for their ability to serve the new area; the likely arrangement of new pipelines, pumps, tanks, etc.; and a preliminary cost estimate of the proposed project. District staff then meets with the neighborhood residents to review the findings, discuss options which may be available, answer questions, and establish an intent to proceed, or not, based on the response to the Preliminary Project Study. The costs associated with preparation of the study and its related meetings are about $50,000. This is equivalent to a month of engineering staff time plus input from finance, operations, legal, and administrative personnel.

Project Financing Once the service area landowners and the District make the decision to proceed with a project, it is necessary to arrange for financing the project. It is unusual for a service area to have the funding available to proceed with a project of this size, and so a specific funding program must be prepared. Public infrastructure funding may come from a variety of sources including government agency loans, the sale of bonds for the benefit of an improvement

district or community facilities district, bank loans or other programs. The preparation of the best program for a given project usually involves the services of a financing consultant, a bond attorney, and an assessment district engineer. Typically the cost of these services are in the range of 3.5% to 5% of the estimated project cost.

Project Design The project design involves the preparation of plans, specifications, and contract documents for the construction work. Project design typically includes the topographic survey for the location of the new facilities. These services also include preparation of a Bid Schedule of items to be constructed, and an engineer's estimate of probable construction costs. Optional additional tasks include determination of necessary rights of way and land acquisition for project sites, including appropriate right of way documents and/or deeds. Basic project design costs are usually in the range of 8% to 12% of construction costs.

Environmental Review Once the extent of the project design is known it is necessary to comply with applicable provisions of the California Environmental Quality Act. This task may be as simple as a decision that the project does not have any significant impact and thus qualifies for a Categorical Exemption or Negative Declaration, to as complex as the necessity to prepare an Environmental Impact Report. The latter option may include the services of scientists or specialists to evaluate potential impacts and suggest appropriate mitigations. Cost for these services may vary dramatically depending on the complexity of the project, and may cost from less than 1% of project cost to about 5%.

Land Acquisition If the project design has identified the need for rights of way and/or land acquisition, it will be necessary to acquire those rights or deeds. This task is usually done by a right of way specialist, and involves meeting with property owners and negotiating the applicable contracts. If a meeting of the minds is not possible, the task may require use of eminent domain proceedings whereby a fair compensation for the property may be established by a court of law. In that case the additional expense of legal counsel will also be required. Another task related to pipeline rights of way is the use of the existing public way, where a pipeline may be constructed adjacent to an existing road through the authority of an Encroachment Permit. As can be imagined, land acquisition costs may vary from none to expensive. It is typical for preliminary cost estimates to include an allowance of perhaps 2% of project costs to provide a place holder in the project budget until actual land/right of way needs can be defined.

Construction Costs During the preparation of the Preliminary Project Study the engineer makes a cost estimate of the components which are believed to be necessary to provide water service to the service area. The amount of detail is general, with pipeline costs typically including the cost of valves, fittings, and fire hydrants. The detail is usually sufficient to identify the likely size and length of pipes. Other typical components are pump stations and storage tanks. The engineer's experience is the best guide to construction costs at this early stage of project development. Following Project Design it is possible for the engineer to estimate the construction cost with more confidence and certainty because of the additional detail available. Construction costs are the largest component of a water project cost, and many of the ancillary tasks are estimated as a

percentage of construction cost.

Construction Contingency Following the preparation of a construction cost estimate in the Preliminary Project Study it is typical for the engineer to include a construction cost contingency item equal to about 15% of the construction cost. This reserves a portion of the budget to pay for components which may become necessary as a result of the final design, but which could not be anticipated in the preliminary stage. Such items might include retaining walls at a tank site where topographic mapping had not yet been prepared to show the need, or unanticipated pipe cost escalation due to raw material shortages, or increased pump station cost due to the unanticipated need to bring three phase power to the site when only single phase power was available, or similar unknowns. Following Project Design it is typical to reduce the contingency to 10 % because the construction cost is then known in more detail. This contingency is intended to provide budget for such items as increases in material costs between design completion and project bidding, unforseen subsurface conditions such as unanticipated rock excavation, or unknown subsurface spring activity. Following construction contract award, it is usual to maintain a 5% contingency for the unforseen construction surprises.

Construction Management and Inspection Construction management tasks include supervising the construction contract bidding process, where state law and funding agency requirements contain advertising requirements and provisions concerning the public opening of bids. The construction engineer interprets contract requirements and resolves disputes between the contractor and the owner. He or she supervises construction inspectors for the maintenance of construction quality control, and certifies the progress payment requests for appropriateness and accuracy. Construction management and inspection usually costs about the same as project design, or 8% to 12% of construction cost.

Funding Agency Requirements During and After Construction Funding agencies, whether they are government agencies or other financing institutions, are concerned for the security of their investment. They want to know that their funds are being used for the legitimate purpose for which they were loaned, and that the applicant organization (in this case either NID or a special improvement district formed under NID authority) will responsibly pay back the funds on time and with interest. The funding agency requirements may be modest if NID is the receiving entity, typically requiring a monthly certification of disposition of project funds signed by the project engineer. If a special district is formed to receive the funds (such as a Community Facilities District) it is typical to require the services of a municipal financial specialist, a bond attorney, and an assessment district engineer to prepare the appropriate funding program and safeguards. The cost for these services may be as much as 23% of the project costs.

Project Legal Services There are routine legal services associated with a public works construction project, including legal review of engineer-prepared construction contracts, consultation with the construction manager concerning contractor disputes, and miscellaneous issues. A typical allowance to pay these cost is 1% or 2% of the project cost.

District Connection Fees It is appropriate for the new customers to reimburse the District for the cost of existing facilities which will serve the new service area. These fees have been determined through cost analysis and are established and revised from time to time by the Board of Directors. They include a Capacity Charge for the capacity of all of the upstream system which has already been provided for the benefit of all customers. Those charges are based on service meter size, and are presently $6,040 for a 5/8" meter. Additionally, a Meter Installation fee of $945 for a 5/8" meter is paid to the District for the cost of installing a service lateral to the property line, a meter box, and a meter. The District also charges an Excess Footage Charge if pipeline construction exceeds 150 lineal feet per lot. This fee compensates the District for maintenance and eventual replacement of long pipeline segments serving larger parcels and is approximately $ 10 per lineal foot as further described in Section 10 of District Rules and Regulations.

4. Three Test Case Projects

Over the past five or six years several Preliminary Project Studies have been done for neighborhood water projects in which the eventual cost to the property owners was deemed too expensive to proceed with the project. These projects will be analyzed in this report to determine the effect of financial incentives to make them more affordable. These projects are described in this chapter.

In the process of reviewing test case projects it was observed that there was not consistency among the Preliminary Project Studies in estimated unit costs for construction, in cost allocations for contingencies, and for a variety of non-construction costs. The following descriptions will include information as it was presented in the Preliminary Project Studies. However, one of this report's recommendations is for consistency is such future studies.

Readers desiring to know more information about any project described here are referred to the Preliminary Project Studies on file at Nevada Irrigation District.

Rodeo Flat Water Supply Project

The Rodeo Flat neighborhood refers to 36 parcels located near the southwest portion of Lake of the Pines, in the southern Nevada County. The proximity to the District's Lake of the Pines potable water supply system suggests the viability of expanding those facilities to Rodeo Flat. The service area includes parcels adjacent to Ridge Top Court, Rodeo Flat Road, and a small portion of Timber Ridge Drive. See Figure 1 (page 12) which includes a map of the proposed service area.

Table 1 (page 13) is a preliminary cost estimate of the proposed project. The total cost of the recommended local share of the project in February 2005 is $1,263,086 [Total construction local share $1,066,094 + 36(capacity fee $4,627 + meter $845) = $1,263,086]. An amortization schedule was prepared for this project (see Table 7, Appendix A). It shows that for a 30 year amortization with an interest rate of 6%, the total annual loan payments would be $92,582, or $2,572 per year per participant.

Wildwood Heights Waterline Extension

The Wildwood Heights neighborhood includes 38 parcels located west of Lake Wildwood, in the far western portion of Nevada County. The proposed service area includes parcels adjacent to Wildwood Heights Drive, River Rock Road, Valley View Way, Hidden Ridge Court, Country Heights Drive, and Deer Meadow Drive, all as shown on Figure 2 (page 14). Expansion of the District's potable water system serving Lake Wildwood and nearby areas would serve the project.

Table 2 (page 15) is a preliminary cost estimate for the project. It indicates a cost of $1,138,330 for construction and related costs. The amortization schedule (Table 8, Appendix A) indicates annual loan payments of $84,466, or $2,223 per year per participant.

Cement Hill Pump Zone Expansion

The proposed Cement Hill project neighborhood includes 285 parcels, located north of Nevada City, extending from Highway 20 on the east, westerly generally along Cement Hill Road to Bodie Ridge Road on the west. Figure 3 (page 16) is a map of the proposed service area. Expansion of the District's Snow Mountain potable water system would serve the study area.

Table 3 is a preliminary cost estimate for the project indicating a total project cost of $7,526,772. The amortization schedule (Table 9, Appendix A) indicates annual loan payments of $543,358, or $1,907 per year per participant.

Figure 1. Rodeo Flat Service Area

TABLE 1

RODEO FLAT, RIDGE TOP WATER SERVICE STUDY (1), 2/05

Rodeo Flat, Ridge Top study parcels			36		Alternate 4 Hydropneumatic Only (Future Tank on Ridge Top)					
Parcels sharing in cost			24							
					Cost sharing recommendation					
CONSTRUCTION COSTS										
					Rodeo Flat Ridge Top				Nevada Irrigation (2)	
Description		Qty	Unit Cost	Total Cost	Share %	Share $	$ /Parcel		Share %	Share $
Hydropn. Pump Station		1		$500,000	89.80	$449,000	$18,708		10.20	$51,000
Pipelines:	Size									
Timber Ridge to highest poin	8	2265	55	124,575	100	$124,575	$5,191		0.00	$0
Rodeo Flat	8	4760	55	261,800	100	$261,800	$10,908		0.00	$0
Ridge Top beyond peak	4	500	35	17,500	100	$17,500	$729		0.00	$0
Subtotal				$903,875		$852,875	$35,536			$51,000
Eng'g & contingencies		25	%	$225,969		$213,219	$8,884			$12,750
TOTAL CONSTRUCTION				$1,129,844		$1,066,094	$44,421			$63,750
CAPACITY FEES:										
				Standard						
Standard Capacity Fee-5/8" meter				$5,075						
Water Treatment				36.38	36.38	$1,846				
Storage				19.50	19.5	$990				
Transmission (Assume 20% credit for booster pump statio				44.12	35.30	$1,791				
Total Capacity Fee							$4,627			
Meter Installation Fee							$845			
TOTAL COST		**24 parcels sharing**					**$49,893**	(3)		$63,750
TOTAL COST		**36 parcels sharing**					**$33,262**	(3)		$63,750

(1) Cost estimate is for comparison only. Actual construction cost could vary.
(2) Staff recommendation only. District participation requires approval of the Board of Directors. Some parcels require approval of variances.
(3) Add $470 for backflow prevention device for parcel with existing well.

Figure 2. Wildwood Heights Service Area

Table 2

COST ESTIMATE FOR WILDWOOD HEIGHTS WATERLINE EXTENSION

Item	Description		Quantity	Unit	$/Unit	Total
	Major Project Components					
1	8" Water Main	(1)	9280	L.F	$65	$603,200
2	2" Water Main	(1)	580	L.F	$35	$20,300
					Sub Total:	$623,500
	Contingencies					
3	Construction			15%		$93,525
					Sub Total:	$93,525
	Engineering and Admin					
4	Application Prep			2%		$12,470
5	Design Engineering			10%		$62,350
6	Construction Management			10%		$62,350
7	Improvement Dist. Mgmt.					
8	Legal			3%		$18,705
					Sub Total:	$155,875
	District Connection Fees					
9	Capacity Fees, 5/8 Meter		38	EA	$6,040	$229,520
10	Meter Install Fee		38	EA	$945	$35,910
					Sub Total:	$265,430
					Total:	$1,138,330

Foot Notes:
(1) Includes all appurtenances such as ARV's, BOV's, Valves and FH's.

Figure 3. Cement Hill Service Area

Table 3
Cement Hill

Cost Estimates

Item	Description		Q	Unit	$/Unit	Total	% Eligible (7)	Loan Funds	Other Funds
	Major Project Components								
1	10" Water Main	(1)	7,000	L.F.	59	413,000	88.14%	364,000	49,000
2	8" Water Main	(1)	47,660	L.F.	52	2,478,320	100%	2,478,320	-
3	4" Service Lateral	(1)	-	L.F.	21	-	100%	-	-
4	2" Service Lateral	(1)	5,860	L.F.	16	93,760	100%	93,760	-
	Booster Pump Sta.:								
5	Building:		210	SF	384	80,640	75.00%	60,480	20,160
6	Mechanical:	(2)	1	L.S.	295,000	295,000	95.00%	280,250	14,750
7	Storage Tank	(3)	400,000	Gal.	1.55	620,000	82.00%	508,400	111,600
					Sub Total:	3,980,720	95.09%	3,785,210	195,510
	Land Acquisition:	(4)							
8	Water Mains & Laterals					204,200	100%	204,200	-
9	Booster Pump Sta Site					13,100	90.00%	11,790	1,310
10	Storage Tank Site	(5)				73,060	40.00%	29,224	43,836
					Sub Total:	290,360	84.45%	245,214	45,146
	Sub Tota of Major Project Comps and Land Acqu.:					4,271,080	94.37%	4,030,424	240,656
	Ratio of eligible to ineligible applied to balance of project costs:							94.4%	5.6%
	Contingencies:								
11	Construction			15%		640,662	94.37%	604,564	36,098
	Engineering and Adm.:								
12	Application Prep.	(6)		2%		85,422	94.37%	80,608	4,813
13	Design Engineering			10%		427,108	94.37%	403,042	24,066
14	Contruction Mgmt.			10%		427,108	94.37%	403,042	24,066
15	Improvement Dist. Mgmt.			8%		341,686	94.37%	322,434	19,252
16	Legal			3%		128,132	94.37%	120,913	7,220
			Sub Total:	48%		1,409,456	94.37%	1,330,040	79,416
	District Connection Fees:	(8)							
17	Capacity Fees, 5/8" meter:		23	Ea.	4,461 (9)	102,601	100%	102,601	
18	Capacity Fees, 5/8" meter:		207	75% (10)	4,461	692,559	100%	692,559	
19	Meter Install Fee		23	Ea.	905	20,815	100%	20,815	
20	Meter Install Fee		207	75%	905	140,501	100%	140,501.25	
					Sub Total:	956,476	100%	956,476	

Excess Footage Charge Calculations: (11)

# of lots	L.F./lot	Allowable	Actual	Excess
250	150	37500	60,520	23,020

21	Excess Footage Charge	23,020	L.F.	10.82	249,097	100%	249,097	
						% (7) Eligible	Loan Funds	Other Funds
				Total:	$ 7,526,772	95.27%	$ 7,170,601	$356,171

Foot Notes:

(1) Includes all appurtenances such as ARV's, BOV', Valves, and FH's.
(2) Includes a standby generator large enough to operate one 250 gpm pump and station electrical equipment.
(3) Includes site grading and access road construction.
(4) See land acquisition cost breakdowns on page 2.
(5) Includes site large enough to accommodate two tanks and future booster pump station.
(6) Includes planning, preliminary engineering, and application preparation costs.
(7) Refer to Table 2, Tab C-6 "Enginering Study" for explination of split in eligible vs ineligible costs.
(8) Refer to Appendix E to Tab C-6 "Engineering Study" for 2005 capacity and meter install fee schedule.
(9) Capacity fee minus storage component(12.1%)(Storage provided by project)
(10) Modified capacity fee for 75% of the 130 fronting parcels estimated to be included in improvement district.
(11) Refer to Appendix F to Tab C-6 "Engineering Study" for regulations goveringing excess footage.

5. Tax Revenue

It is proposed in this report to provide financial incentives in order to make expansion of water systems more affordable. Two methods of financial incentives are described, and each one uses tax revenues to fund the incentives. In this chapter tax revenues used by each incentive method are described in detail.

Method A Incentives

As described in Chapter 2, the County where the lands are located collects annual property taxes. According to provisions of Proposition 13, adopted by voters in California in 1976, the Counties can collect no more than 1% of the assessed value of land plus improvements. One exception to this is that Proposition 218 (Article XIII A of the California Constitution) allows additional taxes to be collected if they have been approved by the voters. Another exception is the Community Facilities District Act of 1972 which provides authority for special taxes.

The District's tax revenue then becomes a portion of the 1% tax collected by the Counties. The portion varies by location depending on how much competition there is for the tax revenue from other public agencies serving the same area. For example, if there are few public service agencies in some rural portion of the County, then NID may receive a larger portion of the 1%. If there are many agencies and districts competing for the revenue (as when multiple agencies such as fire districts, park districts, school districts, etc. provide service to the property), then NID will not receive as big a share of the 1% tax revenue.

The three case studies in this report are all located in Nevada County. The following description applies to Nevada County, but the data is similar in the portions of NID located in other counties. According to a recent Municipal Services Review prepared for Nevada County Local Agency Formation Commission (LAFCO), there are 118 different tax area codes in the portion of NID located in Nevada County, reflecting the variety of sharing arrangements of the 1% tax revenue. The portion of the tax revenue received by NID in the 118 tax area codes in Nevada County varies from 3½ % to more than 21%, with the average being approximately 6%.

All of the parcels in the Rodeo Flat project are located in Tax Area Code 72-028, for which the NID portion of the 1% tax is 7.7620%. The NID revenue collected in 2004 from parcels in this service area was $9,603.92. (See Table 4, Appendix A.).

Likewise, all of the parcels in Wildwood Heights are in Tax Area Code 73-009, for which the NID portion of the 1% tax is 14.3150%. The resulting revenue collected by NID in 2004 was $17,193.10. (Table 5, Appendix A.)

The parcels in the Cement Hill service area are in Tax Area Codes 68-005, 68-010, and 2-002. The majority of the 285 parcels are in Tax Area Code 68-005, for which the NID portion of the tax is 5.9148%. The 5 parcels located in Tax Area Code 2-002 are the site of the former Nevada City Airport. The applicable tax rate is 5.4994%, but because the parcels are owned by the City

of Nevada City, they are not taxed and do not generate revenue for NID. The remaining 16 parcels are in Tax Area Code 68-010, which is outside the NID boundary and does not provide any tax revenue to the District. The revenue collected by NID in 2004 from the proposed Cement Hill service area which was $41,861.68. (Table 6, Appendix A.)

Method A financial incentives uses these taxes paid to NID from each service area to aid in the repayment of the cost of the proposed water projects.

Method B Incentives

In 1992, the State of California found itself in a serious deficit position. To meet its obligations to fund education at specified levels under Proposition 98, the state enacted legislation that shifted partial financial responsibility for funding education to local government (cities, counties and special districts). The state did this by instructing county auditors to shift the allocation of local property tax revenues from local government to "educational revenue augmentation funds" (ERAFs), directing that specified amounts of city, county and other local agency property taxes be deposited into these funds to support schools.

Starting in the 1992-93 fiscal year, a portion of NID's property tax revenue was, and continues to be, diverted to ERAF. Cumulatively, all state special districts have paid more than 9% of the over $58 billion diverted through the 2005-06 fiscal year.

To make matters worse for local government, there is a statewide $1.3 billion spike in the ERAF shift in fiscal years 2004-05 and 2005-06 agreed to by local government associations as part of the 2004 budget agreement with the governor.

Proposition 1A, approved by the voters in November 2004, constitutionally prevents the state from future new property tax shifts. It does not, however, reverse the prior shifts. [For more information on this subject visit *www.cacities.org.*]

Figure 4., NID Tax Revenue, shows actual and estimated tax revenue received by the District from all properties in the District for the nine year period 2000 through 2008. This graph reflects two important points. Firstly, overall tax revenue has been generally increasing with time due to the strong real estate market increasing assessed values, and due to much new construction causing improvement value to be added to the assessed values. The second point is the spike in the ERAF shift for 2004-05 and 2005-06 is shown as a big dip in NIDs tax revenue for those years.

[insert Figure 4.]

Because of these factors, NID has experienced annual tax revenues between $5.5 million and $7.3 million for the seven years 2000 through 2006. Now, rather abruptly, the tax revenue will increase by about $1.8 million from 2006 to 2007, and another $0.5 million the following year due to the end of the recent ERAF spike and continuing prosperity. This projected revenue increase of about $2.3 million is an opportunity for the District to set aside money to fund an ongoing grant program for incentives for local service areas to expand water service systems. Each year NID could decide how much (if any) tax revenue would be contributed to the system expansion fund.

An advantage of Method B is that the District will control the incentive program funding. It is totally within the control of the Board of Directors how much funding (if any) is set aside each year for this program. Alternatively, with Method A, once the commitment is made to finance the incentive with future tax revenue, the District is responsible for the project amortization over the life of the borrowing, even if something unpredictable were to disrupt that future revenue stream.

6. Application of Prior Years Tax Revenue To Test Case Projects

In general, local tax revenue is modest compared to the proposed cost of a water supply project. In the case of the three test case projects, one year of tax revenue represents about 0.8% of the Rodeo Flat estimated project cost; 1.6% of the Wildwood Heights estimated cost; and 0.5% of the Cement Hill estimated cost. Consequently, it is difficult to significantly change the probable cost per parcel using some application of prior year tax revenue.

One benefit of the application of prior year(s) tax revenue to potential water development projects could be the payment of the up-front costs associated with the preparation of the Preliminary Project Study. As explained in Chapter 3, this study is an analysis by the District Engineering Department of the request for consideration of new water service to an unserved area. The cost for preparation of one of these studies is approximately $50,000.

Using Method A financial incentives, it would require approximately 5 years of prior tax revenue generated in the Rodeo Flat service area to pay for its Preliminary Project Study. The Wildwood Heights study would require about 3 years of tax revenue, and the Cement Hill Preliminary Project Study would need about 1 year of tax revenue.

In fact, the District has not required reimbursement for the costs associated with preparation of the Preliminary Project Study. Thus, it could be rationalized that such up-front costs have been underwritten by recent prior years tax revenue generated in the applicable service area, and reinvested back into the local community.

Alternatively, Method B incentives could transfer district-wide tax funding to compensate the District for the cost of preparation of the Preliminary Project Study just as would be done for any other project cost using Method B.

7. Projected Future Years Tax Revenue

For a variety of reasons tax revenue has historically increased every year.

One way the tax revenue can increase is as a result of an action by the Assessor to increase the assessed value of land (and improvements). Pursuant to provisions of the Government Code the Assessor may not (with some exceptions) increase the assessed value of a parcel more than 2% per year. The exceptions include 1.) where improvements are added to the land, and 2.) where ownership has changed resulting in the purchase price establishing a new value for land and improvements. Thus, the 2% growth rate in tax revenue has become a kind of bench mark since the passage in California of Proposition 13.

In actuality, tax revenue has increased in the District since 2000 at a rate of about 9.3% per year. This high rate of growth of tax revenue is likely due to the active real estate market which has driven land and home costs to record highs, and to the effect of significant building construction adding improvements to the assessed value.

The high rate of growth of tax revenue cannot be assured over the long term. An economic downturn could result in a slump in the real estate market, which in turn could lower or prevent the increase in land and improvement values. There is provision in law by which property owners can petition for a reduction in the appraised value of their property based on such factors.

Method A
Present government finance practice would likely support loaning money for a water project to be amortized, in part, by the anticipated increase in ad valorem tax at a growth rate of 2% per year. Even though the 2% growth rate is a limit, not a entitlement, it could be supported based on the stronger recent history of aggressive tax growth, the continued growth of the national economy, the increasing population need for more housing, and other factors.

Method B
There are less concerns with Method B incentives. If future year tax revenue increases significantly as expected, the Board of Directors can make more funding available for this program. If future year tax revenue grows at a slower rate than projected, less funding may be allocated to the program.

8. Application of Future Year Tax Revenue to Test Case Projects

The major thrust of this report is to look for ways to assist neighborhoods to more easily afford proposed water improvement projects. One way to accomplish that goal would be to apply future tax revenue generated in the service area to the amortization of project funding.

Present funding programs for this kind of infrastructure improvements involve borrowing money at 6% interest over a 30 year term. These conditions are subject to change with the market availability of investment capital.

Method A Incentives

To determine the affect of a hypothetical commitment to use projected future tax revenue to aid in the amortization of project costs, an economic model was created for each Test Case Project. The models are shown in Tables 10 - 12, Appendix A. The format includes data from preliminary project cost estimates (Tables 1 -3) to apply to a 2 or 3 year design and construction schedule. The amount of money borrowed is sufficient to pay all project costs (when added to interest earned during construction at a nominal 4% rate) plus a 10% Reserve Account. The second part of the format is an amortization schedule using land-owner payments plus tax revenue (growing at 2% per year) to pay back the loan principal and 6% per year compound interest. The result of using the tax revenue stream to help pay for the borrowed money is that annual loan payments are reduced by from 11% to 29% over the cost of the same project without financial aid.

As noted in Chapter 7, funding agencies are not expected to rely on tax revenue growing at a rate faster than 2% per year, but this does not mean that if tax revenue **did** grow at a faster rate, it could not be used to pay down the loan.

Method B Incentives

Economic models for each test case project were also created using a grant of 20% of the estimated project cost to reduce the amount of borrowed funds necessary to finance each project. The 20% grant amount was selected because it is similar to the Method A benefit, and it is cumulatively about $2 million so it can be funded in the first two years of tax revenue after the present ERAF spike (See Chapter 5.).

NID may desire to develop a merit schedule to both prioritize grant projects and to offer greater or lessor grants for more or less desirable projects. Some factors which might be considered are:

- Projects which create a logical expansion of the District water system may be more desirable than projects which are more remote from the parent water system
- Projects which benefit more potential customers for each dollar invested may be more desirable than 'expensive' projects which benefit few properties.
- Projects which furnish potable water to "Action Parcels" (those receiving non-potable water in the house, thus requiring action to correct a public health hazzard) might justify additional financial incentives.

grant w/ State

Grants for projects?

The economic models using a 20% grant incentive for each test case project are shown in Tables 13 - 15, Appendix A. The result of the grants is that annual loan payments are reduced by 21% to 22% over the cost of the same project without financial aid.

9. Analysis of Test Case Project Financing

In this study several issues related to the financing of water system improvements have been considered.

Without Financial Aid

As a benchmark to the effectiveness of the optional financing strategies, it will be helpful to first look at the cost of each project without any financial aid. The cost of the three projects is shown in Tables 1-3. The average capital cost per participant, and each participant's share of the amortization at 6% compounded over 30 years, is:

Service Area	Capital Cost	Amortization
Rodeo Flat	$35,086 / participant	$2,572 / year
Wildwood Heights	$29,956 / participant	$2,223 / year
Cement Hill	$26,410 / participant	$1,907 / year

Apply Prior Tax Revenue to Up-Front Project Costs

The cost of a Preliminary Project Study is about $50,000. Under Method A, if the proposed service area prior tax payments were used to pay for the cost of this study, it would require 2 - 5 years of tax revenue. This revenue comes to NID as a portion of the ad valorem tax collected by the county, resulting in no additional fee having to be paid by each beneficiary. Using Method B financial incentives, NID could reimburse itself from the grant fund, or waive the reimbursement as it presently does. This satisfies the goal of NID 2006 Strategic Planning Objective 1.3 to reduce up-front project costs by using property tax revenue.

Apply Future Tax Revenue to Reduce Overall Project Costs

Method A Incentives

If taxes paid by the project beneficiaries were applied to the amortization of the project costs it would reduce the monthly or annual payments made by each beneficiary by 14% at Rodeo Flat, 29% at Wildwood Heights, and 11% at Cement Hill. The share of tax revenue received by NID from Nevada County is close to the 6% district-wide average in both Rodeo Flat and Cement Hill, while the share at Wildwood Heights is about twice the average. This accounts for the significant affect on amortization payments at Wildwood Heights. As previously noted, the tax revenue stream in these models is projected to grow at a rate of 2% per year.

It was noted in Chapter 7 that funding agencies would not want to rely on a reimbursement anticipating more than a 2% annual growth rate in property taxes. This does not mean that the District could not apply all tax revenue received from the service area to the pay-down of the loan. If annual tax growth rate continued at the 9.3% rate as it has done since 2000, the tax collected in excess of that generated by the 2% growth could reduce the debt significantly.

Method B Incentives

If NID contributed a 20% grant to the project financing, there would be similar benefits. NID would create the grant fund from significant projected future growth in District-wide tax revenue. The resulting savings in annual loan payments by project beneficiaries is from 21% to 22% over the cost without financial aid. (See economic models Tables 13 - 15, Appendix A.)

In either Method A or Method B, the loss to the District of either local project-area tax revenue or District-wide tax revenue would be offset by:

The expansion of the District infrastructure in the amount of approximately $9.9 million (the combined capital cost of the three Test Case Projects),

By an undetermined increase in development within the Test Case service areas due to the new availability of potable water,

By new water sales,

By higher assessed valuation,

And by an undetermined increase in the social good of the District resulting from the increased availability of a public water supply and fire protection.

Table 4. is a summary of results of the economic models described in this report. (It is also shown with more detail as Table 17 in Appendix A.)

Table 4. Summary Results of Economic Models
Avg. Annual Loan Payment per Parcel

Project	Rodeo Flat	Wildwood Heights	Cement Hill
No Financial Aid	$2,572	$2,223	$1,907
A. Local Tax Revenue	$2,209	$1,579	$1,705
B. NID 20% Grant	$2,040	$1,739	$1,506

10. Conclusions and Recommendations

Conclusions

General

1. At a capital cost of about $30,000 per participant, it is too expensive for many people to participate in the expansion of the water system infrastructure.

2. The preliminary project cost estimates were prepared by various District staff at different times. The formats were inconsistent, with soft costs (contingency and non-construction costs) representing between 25% (Rodeo Flat) and 48% (Cement Hill) of construction cost. Also, none of the three preliminary cost estimates included an allowance for mandatory environmental review costs.

Use Existing Property Tax Revenue to Reduce Up-Front Project Costs

Method A

3. Approximately 2-5 years of a potential service area's NID portion of its prior property tax is sufficient to reimburse NID for the cost of preparation of the service area's Preliminary Project Study. At the present time the District is not being reimbursed for these costs, but the prior tax revenue has been placed in the General Fund without any restrictions.

Method B

4. Method B grant funds could be used to reduce up-front project costs just as they are used for other project costs.

Use Future Property Tax Revenue To Reduce Water Project Costs

Method A

5. If future tax revenues generated in a prospective service area are applied to the amortization of the cost of proposed water facility expansion, the amortization payments will be reduced 11% to 29% in the Test Case projects (assuming a 2% annual growth in property tax revenue).

Method B

6. If NID contributes a 20% grant to the project financing, the amortization payments will be reduced 21% to 22% in the Test Case projects.

7. Applying tax revenue either generated in the project service areas or District-wide to project cost amortization would result in a short term loss of revenue to the General Fund. This revenue loss would be offset by expansion of the District facilities in the amount of $9.9 million.

8. NIDs use of future tax revenue (either Method A or Method B) to reduce water project costs is an Investment in the Community. This investment will yield a return to NID through:

Increased water sales,
Higher tax revenue due to the potential of new improvements being built,
Improved common good to the community, and
Continued expansion of water lines to other areas consistent with the District's Strategic Plans.

Recommendations

1. It is recommended that NID commit to a policy of applying recent prior years tax revenue to lessen the up-front cost of preparation of the Preliminary Project Study.

2. It is recommended that NID apply current and future years tax revenue to reduce the overall project cost.

Community Investment Program Analysis

Nevada Irrigation District Board Meeting 12-13-17

Proudly serving portions of Nevada, Placer, and Yuba Counties

2006 Expansion of Water Service (Sauers Report)

- Board Strategic Plan Item #1 – Proactively Extend Water Lines
  - Find a way to help reduce costs
- District hired Keith Sauers P.E. to provide recommendations
- Mr. Sauers goals were to:
  - Study the use of tax revenue to:
    - Reduce “upfront” project costs for existing neighborhoods
    - Reduce “overall” project costs for existing neighborhoods

Sauers Report Results

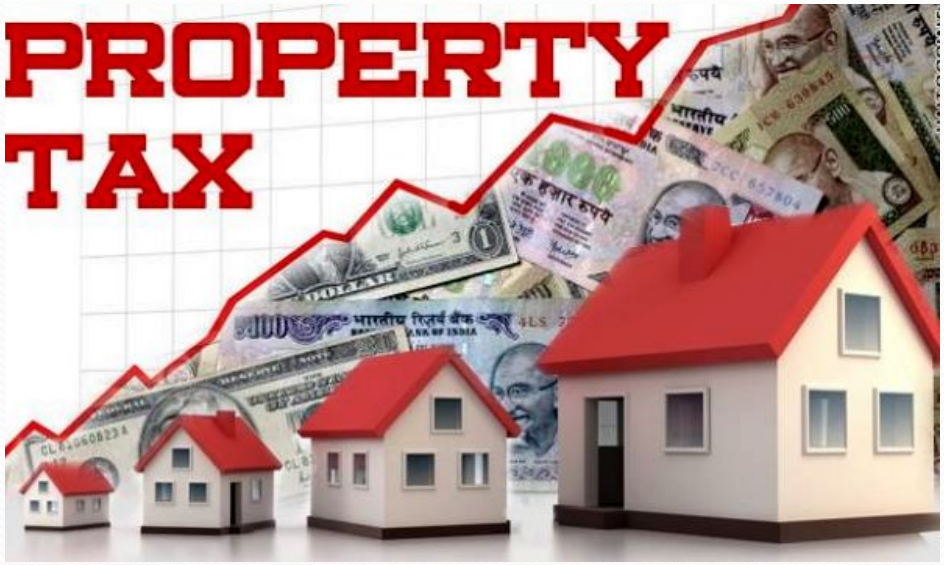
- Report Recommended Two Options
  - Method A
    - Use of existing property tax revenue
  - Method B
    - Use future property tax revenue

Sauers Report Options

- Method A; Use of existing property tax revenue to reduce upfront water project costs
  - This potentially results in a 11% to 29% savings in annual payments for each water line extension participant.
  - Funds to be used for startup costs

Sauers Report Options

- Method B; Use future property tax revenue to reduce water project costs
  - Reduces potential payments by participants of 21% to 22%



Community Investment Program (CIP) Ratification

- Out of the Sauers report came the Community Investment Pilot Program
- Recognized by the Board on November 14, 2007
- APC Recommendations to the Board for Formation:
  - Upfront cost shall include preliminary engineering/setup
  - Distribution costs shall not exceed 15% of construction costs
  - Total costs for above shall not exceed $250,000
  - Costs may be used to pay cost of hydrants
  - Included District Financed Water Line Extensions (DFWLE)
    - Allowed financing through the District for these projects

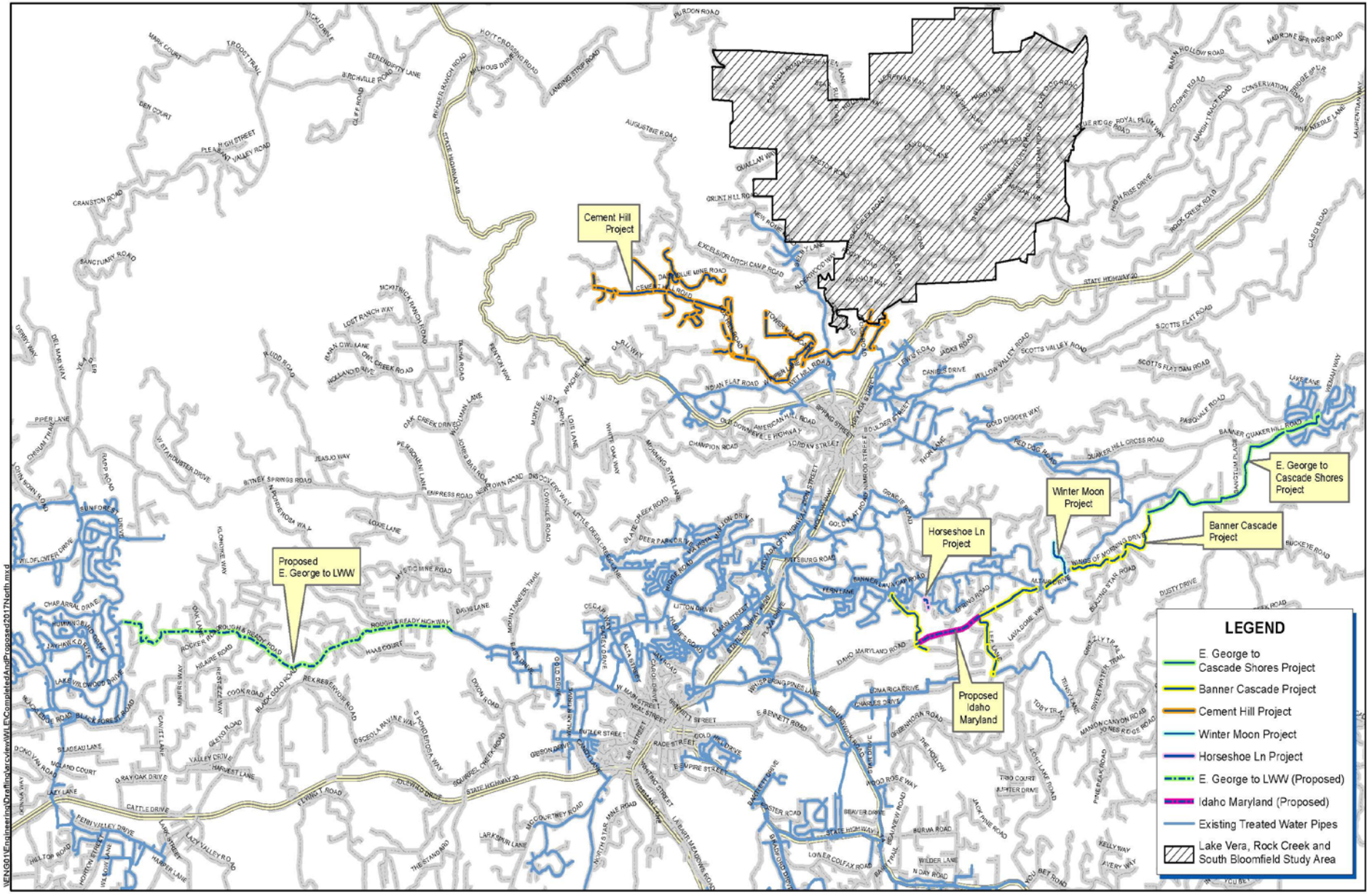
First CIP Pilot Project

- The Pilot Project Helped to Spur the Completion of:

- Cement Hill CFD
- Rodeo Flat AD
- Hoskins Lane DFWLE
- Fay Road DFWLE

Restructuring & Continuing Modifications

- The District reinstates and modifies programs
  - April 14, 2010 – Reinstate pilot program after hiatus due to financial & participation concerns (Horseshoe)
  - February 22, 2012 – Add due on sale, subordination, reserve policy; no longer pilot (Rattlesnake)
  - March 12, 2014 – established participation target & flowchart (E. Hacienda & Caroline / Winter Moon)
  - November 12, 2014 – Funding agreement acceptable until construction complete
  - November 9, 2016 – CIP Stabilization Fund



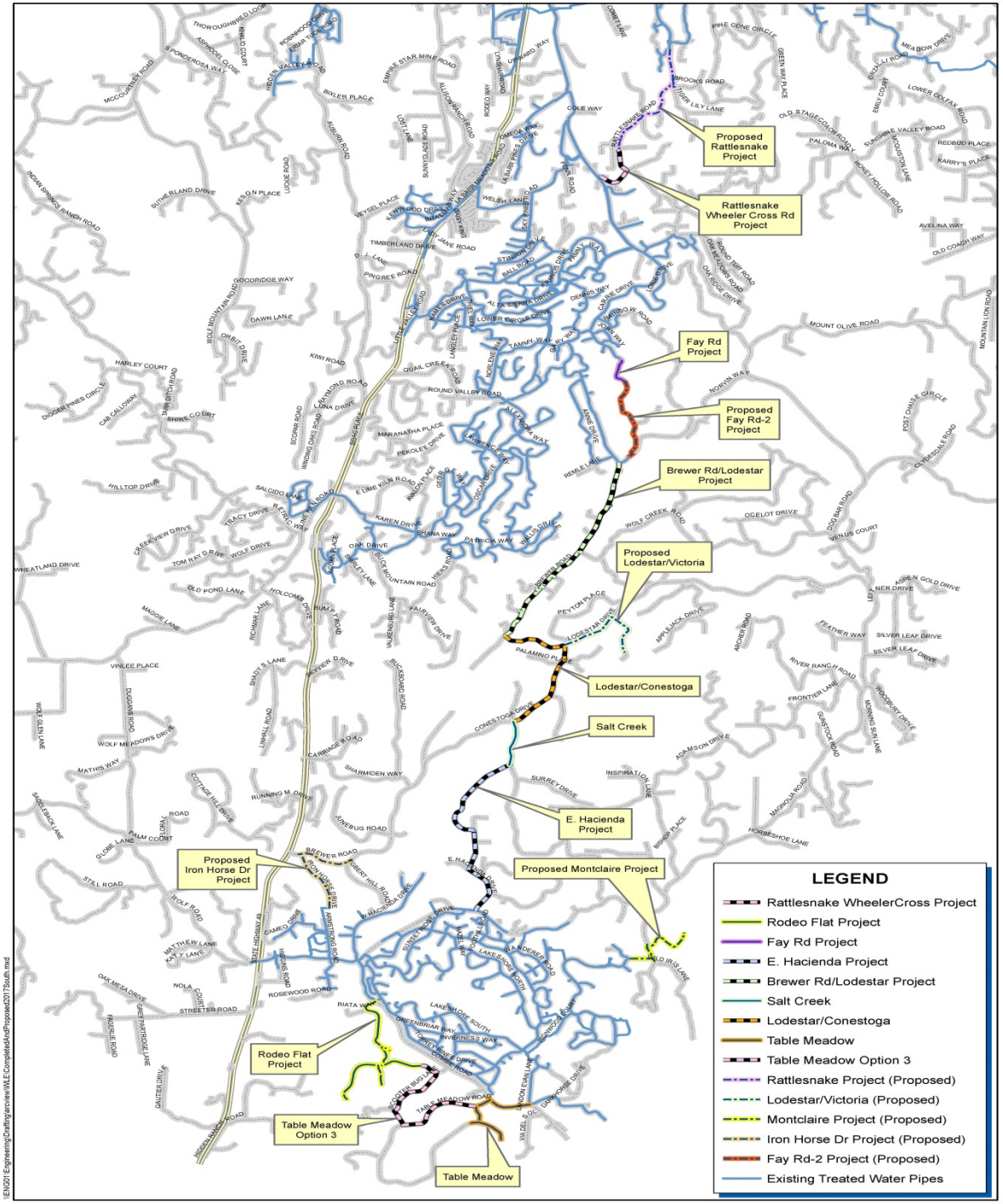
NID

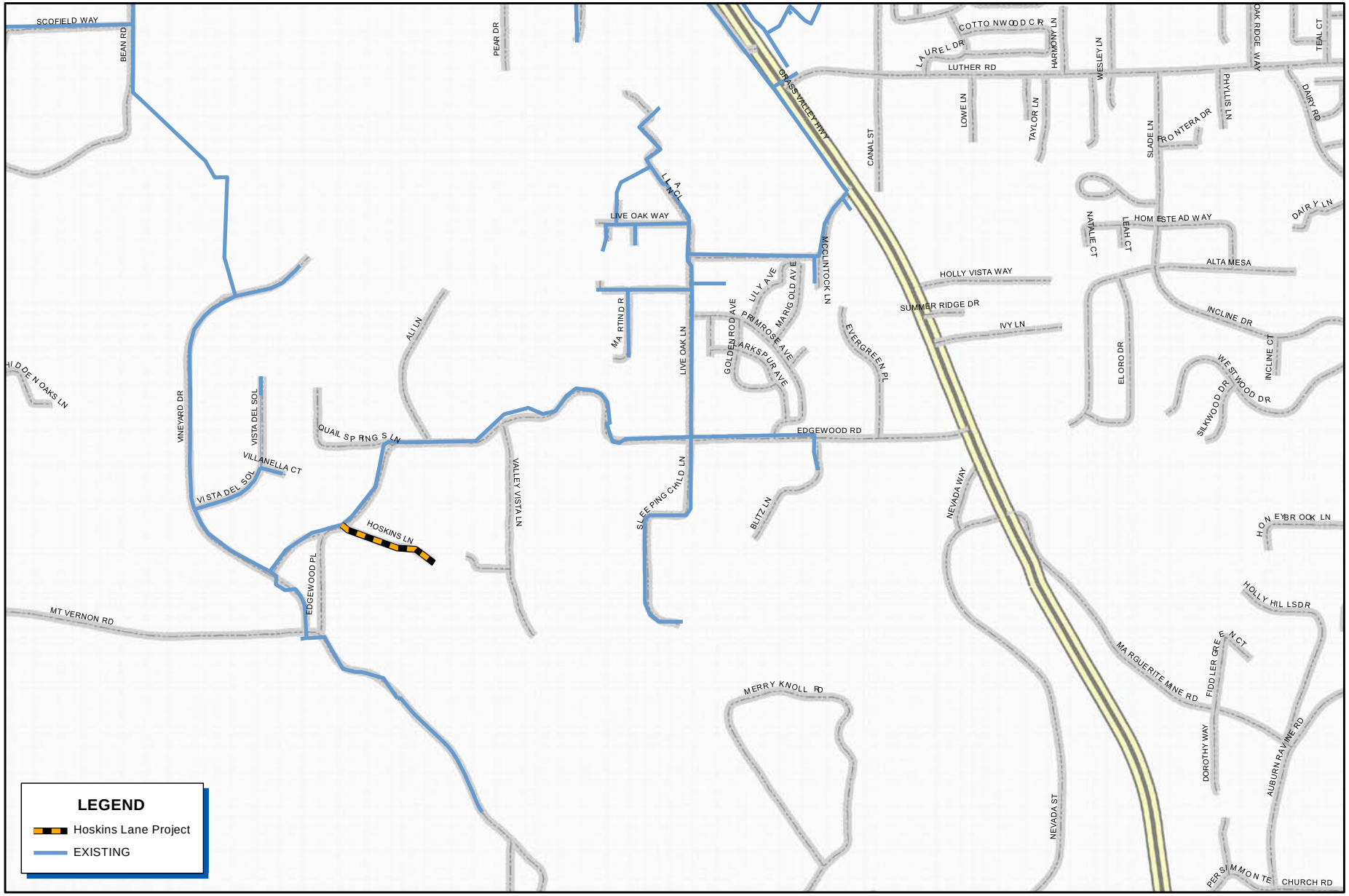
NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

2006 EXPANSION OF WATER SERVICE WITHIN NID STUDY REVIEW MAP

Drawn By: D. HUNT Date: 10/31/2017 Scale: NO SCALE Sheet: 1 of 2


Proposed Rattlesnake Project
Rattlesnake Wheeler Cross Rd Project
Fay Rd Project
Proposed Fay Rd-2 Project
Brewer Rd/Lodestar Project
Proposed Lodestar/Victoria
Lodestar/Conestoga
Salt Creek
E. Hacienda Project
Proposed Montclaire Project
Proposed Iron Horse Dr Project
Rodeo Flat Project
Table Meadow Option 3
Table Meadow
LEGEND
Rattlesnake WheelerCross Project
Rodeo Flat Project
Fay Rd Project
E. Hacienda Project
Brewer Rd/Lodestar Project
Salt Creek
Lodestar/Conestoga
Table Meadow
Table Meadow Option 3
Rattlesnake Project (Proposed)
Lodestar/Victoria (Proposed)
Montclaire Project (Proposed)
Iron Horse Dr Project (Proposed)
Fay Rd-2 Project (Proposed)
Existing Treated Water Pipes



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NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

2016 EXPANSION OF WATER SERVICE WITHIN NID
STUDY REVIEW MAP

Drawn By: D. HUNT Date: 11/16/2017 Scale: 1" 900' @ 8-1/2x11 Sheet: 3 of 3

Current DFWLE Program

- Changes have resulted in:
  - Utilization of tax revenue to advance funding for extending District water lines
  - Up to 40% funding from tax revenue (DFWLE)
    - Future connections will reimburse funds
  - Keep costs proportionate for each parcel
  - District providing funding for non-participants
  - Participants can finance connection/reimbursement fees
    - Terms available up to 20 years
    - Maximum financing available is 30k
  - Provide an avenue for reimbursement of CIP Funds
    - To support future projects

Backbone Extension Program

- District established the Backbone Extension Program
  - Allows the District to proactively install pipelines that are needed for District benefit
  - Areas in need of water get higher priority
  - All costs are covered by the District
  - Parcels pay reimbursement when connecting
  - Customers can finance connection/reimbursement fees
    - Terms available up to 10 years
    - Maximum financing available is 20k

Other T/W Connection Policies

- In addition to the DFWLE & BEP programs the District has created the programs below in an effort to ease connection challenges
  - Temporary Service Line Program (TSL)
  - Utilization of capacity fees for regional benefit
  - Pipeline Reimbursement Policy
  - CIP stabilization fund
  - Proactive annexations for exclusion areas in need

Program Achievements

- Since the inception of the CIP Program the District has installed 32.6 miles of pipe
  - A 9% increase in overall distribution system piping
  - T/W lines now total 394 miles
- District has installed >150 hydrants
- Have worked with 15 DFWLE groups
  - Of the 15, 6 have been successful

CIP Budget

- District has funded the CIP budget since inception as shown in the graph:

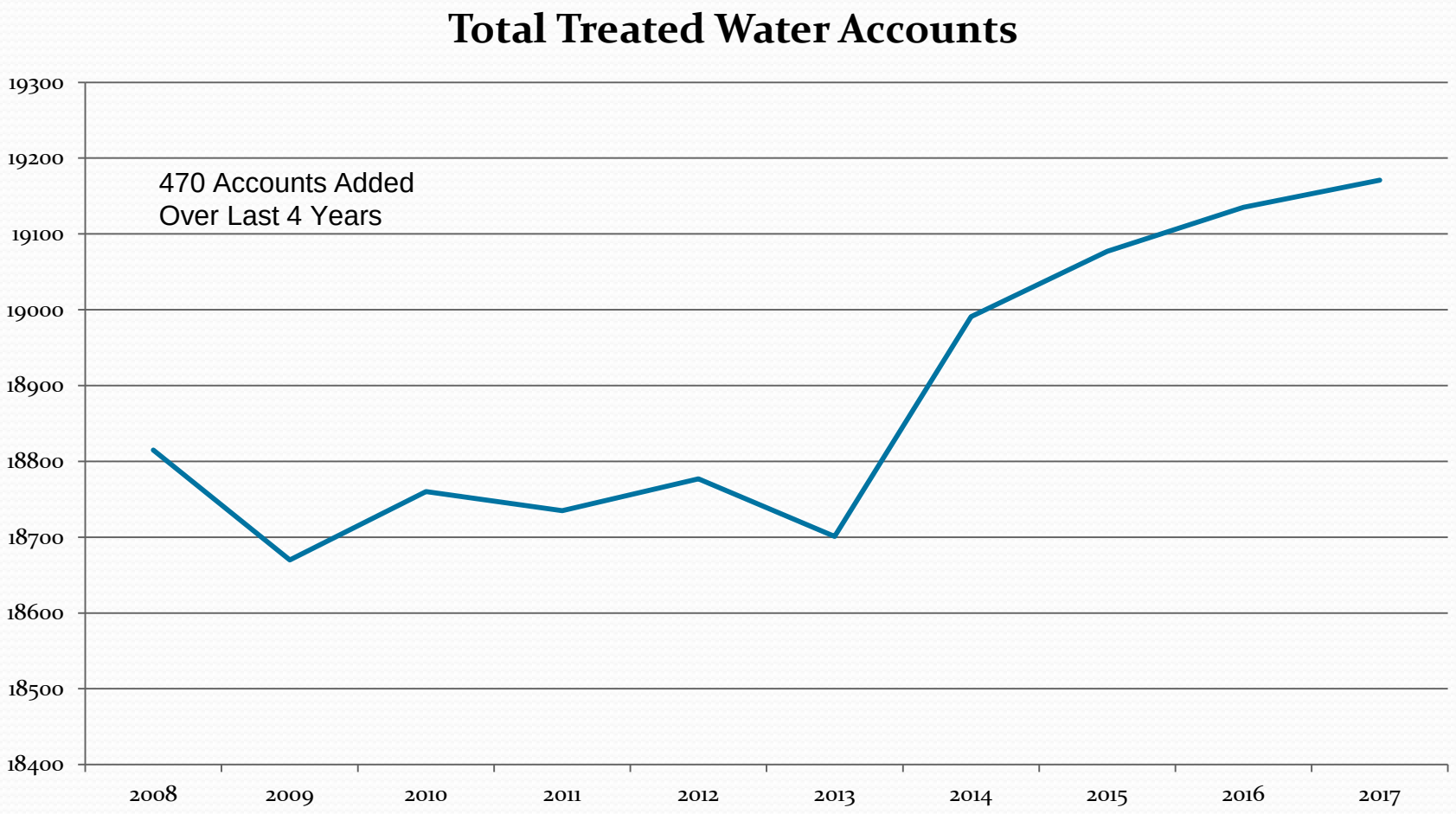
	CIP	BEP
2007	$ 150,000	
2008	$ 881,000	
2009	$ 775,000	
2010	$ 6,426,000	
2011	$ 500,000	
2012	$ 500,000	
2013	$ 250,000	
2014	$ 1,474,722	$1,000,000
2015	$ 875,000	$1,000,000
2016	$ 2,025,000	$1,000,000
2017	$ 1,225,000	$1,000,000
2018	$ 800,000	$1,000,000
Totals	$15,881,722	$5,000,000

Program Achievements

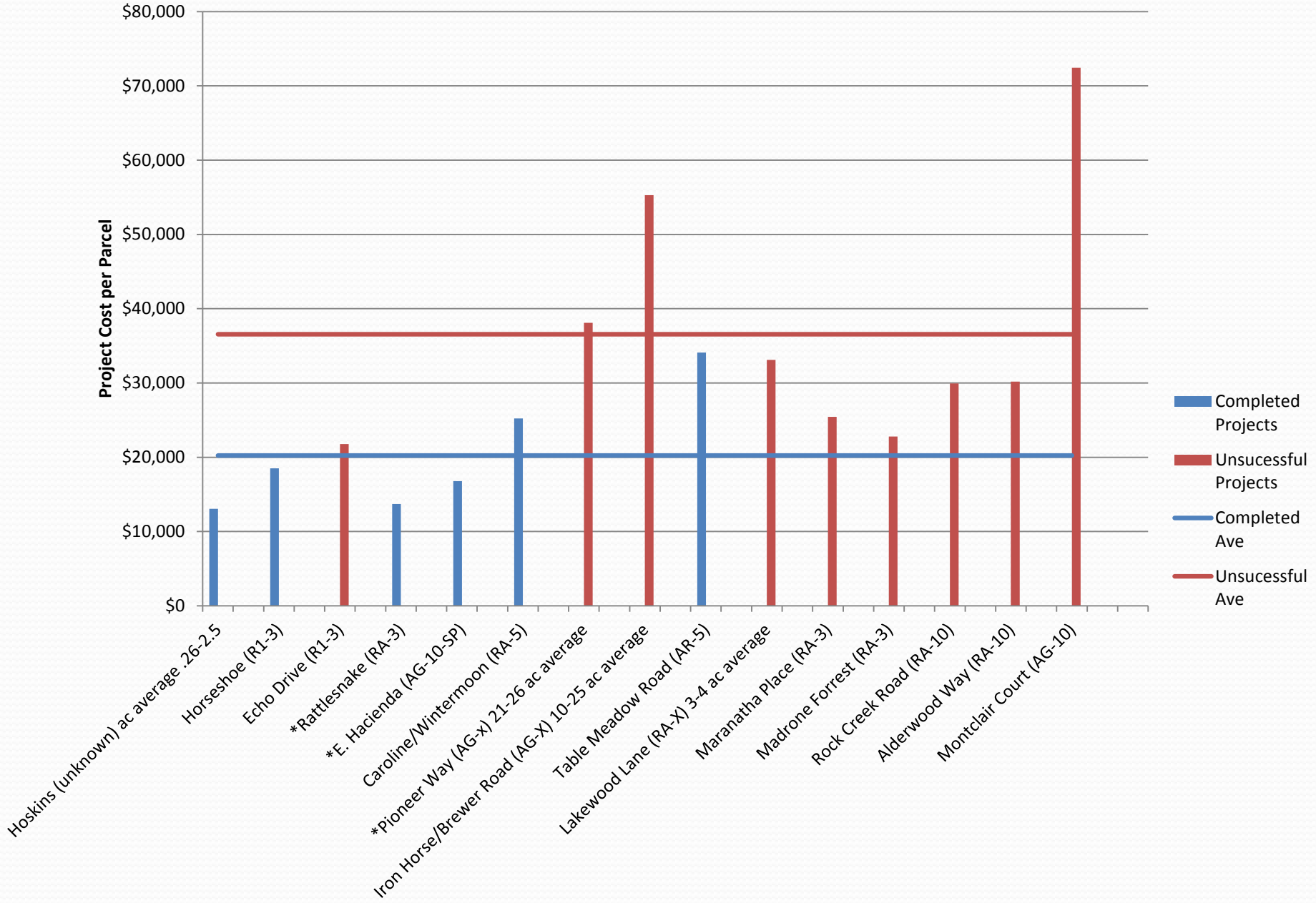
- The following is a list of projects completed since 2006

Community Investment Projects	Cost	Linear Foot	Year
Hoskins Lane (DFWLE)	41,136	711	2007
Fay Road (Landowner/DFWLE)	10,201	1,565	2008
Horseshoe Lane (DFWLE)	91,143	842	2010
Rodeo Flat (AD)	1,876,906	8,080	2011
Cement Hill (CFD)	10,775,677	64,004	2012
Rattlesnake/Wheeler (DFWLE/BEP)	584,177	2,860	2012
Lower Cascade Project (treated water)	2,474,535	23,567	2013
Caroline/Wintermoon (DFWLE)	446,689	2,181	2015
East Hacienda (DFWLE/BEP)	967,098	10,234	2015
Salt Creek (BEP)	370,826	2,490	2015
Brewer Road/Lodestar (BEP)	2,286,410	9,756	2016
Lodestar/Conestoga (BEP)	1,972,070	10,635	2017
Table Meadows (DFWLE)	949,740	5,558	2017
Option 3 - Table Meadows (Main Ext.)	859,490	8,665	2017
E. George to Cascade Shores (BEP)	3,555,245	21,069	2017
Total	$27,261,343	172,217	

District Expansion (Last 10 years)



DFWLE Project Costs w/out Connections Fees



Questions