



AGENDA
SPECIAL MEETING OF THE BOARD OF DIRECTORS
THURSDAY, APRIL 18, 2019 – 9:00 A.M.
1391 Engineer Street, Vista, CA 92081
Phone: (760) 597-3100

In compliance with the Americans with Disabilities Act, if special assistance is needed to participate in the Board meeting, please contact the Board Secretary during regular business hours at (760) 597-3128. Notification received 48 hours before the meeting will enable the District to make reasonable accommodations.

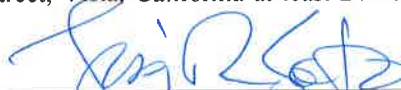
- 1. CALL TO ORDER**
- 2. ROLL CALL – DETERMINATION OF QUORUM**
- 3. PLEDGE OF ALLEGIANCE**
- 4. CONSIDER APPROVAL OF AGENDA**
The Board may take action on any item appearing on the agenda.
- 5. PUBLIC COMMENT TIME**
Public comment time on items not appearing on the agenda will be limited to 5 minutes per person and 15 minutes per subject. The Board may find it necessary to limit total time allowable for all public comment on items not appearing on the agenda at any one meeting to one hour. Persons desiring longer public comment time and/or action on specific items shall contact the Secretary and request that the item be placed on the agenda for the next regular meeting of the Board of Directors.
- 6. WATER SUPPLY PLANNING STUDY**
Recommendation: Conduct Water Supply Planning Study workshop.
- 7. COMMENTS BY DIRECTORS**
This item is placed on the agenda to enable individual Board members to convey information to the Board and the public not requiring discussion or action.
- 8. COMMENTS BY GENERAL MANAGER**
Informational report by the General Manager on items not requiring discussion or action.
- 9. ADJOURNMENT**

- *The agenda package and materials related to an agenda item submitted after the packet's distribution to the Board, are available for public review in the lobby of the District office during normal business hours.*
 - *Agendas and minutes are available at www.vidwater.org.*
 - *VID Board meetings are generally held on the first and third Wednesday of each month.*

AFFIDAVIT OF POSTING

I, Lisa R. Soto, Board Secretary of the Vista Irrigation District, hereby certify that I posted a copy of the foregoing agenda in the lobby of the District office at 1391 Engineer Street, Vista, California at least 24 hours prior to the meeting, in accordance with Govt. Code Sec. 54956.

Date: April 11, 2019



Lisa R. Soto, Board Secretary



STAFF REPORT

Board Meeting Date: April 18, 2019
Prepared By: Randy Whitmann
Approved By: Brett Hodgkiss

SUBJECT: WATER SUPPLY PLANNING STUDY

RECOMMENDATION: Conduct Water Supply Planning Study workshop.

PRIOR BOARD ACTION: On October 10, 2018, the Board approved the Request for Proposal for a Water Supply Planning Study. On January 23, 2019, the Board authorized the General Manager to enter into an Agreement for Professional Services with Gillingham Water for the Water Supply Planning Study in an amount not-to-exceed \$324,800.

FISCAL IMPACT: Unknown at this time. The Water Supply Planning Study will evaluate long-term rehabilitation/replacement of the Vista Flume (Flume) with other alternatives. Once the Water Supply Planning Study is complete, a preferred project alternative will be identified and the estimated costs incorporated into future budgets.

SUMMARY: The District maintains capacity rights from two sources, raw water treated at the Escondido-Vista Water Treatment Plant (EVWTP) located at Lake Dixon and multiple treated water connections along the San Diego County Water Authority's (SDCWA's) aqueducts. To reduce costs, the District typically maximizes the locally treated water supply at EVWTP and relies on the 11-mile Flume for conveyance into the District. During a planned 10-day shutdown along the Second Aqueduct, the District is dependent on the Flume. With the Flume approaching its useful life, and long-term rehabilitation/replacement costs estimated to range between \$35 and \$75 million, proceeding with the Water Supply Planning Study has been determined necessary to properly evaluate the potential alternatives.

DETAILED REPORT: The Water Supply Planning Study is designed to support a decision by the District as to the future of the Flume. Many factors weigh in the comparison of alternatives. The evaluation of alternatives related to rehabilitating or replacing the Flume will seek to account for the full current and future cost of the District's local water supply operation as well as the benefits to the District afforded by access to and management of its own local water supply. Likewise, the analysis of alternatives related to retiring the Flume altogether will seek to account for the current and future costs of purchasing additional imported water, the possible need for additional treated water storage and/or other delivery reliability improvements, the future of the Boot and Bennett areas, and options to exchange the District's local water. The comparison of alternatives and the selection of a preferred alternative(s) will be guided by criteria of costs, reliability, water quality, environmental protection, existing water supply obligations and assets, and other factors to be explored.

The Water Supply Planning Study includes three workshops with the Board as follows:

- Workshop No. 1 – Project Identification and Preliminary Planning: review and reach preliminary consensus on the project objectives, evaluation criteria and an initial 'long-list' of alternatives to be evaluated through a coarse screening analysis.
- Workshop No. 2 – Coarse Screening / Alternatives Evaluation: review preliminary results of the coarse screening analysis, refine and confirm findings and identify a 'short-list' of alternatives to be advanced into a fine screening analysis.

- Workshop No. 3 – Fine Screening / Alternatives Refinement: review the results of the fine screening analysis and confirm a preferred project alternative for implementation.

The attached review package provides an initial draft of the project objectives, evaluation criteria, and an alternatives list based on initial meetings with staff; the workshop will afford the Board the opportunity to provide input on these elements prior to advancing to the coarse screening process.

ATTACHMENTS: Workshop Agenda and Reference Materials

AGENDA

VID Water Supply Planning Study

Planning Workshop No. 1: Project Identification and Preliminary Planning

9:00 a.m. Thursday April 18, 2019
VID Offices

PURPOSE: Review, explore, and refine a) project goals and objectives, b) evaluation criteria, and c) long-list alternatives.

COMMENTARY: The question before the District, of whether to invest in replacement of the Vista Flume, is big, complex, and consequential. Before diving into the analysis and due-diligence work needed to answer the question, it is beneficial to first refine the question itself, to make sure we are all on the same page and aiming at the right target. Workshop No. 1 provides a forum for that early planning review and course refinement.

AGENDA:

1) INTRODUCTION

- a. Purpose of today's workshop
- b. Project Overview / To Flume or Not To Flume
- c. Major elements on the Balance Scale
- d. Study process / Start at the beginning

2) PROJECT GOALS AND OBJECTIVES

- a. Initial draft
- b. Reaction / Questions / Discussion
- c. Refined goals and objectives

3) EVALUATION CRITERIA

- a. Initial draft
- b. Reaction / Questions / Discussion
- c. Refined criteria

4) LONG-LIST ALTERNATIVES*

- a. Initial draft
- b. Reaction / Questions / Discussion
- c. Refined long-list

- * The review sequence will be repeated for each of the following categories:
- i. Box 1: Flume Rehab/Replacement
 - ii. Box 2: System Improvements / Boot and Bennett
 - iii. Box 3: Raw Water System and Treatment
 - iv. Box 4: Local Water Exchange Options

5) NEXT STEPS / SCHEDULE / ACTION ITEMS

6) ADJOURN



Water Supply Planning Study

Workshop No. 1 Reference Materials

April 2019



Prepared by:



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1. Project Introduction and Study Area Exhibits

1.1. Project Introduction

BACKGROUND AND OVERVIEW

The Vista Flume (Flume) is nearing the end of its functional service life. The Flume is an integral component of the District's water supply system, providing for delivery of the District's historical rights to water from the San Luis Rey River to the District service area. Local water is blended with raw imported water and treated at the Escondido-Vista water treatment plant, where it feeds the Flume.

The capital investment needed to replace or rehabilitate the Flume will be significant. Accordingly, prior to making an investment decision, the District wishes to weigh carefully the merits of investing in the Flume against the merits of other water supply alternatives, including that of retiring the Flume altogether and relying on Water Authority deliveries in its place. To support its decision, the District has determined to conduct the Water Supply Planning Study 2019 to develop an objective and complete evaluation and comparison of alternatives.

PROJECT OBJECTIVES **(Preliminary overview, to be refined during Workshop No. 1)**

The goals of the study are as follows:

- 1) **Alternatives Evaluation (To Flume or Not To Flume):** Identify and evaluate alternatives for rehabilitating or replacing the Flume, and weigh these against alternatives for retiring the Flume, including options for exchanging the District's local water.
- 2) **Decision Support:** Provide analysis and recommendations that are clear, complete, and objective, and conduct planning workshops with District staff and the Board to facilitate project understanding and support the District's decision process.

SCOPE OF WORK

The scope of services is structured into four tasks, as follows:

- TASK 1: Preliminary Planning / Project Identification
- TASK 2: Alternatives Evaluation / Coarse Screening
- TASK 3: Alternatives Refinement / Fine Screening
- TASK 4: Project Management

1.2. Workshop No. 1

The purpose of workshop No 1 is to review, explore, and refine a) project goals and objectives, b) evaluation criteria, and c) long-list alternatives.

The question before the District, of whether to invest in replacement of the Vista Flume, is big, complex, and consequential. Before diving into the analysis and due-diligence work needed to answer the question, it is beneficial to first refine the question itself, to make sure we are all on the same page and aiming at the right target. Workshop No. 1 will provide a forum for that important early planning review and course refinement.

1.3. Study Area Exhibits

The following exhibits are attached:

- 1) VID Local Water System Schematic (VID)
- 2) Water Supply Facilities Overview (HDR)

Vista Irrigation District - Local Water System

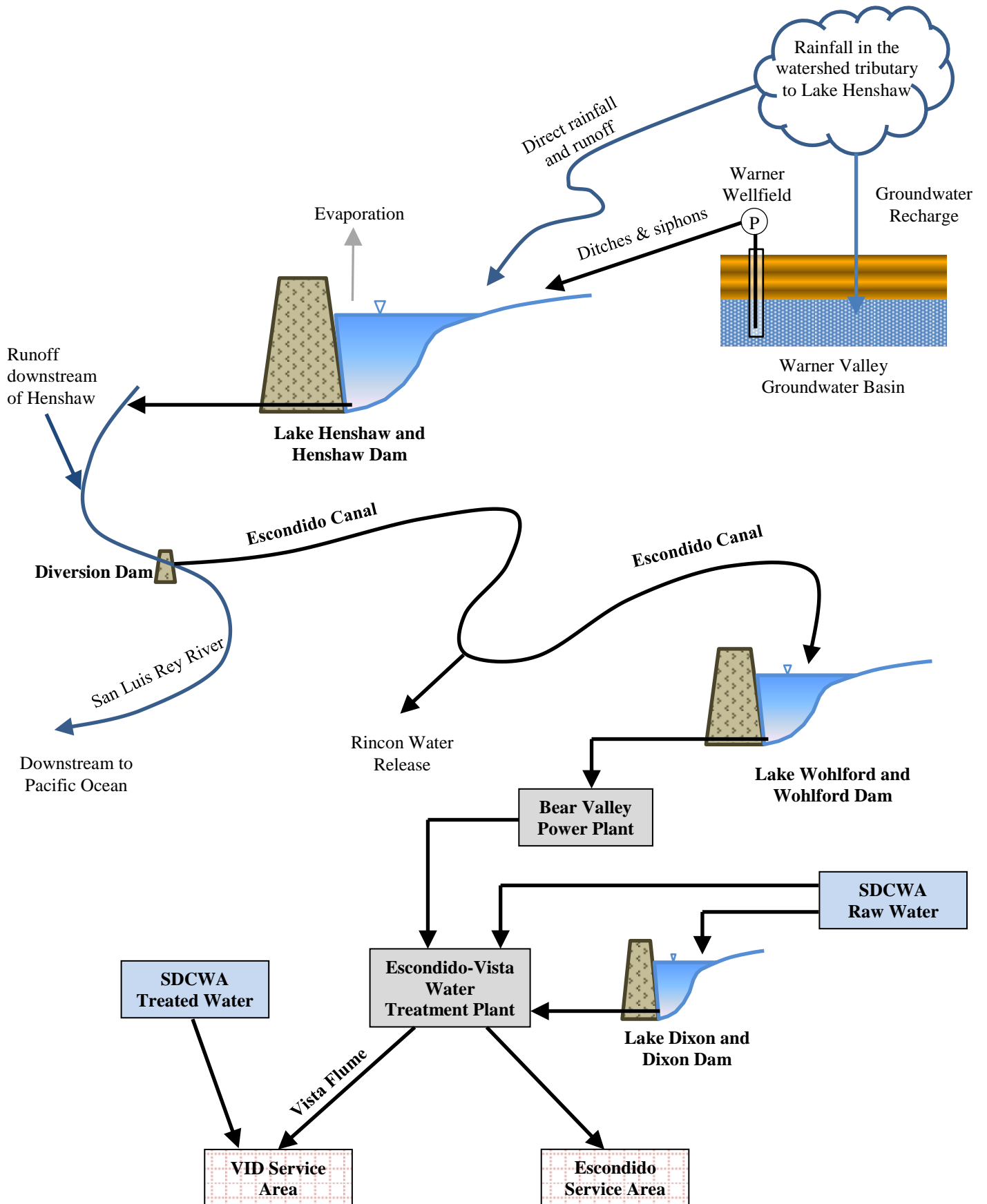
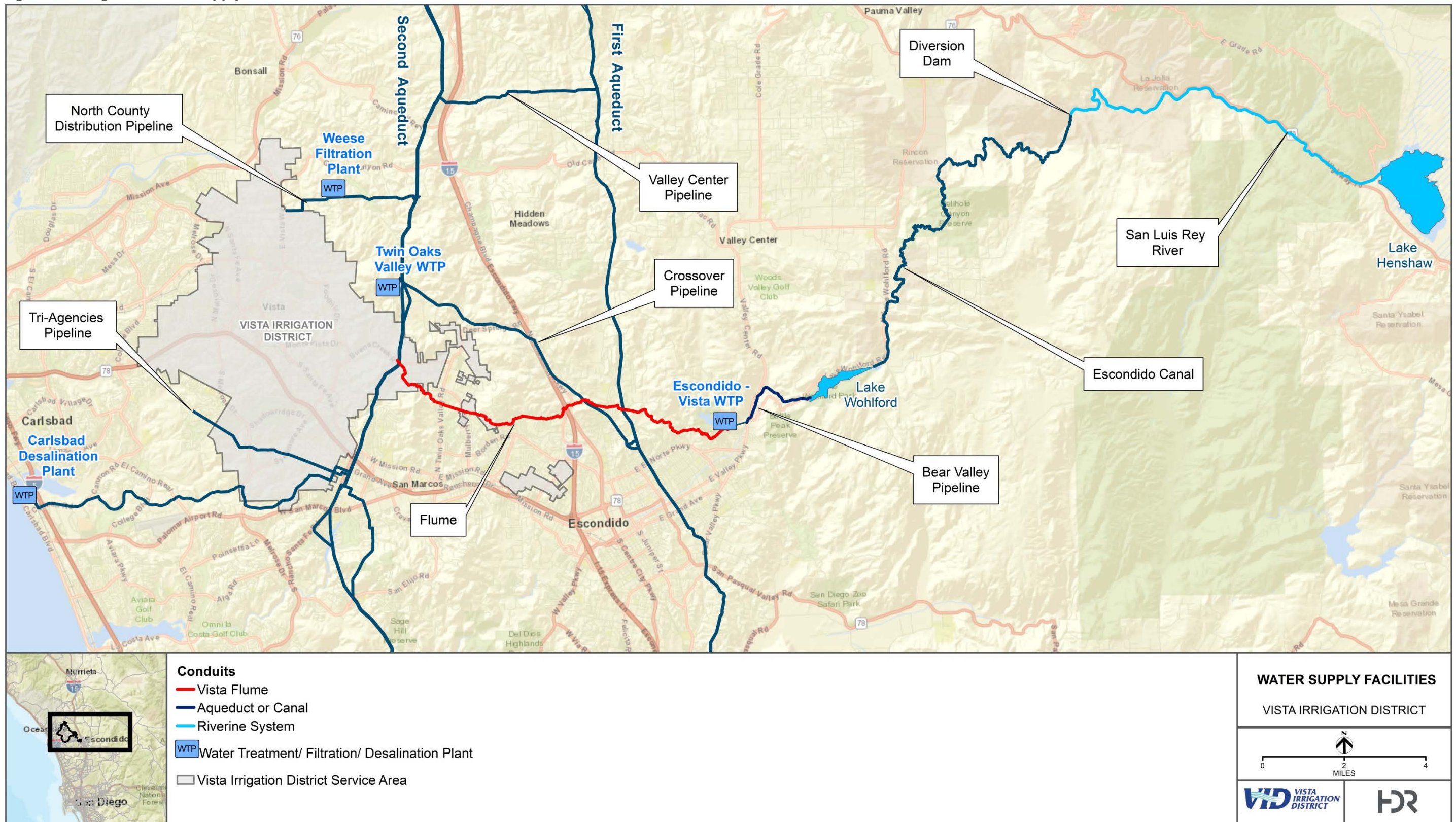


Figure 4-2. Regional Water Supply Facilities

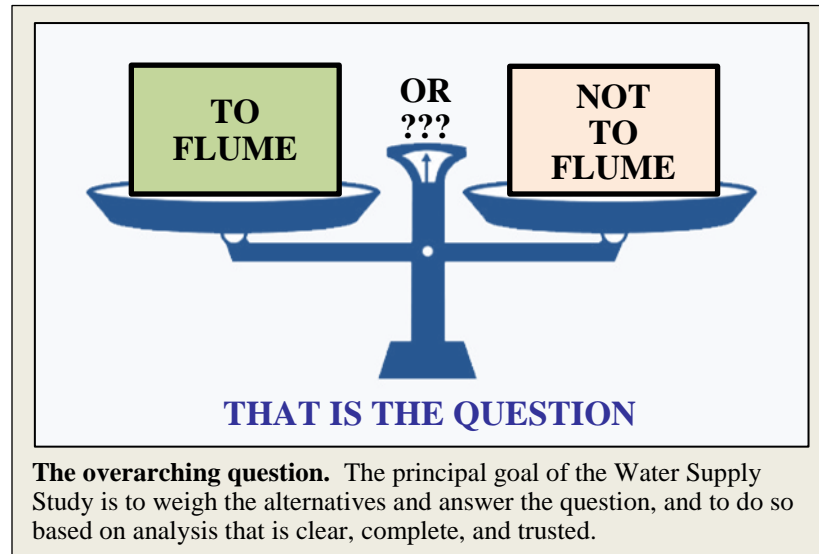


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2. Project Goals and Objectives

2.1. Initial Draft

BIG PICTURE / OVERARCHING QUESTION:



APPROACH AND METHODS:

- 1) **Completeness:** Consider all aspects of the District’s water supply operation and a full range of project alternatives (see Section 4, Long-List Alternatives).
- 2) **Evaluation Criteria:** Weigh all relevant cost and non-cost factors consistent with the District’s Mission Statement “to provide a reliable supply of high quality water that meets the needs of its present and future customers in an economically and environmentally responsible manner” (see Section 3, Evaluation Criteria).
- 3) **Stakeholder Input:** Seek input and buy-in from all key stakeholders, including board, staff, and affected entities.
- 4) **Decision Support:** Provide analysis and decision support that is clear and complete. Include sensitivity analysis for key decision variables.

2.2. Reaction Prompts

- 1) Overarching Question: Does To Flume or Not To Flume capture the overarching question and objective of the study? Is it on target? How should it be refined or expanded?

- 2) Approach: Are there other approach aspects – ingredients to success – that need to be captured and incorporated?

- 3) Sensitivities / Red Lines: Are there issues or sensitivities that bound the breadth of the study?

- 4) Success: Aside from answering Question 1 (To Flume or Not To Flume), is there anything else that defines a successful Water Supply Planning Study?

3. Evaluation Criteria

3.1. Initial Draft

SUMMARY STATEMENT: The study will weigh both cost and non-cost factors of the To Flume and Not To Flume alternatives. Costs will be a significant driver of preferences, but non-cost factors of supply reliability and operational flexibility, water quality, environmental protection, agency relationships, and other factors will weigh on the balance scale. Evaluation criteria established at the beginning are subject to refinement as the study progresses.

Cost Criteria

COST CRITERIA	CRITERIA DESCRIPTION / DISCUSSION
Maximize Economic Efficiency	Minimize total project capital, operating, and life-cycle costs.
1) Minimize life-cycle costs	<p>Life-cycle costs are a measure of the project's total capital and operating costs, and may be expressed either in terms of Net Present Value or Equivalent Annual Costs. For the WSS, the project team anticipates expressing life-cycle costs in terms of dollar per acre-foot (\$/AF) unit cost of water supplied. These costs may also be converted to water rate impacts.</p> <p>In all of these cases, the use of life-cycle costs assumes:</p> <ul style="list-style-type: none"> a) a neutral preference between capital and annual costs when compared at an appropriate discount or interest rate; and b) a neutral preference between PAYGO and debt-financed funding at appropriate interest rates. <p>These assumptions may be modified by the additional criteria listed below.</p>
2) Capital vs. Annual Costs	See cost criteria no. 3
3) PAYGO vs. Debt-Financing	The District has a historical preference for PAYGO financing and the avoidance of debt, but would consider debt financing if needed to fund capital improvements while managing rates.
4) Risk and Liability	The study will seek to identify risk and liability issues in terms of costs, such as insurance costs. Risk and liability factors not fully captured by costs may also appear on the list of Non-Cost criteria.
5) Stranded Assets / Sunk Costs	The study will consider the salvage value of any stranded assets, but otherwise will evaluate project costs without regard to sunk costs. Sunk costs may be considered as a Non-Cost factor.
6) Opportunities for cost-sharing and financial assistance	Consider opportunities for cost-sharing, grant funding, and low-interest State loans.
7) Other?	

MEASUREMENT / SCORING: Cost factors will be measured **quantitatively** in terms of dollars, dollars per acre-foot, and possibly in terms of rate impacts.

Non-Cost Criteria:

NON-COST CRITERIA	CRITERIA DESCRIPTION / DISCUSSION
Maximize Supply Reliability and Operational Effectiveness	Maintain appropriately high levels of supply reliability, operational flexibility, and water quality
Supply reliability	Maintain ability to provide high levels of service reliability to customers, including uninterrupted service during scheduled aqueduct shutdowns
Water quality	Favor projects that comply with current water quality and sanitary protection regulations and that minimize water quality challenges
Maintainability	Favor projects that are easier to maintain
Minimize operational complexity	Favor projects that minimize operational complexity
Other	
Minimize Environmental Impacts / Protect Environmental Resources	Favor projects with fewer adverse environmental effects or that provide environmental benefits
Minimize adverse effects	Favor projects that minimize adverse environmental effects such as may be associated with Flume rehabilitation or replacement
Protect environmental resources	See <i>Intrinsic Values</i> criteria group
Community Impacts	Favor project with fewer adverse community impacts
Other	
Maximize Implementability	Favor projects with fewer obstacles to implementation and greater certainty of implantation feasibility.
Permit and CEQA Feasibility	Consider permit and CEQA feasibility and favor projects with fewer obstacles to permit success.
Stakeholder agency benefit / support	Favor projects that enhance regional cooperation and shared benefits
Existing obligations / Settlement Agreement	Honor all obligations of the Settlement Agreement and other legal agreements
Schedule	Favor projects with shorter schedules or that best align with District CIP budget planning
Other implementation risk	Consider all project implementation risk factors and favor projects with lower risk.
Intrinsic Values	Consider the “intrinsic values” of the larger mission of the District’s local water supply operation
Various	Environmental stewardship (Warner Basin), other

MEASUREMENT / SCORING: Cost factors will be measured **qualitatively** in terms of relative preference. The weighing of costs against non-cost factors will be guided by the project team and ultimately determined by the board. Possible scoring rubric below:

DRAFT SCORING RUBRIC FOR NON-COST FACTORS:

- | | | | |
|---|--|---|--|
|  | Significantly Preferred / Advantageous |  | Constrained / Not Preferred |
|  | Preferred / Advantageous |  | Significantly Disadvantaged / Potential Fatal Flaw |
|  | Neutral / Meets objectives | | |

3.2. Reaction Prompts

Cost Factors

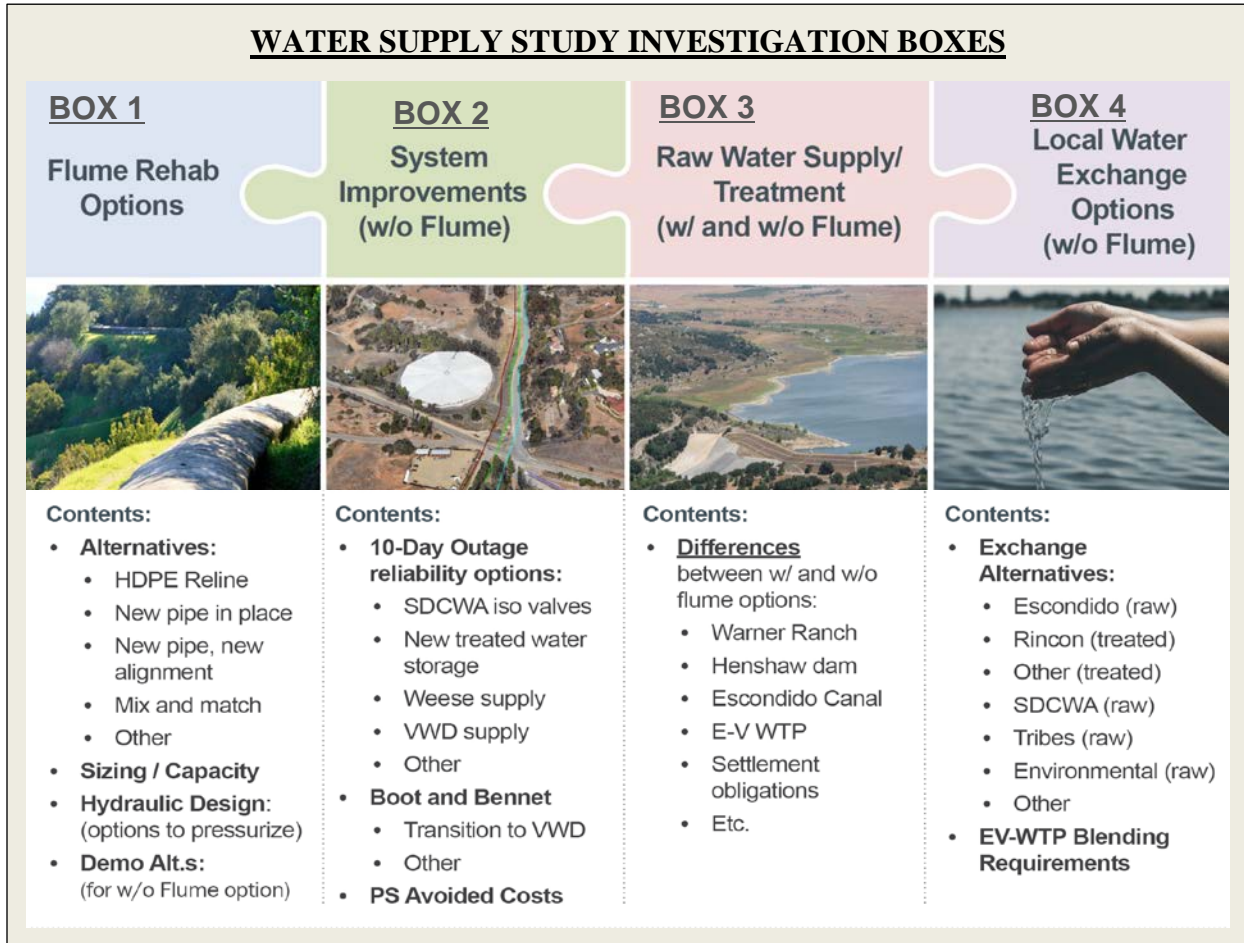
- 1) PAYGO vs. Debt Financing: How should the District's historical preference for PAYGO be factored into the study and the evaluation criteria?

Non- Cost Factors

- 2) General Categories and Components: Are these the right categories and components?
- 3) Stakeholder Input: The District will approach and engage stakeholders to understand interests in local water exchanges, project alternatives, and impacts. How should the weight of this component be influenced by their input?
- 4) Intrinsic Values: How should the study account for the intrinsic values of the District's history with the Warner Ranch and all its operations (e.g., local water supply, recreation, land leasing, etc.)?


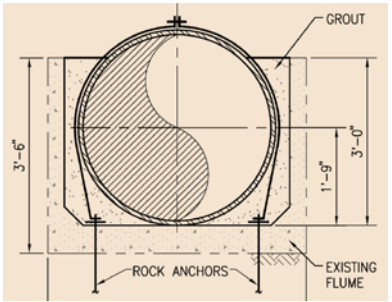

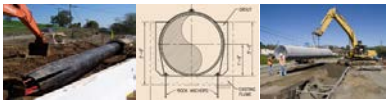
4. Long-List Alternatives

SUMMARY STATEMENT: The study is complex. The issues and variables weighing on the Flume Balance Scale are many, each with their own alternatives. Conceptually, the issues may fall into four **Investigation Boxes**, as introduced below and further described in the following pages.




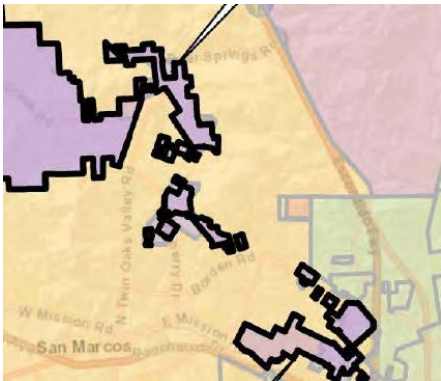
4.1. Box 1: Flume Rehabilitation and Replacement Options

The Flume provides important supply reliability benefits to the District during aqueduct shutdowns and is the only conveyance to supply water to the Boot and Bennett areas of the District.

BOX 1: FLUME REHABILITATION / REPLACEMENT	
Long-List Alternatives	Notes
<p>1) HDPE Pipe Reline</p> 	<ul style="list-style-type: none"> • District completed MW Bench pilot project in 2010 • Could be built in phases over time • Retains existing flume structure for armor protection and security; existing structure subject to continued deterioration or failure • Results in unpressurized or very low pressure operation; additional water quality protection measures may be required • May be impractical for some bench sections due to limited construction access and too-tight bends
<p>2) New Pipe in Place</p> 	<ul style="list-style-type: none"> • Construct new pipeline within existing flume easement • Sub-alternatives for pipe within existing flume walls, or without walls but on top of existing flume floor, or for buried pipe with complete demolition of flume • Could be built in phases over time • Results in unpressurized or very low pressure operation; additional water quality protection measures may be required
<p>3) New Pipe in New Alignment</p> 	<ul style="list-style-type: none"> • Construct new pipeline in public rights-of-way • Allows for pressurized flow (beneficial for compliance with standard water quality safeguards) • Presumes demolition of existing flume structure and possible quitclaiming of existing easements • Potential for temporary traffic and other construction impacts • Would lose prior rights
<p>4) Combinations / Mix & Match</p> 	<ul style="list-style-type: none"> • The three main rehabilitation/replacement options could be mixed and matched for optimum economy and constructability
<p>5) Other</p> <p style="text-align: center;">???</p>	<ul style="list-style-type: none"> • Previous District studies have considered alternative technologies such as carbon fiber lining and found these to be impractical or insufficient for long-term flume rehabilitation.

4.2. Box 2: System Improvements (Without Flume)

If the Flume were retired, the District may need to make other arrangements and may incur additional costs to maintain delivery reliability and to provide for service availability to the Boot and Bennett areas.

BOX 2: System Improvements (w/o Flume)	
Long-List Alternatives	Notes
<p>1) Maintain Supply Reliability</p> 	<p><u>Alternatives:</u></p> <ul style="list-style-type: none"> • <u>SDCWA Isolation Valves:</u> These would allow the Water Authority to limit treated water aqueduct shutdowns to one or the other of the two Second Aqueduct treated water pipelines, such that the District would continue to receive full service. • <u>Additional Treated Water Storage:</u> The District could construct additional treated water storage, such as by upsizing the planned Pechstein II. • <u>Weese Supply:</u> Current or expanded access to the Oceanside Weese WTP. • <u>Vallecitos Interconnections:</u> Current or expanded access to VWD facilities • <u>New WTP:</u> The District could construct a new water treatment plant adjacent to Pechstein. This is likely to be impractical due to costs and other considerations, but will be explored as part of Coarse Screening. • <u>Combination / Mix & Match:</u> a combination of the above may be necessary to achieve reliability. • <u>Other?</u>
<p>2) Boot and Bennett Areas</p> 	<p><u>Alternatives (see Box 2 Notes below):</u></p> <ul style="list-style-type: none"> • <u>Extend District facilities:</u> The District has determined that extension of District facilities to serve the areas independent of the Flume would be impractical due to cost and other factors. LAFCO has placed the areas within the Sphere of Influence of VWD. • <u>Interagency Service Agreement with VWD:</u> The District has determined that permanent service to these areas by VWD, while keeping the areas within the District, is unlikely due to VWD disfavoring such an arrangement. • <u>VWD Annexation:</u> This alternative appears the most likely outcome were the Flume retired. The District could be responsible for annexation and capacity payments to VWD of between zero and approximately \$30 million.


<p>3) Avoided Pumping Costs</p>	<p>Deliveries to the District from the Water Authority’s VID3 connection are at a higher hydraulic gradient than flume deliveries. This may allow for pumping cost savings and avoided pump station capital costs if the Flume were retired.</p>
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<p>Box 2 Notes</p>
<p><u>Boot and Bennett Areas:</u> The Boot and Bennett areas are within the sphere of influence and eventually will be served by Vallecitos Water District (VWD) under the To Flume scenario. If the Flume were retired, the presumption is that the Boot and Bennett area reorganization process with LAFCO and VWD would be accelerated, for which the District might incur significant costs. The costs for this reorganization, potentially including annexation fees, capacity fees, payment for the transfer of existing facilities, and physical conversion of systems, would need to be studied to determine what is fair for both parties.</p>

4.3. Box 3: Raw Water System and Treatment

Note: Box 3 is a big box, holding lots of components. Many of the components can be weighed neatly as a function of costs, but this box contains a healthy dose of non-cost factors as well, including history, District mission, and more.

The investigation of the various components of Box 3 will focus on the *differences* in outcomes between the To Flume and Not To Flume options. If certain components incur the same costs, or the same benefits, or the same risks for either of the overarching options, then the study can shift its resources to focus on components that weigh differentially on the balance scale.


<p>BOX 3: Raw Water System and Treatment</p>	
<p>Long-List Alternatives</p>	<p>Notes</p>
<p>1) Component Ownership</p> 	<ul style="list-style-type: none"> • Maintain current ownership • Sell or relinquish ownership • Analysis to consider cost and other differences for each and all of the system components: <ul style="list-style-type: none"> ○ Warner Ranch ○ Henshaw dam ○ Escondido Canal ○ E-V WTP ○ Etc.

<p>2) Treatment Plant Upgrades</p> 	<ul style="list-style-type: none"> • Use of local water is constrained by current need to limit local water blend to no more than 40 percent (60 percent imported water). Treatment plant upgrades and/or other water quality improvement measures might be able to lessen or remove this constraint. • The issue affects the average annual local yield available to the District.
<p>3) Cost Estimating Approaches</p> <p style="text-align: center; color: green; font-size: 2em;">\$\$\$</p>	<ul style="list-style-type: none"> • Plan for periodic replacement of facilities including Henshaw Dam and Escondido Canal (2012 Study approach) • Plan for periodic repair and rehabilitation or facilities rather than replacement
<p>4) Warner Ranch</p> 	<ul style="list-style-type: none"> • District owns 43,000 acres. See question/prompt No. 2 below.

Box 3 Questions / Reaction Prompts

Warner Ranch: If it were possible to transition ownership of the Warner Ranch to a governmental, tribal, or NGO entity, while maintaining the ability to operate the wellfield, would this be something the District would consider?

4.4. Box 4: Local Water Exchange Options

BOX 4: Local Water Exchange Options	
Long-List Alternatives	Notes
<p>1) Exchange Partners</p> 	<p><u>Possible exchange partners include:</u></p> <ul style="list-style-type: none"> • Escondido (raw) (has first right of refusal) • Rincon (treated) • Other retail agency (treated) • SDCWA (raw) • Tribes (raw) • Environmental (raw) • Other <p><u>Notes:</u></p> <ul style="list-style-type: none"> • Settlement Agreement requires the water supply system must be operated as it is today, and provides little incentive for Tribes to purchase VID share of local water • Study goal is to determine exchange feasibility and the compensation available to the District.

Box 4 Questions / Reaction Prompts
<p><u>Exchange Options:</u> The Settlement Agreement constrains but does not eliminate options available to the District to lease, sell, or otherwise exchange its local water. The study will consider options for arrangements with Escondido, other retail agencies including Rincon, and the Water Authority, as well as possible arrangements with the Tribal Nations and as use for environmental enhancement or restoration. Are there policy preferences, constraints, or opportunities that should guide this review?</p>