



Meeting Minutes (Final)

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Prepared for: Vista Irrigation District
Project Title: Flume Replacement Alignment Study
BC Project No.: 156443

Purpose of Meeting: DDW Engagement Meeting #2
Meeting Location: Teams/Virtual
Minutes Prepared by: Phoebe Strauss, Brown and Caldwell (BC)

Meeting Date: August 7, 2024
Time: 2:00 - 3:00 p.m.

Attendees:	J.P. Semper, BC	Sean Sterchi, DDW	Debra Burris, DDB
	Jocelyn Lu Morinishi, BC	Tuba Ertas, DDW	Greg Keppler, VID
	Phoebe Strauss, BC	Joseph Guzman, DDW	Randy Whitmann, VID

Attachments:

Attachment A: Letter to DDW from VID, dated 7/5/24

Attachment B: DDW Engagement Meeting #2 PowerPoint

Attachment C: DDW Confirmation Email, dated 8/30/24

Summary

1. Introductions
 - a. VID: Greg Keppler (PM), Randy Whitmann (Director of Engineering)
 - b. DDW: Sean Sterchi (SoCal Section Chief), Joseph Guzman (San Diego District Engineer), Tuba Ertas (San Diego Engineer),
 - c. BC: J.P Semper (PM), Jocelyn Morinishi (Staff Engineer), Phoebe Strauss (Support Staff)
 - d. DDB: Debbie Burris (Permitting)
2. Project Purpose
 - a. The previous “Water Supply Planning Study” (2020, Gillingham Water) considered four options when taking a wholistic approach to answering the question “To Flume or Not To Flume?”, they included:
 - i. Flume Rehab Options
 - ii. System Improvements without Flume
 - iii. Raw Water Supply or Treatment, with or without Flume
 - iv. Local Water Exchange Options without Flume
 - b. It was determined that “To Flume” was the most favorable option, and recommended to proceed with an alignment study called the “Flume

Replacement Alignment Study (FRAS)” which set out to determine “How To Flume”.

- c. The FRAS considered the following: feasibility and cost-effective construction, reliability, environmental effects, long term O&M, affordability, impacts to rates, funding options, and predictive climatological modeling and sustainability.
- d. Success factors for the FRAS included:
 - i. A range of feasible alternatives per CEQA.
 - ii. Avoiding surprises related to feasibility or cost.
 - iii. Supporting the District with a clear project roadmap.
 - iv. Predictive climatological modelling to confirm sustainability of local water source and economic viability of proposed project.

3. Status Update & Timeline

- a. 2019: Gillingham Water conducted the “Water Supply Planning Study”
- b. 03/23/21: FRAS Kickoff Meeting
- c. 08/24/21: Board Workshop #1 – Alignment Identification
- d. 10/28/21: DDW receives Project Initiation Letter
- e. 02/18/22: DDW Meeting #1 – Project Introduction
- f. 09/20/22: Board Workshop #2 – Alignment Shortlist
- g. 12/11/23: Board Workshop #3 – Preferred Alignment and Climate Study
- h. 03/18/24: Board Workshop #4 – Preferred Alignment Consensus
- i. 08/07/24: DDW Meeting #2 – Preferred Alignment Considerations (this meeting)
- j. Next steps: Complete FRAS, prepare CEQA support documents, secure funding, and issue RFP for the Final Design

4. Meeting Objective

- a. Keep DDW informed to facilitate verbal and written feedback regarding regulatory considerations for the FRAS’ “Recommended Alignment Report (RAR)”, which will inform Final Design and permitting

5. Preferred Alignment Selections

- a. WSPS alternatives included a wide range of “replacement” costs for the existing Flume, full replacement, or a hybrid.
- b. FRAS considered 158 segments to determine constructible corridors.
- c. Six (6) Alternative Alignments were identified and served as the basis of the project alternatives that went through Alternative Screening.
- d. Alternative Screening (e.g., Coarse Screening) leveraged a comprehensive dataset, including site/community characteristics, traffic, environmental, geology, interagency considerations, permitting, hydraulics, O&M, and cost/affordability.
- e. Coarse Screening shortlisted 2 alignments and 2 corridors.

6. Fine Screening included the following steps:

- a. Each alignment was split into three corridors (Beginning, Middle, End) which were scored independently across a comprehensive set of evaluation criteria. The approach allowed for the evaluation of all combinations of “Beginning, Middle, and End” corridors
 - b. Each combination of corridors was then graphed “Corridor Cost” vs “Risk Score”. Ultimately, this approach led to the selection of an alignment having the best “Beginning, Middle, and End” corridor combination.
 - c. 111 or 211 alignment combinations were identified for the best alignment (Alternative 1 with the beginning Alternative 2 corridor reserved as a contingency alignment).
7. Findings & Board Workshop #4 Recommendations:
- a. Summary of Conclusions: Phase 4 – Fine Screening
 - i. Recommends Alternative 1 to advance to conceptual design.
 - ii. Flume Replacement Project will require a diverse funding portfolio.
 - iii. 80% of modeled climate future scenarios predict that the District can confidently rely on local water being available, which economically favors the “To Flume” project.
 - iv. The “To Flume” option retains significant cost advantage.
 - b. Final Conclusions & Next Steps, which require coordination with DDW:
 - i. Proceed with Phase 5 – Recommended Alignment Report (RAR)
 - ii. Inform DDW of the District’s intent to advance Flume’s replacement (this meeting)
 - iii. Develop an RFP for the final design of the Flume Replacement Project.
8. Hydraulic Modelling and Pressure Results
- a. First meeting with DDW (Gillingham Water): takeaway was that continued operation of a low-head system is possible with special permitting exemptions but is not DDW’s preference and should be avoided.
 - b. After identifying the 6 alignments, a DDW meeting was held in 2022 to discuss pressure requirements:
 - i. > 20 PSI – normal operations
 - ii. 5 – 20 PSI – acceptable with additional monitoring and controls
 - iii. < 5 PSI – only acceptable on agency-controlled property (e.g., inside the fence)
 - c. DDW input was key and helped to inform the recommended alignment, which moved away from low-head systems, and moved towards public health & safety and long-term risk mitigation as the approach. DDW’s input helped to clearly define and set the pressure criteria (above) applied to the alternatives evaluation and model.
 - d. Main objective of modelling: perform system hydraulic analysis (steady-state and transient) and investigate flow control requirements.

- e. Analysis of pipeline capacity at steady state found 36" diameter pipe is appropriate until the pipe ages down to a C factor of 120.
- f. Analysis of low-level (853') at the Escondido-Vista Water Treatment Plant's (EVWTP) Clearwell under steady state flow conditions (worst case scenario):
 - i. > 20 PSI was found along the entire alignment.
 - ii. 5-20 PSI occurred when entering Pechstein Reservoir and on the EVWTP Site.
 - iii. < 5 PSI short duration adjacent to clearwell on the EVWTP site; on EVWTP controlled site (i.e. within the fence).
- g. Analysis of high clear well levels at steady state (normal conditions):
 - i. Above 20 PSI consistently throughout the alignment.
- h. Surge mitigation for moving between steady state and transient conditions:
 - i. The pipeline leaving the EVWTP goes downhill, so if the flow control valve were to abruptly close, all the volume continue to will move downhill, cause system vaporization, and potentially cause a pipe collapse.
 - ii. Adding a 4" combination air release and vacuum valve (CARV) to allow air into the system meets the threshold of -7 PSI and mitigates the vapor phase.

9. Open Discussion & Next Steps

- a. What is the most important thing to convey to final designer? DDW (Sean) responded with the following:
 - i. Designer to specify, in the specifications, that at the time of construction the Contractor shall follow the latest version of NSF 60/61 and AWWA standards for procuring pipe materials, installation the pipe (separation), and for disinfecting and bacteriological testing (Bac-T) of the pipe.
 - ii. Implementation of surge best practices is important to DDW; important to include the downward facing elbow with screen on the CARV detail.
 - iii. Minimum pressure requirements: DDW note they take no issue with pressures < 20 psi within the agency property so long it is confined to within the fence-line.
 - iv. Pipe separation requirements.
 - 1. DDW has a "pipeline separation waiver package + spreadsheet" that can be shared with VID. The waiver application is by project, and the package would identify all pipeline separation waivers needed along the entire alignment. **[Action] DDW to share the pipeline separation waiver package and spreadsheet with VID and BC.**
 - 2. Note that welded steel pipe is considered an upgraded pipeline material and may facilitate acceptance of separation waiver requests. Exception would be a sewer force main where additional mitigation measures may be required.

- b. When the design is underway, what courtesy reviews would you expect to have with the designer during the design process?
 - i. Sean noted that DDW typically likes to see the document submittals for the anticipated design submittal milestones (e.g., 30%, 60%, 90%, and 100%) and Joseph would then determine how much to engage DDW at each milestone.
 - ii. The timing of the “pipeline separation waiver package” should also be considered, likely either at the 60% or 90%. **[Action] VID to consider which detailed design milestone should include the “pipeline separation waiver package”. BC to document VID’s decision for the Final Designer’s uses in the RAR.**
 - iii. The RAR that BC is developing under the FRAS will serve as a preliminary design document, and DDW would appreciate a copy. **[Action] VID to share the RAR (Final) with DDW.**
- c. Are there any regulatory changes that could affect this project that could happen in the next 5 to 10 years? Sean replied with the following:
 - i. DDW is not anticipating any changes to their Waterworks Standards, but noted there may be changes to the NSF or AWWA standards they reference. The potential for update to the NSF or AWWA standards is why the design specifications should require that the Contractor use the latest version of the NSF and AWWA standards at the time of construction.

Action Required

The following are a list of actions required resulting from the meeting’s discussion:

1. Share “pipeline separation waiver application” and spreadsheet with VID. **Assigned to: DDW. Received on 8/30/24, see Attachment C.**
2. VID to consider which detailed design milestone should include the “pipeline separation waiver package”. BC to document VID’s decision for the Final Designer’s uses in the RAR. **Assigned to: VID & BC**
3. Share the FRAS RAR (Final) with DDW when complete. **Assigned to: VID & BC**
4. Provide written comments and/or written feedback regarding DDW Meeting #2 – Preferred Alignment Considerations meeting minutes (this meeting). **Assigned to: DDW. DDW confirmed no comments on 8/30/24, see Attachment C.**



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7/5/2024

State Water Resources Control Board
Division of Drinking Water
Attn: Mr. Sean Sterchi, P.E., District Engineer
1350 Front Street, Room 2050
San Diego, CA 92101

Subject: Vista Irrigation District, System No. 3710027
Flume Replacement Alignment Study

Dear Mr. Sterchi:

We are sending this letter on behalf of Vista Irrigation District (District) to update the Division of Drinking Water (DDW) regarding the District's Flume Replacement Alignment Study (Alignment Study). Since our meeting with DDW in early 2022 at the beginning of the Alignment Study, we have evaluated alternatives and developed the preferred alignment. As the Alignment Study nears completion, we would like to schedule a meeting with DDW to review the preferred alignment and receive DDW's feedback for consideration when assembling the final planning study documents.

Background

The Escondido Canal conveys the District's local water from Lake Henshaw to the Escondido-Vista Water Treatment Plant (EVWTP). There, the local water is blended with imported purchased (San Diego County Water Authority) raw water and treated to potable drinking water standards. The District's existing Flume, which is currently being planned for replacement in the abovementioned study, conveys the treated potable water from EVWTP to Pechstein Reservoir (See Figure 1-2, attached).

The Flume consists of above-grade unpressurized gunite bench structures (benches), buried pressurized steel or concrete pipelines (siphons), and an unpressurized rock tunnel. In March 2020, the District completed the Water Supply Planning Study (WSPS), which evaluated options for either replacing the Flume or retiring the Flume and relying on 100% imported treated water. Following review of the WSPS, the District's Board of Directors found that replacing the Flume was the more favorable long-term solution. Since 2021, the District has proceeded with completing the Alignment Study.

Alignment Study

The purpose of the Alignment Study is to identify, from a broad range of alternatives, a preferred alignment and configuration for a project to replace the Flume and provide economically responsible and reliable service. The Alignment Study addresses a variety of criteria for comparison of alternatives, leading to selection of the preferred alignment and preparation of conceptual design documents for a future Flume Replacement Project (Project).

The District met with DDW in February 2022 to seek guidance regarding regulatory considerations for evaluating the range of alternatives for the Alignment Study. Since that meeting the District and its consultants have developed evaluation criteria using the input provided by DDW and completed the screening process identifying the preferred alignment.

In December 2023, the alternatives fine-screening process and preferred alignment were presented to the District's Board of Directors (Board). In a Special Board Workshop held in March 2024, the Board directed District staff to inform DDW of the District's intent to replace the Flume with a new pipeline along the preferred alignment (See Figure 3-5, attached).

District staff has recently embarked on planning efforts to determine how to best fund the Project and prepare the necessary environmental documentation. In addition, the District has directed its consultants to complete the Alignment Study and prepare the predesign documents for inclusion in a Request for Proposals to solicit final design services of the eventual Flume Replacement Project.

Coordination with DDW

The District would like to continue working with DDW to review the status of the Alignment Study and preferred alignment. We value DDW's feedback and would like to discuss any additional regulatory considerations that should be included in the final Alignment Study and supporting predesign documents.

We will contact you to schedule a virtual meeting at your convenience and look forward to discussing the District's Alignment Study and preferred alignment. In the meantime, feel free to contact me at jpsemper@brwncald.com or (858) 571-6726 should you have any questions.

Sincerely,



J.P. Semper, P.E.

Project Manager – Consultant submitting on behalf of Vista Irrigation District

Cc: Greg Keppler, Vista Irrigation District
Randy Whitmann, Vista Irrigation District
Debbie Burris, DDB Engineering, Inc.

Attachments:

- Figure 1-2, Regional Water Supply Facilities, 2016 VID Master Plan from District Board Workshop # 1 held on August 24, 2021
- Figure 3-5, Proposed Preferred Alignment, Flume Replacement Alignment Study Workshop #3 Fine Screening Phase, from Special Board Meeting held on December 11, 2023

Flume Replacement Alignment Study

2nd Engagement Meeting w/ DDW
August 7, 2024

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Agenda

1. Project Purpose, Status Update, and Meeting Objectives
2. Preferred Alignment Selection
3. Findings and Board WS#4 Recommendations
4. Hydraulic Modeling Results
5. Open Discussion & Action Items



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1. Project Purpose, Status Update, and Objectives



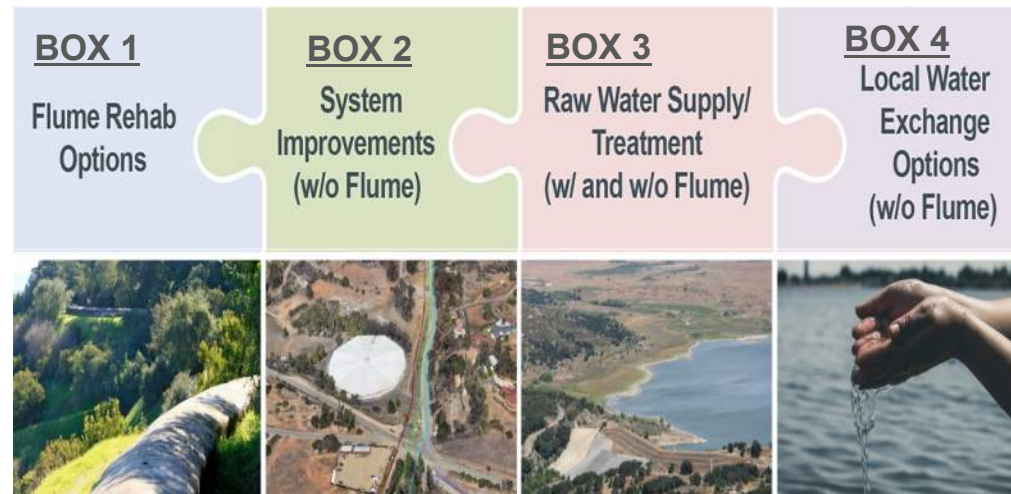
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Where we came from: To Flume or Not To Flume?

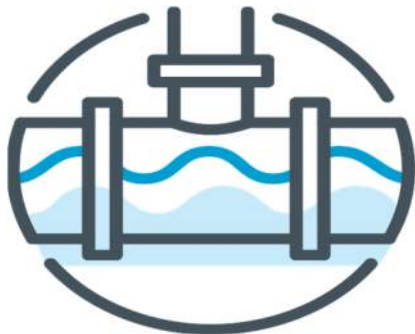
- WSPS, which concluded in Jan. 2020, Four “Boxes” were evaluated
- 2 alignment alternatives defined the range of the “To Flume” project
- Determined “To Flume” was most favorable option



Where are we headed: How to Flume?

PLANNING FACTORS:

- feasibility and cost-effective construction
- reliability
- environmental effects
- long-term operations and maintenance (O&M)
- affordability, impacts to rates, and funding options
- ***NEW*** predictive climatological modeling and sustainability



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Where are we headed: How to Flume?

SUCCESS FACTORS:

- **Consider a reasonable range of potentially feasible alternatives** that will foster informed decision-making and public participation, per CEQA.
- **Avoid surprises related to feasibility or cost** that unexpectedly tips the scale on the “To Flume or Not to Flume” decision by regularly tracking pertinent construction cost data and regulations (vis a vis HABS requirements treatment/mitigation) and related local water costs.
- **Support the District’s decision to replace the Flume by presenting a clear project roadmap** in a preliminary design report that includes a project funding plan for the preferred alignment.
- **Predictive climatological modeling** confirming sustainability and economic viability.



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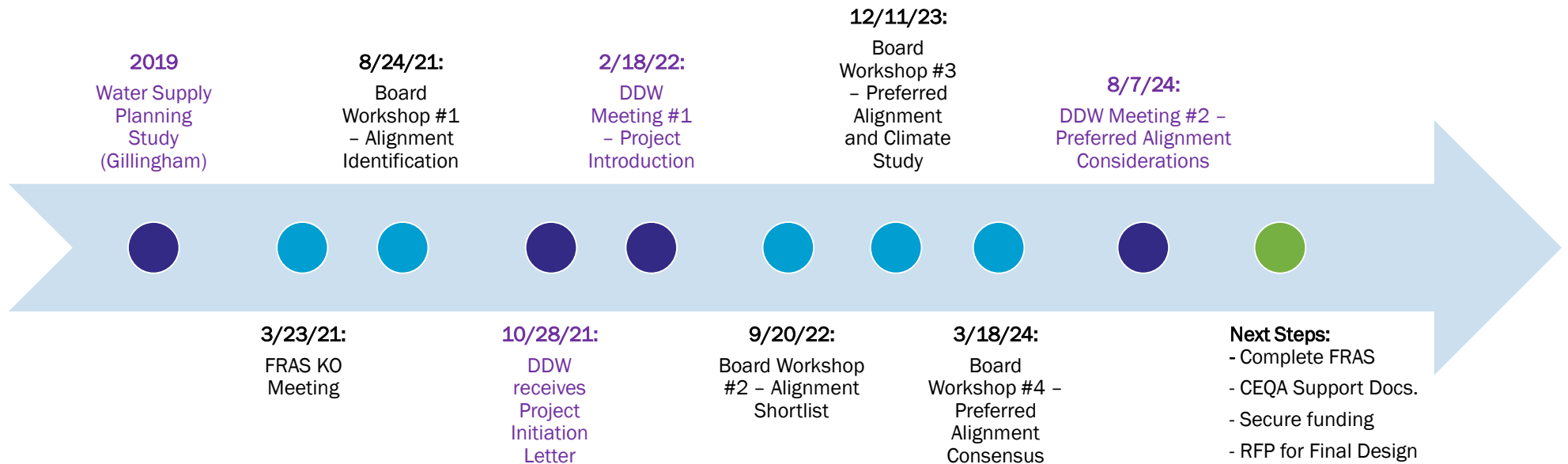


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Status: The Timeline





Meeting Objective: DDW Coordination

- **The goal:**

Keep DDW informed facilitating verbal and written feedback guiding regulatory considerations for the FRAS' "Recommend Alignment Report", which will inform Final Design and Permitting.
- **Informing DDW, we'll use this meeting to:**
 1. Convey an overall project status update
 2. Present technical work that informed alignment analysis and selection
 3. Share VID Board feedback and selection
 4. Answer any questions DDW must facilitate the above goal
- **Facilitate discussions with probing question:**
 1. What is important to you that should be conveyed to the Final Designer (e.g. min. press.)?
 2. At what design phases (e.g. 30%) would you request a "courtesy" or "regulatory" review?
 3. Any regulatory changes anticipated in the next 5-10 years which may affect this Project?
 4. Anything else on your mind?

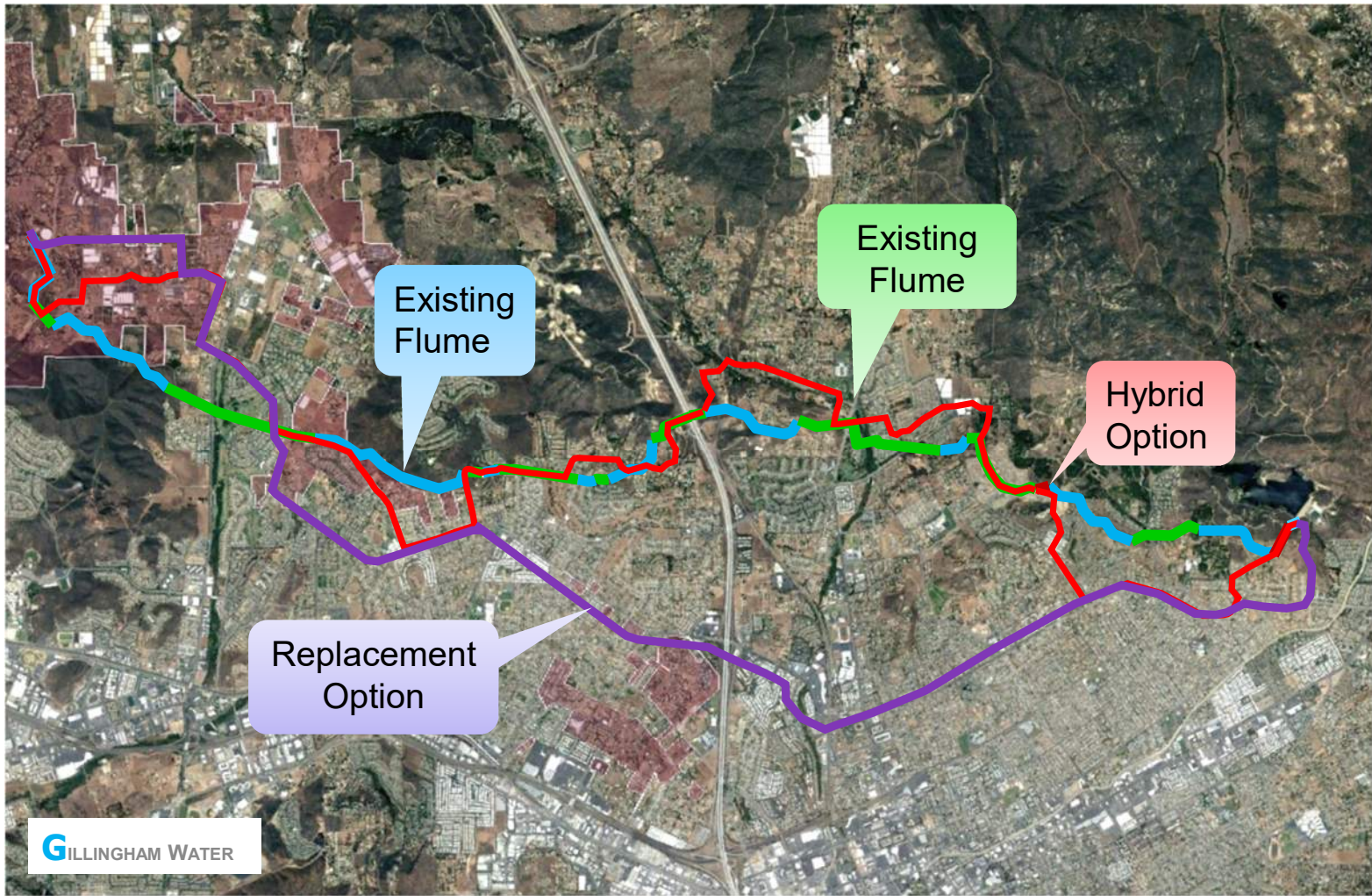
2. Preferred Alignment Selection



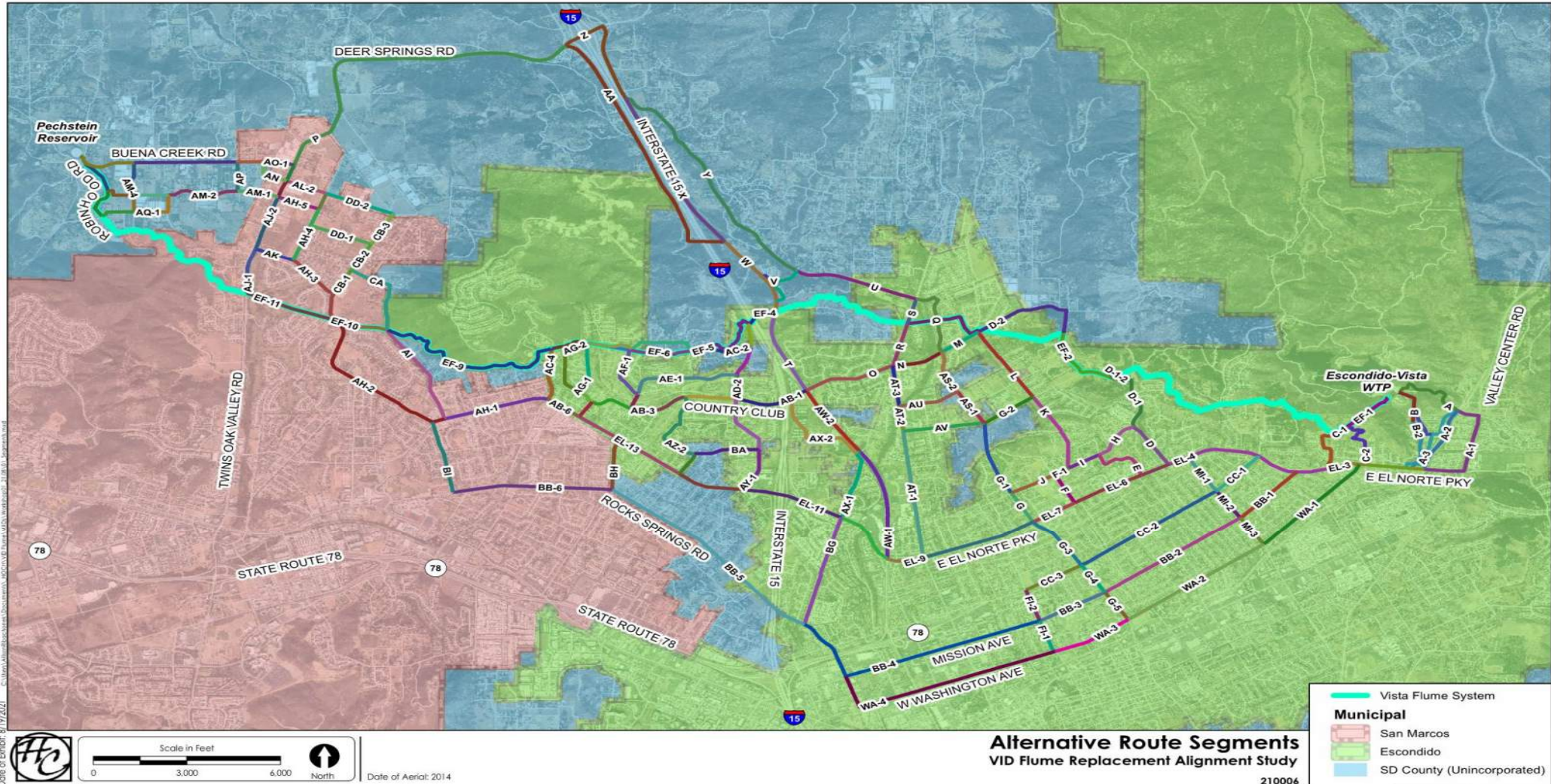
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WSPS Alternatives: captured a wide-range of “replacement” costs



Constructible Corridors: total of 158 segments evaluated

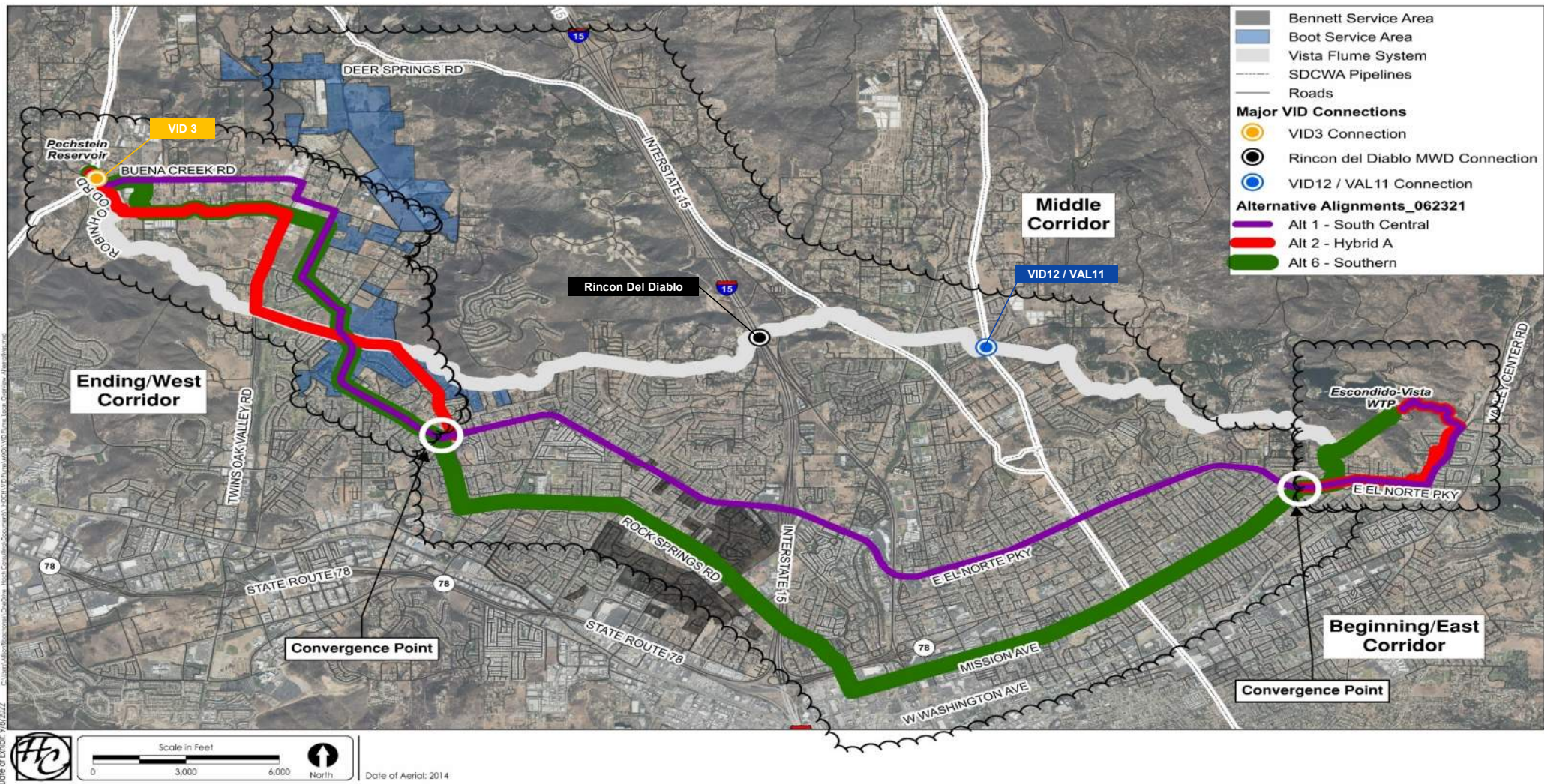


Date of Embroid: 8/17/2021

A comprehensive dataset to support Alternative Screening



- Site/Community Characteristics
 - Schools
 - Fire Department
 - Parcel/Property owners
 - Existing utility records
 - ROWs and Easements
- Traffic
 - Routing studies
 - Road classification
 - Speed limits
 - Traffic
- Environmental
 - Vegetation maps
 - Conserved lands
 - Cultural
 - Draft MSCP
- Geology
 - Groundwater maps
 - Liquefaction maps
 - Field - Rock Classifications
 - USGS Hydrologic Data
 - Fault maps
 - Creeks
 - Flood maps
- Interagency
 - CIP plans
 - CWA aqueduct maps
 - Freeway crossings
- Permitting
 - DDW Regulations
 - Jurisdictional areas
 - Wetlands
 - Waters of the U.S.
 - Sensitive/protected species & vegetation
- Hydraulics
 - Existing VID system
 - Pechstein Reservoir
 - EVWTP
 - New facilities
- O&M
 - WTP Operations
 - Site access
 - Agency connections
 - Local agreements
 - Boot & Bennet service areas
- Cost/Affordability
 - Funding Sources
 - Pavement Moratoriums
 - Utility Conflicts

Coarse Screening: two alignments shortlisted plus two corridors



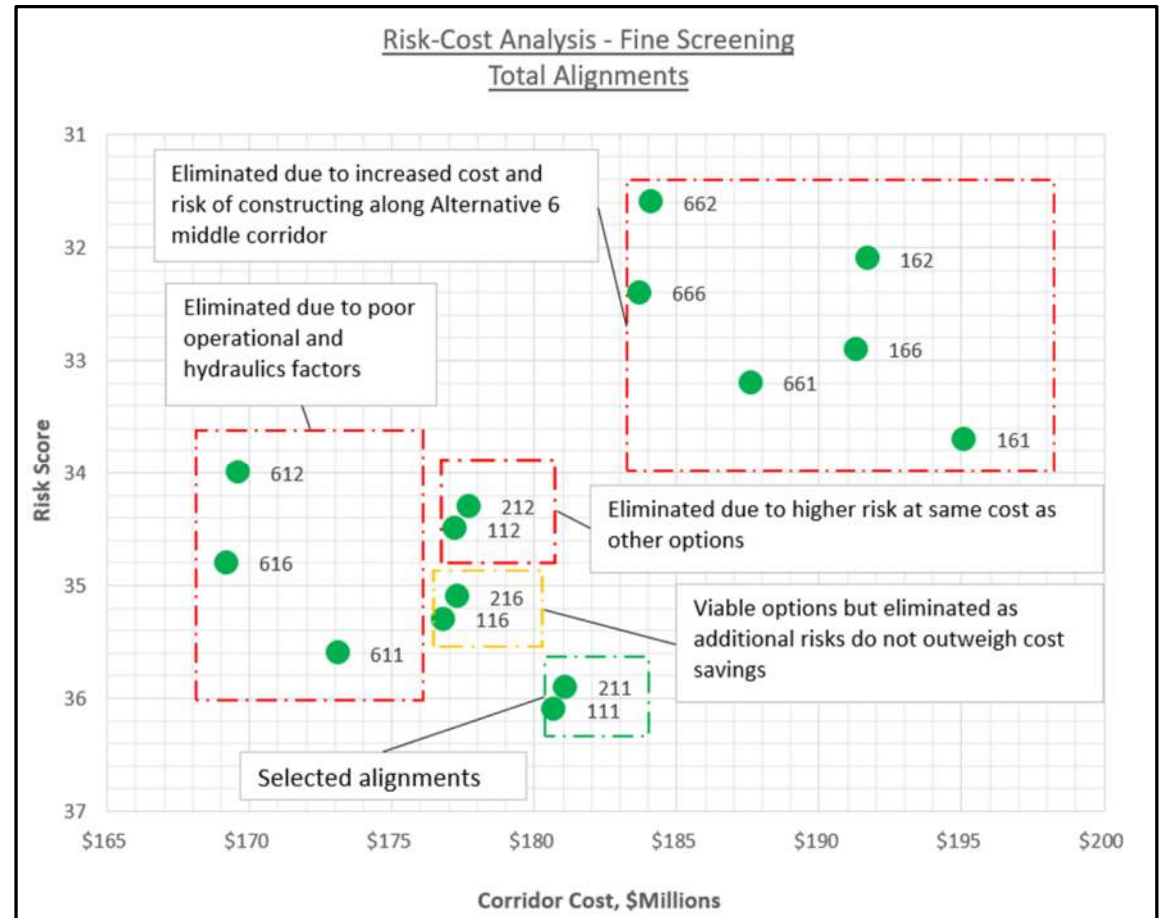
Date of Enrich: 9/8/2022

Fine Screening: Evaluation Matrix

Categories	Criteria Groups	Criteria 	Alternative Alignments Beginning Corridor			Alternative Alignments Middle Corridor		Alternative Alignments End Corridor			
			1	2	6	1	6	1	2	6	
			Raw Score	Raw Score	Raw Score	Raw Score	Raw Score	Raw Score	Raw Score	Raw Score	
 PROJECT DELIVERY	Constructability	Geology	3	1	5	1	3	3	5	3	
		Utility Congestion	1	3	5	3	5	3	5	3	
		Alignment Length	3	1	5	5	1	1	5	3	
		Additional LF for Boot & Bennett Connections	0	0	0	0	0	3	5	1	
		Crossing/Construction Methods	5	5	5	5	1	5	1	5	
		Tunneling Length	5	5	5	1	1	3	1	3	
	SUBTOTAL (weighted) - Constructability			2.6	2.3	3.8	2.3	1.7	2.7	3.3	2.7
	Schedule and Risk	Schedule Factors	3	3	5	5	1	1	5	3	
		Phasing/Sequencing	3	5	3	3	3	3	5	3	
		Long-Term Vulnerability	1	3	5	3	5	3	5	3	
	SUBTOTAL (weighted) - Schedule and Risk			0.7	1.1	1.3	1.1	0.9	0.7	1.5	0.9
	Project Affordability and Implementation	Financial Exposure to Construction Costs	3	1	5	5	1	1	5	3	
		Mitigating Revenue Reduction (purchase from other agency)	5	5	1	5	5	5	1	5	
		Pavement Moratoriums	5	5	5	1	3	3	1	3	
	SUBTOTAL (weighted) - Project Affordability and Implementation			3.3	2.8	2.8	2.8	2.3	2.3	1.8	2.8
CATEGORY SUBTOTAL - PROJECT DELIVERY			6.5	6.1	7.8	6.1	4.8	5.7	6.6	6.4	
GRAND TOTAL			12.2	12.0	11.7	12.0	9.3	12.0	10.4	11.2	

Fine Screening: Results (All Combinations)

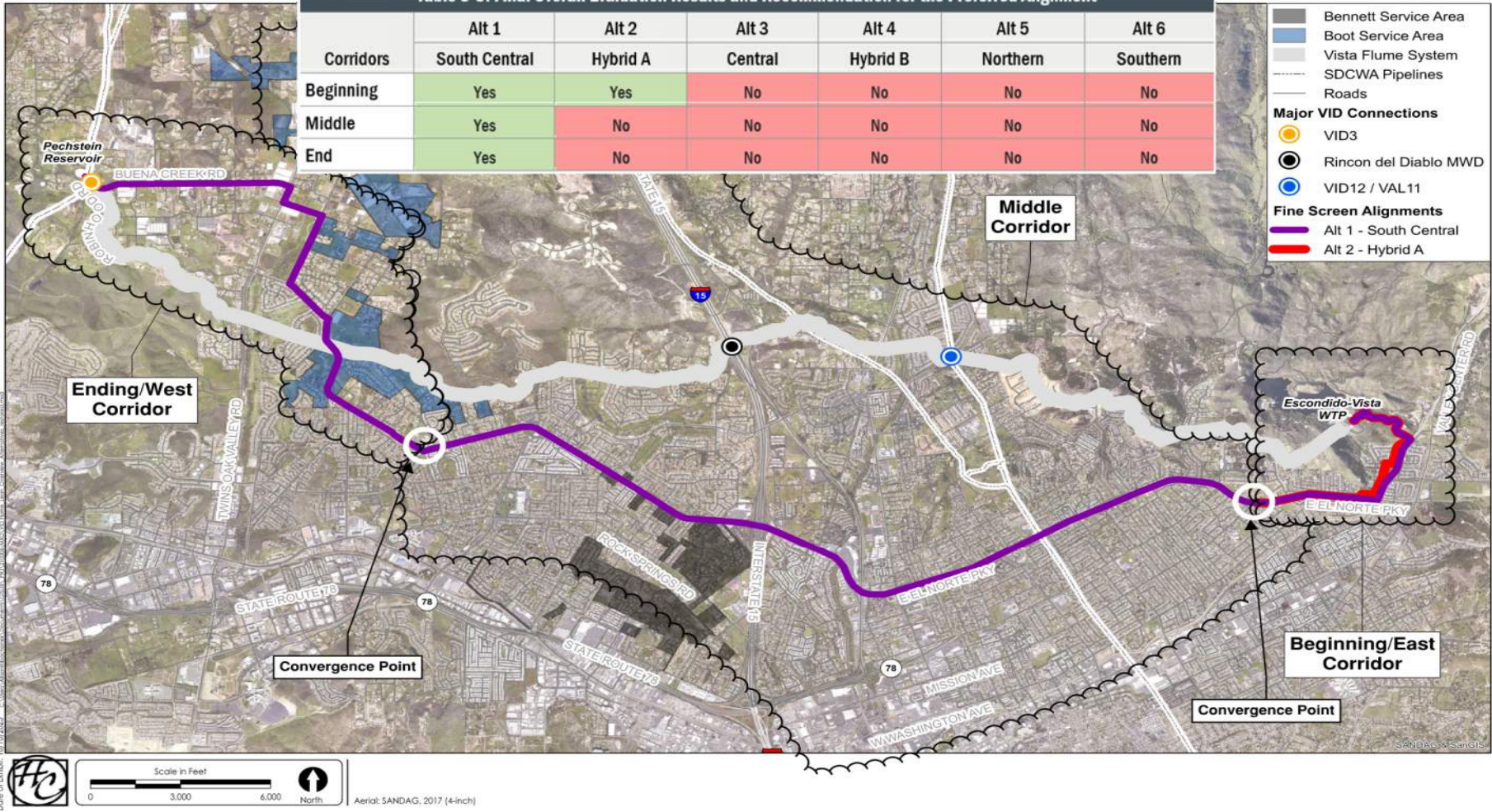
- Alt 1.1.1 and 2.1.1 provide balanced cost vs risk rating
- Top right grouping high in risk and costs
- Bottom left grouping lower cost but higher risks
- Center groupings higher risk vs same cost as selected alignments



Recommended Alignment

Table 3-3. Final Overall Evaluation Results and Recommendation for the Preferred Alignment

Corridors	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
	South Central	Hybrid A	Central	Hybrid B	Northern	Southern
Beginning	Yes	Yes	No	No	No	No
Middle	Yes	No	No	No	No	No
End	Yes	No	No	No	No	No



3. Findings & Board WS#4 Recommendations



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Summary of Conclusions: Phase 4 – Fine Screening

1. The Alignment Study has finished evaluating a broad range of alternatives and **recommends Alternative 1 advance to conceptual design**, while retaining the Beginning corridor of Alternative 2 as a contingency during final design.
2. The **Flume Replacement Project requires a diverse funding portfolio**; interest rates for the funding mechanisms which will plausibly comprise this portfolio have increased significantly.
3. **Most climate futures, 80% of the modeled scenarios**, predict the District can confidently rely on local water being available over a wide variety of climate conditions, and the economics **weigh in favor of a To Flume project if modest investments are made to the LWS**.
4. The **To Flume option retains significant cost advantage** in comparison to the **Not To Flume option**, and still supports LWS improvements at Lake Henshaw and Warner Basin wellfield; **so long as the District's share of average annual local yield is above 2,700 AFY**.

Final Conclusion & Next Steps



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5. The **analyses presented herein supports the District's continued investment** in HABs mitigation, wellfield improvements, and the future Flume Replacement project. Recommended next steps include:

- A. **Proceed with Phase 5 – Recommended Alignment Report.**
- B. **Inform DDW of the District's intent to advance the Flume's replacement.**
- C. Advance preparation of CEQA supporting documents.
- D. Continue investigating HABs mitigation and wellfield optimization.
- D. Work with the District's Municipal Advisor to develop the project's funding strategy.
- E. **Develop an RFP for the final design of the Flume Replacement Project.**
- F. Use the planning, environmental, and financial documents prepared in the above steps as supporting documentation to pursue a diverse funding portfolio.

4. Hydraulic Modeling and Pressure Results



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DDW Input Guiding Basis for Hydraulic Design

- **Initial DDW Engagement WSPS (2019):**
Discussed the permitting pathway for keeping a low-head system. Would require special exemptions. Although possible, keeping a low-head system is not DDW's preference.
- **1st Engagement during FRAS (2022):**
Regulatory requirement specific to pressure for a new potable water transmission system.
 - >20 psig: normal operations.
 - 5 – 20 psig: acceptable with additional monitoring and controls.
 - <5 psig: only acceptable on agency-controlled property (i.e., “inside the fence”).
- **KEY OUTCOMES (2024):** DDW Input which drove the Recommended Alignment
 - Moved away from low-head
 - Moved toward a public H&S risk mitigation
 - Defined pressure criteria applied to planning and model



Hydraulic Modeling: Overview

- Objectives: Perform system hydraulic analysis (steady-state and transient) and investigate flow control requirements.
- Approach:
 1. Analyze pipe sizing
 2. Analyze flow and pressure control methods; to meet current DDW regulations
 3. Perform transient hydraulic analysis
- Model Acceptance Criteria
 - Steady State Flow (capacity = 18 mgd)
 - Steady State Pressures (guided by DDW input in 1st Engagement Meeting)
 - >20 psig: normal operations
 - 5 – 20 psig: acceptable with additional monitoring and controls
 - <5 psig: only acceptable on agency-controlled property (i.e., “inside the fence”)
 - Transient Analysis (Min. -7 psig, Max. 200 psig)

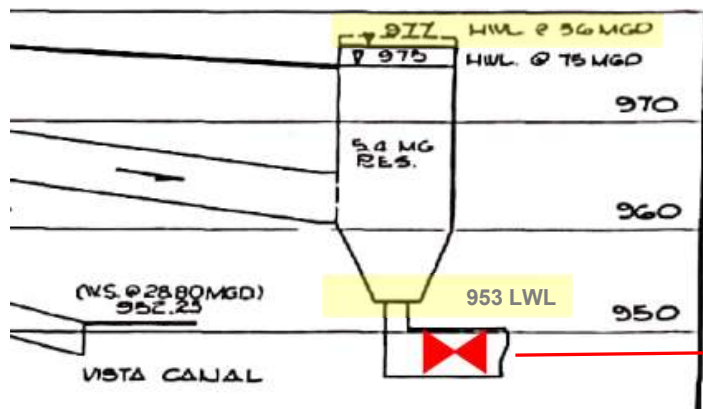
Steady-State: Pipeline Capacity

Table 1. Modeled Pipeline Demands

Location	Demand (gpm)
Boot	1,400
Bennett	70
Rincon	694
Escondido	694

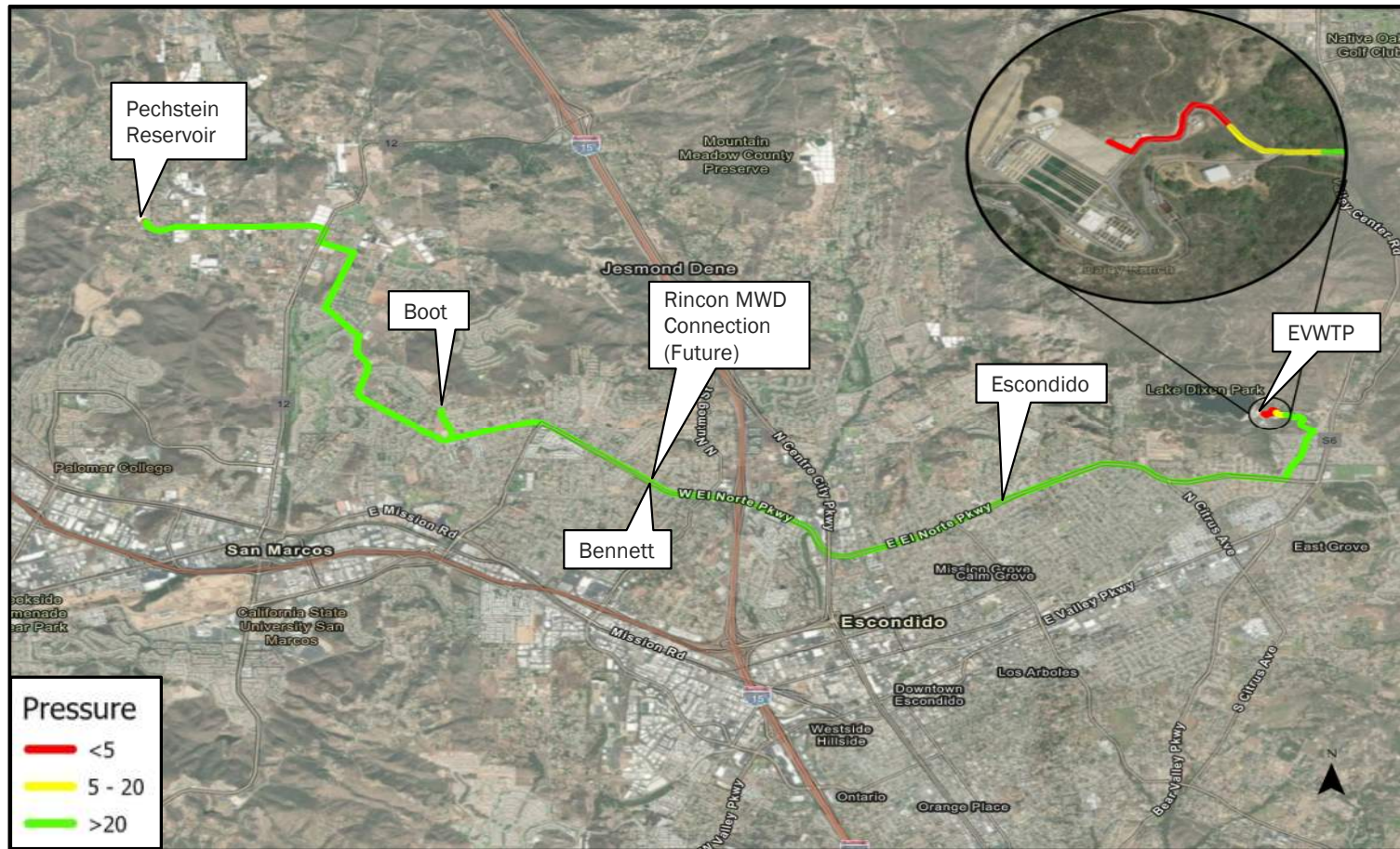
Table 2. Pipeline Diameter Comparison

Diameter	Hydraulic Grade Line (HGL)	C Factor	Max Flow (mgd)	Velocity (fps)
36-inch	953	120	16.0	3.6
		150	19.5	4.3
	977	120	18.8	4.2
		150	23.0	5.1



Proposed Flow Control Valve

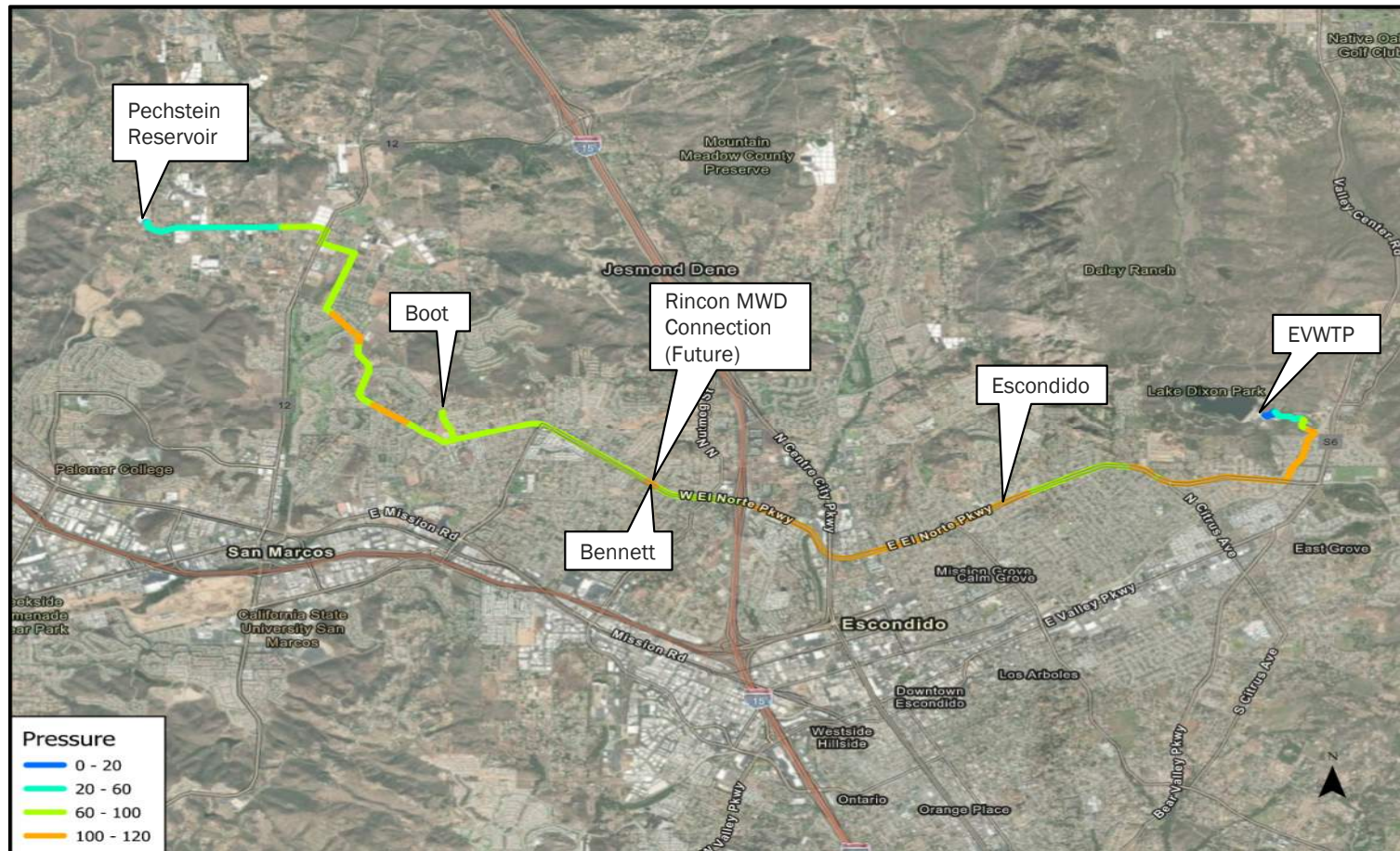
Steady-State: Minimum Pressures



Worst-Case Scenario:

- Water Level @ Bottom of Clearwell (EL 953')

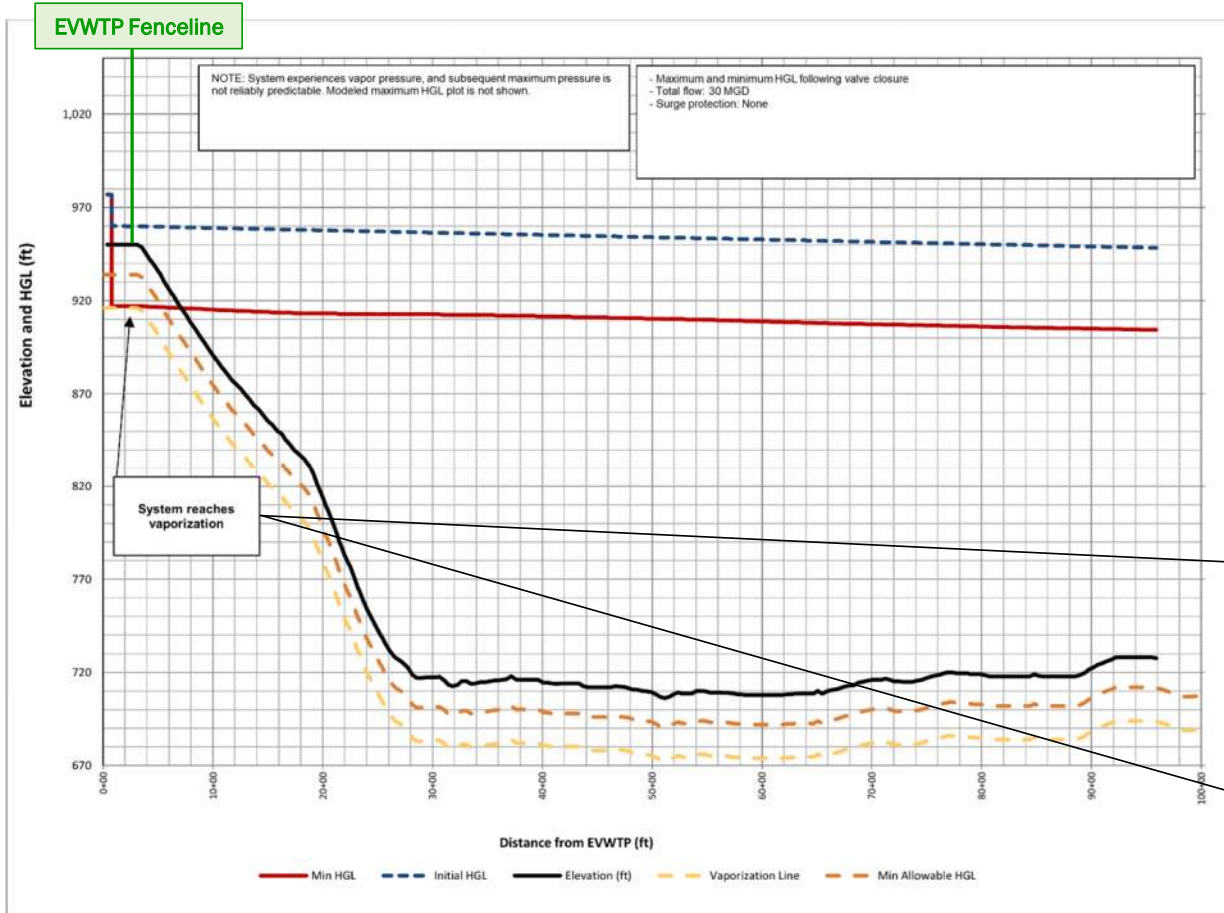
Steady-State: Maximum Pressures



Normal Operating Scenario:

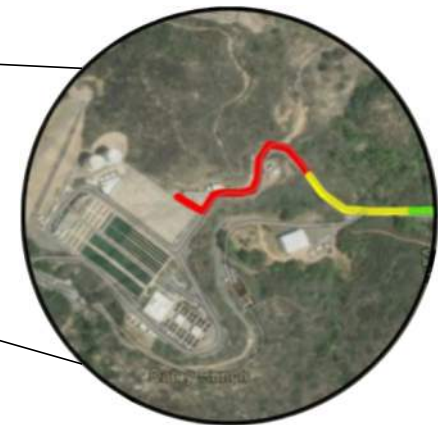
- Water Level @ Desired Clearwell Operating Level (EL 977')

Transient Hydraulics: No Surge Mitigation

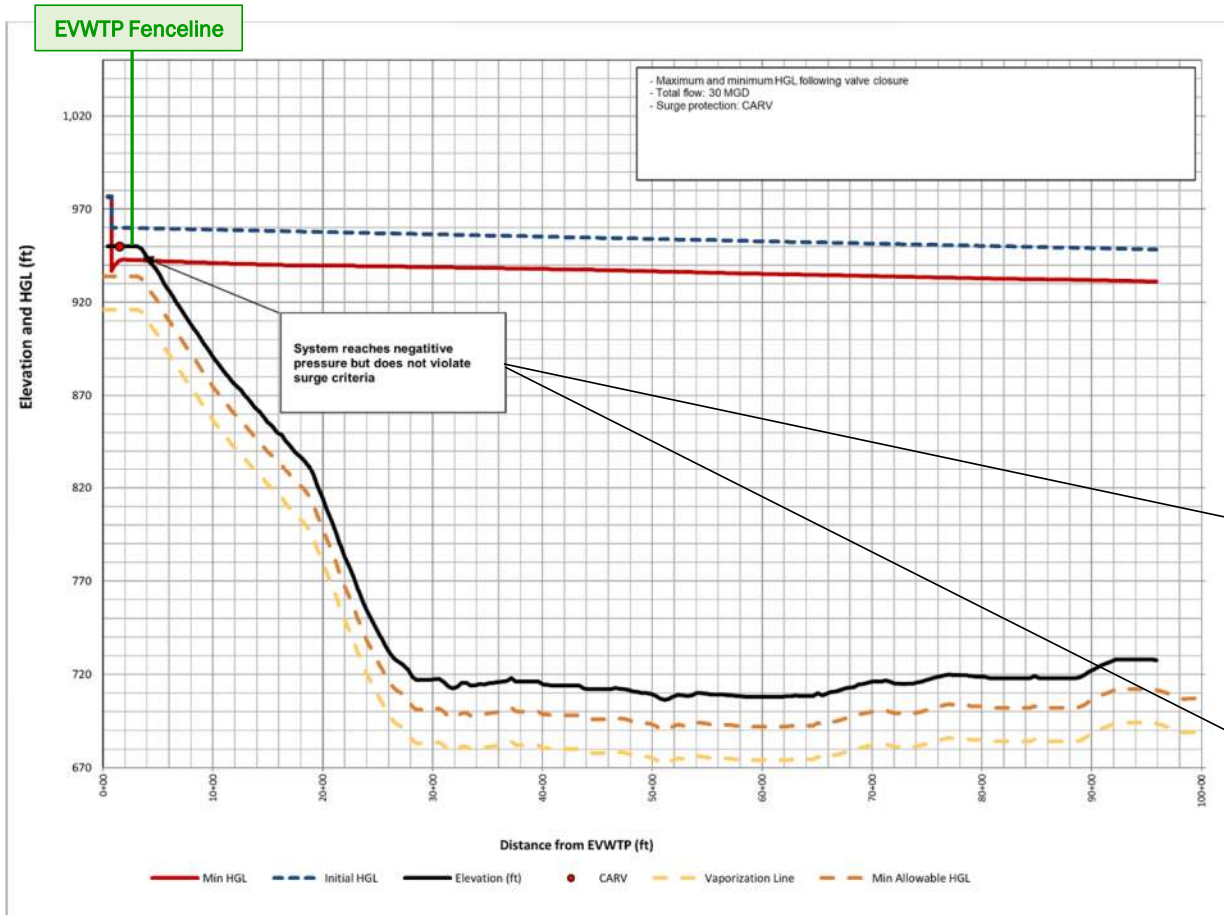


Worst-Case Scenario: “Instantaneous” Valve Closure

- When valve closes suddenly, cause a “down-surge”
- Lasts ~7-mins.
- Without CARV, down-surge reaches vapor pressures & high likelihood of pipe cavitation



Transient Hydraulics: With Surge Mitigation



Worst-Case Scenario: “Instantaneous” Valve Closure

- CARV now in place
- Lasts ~7-mins.
- When valve closes, CARV opens to let air into the system
- Note: There is still a moment of negative pressure, but does not violate the surge criteria





Hydraulic Modeling: Conclusions

- 1. Pipe sizing.** Confirmed pipe diameter of 36-inch diameter pipeline may not be able to provide the peak flow of 18-mgd at the lower clearwell levels.
- 2. Flow and pressure control methods.** Flow control valve at EVWTP should be set to close over a minimum of 5 seconds. Pressure control structure at the Pechstein Reservoir should be set at a minimum HGL of 894-feet.
- 3. Transient hydraulic analysis.** The transient model predicted the system should have upsurge greater than the test pressure of the pipeline. To mitigate downsurge from control valve closure, it is recommended to install a minimum of one 4-inch CARV downstream of the control valve.

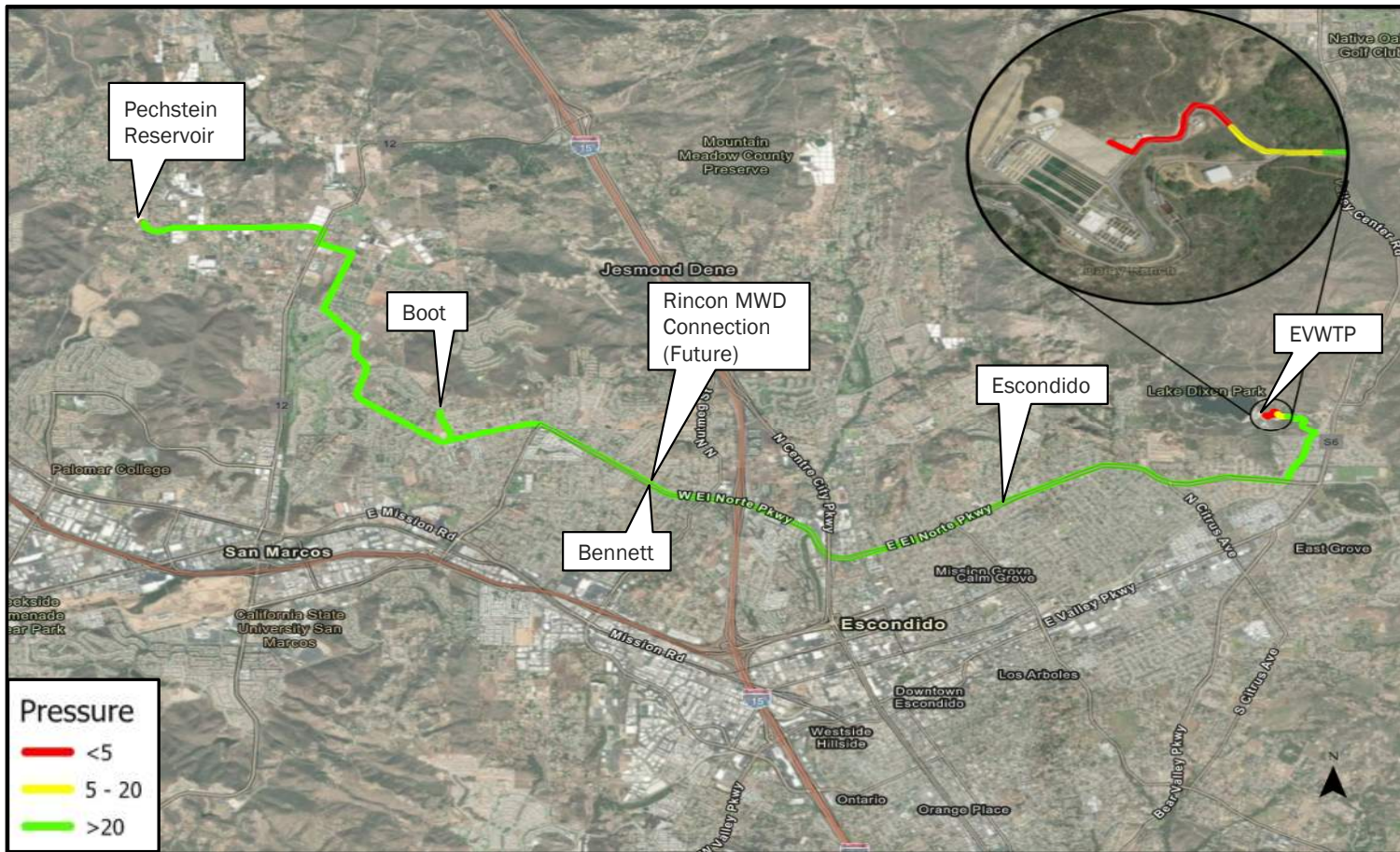
5. Open Discussion & Next Steps

Defining the **next**



legacy

Open Discussion with DDW



The District is requesting as much clarity as possible as this project will be the largest in the District's history. Having said that,...

Questions for DDW:

1. What is important to you that should be conveyed to the Final Designer (e.g. min. press.)?
2. At what design phases (e.g. 30%) would you request a "courtesy" or "regulatory" review?
3. Any regulatory changes anticipated in the next 5-10 years which may affect this Project?
4. Anything else on your mind?

Thank you.
Questions?

Jocelyn Lu Morinishi

From: Guzman, Joseph@Waterboards <Joseph.Guzman@waterboards.ca.gov>
Sent: Friday, August 30, 2024 9:29 AM
To: Debra Burris; Sterchi, Sean@Waterboards; Ertas, Tuba@Waterboards
Cc: Greg Keppler (GKeppler@vidwater.org); Randy Whitmann (RWhitmann@vidwater.org); J.P. Semper; Jocelyn Lu Morinishi; Phoebe Strauss
Subject: RE: Vista Irrigation District - Flume Replacement Alignment Study
Attachments: Pipeline Separation Checklist.xlsx; Section64572.docx

Some people who received this message don't often get email from joseph.guzman@waterboards.ca.gov. [Learn why this is important](#)

Good morning Debbie,

My apologies for the late response, I do not have any comments or questions on the meeting minutes.

To address the other action item regarding pipeline separation waivers, attached is the spreadsheet we send to systems who need a waiver for variance from the pipeline separation requirements established in the California Code of Regulations, Title 22, Section 64572, also attached for reference.

The spreadsheet consists of three tabs:

1. Cover sheet
2. Pipeline construction information – gathering information about the location of the conflict, proposed pipeline, existing pipeline, separation between the two, justification for not meeting the separation distance, and proposed protective measures.
3. Certification
 - a. If the design has been completed by a design consultant, this sheet should be signed by that designer, certifying that the information is correct.
 - b. The water system will also need to agree on the design by providing a signed letter concurring with the design and certifying that the water system believes the proposed alternative would provide at least the same level of protection to public health as the minimum separation distances in the waterworks standards.

In addition to the completed checklist, we ask that you provide the relevant drawings showing the alignments needing a waiver approval.

Please feel free to let me know if you have any questions.

Best Regards,

Joseph Guzman, P.E.
San Diego District Engineer
State Water Resources Control Board – Division of Drinking Water
2375 Northside Drive, Suite 100, San Diego, CA 92108-2700
Phone: 619-525-4772
Email: Joseph.Guzman@waterboards.ca.gov

From: Debra Burris <dburris@ddbe.com>
Sent: Wednesday, August 28, 2024 2:11 PM
To: Sterchi, Sean@Waterboards <Sean.Sterchi@waterboards.ca.gov>; Guzman, Joseph@Waterboards <Joseph.Guzman@waterboards.ca.gov>; Ertas, Tuba@Waterboards <Tuba.Ertas@waterboards.ca.gov>
Cc: Greg Keppler (GKeppler@vidwater.org) <gkeppler@vidwater.org>; Randy Whitmann (RWhitmann@vidwater.org) <rwhitmann@vidwater.org>; J. P. Semper (jpsemper@brwncald.com) <jpsemper@BrwnCald.com>; Jocelyn Lu Morinishi <JMorinishi@BrwnCald.com>; Phoebe Strauss <PStrauss@BrwnCald.com>
Subject: RE: Vista Irrigation District - Flume Replacement Alignment Study

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Hi Sean, Joseph, and Tuba,
On behalf of Vista Irrigation District, we're following up on DDW's review of the 8/7/2024 meeting minutes transmitted via the email below and attached herein.

As you will recall, one of the meeting action items requests that DDW provide comments and/or written feedback regarding the meeting about the District's Flume Replacement Alignment Study. DDW's feedback is particularly important as the Project moves forward.

Would you please let us know if you have any comments/questions on the minutes by the end of August or when we can expect your feedback?

Thanks!

*Best regards,
Debbie*

Debra L. Burris, P.E., BCEE
DDB ENGINEERING, INC.
1 Cavalier
Laguna Niguel, CA 92677
949.400.8575

From: Debra Burris
Sent: Tuesday, August 13, 2024 2:27 PM
To: Sean Sterchi (Sean.Sterchi@waterboards.ca.gov) <Sean.Sterchi@waterboards.ca.gov>; Guzman, Joseph@Waterboards <Joseph.Guzman@waterboards.ca.gov>; Ertas, Tuba@Waterboards <Tuba.Ertas@waterboards.ca.gov>
Cc: Greg Keppler (GKeppler@vidwater.org) <gkeppler@vidwater.org>; Randy Whitmann (RWhitmann@vidwater.org) <rwhitmann@vidwater.org>; J. P. Semper (jpsemper@brwncald.com) <jpsemper@BrwnCald.com>; Jocelyn Lu Morinishi <JMorinishi@BrwnCald.com>; Phoebe Strauss <PStrauss@BrwnCald.com>
Subject: Vista Irrigation District - Flume Replacement Alignment Study

Hi Sean, Joseph, and Tuba,
Attached for your review, comment, and acknowledgement are minutes from our 08/07/2024 meeting regarding the Vista Irrigation District Flume Replacement Alignment Study (FRAS).

Please note that an action item in the minutes (repeated below in **blue font**) requests that DDW provide comments and/or written feedback regarding the meeting.

*“Provide written comments and/or written feedback regarding DDW Meeting #2 – Preferred Alignment Considerations meeting minutes (this meeting). **Assigned to: DDW**”.*

We would appreciate receiving DDW’s feedback by the end of August.

The District and FRAS team appreciate DDW’s input, guidance, and partnership on this important project. Thanks!

Best regards,

Debbie

Debra L. Burris, P.E., BCEE
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