Board Policy: EL-7 Communication and Support to the Board
The BAOs shall inform and support the Board in its work.

CEO BULLETIN / NEWSLETTERS

CEO Bulletin: 03/23/18 – 03/29/18

BOARD MEMBER REQUESTS & INFORMATIONAL ITEMS

5 BMR/IBMR Weekly Reports: 03/29/18

Memo from Nina Hawk, COO/WUE, to the Board, dated 03/20/18, regarding the impact of biofilm on recent total coliform positive results at East Pipeline turnouts.

Memo from Rachael Gibson, DAO/GRU, to Rick Callender, CEA, dated 03/21/18, regarding a delegation letter to the House Subcommittee on Energy and Water Development and related agencies requesting appropriations for USACE and Bureau of Reclamation Funding.

Memo from Rick Callender, CEA, to Norma Camacho, CEO, dated 03/26/18, regarding the presentation of completed SCW grant project – Stevens Creek Steelhead Passage Improvement Project.

INCOMING BOARD CORRESPONDENCE

32 Board Correspondence Weekly Report: 03/29/18

Email from Kit Gordon to the Board, dated 03/23/18, regarding Arundo donax eradication program (C-18-0049).

Email from Swanee Edwards to Director Varela, dated 03/23/18, regarding the District's improvements with outreach and transparency (C-18-0050).

Email from Katja Irvin, Sierra Club, to District staff (cc: BOD), dated 03/25/18, regarding a blog on Delta tunnel engineering (C-18-0051).

Letter from Erin Gill, Grass Farm, to the Board, dated 03/23/18, regarding the Open Space Credit program (C-18-0052).

OUTGOING BOARD CORRESPONDENCE

40 Letter from Director Kremen to Commissioner Brenda Burman – Bureau of Reclamation, dated 03/21/18, regarding their meeting to discuss the District’s goals and priorities.

43 Reply letter from Chair Santos to Richard McMurtry, dated 03/22/18, regarding his request for a joint appearance before the State Water Resources Control Board (C-18-0045).

Board correspondence has been removed from the online posting of the Non-Agenda to protect personal contact information. Lengthy reports/attachments may also be removed due to file size limitations. Copies of board correspondence and/or reports/attachments are available by submitting a public records request to publicrecords@valleywater.org.
To:   Board of Directors  
From:  Norma J. Camacho, CEO 

Chief Executive Officer Bulletin  
Week of March 23 - 29, 2018  

Board Executive Limitation Policy EL-7:  
The Board Appointed Officers shall inform and support the Board in its work. Further, a BAO shall 
1) inform the Board of relevant trends, anticipated adverse media coverage, or material external 
and internal changes, particularly changes in the assumptions upon which any Board policy has 
previously been established and 2) report in a timely manner an actual or anticipated noncompliance with any policy of the Board. 

<table>
<thead>
<tr>
<th>Page</th>
<th>IN THIS ISSUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safe, Clean Water and Natural Flood Protection Project Completion: Friends of Stevens Creek Trail completes the Stevens Creek Steelhead Passage Improvement Project</td>
</tr>
</tbody>
</table>

Safe, Clean Water and Natural Flood Protection Project Completion: Friends of Stevens Creek Trail completes the Stevens Creek Steelhead Passage Improvement Project  

Friends of Stevens Creek Trail (FSCT) received a $52,162 Safe, Clean Water and Natural Flood Protection D3 (Restore Wildlife Habitat) grant to conduct feasible measures to remediate the fish migration impediments at eight (8) locations along the length of Stevens Creek, with major emphasis on the Moffett Boulevard fish ladder and concrete channel lining that extends to US 101. The project began on November 1, 2016, and was completed on December 7, 2017. The overall total cost of the project was $75,433. 

As part of the project, FSCT is required to provide a draft feasibility report to the district to review and provide technical comments on the proposed solutions. FSCT subcontracted Domenichelli & Associates Civil Engineering, an independent firm, to perform the study and compile the report. FSCT sent a copy of the draft report to the district on September 6, 2017, and the district reviewed and provided comments to FSCT on October 3, 2017. The District has required FSCT to include the district's introductory slide in front of FSCT's presentation and a Foreword to the final feasibility report. 

Key Outcomes:  
- Identified potential engineering solutions to eight fish passage impediments  
- Provided hydraulic analysis, conceptual drawings, and estimated costs for projects at the selected locations  
- Conducted two (2) workshops to present the purpose of the study and the proposed solutions with stakeholders and community members 

FSCT’s final report on the completed project is included in the board's March 30, 2018, Non-Agenda package. 

For further information, please contact Rick Callender at (408) 630-2017.
BOARD MEMBER REQUESTS & INFORMATIONAL ITEMS
<table>
<thead>
<tr>
<th>Request</th>
<th>Completed Date</th>
<th>Meeting Date</th>
<th>Director</th>
<th>GM / AGM</th>
<th>Description</th>
<th>20 Days Due Date</th>
<th>Expected Completion Date</th>
<th>Disposition</th>
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<tbody>
<tr>
<td>R-18-0005</td>
<td>Pending</td>
<td>02/27/18</td>
<td>Varela</td>
<td>Hawk</td>
<td>Place an item on the Board’s April 24, 2018 Agenda on the cost analysis study to use the Uvas/Llagas Pipeline Extension to capture stormwater and place back into the water basin.</td>
<td>03/19/18</td>
<td></td>
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<td>R-18-0006</td>
<td>Pending</td>
<td>03/13/18</td>
<td>Varela</td>
<td>Callender</td>
<td>Director Varela requested staff to agendize for discussion SB623 and AB2050.</td>
<td>04/10/18</td>
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<tr>
<td>Request</td>
<td>Completed Date</td>
<td>Request Date</td>
<td>Director</td>
<td>GM / AGM</td>
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</table>

**Report Name:** Board Requests Report  
**Informal**  

**Report date:** 03-29-2018  

**Order by:** DIRECTOR
TO: Board of Directors

SUBJECT: Impact of Biofilm on Recent Total Coliform Positive Results at East Pipeline Turnouts

FROM: Nina Hawk

DATE: March 20, 2018

Background:

Due to the Almaden Valley Pipeline (AVP) Inspection and Rehabilitation Project that began on October 27, 2017, the Santa Teresa Water Treatment Plant (Santa Teresa), which relies on the AVP for raw water delivery, was shut down. Together, the Penitencia Water Treatment Plant (Penitencia) and the San Francisco Public Utilities Commission-Santa Clara Valley Water District (SFPUC-SCVWD) Intertie have supplied treated water to meet retailer demands on the District’s East Pipeline (EPL).

Recently, there has been sporadic Total Coliform (TC) positive detections from routine bacteriological sampling from the Milpitas Turnout (December 29, 2017, January 31, 2018, and February 26, 2018) and the Hostetter Turnout (January 31, February 13, February 21, 2018 and March 15, 2018). In all instances, the water sampled came from SFPUC, was E. coli (EC) negative and the disinfectant residual was very healthy (ranging from 2.6 to 3.7 mg/L). It is very rare that any of the EPL turnouts would get TC positive detections, let alone in seven instances in less than two and a half months since December 29, 2017.

The Milpitas Turnout, located at the northernmost end of the EPL transmission main, closest to the Intertie, has almost exclusively received SFPUC water via the Intertie since October 27, 2017. The Hostetter and Mabury Turnouts have received either Penitencia or SFPUC water via the Intertie, depending on operations.

Analysis:

Staff’s initial assessment concluded that the interaction of the SFPUC Intertie and Penitencia treated water, which have different water quality characteristics, coupled with flow reversals in the northernmost section of the EPL, are causing biofilm accumulated on the pipe walls to loosen and detach. Dislodged biofilm can result in positive TC test results during routine sampling events.

Biofilms are accumulations of microorganisms (e.g., bacteria, fungi, algae, protozoa, and viruses) and organic and inorganic matter bound by extracellular polymer substances attached to the inner surfaces of pipes and storage tanks in water systems (see Figure 1). Biofilms are ubiquitous in all distribution systems, regardless of water quality characteristics and pipe materials, and provide an environment for bacterial replication as well as protection against disinfectants and microbial predators (1).

Pathogens can enter water systems through treatment breakthrough, inadvertent contamination of a distribution system (e.g., main breaks, breaches in storage tanks), or deliberate contamination. If any of these occur, introduced pathogens may interact with the surfaces of the distribution system and can become entrained in biofilms. Thus, biofilms can become central to the microbial ecology of opportunistic pathogens (infectious microorganisms that can cause disease in certain risk groups) in distribution systems and premise plumbing.

Biofilms in drinking water systems can be responsible for loss of distribution system disinfectant residuals, increased bacterial levels, reduction in dissolved oxygen, taste and odor changes, microbial-
induced corrossions, and other water quality and operational problems. A primary reason why utilities are concerned with biofilms in drinking water systems is due to potential growth of coliform bacteria in the pipe network. Several factors, including filtration, temperature, disinfectant type and residual, type of corrosion control, and pipe material, can influence the occurrence of coliform bacteria in drinking water distribution systems.  

![Diagram of a water distribution system showing locations for biofilm growth](image)

**Figure 1:** Diagram of a water distribution system showing locations for biofilm growth.

**Preventative Measures:**

Biofilms are challenging for water utilities to control. District staff evaluated several biofilm management strategies to address the potential recurrence of routine sample coliform positive results from turnouts in the northernmost portion of the EPL. These biofilm mitigation strategies include flushing, swabbing or pigging, chemical treatments, and operational changes.

- Flushing is the most popular method used but it is suited to water mains smaller than 12 inches in diameter.
- Similarly, swabbing or pigging are not well suited for large-diameter pipelines as is the case with the EPL transmission main.
- Chemical treatment entails introducing highly chlorinated water into the main, allowing the solution to stay in contact with the pipeline surface long enough to achieve disinfection, and finally dechlorinating and safely discharging the solution to the environment. Given that the section of EPL in question has a diameter of 42 inches and a length of 3.3 miles, staff has opted to implement operational changes to prevent recurrence of coliform positive samples from suspected biofilm sloughing or detaching in the EPL.
- The operational strategy aims at eliminating flow reversals that have occurred daily as a result of intermittent use of the SFPUC Intertie. Under the new operation strategy initiated on February 13, 2018, Operations staff will keep the SFPUC Intertie flow high enough to meet all demand at the Hostetter and Milpitas turnouts, while Penitencia’s flow will meet all other EPL demands. This will ensure that the turnouts located in the northernmost section of the EPL experience consistent unidirectional flow, rather than frequent flow reversals, hence lowering the risk of biofilm disturbances that could lead to coliform positive results.
- In addition, starting February 23, district staff requested that the San José Water Company regulate and maintain a constant flow at Hostetter Turnout throughout the day, until STWTP returns to service on March 19, 2018. San José Water Company agreed and started this practice immediately.
Recent Actions:

Following the February 26, 2018 TC positive at the Milpitas Turnout, and considering that the operational strategies were already in place for several days, staff met on March 1, 2018 and decided to perform a chemical disinfection of the intertie pump station and associated piping. The disinfection of the suction and discharge piping, the four pumps, and associated appurtenances was carried out from March 7 to 9, 2018. District staff dechlorinated the highly-chlorinated water and safely discharged it to sewer, in compliance with a sewer discharge permit issued by City of San José on March 7, 2018. Following the disinfection, a total of seven bacteriological samples were collected throughout the intertie pump station. All samples were TC negative indicating chemical treatment was successful.

Following the March 15, 2018 TC positive at the Hostetter Turnout, and out of an abundance of caution, staff isolated the Hostetter and Milpitas Turnouts on March 17 and March 18, respectively. Once Santa Teresa returns to service on March 19, the District will be able to supply the northernmost end of the EPL transmission main with treated water from Penitencia. Staff anticipates that Penitencia’s higher total chlorine residual (3.5 mg/L) than SFPUC (2.6 mg/L) will reduce or eliminate the occurrence of TC positives at Milpitas and Hostetter. Additionally, staff is evaluating conducting a temporary switch to free chlorine in portions of the EPL, or disinfecting the northernmost segment of the 42-inch EPL transmission main from the Piedmont valve to the Gibraltar Pump Station.

All regulatory requirements have been met during this period, and the District has consistently remained in compliance with both the Total Coliform Rule (TCR) and the revised TCR.

Nina Hawk  
Chief Operating Officer  
Water Utility Enterprise

References:


cc: B. Cabral, C. Hakes, S. Saini, L. Sangines, J. Scott
TO: Rick L. Callender

SUBJECT: Delegation Letter to House Subcommittee on Energy and Water Development, and Related Agencies Requesting Appropriations for USACE and Bureau of Reclamation Funding

FROM: Rachael Gibson

DATE: March 21, 2018

Attached to this memorandum is a copy of the two delegation letters signed by Representatives Lofgren, Eshoo, Speier, and Khanna and sent to the Chairman and Ranking Members of the House Subcommittee on Energy and Water Development, and Related Agencies. These two letters request increased appropriations funding for the U.S. Army Corps of Engineers (USACE) and the Bureau of Reclamation respectively and reflect the District's requests which were submitted to the delegation. These critical appropriations requests for an increase in USACE and Bureau of Reclamation funding will help the District advance its critical flood protection projects and water supply projects which both rely heavily on federal funding. The District will continue to advocate for these key appropriations requests to members of our delegation, the relevant congressional committees, and key administrative agencies during our upcoming Spring trip to D.C. from April 23-25, 2018.

Deputy Administrative Officer
Office of Government Relations

Attachment
March 16, 2018

Congress of the United States
Washington, D.C. 20515

The Honorable Mike Simpson
Chairman
Subcommittee on Energy and Water
Development, and Related Agencies
Committee on Appropriations
2362-B Rayburn HOB
Washington, DC 20515

The Honorable Marcy Kaptur
Ranking Member
Subcommittee on Energy and Water
Development, and Related Agencies
Committee on Appropriations
1016 Longworth HOB
Washington, DC 20515

Dear Chairman Simpson and Ranking Member Kaptur:

As you develop the FY19 Energy and Water Development, and Related Agencies Appropriations bill, I respectfully request that you provide robust funding to the U.S. Army Corps of Engineers (USACE) General Investigations account and Construction account to support its critical work.

California experienced the heaviest periods of precipitation in its history in the first two months of last year, exceeding 80 daily precipitation records as a result of multiple atmospheric storm systems, and resulting in 48 counties declaring local emergencies. The storms that hit California last year underscore the critical need to complete flood risk reduction projects to protect homes, businesses, and critical infrastructure in Santa Clara County. I urge you to provide $121 million to support the General Investigations account, which provides funding for flood damage reduction studies across the country, and $1.876 billion to support the Construction account to provide funding for flood damage reduction projects.

Thank you for your continued support of the critical work conducted by the U.S. Army Corps and for your consideration of this important request.

Sincerely,

Zoe Lofgren
Member of Congress

Anna G. Eshoo
Member of Congress

Jackie Speier
Member of Congress

Ro Khanna
Member of Congress
The Honorable Mike Simpson  
Chairman  
Subcommittee on Energy and Water Development, and Related Agencies  
Committee on Appropriations  
2362-B Rayburn HOB  
Washington, DC 20515

The Honorable Marcy Kaptur  
Ranking Member  
Subcommittee on Energy and Water Development, and Related Agencies  
Committee on Appropriations  
1016 Longworth HOB  
Washington, DC 20515

Dear Chairman Simpson and Ranking Member Kaptur:

As you develop the FY19 Energy and Water Development, and Related Agencies Appropriations bill, I respectfully request that you provide satisfactory funding to the U.S. Bureau of Reclamation (Bureau) to support long-term solutions to provide reliable water supplies to California users.

Specifically, I urge you to support the $35 million FY19 Budget Request for California Bay-Delta Restoration Fund to help address California’s current water supply and ecological challenges. This funding will allow the San Luis Low Point Improvement Project to continue a study focused on increasing the operational flexibility of storage while ensuring a high quality, reliable water supply for the Central Valley Project, San Felipe Division contractors.

I also urge you to support $34.406 million for the Title XVI Water Reclamation and Reuse Program and recycled water program projects. These are important to California and to Santa Clara County. They reduce reliance on imported water and to ensure a drought proof water supply.

Thank you for your consideration of this request.

Sincerely,

Zoe Lofgren  
Member of Congress

Anna G. Eshoo  
Member of Congress

Jackie Speier  
Member of Congress

Ro Khanna  
Member of Congress
MEMORANDUM

TO: Norma Camacho,  
Chief Executive Officer

FROM: Rick Callender, 
Chief of External Affairs

DATE: March 26, 2018

SUBJECT: Presentation of Completed SCW Grant Project – Stevens Creek Steelhead Passage Improvement Project

The purpose of this memorandum is to inform you of the completion of the Safe, Clean Water and Natural Flood Protection Grant Project: Stevens Creek Steelhead Passage Improvement Project. Notification of the enclosed final report was reported in this week’s CEO Bulletin.

Friends of Stevens Creek Trail (FSCT) received a $52,162 Safe, Clean Water and Natural Flood Protection D3 (Restore Wildlife Habitat) grant to conduct feasible measures to remediate the fish migration impediments at eight locations along the length of Stevens Creek, with major emphasis on the Moffett Boulevard fish ladder and concrete channel lining that extends to US 101. The project began on November 1, 2016, and was completed on December 7, 2017. The overall total cost of the project was $75,433.

As part of the project, the Grantee is required to provide a draft feasibility report to District staff to review and provide technical comments on the proposed solutions. The Grantee subcontracted Domenichelli & Associates Civil Engineering, an independent firm, to perform the study and compile the report. The Grantee sent a copy of the draft report to the District on September 6, 2017 and District staff reviewed and provided comments to the Grantee on October 3, 2017. The District has required the Grantee to include the District’s introductory slide in front of the Grantee’s presentation and a Foreword to the final feasibility report.

Key Outcomes:

- Identified potential engineering solutions to eight fish passage impediments
- Provided hydraulic analysis, conceptual drawings, and estimated costs for projects at the selected locations
- Conducted two workshops to present the purpose of the study and the proposed solutions with stakeholders and community members

For additional information, please contact me at (408) 630-2017.

Chief of External Affairs

cc: SCW Grants file  
Attachment 1: Project Completion Letter  
Attachment 2: Presentation  
Attachment 3: Project Fact Sheet  
Attachment 4: District Comments to draft report  
Attachment 5: Final Feasibility Report
December 8, 2017

Mr. Wade Blackard  
Grants Program  
Santa Clara Valley Water District

Dear Mr. Blackard,

On behalf of the Board of Directors of the Friends of Stevens Creek Trail, and in accordance with the terms of our grant contract, I am writing to you to confirm that we have completed the tasks of our grant contract as shown in the Final Status Report and attest that the project is complete as reflected in the submission of the final Invoice, final Status Report, the Final Feasibility Report, Response to Comments, and documentation of workshops held.

We deeply appreciate the generous support of the Santa Clara Valley Water District and its staff, both in the funding provided and the personal time and involvement of your people who worked with us and our contractors.

Thank you, and please extend our best regards and holiday wishes to everyone at the Water District.

Feel free to email or call us with any questions.

Sincerely,

Aaron Grossman, Executive Director

Friends of Stevens Creek Trail  
22221 McClellan Road, Cupertino, California 95014  
exec-dir@stevenscreektrail.org  www.stevenscreektrail.org  408-255-5780
Friends of Stevens Creek Trail is an independent, non-profit organization not affiliated with the Santa Clara Valley Water District. The report authors are solely responsible for all data, analyses, and findings. This study is not intended to reflect the views of the Santa Clara Valley Water District and the Santa Clara Valley Water District does not vouch for the accuracy or appropriateness of the contents.

PROJECT FUNDED BY:
Santa Clara Valley Water District
THERE IS NO SUCH THING AS A FREE LUNCH

Stevens Creek Steelhead Passage Improvement Project
Domenichelli & Associates
December 7, 2017
Purpose

- Examine feasibility and related cost for improving 8 fish barriers as identified by Santa Clara County Creeks Coalition (SCCCC).
- Scope included
  - Hydraulic analysis
  - Preliminary design
  - Cost estimates

Study Criteria

- Fish passage criteria
- Flood Control – Flood neutral, utilize
- Constructability – Ease of permitting
Barrier Mitigation Projects

HB-02 Moffett Blvd Drop Structure

Existing Concrete Drop Structure and Fish Ladder

Fills with sediment limiting capacity

Existing Concrete Channel

Water surface is too shallow at low flows
Moffett Proposed Alternatives and Costs

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Total Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cut Low Flow Channel &amp; Use Existing Ladder</td>
<td>$1,103,000</td>
</tr>
<tr>
<td>2. Cut Low Flow Channel &amp; New Wider, Longer Ladder</td>
<td>$1,453,000</td>
</tr>
<tr>
<td>3. Cut Wide Vegetated Low Flow with Vertical Wall to Add Conveyance</td>
<td>$3,682,000</td>
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</table>

Partial Plan and Profile of Moffett Project
Moffett Preferred Alternative Details

HB05/06 Hetch-Hetchy Crossing

Existing Obstructions

PWA Proposed Fish Ladder
HB-05/06 Hetch-Hetchy Crossing Alternative 1

HB-05/06 Hetch-Hetchy Crossing Alternative 2
HB05/06 Hetch-Hetchy Crossing Cost

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Mob/ Site Prep and Demolition costs</th>
<th>Ladder Construction costs</th>
<th>Fish Ladder costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise existing baffle and shorter cut-in ladder</td>
<td>$69,800</td>
<td>$45,600</td>
<td>$149,000</td>
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</tbody>
</table>

Highway 85 Crossing (near Central Ave)

**Existing Weir**

**Existing Channel**

Shallow upstream concrete channel through culvert and 1.5 to 2-foot jump.
Highway 85 Crossing (Un-numbered)

Existing Channel

Existing Upstream Baffles

Un-numbered Low Flow Channel and Baffle Plan and Profile

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Mob/ Site Prep &amp; Demolition costs</th>
<th>Low Flow Channel costs</th>
<th>Total Construction Cost</th>
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<tbody>
<tr>
<td>Low flow channel (including upstream weir)</td>
<td>$155,000</td>
<td>$49,600</td>
<td>$385,000</td>
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HB13 El Camino Real Culvert Crossing

Proposed Alternative

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<tr>
<th>Alternative</th>
<th>Mob/ Site Prep/ &amp; Excavation costs</th>
<th>Baffle Construction costs</th>
<th>Total Construction Cost</th>
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<tbody>
<tr>
<td>D&amp;A Proposed Alternative Rock baffles and low flow channel</td>
<td>$72,200</td>
<td>$40,000</td>
<td>$130,000</td>
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HB15 Highway 85 Culvert Crossing

Proposed Alternative

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<th>Alternative</th>
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<th>Baffle Construction costs</th>
<th>Total Construction Cost</th>
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</thead>
<tbody>
<tr>
<td>Rock baffles and low flow channel</td>
<td>$56,000</td>
<td>$32,500</td>
<td>$111,000</td>
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HB Highway 280 Culvert Crossing

Existing Conditions

Plan view of Alternative

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<th>Mobilization &amp; Site Prep/Excavation costs</th>
<th>Baffle Construction costs</th>
<th>Total Construction Cost</th>
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<td>Rock baffles and low flow channel</td>
<td>$79,000</td>
<td>$37,500</td>
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HB 28 Golf Course

Existing Conditions

Proposed Alternative

Plan View of Proposed Alternative

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<th>Mobilization &amp; Site Prep/Excavation/Debris costs</th>
<th>Weir &amp; Pool Rock Placement costs</th>
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<tr>
<td>Rock Weir and Pool Steps</td>
<td>$50,100</td>
<td>$18,000</td>
<td>$88,000</td>
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# HB32 Gaging Station

## Existing Conditions

## D&A Proposed Alternative

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<tr>
<th>Alternative</th>
<th>Channel Excavation/ Restoration costs</th>
<th>Rock Weir Construction costs</th>
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<tr>
<td>Rock Weir Ladder</td>
<td>$35,200</td>
<td>$30,000</td>
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## Cost Summary

<table>
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<tr>
<th>Project Site</th>
<th>Preferred Alternative</th>
<th>Estimated Construction Costs</th>
<th>Engineering &amp; Construction Management</th>
<th>Permitting and Administration Costs</th>
<th>TOTAL Opinion of Probable Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moffett Blvd Drop Structure</td>
<td>Cut in concrete low flow channel &amp; new wider, longer conventional ladder</td>
<td>$1,453,000</td>
<td>$363,250</td>
<td>$485,000</td>
<td>$2,252,150</td>
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<td>Hetch Hetchy Pipeline Encasement</td>
<td>Raised downstream baffle and a 2- step cut in ladder</td>
<td>$176,000</td>
<td>$70,400</td>
<td>$52,800</td>
<td>$399,200</td>
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<td>Highway 85 Crossing near Central Ave.</td>
<td>Cut in concrete low flow channel with an upstream weir jump</td>
<td>$385,000</td>
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<td>$96,250</td>
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<td>El Camino Real Crossing</td>
<td>Rock baffles and low flow channel</td>
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<td>$45,500</td>
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<td>$227,500</td>
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<td>Highway 85 Crossing near Village Court</td>
<td>Rock baffles and low flow channel</td>
<td>$111,000</td>
<td>$58,850</td>
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<td>Interstate 280 Crossing</td>
<td>Rock baffles and low flow channel</td>
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<td>$255,500</td>
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<tr>
<td>Deep Cliff Golf Course</td>
<td>Rock weir and pool system</td>
<td>$88,000</td>
<td>$50,800</td>
<td>$35,200</td>
<td>$154,000</td>
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<tr>
<td>Stevens Creek Park Stream Gauge</td>
<td>Rock weir and pool system</td>
<td>$85,000</td>
<td>$29,750</td>
<td>$34,000</td>
<td>$148,750</td>
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</table>
Fact Sheet for Grant Project:
Stevens Creek Steelhead Passage Improvement Project

Funding Year and Agreement Number: 2016 A4012R
Funding Program: D3
Project Start Date: November 1, 2016
Project Completion Date: December 7, 2017
Project Location: Starting Street SF Bay Ending Street Stevens Creek Reservoir
Creek or Waterbody Stevens Creek Watershed Stevens Creek
City Cupertino, Mountain View, Sunnyvale.

Lead Agency and Partners:
Lead: Friends of Stevens Creek Trail
Partners: Cities of Cupertino, Sunnyvale, Mountain View, Mid-Peninsula Regional Open Space District

District's Funding Contribution: $52,162 Total Project Cost: $75,433

Project description:
The purpose of the Planning Study is to develop proposed structural remedies and implementation costs to improve fish passage in the lower and upper reaches of Stevens Creek at eight locations.

Key outcomes or benefits achieved or deliverables completed:
Identified engineering solutions with costs to 8 fish passage impediments along Stevens Creek Conducted two workshops with stakeholders and the public

Before and After Pictures (if applicable)

Examples of proposed solutions:
Replace Moffett Ladder and cut Concrete Downstream Low Flow Channel: Cost: $1,453,000
Figure 5 below shows the new fish ladder (Option 2) superimposed over the existing ladder.

Hetch Hetchy Pipeline Crossing: Cost: $149,000

Figure 10. Drop Structure Option 3, Cut-in and Raise Weirs
I-280 Culvert: Cost $146,000

Golf Course Concrete Apron Modifications: Cost $88,000

Project website: https://www.stevenscreektrail.org

Point of contact:
Aaron Grossman, ED@stevenscreektrail.org, 408-202-2802 Friends of Stevens Creek Trail (Grantee)
Richard McMurtry, RMcMurtry@baymoon.com, 408-442-4932 Santa Clara County Creeks Coalition (Project Manager)
Santa Clara Valley Water District Comments on the Draft Stevens Creek Steelhead Passage Improvement Project Feasibility Report

Santa Clara Valley Water District comments of the Draft Stevens Creek Steelhead Passage Improvement Project Feasibility Report for the Stevens Creek Steelhead Passage Improvement Project. Submitted by Friends of Stevens Creek Trail and prepared by Domenichelli & Associates Civil Engineering dated August 21, 2017.

<table>
<thead>
<tr>
<th>Comment No.</th>
<th>Page #</th>
<th>Subject Area</th>
<th>Review Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General</td>
<td>Report Presentation</td>
<td>It is not clear how they decided on the 8 barriers for evaluation. Prioritization without a full evaluation of all barriers in the system is not appropriate.</td>
</tr>
<tr>
<td>2</td>
<td>General</td>
<td>Report Presentation</td>
<td>Fremont fish ladder was not included in the analysis. This has been identified as a passage issue and it is not included on this list (refer back to comment 1).</td>
</tr>
<tr>
<td>3</td>
<td>General</td>
<td>Report Presentation</td>
<td>The analysis looks at velocities but doesn't take into consideration jump height ratios. It looks like they set a standard 1 ft jump as maximum for adult passage. Fish can jump much higher if adequate pool is present below the barrier.</td>
</tr>
<tr>
<td>4</td>
<td>General</td>
<td>Report Presentation</td>
<td>Overall I do not think this document provides that much more information than was already presented in previous documents. I would like to see a more robust analysis taking into consideration all barriers, or at least a description of why they chose the 8 barriers that were evaluated.</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Section 1: Introduction and Purpose</td>
<td>This is not a FAHCE project. This is a grant as such the introduction and purpose should state that. This is framed in such a way it appears to be a SCVWD generated product and it is not.</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Section 1: Introduction and Purpose, Paragraph 2</td>
<td>This is a mis-characterization of the facts and the statement &quot;still several projects that have been identified in multiple studies that are considered priority projects to adequately restore steelhead population&quot; is confounding. These presumed barriers may or may not affect fish passage in Stevens Creek and have never been quantified in terms of affects to steelhead populations. What we do know is that these instream structures have been identified as &quot;barriers&quot; for anadromous steelhead trout and except for 1100 feet of stream, nothing else is quantified as to even what type of barrier it is for the fish (i.e. partial/temporal or depth/velocity) so without this information how can we logical say these are priority projects to adequately restore steelhead?</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Section 1: Introduction and Purpose, Paragraph 3</td>
<td>This mis-characterizes what this report is as it is a grant.</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>Section 1: Barrier Mitigation Projects</td>
<td>As a point of reference there are only 7 sites listed in the Draft Settlement Agreement for FAHCE and all but two have been completed, Moffett which in this report and Fremont which is not in this report but are the only two left in FAHCE. If the grant proponent was trying to tie this to FAHCE then it would seem logical to call out what was specified in the DSA. To call this barrier mitigation is erroneous and a mis-characterization of facts.</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>Section 1: Barrier Mitigation Projects, Figure 1</td>
<td>Arrow points too far west.</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>Section 1: Barrier Mitigation Projects, Figure 1</td>
<td>Arrow points to Quarry not Stevens Creek reservoir.</td>
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<td>Page</td>
<td>Section</td>
<td>Indicator</td>
<td>Text</td>
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<tr>
<td>11</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Table 1</td>
<td>The primary concern with this &quot;list of Projects&quot; is that, with the exception of Moffett fish ladder, these barriers are only qualitatively described as &quot;barriers&quot; and not quantified to 1) what type of barrier is it temporal/partial and what is the actual fish passage issue (i.e. depth/velocity, sediment deposition etc.). This report applies a solution before the problem has been adequately identified. The severity of the barrier in terms of fish passage should be quantified and applied to cost. Additionally, the costs outlined for these fish passage fixes are significant which if absorbed by the public may be an onerous commitment but it would also be a shame if the fix did not actually address the fish passage problem. Problem definition must proceed the design recommendations.</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Table 1</td>
<td>What analyses and models have been done to classify the barriers?</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Paragraph 3</td>
<td>The Love report does not come to this conclusion. In section 7 - Fish Passage Summary, the Love report states &quot;With the exception of Reach 5, no flows met juvenile assessment criteria within the assessed channel. Reach 5 produces acceptable hydraulic conditions when the flow is between 3 cfs and 6 cfs, assuming that the hydraulics of the Denil fishway is behaving like a pool and weir fishway rather than a roughened chute.&quot; No where in the report does it state &quot;Priority 1&quot;.</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Paragraph 3</td>
<td>This is a mis-characterization of facts. This barrier is not a significant impediment to adult fish in fact the flow range for adult fish is between 38-240 cfs which means the % of passage flows meeting fish passage criteria is 59%. This is remarkable high considering that the 101 culvert downstream is 0 for adults for the same range of flows.</td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Paragraph 4</td>
<td>This is a definitive statement-where is the data to demonstrate that the remainder of the barriers are not as significant?</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>Section 1: Barrier Mitigation Projects, Paragraph 4</td>
<td>Deep Cliff not Deep Creek.</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>Section 1: Hydraulic Analysis, Flood Control Impacts</td>
<td>Feasibility must also consider property ownership, regulatory considerations, and maintenance. The stunted analysis herein is not sufficiently comprehensive to determine feasibility.</td>
</tr>
<tr>
<td>18</td>
<td>5</td>
<td>Section 1: Hydraulic Analysis, Table 2</td>
<td>Table 2 indicates the passage criteria was developed by SCVWD. I am not familiar with any District derived passage criteria. I believe the numbers they are referencing are CDFW numbers. There are also different numbers that take distance to hydraulic break and velocities into consideration. It is a formula created by CDFW for designing culverts, but is often used in other passage evaluations.</td>
</tr>
<tr>
<td>19</td>
<td>7</td>
<td>Section 2: Moffett Drop Structure - HB 02</td>
<td>This is a mis-characterization of facts as adult steelhead passage through Reach 5 and the fishway is estimated to be between 38 cfs and 240 cfs.</td>
</tr>
<tr>
<td>20</td>
<td>8</td>
<td>Section 2: Moffett Drop Structure - HB 02, Alternative Identified</td>
<td>A critical component of watershed restoration for fish passage must include an analysis of sediment transport. Trapped sediment in fish ladders and culverts can decrease the effectiveness of the retrofit due to sediment deposition in areas with lower velocities (where fish can rest). Additionally, sediment accretion can cause secondary effects for fish passage as we saw at Evelyn Bridge. Accretion under the bridge forced all the water to the bypass culvert. Through science and improved modeling methods we now understand the importance of including sediment accumulation in design and analysis, which potentially impacts design recommendations for culverts retrofit for fish passage and other similar fish passage improvement structures. Additionally, the SCVWD is responsible for maintenance of these facilities. One limiting factor for maintenance is that work cannot occur in winter when these fish are migrating. Therefore, if you construct a fish passage facility which negatively affects fish passage with accumulated debris in winter there is not much that can be done. An alternative analysis that does not take this into consideration has little use to carry forward.</td>
</tr>
<tr>
<td>21</td>
<td>9</td>
<td>Section 2: Moffett Drop Structure - HB 02, Alternative Identified</td>
<td>Why is Alt 4 - Natural Low Flow channel not listed here but discussed below?</td>
</tr>
<tr>
<td>Page</td>
<td>Line</td>
<td>Paragraph</td>
<td>Text</td>
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</tr>
<tr>
<td>22</td>
<td>9</td>
<td>Section 2: Moffett Drop Structure - HB 02, Figure 6</td>
<td>The above text says three alternatives but Figure 6 shows Alts 1 to 4 in three panels. This is inconsistent and confusing.</td>
</tr>
<tr>
<td>23</td>
<td>10</td>
<td>Section 2: Hydraulic Considerations, Paragraph 2</td>
<td>Water surface elevation would be better terminology than &quot;flood&quot; as 100-year flows are contained in the existing channel and thus are not a flood flow.</td>
</tr>
<tr>
<td>24</td>
<td>10</td>
<td>Section 2: Hydraulic Considerations, Table 3</td>
<td>WSE not defined, but if it means Water surface elevation, report is finally using right terminology.</td>
</tr>
<tr>
<td>25</td>
<td>11</td>
<td>Section 2: Hydraulic Considerations, Paragraph 7</td>
<td>Vertical walls isolate other wildlife from the creek and are very difficult to permit, and without a public safety component to the project a vertical wall would likely not be a something which resource agencies would permit.</td>
</tr>
<tr>
<td>26</td>
<td>12</td>
<td>Section 2: Costs and Constructability Considerations, Table 6</td>
<td>The report contains no analysis of the ability to permit, does not identify the permitting agencies or permits, and does not discuss or define the in-stream water quality issues. The ability to permit comments lack support and are not credible.</td>
</tr>
<tr>
<td>27</td>
<td>16</td>
<td>Section 2: Conclusion - Hetch Hetchy Drop Structure - HB 05/06</td>
<td>This conclusion is suspect due to lack of analysis of permitting and maintenance concerns. SFPUC is unlikely to allow any changes that would reduce protection for the Hetch Hetchy pipeline.</td>
</tr>
<tr>
<td>28</td>
<td>21</td>
<td>Section 2: El Camino Real Crossing - HB 13, Paragraph 4</td>
<td>Reduction in freeboard may be an issue even if 100-year WSE is below top of bank.</td>
</tr>
<tr>
<td>29</td>
<td>21</td>
<td>Section 2: El Camino Real Crossing - HB 13, Paragraph 6</td>
<td>Large moving rocks could damage downstream stream features and cause channel obstructions, resulting in flooding.</td>
</tr>
<tr>
<td>30</td>
<td>23</td>
<td>Section 2: Highway 85 Crossing near Village Court - HB 15, Paragraph 3</td>
<td>What is the source for stating freeboard at ECR is excessive?</td>
</tr>
<tr>
<td>31</td>
<td>28</td>
<td>Section 2: Highway 280 Crossing near Village Court - HB 20, Paragraph 6</td>
<td>Source need for this assumption.</td>
</tr>
<tr>
<td>32</td>
<td>35</td>
<td>Section 3: Summary of Project Conclusions and Recommendation, Paragraph 2</td>
<td>There is no support for the permitting and administration %. Based on District experience, this percentage is far too low.</td>
</tr>
<tr>
<td>33</td>
<td>35</td>
<td>Section 3: Summary of Project Conclusions and Recommendation, Paragraph 2</td>
<td>Permitting cannot proceed concurrently with preliminary design. We need at least 60% design to submit permit applications.</td>
</tr>
<tr>
<td>34</td>
<td>35</td>
<td>Section 3: Summary of Project Conclusions and Recommendation, Paragraph 2</td>
<td>The estimates of permitting and administration are not credible.</td>
</tr>
</tbody>
</table>