

2019 GRANT APPLICATION FORM WILDLIFE CORRIDOR AND FISH PASSAGE PROGRAM

***NOTE: EVERY QUESTION MUST BE ANSWERED IN ORDER FOR THE APPLICATION TO BE CONSIDERED FOR FUNDING. USE N/A WHERE APPLICABLE.**

PROJECT INFO

Project Name	Bolsa Road Fish Passage Improvements Project		
Brief Summary	<p>The Bolsa Road Fish Passage Improvements Project (project) will improve fish passage in Uvas-Carnadero Creek at a Union Pacific Railroad (UPRR) crossing in unincorporated Santa Clara County. A fish passage barrier formed at the UPRR bridge footing slab in the form of a 7-foot vertical drop and the fish ladder that was installed in the 1980s to bypass the slab has not been functioning as designed.</p> <p>The project proposes to install a gradually sloped riffle-pool stream complex along approximately 1,700 linear feet of Uvas-Carnadero Creek to elevate the stream over existing fish passage barriers. Habitat complexity would be promoted within the channel by constructing pools, runs, and riffles which would provide suitable depth and velocity conditions for fish migration. The project would provide steelhead with access to spawning grounds in the upper reaches of the watershed.</p>		
Total Project Cost	\$3,959,000	Amount Requested (round up to the nearest \$1,000)	\$2,368,000
Start Date	August 2017	End Date	December 2020
Habitat Type/Acres	Riffle-pool stream complex to allow for fish passage / 1.57 acres		

LOCATION INFO

County(ies)	Santa Clara	Specific Location (APN or Address)	APNs: 841-31-007, 841-31-008, 841-31-024, 841-32-015, 841-33-009
Nearest City	Gilroy	Distance	Approximately 3.3 miles south of Gilroy, CA
Latitude (Decimal Degrees)	36.969371° N	Longitude (Decimal Degrees)	-121.542772° W
What point is represented by the lat/longs (eg., parking lot, center of site, etc):	Location of fish passage barrier (upstream end of project)		

APPLICANT INFO			
Organization	<input type="checkbox"/> State Government <input checked="" type="checkbox"/> Local Government		<input type="checkbox"/> Federal Government <input type="checkbox"/> Nonprofit Organization*
Organization Name	Santa Clara Valley Water District (Valley Water)		
Contact Person	Stephen Huang	Title	Associate Civil Engineer
Phone	408-630-2798	Email	SHuang@valleywater.org
Address	5750 Almaden Expressway, San Jose, CA 95118		
Signatory Name	Norma Camacho	Title	Chief Executive Officer
Address	5750 Almaden Expressway, San Jose, CA 95118		
Tax ID#	94-1695531		

* If qualified under Section 501(c)(3) provide 501(c)(3) nonprofit organization and registered to work in California. N9umber: _____

LANDOWNER INFO			
Organization	<input type="checkbox"/> State Government <input type="checkbox"/> Local Government <input checked="" type="checkbox"/> Private Landowner		<input type="checkbox"/> Federal Government <input type="checkbox"/> Nonprofit Organization <input type="checkbox"/> Other _____
Organization Name	Christopher Ranch, LLC; Denice Family, LLC (Valley Water easement on creek corridor)		
Contact Person	Same as applicant.	Title	
Phone		Email	
Address			
Signatory Name		Title	

ELECTED OFFICIALS		
Districts	Number(s)	Name(s)
State Assembly https://www.assembly.ca.gov/	District 30	Assembly Member Robert Rivas
State Senate https://www.senate.ca.gov/	District 17	Senator Bill Monning

Project Overview

Provide a brief (3 paragraphs or less), clear description of the project and an explanation of how the project will construct, repair, modify, or remove transportation infrastructure or water resources infrastructure improving passage for wildlife or fish.

The Bolsa Road Fish Passage Improvements Project (project) will improve fish passage in Uvas-Carnadero Creek at a Union Pacific Railroad (UPRR) crossing in unincorporated Santa Clara County. Uvas-Carnadero Creek supports a population of steelhead trout, which is listed as "threatened" under the Endangered Species Act. After decades of channel incision, a fish passage barrier formed at the concrete slab

foundation under the UPRR bridge, resulting in an approximately 7-foot drop from the slab to the channel bottom. A Denil fish ladder was installed in the 1980s to bypass the slab but has been hindering adult and juvenile fish passage due to poor attractive flows, insufficient entrance depth, and excessive velocities during high to moderate flows.

The project proposes to install a gradually sloped riffle-pool stream complex along approximately 1,700 linear feet of Uvas-Carnadero Creek to elevate the stream over existing fish passage barriers. Habitat complexity would be promoted within the channel by constructing pools, runs, and riffles which would provide suitable depth and velocity conditions for fish migration. To provide steelhead with access to spawning grounds in the upper reaches of the watershed, the project would construct ten riffle and pool structures with an average channel slope of 0.5 percent to overcome the 7-foot drop at the bridge slab. Each riffle would be approximately 40 feet long, ascending 1 vertical foot at an approximately 4 percent slope. Pools and glides would occur downstream of each riffle. One riffle and a buried boulder line downstream of the tenth pool are intended to provide the channel bed with additional stability. The riffle-pool complex would be constructed out of 1-ton to 3-ton rock and overlaid with a layer of gravel.

CHECKLIST

NOTE: The following information must be attached to the application.

- ☒ Project location map and photos showing project area for implementation and site specific planning projects (**see Attachment A for Maps and Attachment B for Representative Photos**)
- ☒ Detailed project drawing for implementation projects (a sketch showing relevant features of the proposed restoration project, include engineering design drawings, if available) (**see Attachment C for Engineering Plans**)
- ☒ GIS shape files (**see Attachment D for GIS Files**)
- ☒ Budget (**see Attachment E for the Budget Worksheet**)
- ☒ Land Tenure/Site Control/ Landowner Access agreements or templates for projects with on-the-ground work for life of the project (including monitoring) (**see Attachment F for permission to enter agreements and easements**)
- ☒ For Implementation project, include a Maintenance / Management Plan and a Monitoring / Reporting Plan for the life of the project (**see Attachment G for Monitoring Plan and Attachment H for Operations & Maintenance Manual**)
- ☒ Application is signed
- ☐ Resolution from applicant's governing board (template available on WCB website) **Per coordination with the WCB (Don Crocker), the resolution will be provided following the Valley Water Board meeting on July 9, 2019.**
- ☐ A Payee Data Record ([Standard Form 204](#)) (per form instructions, **governmental agencies are exempt from completing the form**)
- ☐ Support letters (if available)

GENERAL INFORMATION

- To obtain application instructions, program guidelines, please refer to the Public Solicitation Notice (PSN) available on-line at: <https://www.wcb.ca.gov>.
- Every question must be answered in order for the application to be considered for funding. Use N/A where applicable.
- The completed application form, including all attachments, must be submitted to WCBcorridors@wildlife.ca.gov with *2019 Wildlife Corridor and Fish Passage Program Proposal* in the subject line.
- Include in the application any digital photos and maps (photos should be saved as .jpg files; maps should be saved as .pdf or .jpg files). Please note: all information that you submit is subject to the unqualified and unconditional right of the WCB to use, reproduce, publish, or display, free of charge. Please indicate if crediting is requested for any of the photos and/or maps.
- The Proposal Application and all accompanying documents must be submitted electronically in Microsoft Word or Microsoft Excel format to WCB by June 14, 2019 at 5:00 PM Pacific Standard Time.

PURPOSE AND BACKGROUND

1. **How will the proposed project construct, repair, modify, or remove transportation infrastructure or water resources infrastructure improving passage for wildlife or fish? Provide a detailed description of the project purpose and background and include sufficient rationale to justify the project need. Include the appropriate underlying scientific basis for the proposed work and clearly articulate the goals and objectives.**

The project is a **Priority 1** project, as described in the Proposal Solicitation Notice, as the project involves installation of a fish friendly riffle-pool complex that “allows migratory fish to go under, around, or over passage barriers.”

Project Background

The railroad crossing over Uvas-Carnadero Creek was originally constructed with one set of tracks by Southern Pacific Railroad in the early 1900s. As-built drawings from 1918 depict the crossing with two spans and a natural channel bottom. Today, the two-span bridge remains; however, the channel bottom at the crossing now includes a concrete slab that appears to connect the middle pier with both abutments. The railroad bridge is 80 feet long by 20 feet wide and includes a roughly 20-foot tall retaining wall which extends 100 feet in the upstream direction from the north abutment along Bolsa Road.

The concrete slab under the crossing was likely constructed to address channel incision and protect the structural integrity of the bridge footings. However, UPRR has stated that they have no knowledge of any records of the slab and have indicated that it was constructed by others. The slab extends 80 feet between each abutment, encompasses the center pier, and continues for 17 feet upstream and 20 feet downstream from the pier.

The downstream edge of slab is situated approximately 7 feet above the downstream thalweg elevation. The downstream cutoff wall face is lined with large rip rap (approximately 3 feet in diameter) which extends across the channel. When coupled with reduced sediment loading and incision following installation of the Uvas Dam in 1957, the concrete slab became a barrier to fish passage.

In 1982, a group of concerned citizens organized the installation of a Denil fish ladder situated at the downstream edge of the slab between the center pier and north abutment. In 2006, a similar group organized the installation of a system of 1-foot tall concrete curbs on top of the slab to direct low stream flows toward the fish ladder. These improvements are located on UPRR property.

Since 2006, the fish ladder has been compromised by frequent blockage due to channel debris and no longer functions as designed. Specific problems with the fish ladder's functionality identified by District staff include poor attractive flows,

insufficient entrance depth and excessive flow velocities for medium and high flows at the ladder that are limiting factors hindering upstream passage for adult steelhead and juvenile salmonids.

The California Department of Fish and Wildlife (CDFW), Central Coast Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), Santa Clara Valley Habitat Agency (VHA), have discussed the project over a course of interagency meetings and site visits. The resource agencies have expressed broad support for the project and agency feedback (including from CDFW and NMFS engineers) was incorporated into the project design. Valley Water and the regulatory agencies together explored various alternatives including a shorter and steeper riffle-pool complex and cutting a notch in the concrete slab before selecting this project as the most environmentally sound approach.

The project proposes to install a gradually sloped riffle-pool stream complex along approximately 1,700 linear feet of Uvas-Carnadero Creek to elevate the stream over existing fish passage barriers. Habitat complexity would be promoted within the channel by constructing pools, runs, and riffles which would provide suitable depth and velocity conditions for fish migration. To provide steelhead with access to spawning grounds in the upper reaches of the watershed, the project would construct ten riffle and pool structures with an average channel slope of 0.5 percent to overcome the 7-foot drop at the bridge slab. Each riffle would be approximately 40 feet long, ascending 1 vertical foot at an approximately 4 percent slope. Pools and glides would occur downstream of each riffle. One riffle and a buried boulder line downstream of the tenth pool are intended to provide the channel bed with additional stability. The riffle-pool complex would be constructed out of 1-ton to 3-ton rock and overlaid with a layer of gravel (refer to Item 4 for detailed description).

Project Purpose and Need

Uvas-Carnadero Creek supports a self-sustaining population of steelhead (*Oncorhynchus mykiss*) that is part of the South-Central California Coast distinct population segment, which is listed as "threatened" under the Endangered Species Act (ESA). The purpose of the project is to restore steelhead passage at the UPRR crossing to allow steelhead and other aquatic organisms to move freely between the lower and upper reaches of the creek. The proposed project's specific objectives are to:

1. Restore upstream steelhead passage at the UPRR crossing, providing access to spawning grounds in the upper reaches of the watershed.
2. Restore and maintain natural hydrologic functions, to the extent possible, to the channel and banks of Uvas-Carnadero Creek.

2. **Describe how the project satisfies the goals and objectives outlined within the WCB Strategic Plan.**

Goal B.1 – Invest in projects and landscape areas that help provide resilience in the face of climate change, enhance water resources for fish and wildlife and enhance habitats on working lands [state, specifically, how the project will do any of the following]:

- **Provide resilience in the face of climate change (examples: sea level change, refugia, corridors, connectivity, microclimates, diversity of habitats and elevations, located in areas where climate models show adaptability is likeliest, etc.)**
- **The project will enhance water resources for fish and wildlife**
- **Enhance habitats on working lands**

Goal B.5 – Provide opportunities for greater public involvement in restoration projects:

- **Stewardship among communities**
- **Promotes participation in restoration activities**

The project aligns with the goals and objectives of the WCB Strategic Plan as follows:

- **Goal B.1:** Climate change in California is expected to result in a far greater range of precipitation levels; there will be an increased number of extremely wet as well as extremely dry weather seasons. The project will provide climate change resilience for migrating fish by allowing fish passage under a wider range of creek flow conditions. In addition to improving fish passage conditions, the project also enhances the in-stream habitat by introducing riffles and pools to an area that is presently predominantly a low-gradient run. These riffles and pools will contribute to habitat diversity and promote increased levels of dissolved oxygen, which in turn will facilitate benthic macroinvertebrate production, which cascades up the food chain. While the project does not occur on active working lands, it is situated in an agricultural area (including agricultural processing facilities) and the project area provides an important wildlife and fish passage corridor in the Santa Clara Valley. This passage includes an important connection to the Pajaro River, located downstream to the south.
- **Goal B.5:** Because the project is located on private property and adjacent to a major thoroughfare (Bolsa Road) and agricultural fields, there is little opportunity for public involvement on-site. While Valley Water enjoys providing such opportunity, the nature of this project (heavy earth moving) does not lend itself to public assistance. Valley Water may explore options to engage with a local non-profit with interest in the project site such as Coastal Habitat Education & Environmental Restoration (CHEER) after completion of project construction and during monitoring efforts (particularly related to fish passage).

3. **Which priorities outlined in the WCB Strategic Plan does the proposed project address?**

The project addresses the WCB Strategic Plan Priority Goal B for Environmental Restoration and Enhancement. Specifically, the project is aligned with conservation actions in the Wildlife Action Plan bio-regions, particularly as it relates to steelhead and riparian habitats in the Central California Coast Ranges. The project is also consistent with the Santa Clara Valley Habitat Conservation Plan; the Santa Clara Valley Habitat Agency is co-sponsoring the project and receiving credit for stream restoration under the plan (approval already granted from CDFW and USFWS). Furthermore, the project addresses water management best practices both during construction and as part of the project goals and objectives (i.e., reconstruction of bank failures). Lastly, the project has the primary goal of promoting habitat connectivity through removal of a fish passage barrier for the federally threatened South-Central California Coast steelhead.

APPROACH AND FEASIBILITY

4. **How will the proposed project be carried out? Provide a detailed description that clearly shows the approach is well designed and appropriate for meeting the objectives of the project and that the methods and technologies are appropriate. Illustrate current conditions, limiting factors and/or problem(s) at or near the project site and describe the actions required to solve the identified problem(s). Identify any previous steps or phases that may have been planned or implemented.**

Project Description

The District proposes the installation of a gradually sloped stream riffle-pool complex up to the existing railroad bridge abutment slab (fish barrier) on Uvas-Carnadero Creek. Habitat complexity would be promoted within the channel through the construction of pools, runs, and riffles to provide suitable depth and velocity conditions for fish migration, including South-Central California Coast steelhead. Final engineering drawings are included with this application.

The modified channel would extend approximately 1,700 linear feet downstream of the existing slab. The work area would include an additional 100 feet on each end to allow adequate space for channel installation.

Prior to installation of the riffle-pool complex, the site would require the clearing and grubbing of existing surface vegetation in the channel and along portions of the banks which require stabilization. Wherever possible, care would be taken to keep root systems and existing vegetation intact.

Construction of the riffle-pool complex would begin after site preparation is complete. Only minor earth moving and excavation is anticipated, as the modified channel would predominantly be constructed at a higher elevation than existing creek grade. The thalweg of the creek (or low-flow channel) would shift laterally in some locations, from 2 feet up to 9 feet. The elevation of the channel would conform to the existing creek grade at the downstream end and the top of the concrete slab at the UPRR crossing on the upstream end. The overall slope of the channel would be

approximately 0.5 percent.

The modified channel would include nine riffle and pool structures (10 riffle keys anchoring the upstream and downstream of 9 pools) with an additional pool located just below the existing concrete slab. The top and bottom portions of the riffle would be constructed out of two-ton rock to hold the riffle in place during high flows. The pools and middle sections of the riffles would be constructed with one-ton and half-ton rock. The pools and riffles would be overlaid with a thin layer of clean gravel to fill the interstitial spaces in the rock. To anchor the riffle at each of the nine locations, a small portion of the bank at the top of the riffle would be excavated and two-ton rock would be placed and backfilled with soil. Riffle locations would be positioned to minimize impacts on mature riparian vegetation. The depth of rock and gravel forming the riffles and pools would be approximately 2 feet deep and underlaid with clean fill material (the depth of the fill would depend on how high the creek invert must be raised at a given location and would vary from approximately 0 to 4 feet). In some areas, creek benches (generally 3 to 8 feet wide) would be created to facilitate establishment of the top of riffle key. To reduce the subsurface flow, the new streambed would be compacted with tamping and pressurized water (also known as jetting) would be used to help fine material settle into the interstitial spaces and develop the appropriate streambed layers. Water used for jetting would be captured and recycled to prevent downstream sedimentation.

Associated bank work would include reshaping of the creek banks to achieve the bank stability required for installation of the riffle-pool complex. Bank stabilization is proposed to occur on the north bank just downstream of the concrete slab (approximately 140 linear feet) and on the south bank at the downstream end of the riffle-pool complex (approximately 800 linear feet). Depending on location, this may involve recontouring or setting back eroded banks to achieve a stable 1.5:1 slope. Banks would be rebuilt with half-ton to one-ton rock generally placed about 3 to 8 feet below the top of bank, up to the 7,000 cubic feet per second flow limit. Where rock is placed to support the banks, it would be placed around existing trees and root systems (where feasible) and buried in a layer of soil. Bank recontouring would match pre-project conditions to the extent possible. Where healthy riparian vegetation exists adjacent to the work area, care would be taken to minimize disturbance of such vegetation.

Riparian Habitat Restoration and Enhancement

Riparian habitat restoration and enhancement would include two elements: planting of willows (*Salix* spp.) on the stream benches and understory revegetation and enhancement.

Willow shrubs would be planted on the 3 to 8-foot-wide creek benches. The purpose of these plantings is to further stabilize the channel and introduce future sources of in-stream habitat complexity. Planting would be limited to areas where willows have

a reasonable chance at survival, which in the project area includes locations where there are gaps in the riparian canopy allowing willows to receive necessary sunlight to grow. Specific planting locations would be determined by a District botanist at the completion of riffle-pool construction.

The project would result in temporary disturbance to the riparian understory as a result of riffle-pool installation and bank reconstruction. In some locations this disturbance would result in the reconstruction of eroded (or vertical) banks with a rock base layer covered with soil, which would provide new substrates for riparian understory. Due to the density of the existing riparian corridor, these slopes and other temporarily disturbed areas are expected to revegetate passively in time. However, some planting and seeding would occur to facilitate understory establishment. Specifically, California blackberry (*Rubus ursinus*) would be planted in the transition area between the top of the reconstructed bank and undisturbed native soil higher on the bank. In the District's experience, native blackberry does well in these conditions and will often drape down onto the reconstructed portion of the bank, providing vegetative cover. On the reconstructed bank itself, the soil would either be hydroseeded with a simple sterile seed mixture or hand seeded and covered with straw, mulch, or other appropriate material. Native herbaceous understory species would be planted in temporarily disturbed areas along the channel.

A second element to the understory enhancement would involve the removal of trash, debris, and other unsuitable material from the site. The project area presently contains a substantial amount of unsuitable material including a few cars on the south bank at the downstream end of the project site and large blocks of concrete on the banks. In the channel, there is a brick chimney just downstream of the concrete slab, several car tires, and smaller scattered trash and debris. These materials would be removed from the project area to further improve the habitat.

Dewatering

Work is scheduled to occur during the dry season from June 15th through October 15th and the creek is anticipated to be dry; however, if water is present in the work area during construction, Uvas-Carnadero Creek would be dewatered in the work area. Any dewatering plan would be reviewed and approved by CDFW and NMFS prior to being implemented.

Staging and Access

Project staging would be located at the vacant lot near the southern end of the project along Bolsa Road (0.3 acre) and on disturbed portion of the Christopher Ranch property (0.3 acre). Access to the creek would occur from the Christopher Ranch property on the south side of the creek. Two approximately 12-foot wide temporary access ramps would be constructed. One access ramp would be constructed down to the channel at the downstream end of the project in a location where the bank has

failed (vertical) and would be reconstructed. A second access ramp would be constructed just downstream of the UPRR bridge.

Equipment

Equipment anticipated to be utilized includes excavators, backhoes, knuckleboom loaders, dump trucks, water trucks, compactors, generators, and pickup trucks.

DIVERSITY AND SIGNIFICANCE OF BENEFITS

- 5. Will this project provide additional ecosystem benefits beyond fish and wildlife passage, such as restoration or enhancement of rare species habitats, protection of priority vegetative communities (macrogroups) identified in the State Wildlife Action Plan, or enhancements to streams? Describe those additional benefits and how they alleviate existing ecological problems.**

While the primary purpose of the project is to facilitate fish passage, it is expected to result in additional ecosystem benefits through the introduction of additional in-stream diversity and preservation of Valley Foothill Riparian habitats. The creek in the project area is currently characterized by a flat gradient with few riffles and pools (dominated by runs/glides). The project would introduce greater habitat complexity to the creek through a series of riffles and pools, which would allow for increased dissolved oxygen as well as better support for microhabitats capable of sustaining greater invertebrate diversity. These effects would result in benefits for fish and wildlife up the food chain. Furthermore, the riparian habitat in the project area is dominated by heritage California sycamore and coast live oak; however, due to bank erosion, some of these trees are being undermined and have fallen into the creek. Construction of the riffle-pool complex and reconstruction of creek banks (where necessary) will help prevent future erosion and loss of trees, preserving the riparian canopy in this important fish and wildlife corridor.

- 6. Will the project provide additional ecosystem services (e.g., pollination, flood protection, water supply or quality, air quality, harvestable resources, education opportunities, additions to the knowledge base, improved public access, or soil health)?**

As described above, the creek banks in the project area are presently deteriorating and contributing to sedimentation, potentially lowering downstream water quality. The project would stabilize the banks in some locations (as necessary for installation of the riffle-pool complex) to prevent continued erosion and reduce the rate of sedimentation. The project would also involve creek benches which would promote the exchange of nutrients between the riparian habitat and the creek. Lastly, the project would include installation of a small earthen berm (approximately 1 foot tall) upstream of the railroad crossing to ensure that installation of the riffle-pool complex maintains the existing flood protection capacity. The berm would be installed outside the riparian area along a farm road.

- 7. Describe the extent to which a project will deliver enduring sustainable benefits for fish and wildlife passage. What are the provisions to maintain the benefits and for what period of time? Implementation grants shall require a**

long-term management plan of the grantee to maintain the improvements for a minimum of 25 years.

The project is designed to maintain fish passage in perpetuity and Valley Water will monitor the project to ensure it continues to operate as designed. Valley Water has prepared a Monitoring Plan (Attachment G) which has been submitted to the regulatory agencies for review and approval (awaiting final approval by CDFW, but already approved by RWQCB and USACE). The Monitoring Plan includes geomorphic monitoring of the geometry of the channel for a minimum of 10 years and vegetation monitoring for 5 years. After that time, Valley Water would continue to monitor and maintain the project for fish passage as part of our normal operations. A draft Operations and Maintenance Manual (Attachment H) has been prepared to provide Valley Water staff with information, guidance, and requirements for the proper operation and maintenance (O&M) of the project. The manual is intended to reflect O&M requirements to ensure fish passage (e.g., removal of downed trees and other stream blockages).

- 8. How will the proposed project provide adaptation and/or resilience to climate change for wildlife? Clearly illustrate current conditions, limiting factors and/or problem(s), and describe the actions required to solve the identified problem(s).**

Climate change in California is expected to result in a far greater number of both extremely wet and extremely dry weather seasons. The project will provide climate change resilience for fish by allowing fish passage under a wider range of creek flow conditions when fish are anticipated to be migrating through the project area.

MONITORING AND REPORTING

- 9. For projects involving restoration or construction describe your management and monitoring plans and how that integrates with existing efforts.**

- **Who will be responsible for implementing ongoing management and monitoring? Provide key contact information if another agency, program, or individual will be collecting, storing, and evaluating the data.**
- **Beyond the proposed estimated completion date, who will be responsible or what options will the applicant pursue for funding the projects' long-term monitoring, maintenance, and management?**

As described under Question 7 above, Valley Water has prepared Monitoring and O&M plans to guide the post-construction management and maintenance of the project to ensure the project goals and objectives are being met. Monitoring and maintenance will be the sole responsibility of Valley Water and will be funded as part of standard operating expenses, with O&M work likely carried out under the Stream Maintenance Program (a programmatic approach to management of Valley Water's creeks). Monitoring plans will be submitted annually for the first 10 years to the environmental regulatory agencies for review and approval to ensure the project is meeting its goals and objectives. Agency staff responsible for evaluation of the annual monitoring reports are listed below.

- CDFW - Mayra Molina

- (707) 428-2067
- Mayra.Molina@Wildlife.ca.gov
- Central Coast RWQCB – Mark Cassady
 - (805) 549 -3689
 - Mark.Cassady@Waterboards.ca.gov
- NMFS – Joel Casagrande
 - (707) 575-6016
 - joel.casagrande@noaa.gov

10. Describe in detail how the proposed project will be monitored and assessed to determine project success. Annual reports shall be required for the life of the project, comparing long-term success with the project's final restoration report.

- **Describe your plans for compiling baseline data.**
- **Describe your plans for implementing adaptive management strategies, if necessary.**
- **How will any enhancements be monitored and reported?**
- **How will benefits to wildlife and fish be documented and monitored?**
- **Who is responsible for analyzing any data and issuing reports?**

Due to the nature of the project, extensive monitoring and adaptive management strategies are not anticipated to be necessary. The primary goal is to ensure that the riffle-pool complex passes flows in a manner that is suitable for fish passage, as designed. Monitoring would also occur to ensure that the riparian habitat (including the limited revegetated areas) recovers to pre-project conditions. The following summarizes key aspects of the monitoring approach to be employed by Valley Water and submitted to the regulatory agencies (see Attachment G for details):

- Baseline data: a topographic survey of the project reach has already been conducted, and as-built surveys will be completed upon completion of construction. Pre-project photo points will be established to visually monitor changes to the habitat over time. Vegetation data and a California Rapid Assessment Method (CRAM) wetland habitat evaluation will be conducted/collected prior to the start of construction.
- Geomorphic Monitoring: geomorphic monitoring will include stream cross-section and longitudinal profiles completed by professional survey staff in years 5 and 10 after construction. The goal is to ensure the riffle-pool complex is stable and is not developing conditions that could threaten fish passage. The collected data will be used to evaluate changes in riffle stability, channel migration, stream scouring, bank stability, and substrate deposition.
- Fish Passage Monitoring: during the first year after construction, a Critical Riffle Analysis (CRA) will be performed to demonstrate that the project meets CDFW and NMFS fish passage criteria.
- Vegetation Monitoring: areas that are revegetated after construction as well as the health of the overall habitat would be monitored. Revegetated areas

would be required to meet 30% native herbaceous cover by year 5, otherwise remedial actions would be required. The overall habitat would be monitored by conducted a CRAM assessment pre-project and at year 10 post project.

Furthermore, NMFS periodically performs steelhead surveys on Uvas-Carnadero Creek. The results of such surveys will help indicate if the project is potentially passing more fish into spawning grounds in the upper reaches of the watershed.

11. Is (are) the landowner(s) willing to allow the completion of the project and agreeable to the proposed Maintenance/Management Plan for the project on a long-term basis? See Wildlife Corridor and Fish Passage Program Solicitation.

- **If access or long-term maintenance is required from a party other than the perspective grantee, provide a draft landowner access agreement and documentation that the landowner is aware of and supportive of the project.**
- **Does the landowner have access to necessary resources (e.g., water rights, infrastructure improvements) that are necessary to complete the project?**

Valley Water has existing easements with the subject property owners that allow for maintenance and management of Uvas-Carnadero Creek, including activities such as construction and maintenance of habitat improvement projects. Valley Water has been in coordination with landowners throughout project development. The landowner who owns the vast majority of property in the project area on Uvas-Carnadero Creek supports the project due to the co-benefits of bank stabilization along their agricultural facility and has helped provide access to the creek in a manner that minimizes environmental impacts during construction.

PROJECT TEAM QUALIFICATIONS

12. Describe your organization's qualifications, experience, and capacity to perform the proposed tasks to complete this project as proposed. Provide specific examples of similar projects completed to date.

Valley Water's biologists, engineers, hydrologists, and environmental planners have extensive experience completing restoration and enhancement projects that benefit fish migration, including for steelhead. We have 7 fisheries biologists who bring more than 100 years of total experience in fish research, monitoring, and management. Our engineers have designed and implemented a variety of projects in steelhead streams, many of which seek to improve the quality of fish habitat while also providing adequate flood protection. Our construction management and fisheries staff with experience on similar projects will be regularly checking in at the project site and ensure that the design is field fit for the best possible outcome. A selection of our qualifications and experience are highlighted below.

- San Jose Water Company Low Flow Crossing Barrier Removal on the Guadalupe River (completed in 1998): The San Jose Water Company instream low flow vehicle crossing had deteriorated over time, and developed a 5-foot drop below the asphalt. In 1998, the crossing was completely

removed and replaced by three boulder weirs, improving depths, velocities, and jump heights to enable effective fish passage.

- Hillsdale Avenue Bridge Improvements on the Guadalupe River (completed in 2000): The concrete lip on the bridge and degraded channel conditions downstream were impeding upstream fish migration. In conjunction with bridge improvements made by the City of San Jose, the site was improved by removal of steel piles, concrete, and other bridge falsework. Boulder weirs were used to construct a series of step-pools to adjust for the grade change and facilitate fish passage.
- St. John Street Gage Weir Barrier Removal on the Guadalupe River (completed in 2004): The slope of old stream gage presented a single abrupt drop with velocities unfavorable to fish passage, creating a barrier to movement. In 2004, the existing weir was replaced with a series of stepped riffles to provide habitat and enhance fish passage while improving channel stability. Fish habitat features were added including small pools, boulders, and instream large wood elements.
- Blackberry Farms Geomorphic Restoration on Stevens Creek (completed in 2013): *Together with the City of Cupertino*, Valley Water constructed a 2,100-foot geomorphic restoration on Stevens Creek that involved removal of four fish migration; installation of a new clear span bridge was added; removal of concrete channel lining; and realignment and widening of the channel. Instream habitat features for fisheries were installed in the reach including riffles, pools, J-hooks, boulders, root- wads, backwater features, and log crib walls.
- Highway 880 Weir Retrofit on the Guadalupe River (completed in 2014): A weir was installed in the mid-1990s as part of the downtown Guadalupe River Flood Protection Project to enhance fish passage. Over time, the weir became a partial impediment for migrating fish due to increased velocity and jump height at the weir. In 2014, the weir was retrofitted to improve fish passage conditions. Grouted boulders were added downstream to elevate the grade, decrease the jump height and velocities downstream of the weir, facilitating easier passage for fish.
- Evelyn Bridge Fish Passage Project on Stevens Creek (completed in 2015): The project removed two concrete weirs and excavated a low-flow channel with grade control structures. The project also included replacement of an existing fish ladder that was not operating as designed.
- In 2018, Valley Water and our consultant team completed a *Study of Santa Clara County Steelhead Streams to Identify Priority Locations for Gravel Augmentation and Large Woody Debris Placement*.¹ Prior to the above study, Valley Water has installed large woody debris or completed gravel

¹ Available online at <https://www.valleywater.org/project-updates/d4-fish-habitat-and-passage-improvement>

augmentation at multiple locations throughout Santa Clara County to enhance fish habitat.

SCHEDULE AND DELIVERABLES

- 13. Describe in detail how the project will be carried out (i.e. provide a work plan). Illustrate how the project will be completed by March 31, 2024 with the schedule demonstrating the sequence and timing of project tasks, milestones, and deliverables. Provide sufficient detail to illustrate how each element of the project will be implemented (e.g. methods/techniques used, material and equipment necessary to complete each element of the project).**

The project has been identified in Valley Water's Capital Improvement Program since 2017 and is to be undertaken by the Watershed Design and Construction Division following the Capital Project Delivery process under the Capital Quality Management System. Specifically, the project team has developed design plans, specifications and cost estimates for the 60 percent, 90 percent, and 100 percent levels and will be advertised for bid as early as July 2019. The design is based on criteria meeting CDFW and NMFS guidelines and in compliance with all permit requirements (please see Items 4 and 21). A detailed work plan is included as Attachment I for your reference.

- 14. Provide a description of how the data and other information generated from the project will be handled, stored, and made publicly available.**

Valley Water appreciates the important role the public plays in planning and management of our creeks and seeks to make information publicly available whenever possible. As this project is funded under the Valley Water's Safe, Clean Water and Natural Flood Protection Program (additional details below), information on the status of key projects in the program (including this project) and performance metrics are reported on an annual basis on the Valley Water website.² Project information and data is managed on Valley Water's secure servers in a manner that preserves the record and allows our team to revisit information as needed. Valley Water employs a Quality and Environmental Management System (QEMS) to in part ensure that our projects and processes are documented, maintained, and implemented in a consistent manner.

PROJECT READINESS

- 15. Are the environmental documents complete (including CEQA, which is required prior to WCB approval of funding for implementation) and all required State, federal and local permits for the projects obtained? If not, give the current status and expected completion date(s). If the proposed project qualifies for a CEQA exemption(s), please specify which exemption and why it qualifies. If the project does not qualify for a CEQA exemption, specify who is the "lead agency" under CEQA, the status of the environmental review document preparation, and your views as to which type of document would be**

² Details on the program and links to annual reports are available online at <https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program>

required for the project. Provide the State Clearinghouse Number if available. For more information on CEQA, visit: <http://resources.ca.gov/ceqa/>.

The required environmental approvals are listed below, including information on the current status. In general, Valley Water has coordinated extensively with the environmental resource agencies over the past few years to design a project that provides fish passage and habitat enhancement while minimizing environmental impacts.

- CEQA: the project is categorically exempt from CEQA under Class 33 for Small Habitat Restoration Projects, which require restoration projects be less than 5 acres in size and not result in adverse impacts on special status species.
- Central Coast RWQCB Water Quality Certification. Permit issued on April 26, 2019.
- NMFS Endangered Species Act Section 7 Consultation. Consultation between the USACE and NMFS complete and the projects Section 7 coverage is achieved under a Programmatic Biological opinion for restoration projects originally issued on June 14, 2016.
- USACE Clean Water Act Section 404 Nationwide Permit. Permit coverage under Nationwide Permit #27 for Aquatic Habitat Restoration issued on June 6, 2019.
- CDFW Streambed Alteration Agreement. Draft agreement issued on June 5, 2019. Valley Water and CDFW are presently negotiating on a specific condition of the draft agreement and a final agreement is anticipated to be issued by the end of June.

BUDGET

- 16. Using the attached Budget template, provide a complete line item budget for the proposed project. Provide a complete list of all partners contributing toward the project and include all sources of cash and in-kind services. If in-kind services are to be used as part of the matching requirement, please explain the type of service that will be provided, the number of hours the service will be provided, and the hourly rate associated with the service. Cost share must be secured prior to grant award, must be used to support the proposed project, and must be spent during the WCB grant term. Also, be sure to identify any funding that is available for long-term operation and maintenance costs. Submit budget electronically using the attached budget templates. Budget tasks should be coordinated with the work plan.**

The total project cost is anticipated to be \$3,959,000. This grant application proposes \$2,368,000 in Prop 68 grant funding and \$1,591,000 in Valley Water

funding. There are no other partners contributing toward the project. Please refer to the Budget Worksheet in Attachment E for a detailed budget.

COST SHARE

17. What would happen to the project if no funds were available from WCB? What project opportunities or benefits could be lost if the project is not implemented in the near future? Explain:

- **If WCB awards only partial funding, are other funding sources available?**
- **We coordinate with other funders. Have you applied to other funding entities for all or part of this project? Identify these entity(ies).**

The District has limited funds to conduct stream and habitat restoration or enhancement work under Valley Water's Safe, Clean Water and Natural Flood Protection Program. The program will provide \$2.4 million in available funds for construction of this fish passage project. The current estimated cost of construction is \$3.96 million, leaving a \$1.56 million funding shortfall. As of the time of this application submittal, Valley Water has not applied to other funding entities for all or part of this project. Any funds Valley Water saves through grant appropriations leaves more money available under the program to conduct other fish habitat or passage improvements.

18. Does this proposal have cost share (either In-kind or cash)? Provide evidence of match via letters of commitment, contact name and phone number(s), etc. For unsecured cost share, describe plan for acquiring needed shortfall.

Valley Water has not arranged for cost sharing at this time. We are presently seeking to identify additional funding sources to address the construction funding shortfall. Valley water plans to apply for additional grants as they become available to meet this shortfall, or may consider reducing the scope of the project in coordination with the environmental resource agencies (including permit amendments). Valley Water hopes to build the full scope of the project, as described in this application, which we believe serves the greatest benefit to steelhead migration and habitat enhancement.

19. In-kind services or contributions include volunteer time and materials, and land donations. Please describe and estimate value of current and future in-kind contributions.

No in-kind services or contributions are anticipated to be utilized.

ADDITIONAL TECHNICAL REVIEWER CONSIDERATIONS

20. For fish passage projects, does the project address a high priority fish passage barrier as determined by CDFW's 2018 Fish Passage Priorities List or a high priority water diversion as determined by CDFW's 2018 Priority Water Diversions For Screening (See Wildlife Corridors and Fish Passage Program Guidelines, Appendix A).

The project is not a high priority fish passage barrier as determined by CDFW's 2018 Fish Passage Priorities List.

COMMUNITY SUPPORT AND COLLABORATION

- 21. Does the project demonstrate broad-based public and institutional support, at the local, regional, or larger scale? Describe efforts to include stakeholders in project planning, design, outreach/education, implementation, monitoring, maintenance, etc.**

At the highest level, the project is identified as a Restore Wildlife Habitat and Provide Open Space project under Valley Water's Safe, Clean Water and Natural Flood Protection Program. The Safe, Clean Water Program was developed with input from more than 16,000 residents and stakeholders and was created to match the community's needs and values. Fish passage improvements are a key performance indicator in the program and the project was specifically identified as a critical project for fish habitat and passage in the 2018 Annual Report.

The project design itself was developed over a few years in collaboration with several agencies including CDFW, NMFS, USFWS, USACE, Central Coast RWQCB, and the Santa Clara Valley Habitat Agency. The project team and agency partners evaluated multiple project alternatives including a shorter/steeper riffle-pool complex and a low-flow channel cut through the existing concrete slab before landing on the proposed project as the most environmentally sound solution. There were at least two agency site visits and several conference calls to discuss the specifics of the design, impacts, and appropriate measures/methods to minimize environmental impacts. The expertise of fish passage engineers and biologists at CDFW and NMFS was particularly valuable in determining specifics in the design, construction methods, implementation, and monitoring approach.

- 22. Has there been any opposition to the implementation of this project? Please describe.**

There has not been any opposition to the proposed project. Valley Water has collaborated with the environmental regulatory agencies to propose a project that meets the agencies criteria for a beneficial fish passage improvement and habitat enhancement project.

- 23. Does the project improve or expand community access to the project area through engagement programs, technical assistance, or facilities that maximize safe and equitable physical admittance, to natural or cultural resources, community education, or recreational amenities?**

As the project is located on private property (with Valley Water easement) and along a busy road (Bolsa Road), the project does not improve or expand community access.

- 24. Is this project located within a disadvantaged community and/or will it provide benefits to disadvantaged communities? (Please refer to the Wildlife Corridors and Fish Passage Public Solicitation Notice for assistance answering this question.)**

The project is not located in a disadvantaged community.

ADDITIONAL COORDINATION/CONSIDERATIONS

25. Will the project include work undertaken by the California Conservation Corps or a Local Conservation Corps?

No work will be undertaken by the California Conservation Corps or a Local Conservation Corps.

SIGNATURE

I certify that the information contained in this Application, checklists, and all required attachments, is true and accurate. I have been authorized to apply for this grant.

Date: June 21, 2019

Signature: 

Norma J. Camacho
Chief Executive Officer

END OF APPLICATION

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