San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

BOARD OF DIRECTORS MEETING AGENDA
Wednesday, November 10, 2021 – 1:30 p.m.

In accordance with Government Code 54953 (as amended by A.B. 361 signed September 16, 2021 and effective October 1, 2021 via Governor Newsome's Executive Order N-15-21) , and Resolution No. 592 adopted by the Board on October 13, 2021, this meeting is being conducted in a hybrid fashion, via Zoom, or with an option to attend in person, subject to heightened COVID-19 safety protocols.

Anyone wishing to listen to or participate in the meeting can join via Zoom:
Call in (669) 900-6833, Meeting ID: 923 48389922_
To join the Zoom Meeting on https://us02web.zoom.us/j/92348389922

Members of the public participating via remote teleconferencing will have the opportunity to comment on any item within the jurisdiction of the District during the public comment period on the agenda, and to address the Board on individual agenda items as they are called and considered. Public comments submitted in advance are encouraged, but not required. Remote participants will be asked to identify themselves and on which item they wish to address the Board, and will be instructed at the outset of the meeting how to make their wish to address the Board known during the meeting.

Members of the Board, staff, or members of the public who may wish to attend in person will be required to self-certify their vaccinated status, or that they have received a COVID-19 negative test which remains valid as of the meeting date. All in-person attendees shall be required to wear masks covering both their nose and mouths at all times within the meeting room, at all times that social distance spacing requirements cannot be met. Masks will be made available for in-person attendees who do not have them. The District's meeting facilities have limited space, and in-person attendees may be requested to leave the room, or participate via internet or telephone, until the number of any unmasked attendees at the District's facility can be accommodated consistent with social distancing guidelines.

While the District makes every attempt to follow all guidance re COVID-19 safety protocols, the District cannot assure in-person attendees that they will not be exposed to COVID-19 or persons who have been so exposed, and attendees are advised to exercise caution in limiting their own incidences of exposure, particularly those who may be in groups at higher risk of infection, or serious symptoms of COVID-19 if infected.

Note: Copies of staff reports and other documents relating to the items on this agenda are on file at the District office and are available for public review during normal District business hours. New information relating to agenda topics listed, received, or generated by the District after the posting of this agenda, but before the meeting, will be made available upon request at the District office and in the Agenda Package on the District's website.

It is the intention of the San Bernardino Valley Water Conservation District to comply with the Americans with Disabilities Act (ADA) in all respects. If you need special assistance with respect to the agenda or other

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written materials forwarded to the members of the Board for consideration at the public meeting, or if as a participant at this meeting you will need special assistance, the District will attempt to accommodate you in every reasonable manner. Please contact Athena Lokelani at (909) 793-2503 at least 48 hours prior to the meeting to inform her of your particular needs and to determine if accommodation is feasible. Please advise us at that time if you will need accommodations to attend or participate in meetings on a regular basis.

CALL TO ORDER
PLEDGE OF ALLEGIANCE
ROLL CALL

1. **PUBLIC PARTICIPATION**

Members of the public may address the Board of Directors on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) Section 54954.2 of the Government Code.

2. **ADDITIONS/DELETIONS TO AGENDA**

Section 54954.2 provides that a legislative body may take action on items of business not appearing on the posted agenda under the following conditions: (1) an emergency situation exists, as defined in Section 54956.5; (2) a need to take immediate action and the need for action came to the attention of the District subsequent to the agenda being posted; and (3) the item was posted for a prior meeting occurring not more than five calendar days prior to the date action is taken on the item, and at the prior meeting the item was continued to the meeting at which action is being taken.

3. **GUEST RECOGNITION/SELF INTRODUCTIONS**

4. **CONSENT CALENDAR**

5. **COMMITTEE REPORTS /ACTION ITEMS**

Committee Reports

A. OPERATIONS COMMITTEE VERBAL REPORT - 10 minutes
Presenter: *Richard Corneille*
Recommendation: The chair of the Operations Committee will provide a verbal report on the meeting held on November 4.

Action Items

B. UNAUDITED FINANCIAL REPORTS, October 2021 - 5 minutes (M#1811) 24
Presenter: *Daniel Cozad*
Recommendation: Review and approve the unaudited financials for October 2021.

C. ENGINEERING INVESTIGATION PLAN FOR 2022 - 5 minutes (M#1812) 30
Presenter: *Katelyn Scholte*
Recommendation: Staff is requesting that the Board review, discuss and recommend any changes to the Engineering Investigation Report Plan (EI Report plan) and consider approval of the 2022 EI Report plan.

D. YEAR TWO AMENDMENT TO CONSERVATION SERVICES AGREEMENT WITH INLAND EMPIRE RESOURCE CONSERVATION DISTRICT FOR IMPLEMENTATION OF PERMIT CONDITIONS FOR THE PLUNGE CREEK CONSERVATION PROJECTS – 5 minutes (M#1813) 37

Presenter: *Betsy Miller*

Recommendation: Approve Amendment 1 to the Conservation Services Agreement with Inland Empire Resources Conservation District (IERCD) for implementation of permit conditions associated with the Plunge Creek Conservation Project.

E. MILL CREEK GROUNDWATER RECHARGE FACILITY OPERATIONS & MAINTENANCE PERMITTING PROFESSIONAL SERVICES CONTRACT AWARD– 5 minutes (M#1814) 46

Presenter: *Betsy Miller*

Recommendation: Staff recommends that the Board 1) Accept AECOM's proposal to obtain applicable environmental permits for operations and maintenance of the Mill Creek Groundwater Recharge Facility, and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with AECOM's proposal and the District's form consultant services contract included in the Request for Proposals.

F. PROFESSIONAL SERVICES CONTRACT FOR VEGETATION CLASSIFICATION AND MAPPING – 5 minutes (M#1815) 113

Presenter: *Betsy Miller*

Recommendation: Staff recommends that the Board 1) Accept AECOM's proposal to prepare a vegetation classification and associated map for the Upper Santa Ana River Wash and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with AECOM's proposal and the District's form consultant services contract included in the Request for Proposals.

G. WASH PLAN SLENDER-HORNED SPINEFLOWER RESTORATION PROGRAM PROFESIONAL SERVICES CONTRACT AWARD – 5 minutes (M#1816) 150

Presenter: *Betsy Miller*

Recommendation: Staff recommends that the Board 1) Accept Dudek's proposal to prepare the Slender-horned Spineflower Restoration Program and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with Dudek's proposal and the District's form consultant services contract included in the Request for Proposals.

H. 2022 BOARD MEETING CALENDAR REVIEW– 5 minutes (M#1817) 216

Presenter: *Daniel Cozad*

Recommendation: Review, discuss and consider approval of the proposed District Board Meeting Calendar for calendar year 2022.

6. **INFORMATION ITEMS:**

A. Wash Plan Implementation Update – 5 Minutes
B. Wash Plan Trails Status Report.....218
C. Mentone Shop Improvements Status Report.....220
D. Overview and Update Report for the Active Recharge Partnership Agreement for the Upper Santa Ana River Habitat Conservation Plan (M#1818) 221
E. General Manager's Report and Monthly Recharge Report – 5 Minutes ……..…….248

F. Future Agenda Items & Staff Tasks

7. **MONTHLY BOARD MEMBER MEETING REPORTS, AND/OR BOARD MEMBER COMMENTS**

A. Board Member Meeting Reports – 15 minutes

8. **UPCOMING MEETINGS:**

***Please note: All future District meetings may be held remotely via zoom. See Agendas for detailed information.**

A. November 11, 2021	Offices Closed in Observance of Veteran's Day
B. November 12, 2021	Special Meeting of the Board of Directors, 2:00 p.m. at Valley Municipal
C. November 15, 2021	Finance & Administration Committee, 1:30 p.m. via Zoom
D. November 15, 2021	Association of the San Bernardino County Special Districts, 6:00 p.m. at Yucaipa Valley WD Crystal Creek Facility, hosted by Yucaipa Valley Water District *(Topic: 7 Solutions for Addressing Your CalPERS Liability)*
E. November 16, 2021	San Bernardino Valley Municipal Water District Board Meeting, 2:00 p.m. at Valley Municipal
F. November 17, 2021	WIFIA Meeting, 8:30 a.m. via Teleconference
G. November 18, 2021	San Bernardino Valley Municipal Water District Policy Committee Workshop, 2:00 p.m. at Valley Municipal
H. November 30, 2021-December 2, 2021	ACWA Fall Conference, Pasadena ***(Board Approval Required)***
I. December 8, 2021	Board of Directors Meeting, 9:30 a.m. at Conservation District

9. **CLOSED SESSION**

1. The Board will meet in Closed Session under authority of Government Code §54956.9 (a), in order to discuss existing litigation, Endangered Habitats League et al. vs. U.S. Army Corps of Engineers, Central District Court Case no. Case No.: 2:16-cv-09178-MWF-E.

2. The Board will meet in closed session under authority of Government Code §54956.9 (a), and (d) (4) regarding anticipated litigation. Pursuant to Government Code §54956.9€(2), the facts and circumstances concern a potential trespass onto District property in connection with the Dr. Horton and Slater Construction.

3. The Board will meet in Closed Session under authority of Government Code §54956.8, to discuss real property negotiaitons, regarding 1630 West Redlands Boulevard, Suite K, to discuss terms and conditions

of a lease. The District's negotiators are Daniel Cozad and David Cosgrove. The Lessee's negotiator is Mark Bacher.

10. **ADJOURN MEETING.** The next regularly scheduled Board of Directors Meeting will be on December 8, 2021 at 9:30 a.m., at via Zoom/teleconference.

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
SUCCESSION AND TRANSITION PLANNING WORKSHOP

MINUTES OF October 6, 2021
1:30 P.M.

President McDonald called the Succession and Transition Planning Workshop to order at 1:32 p.m.

BOARD MEMBERS PRESENT:

Melody McDonald, President
Richard Corneille, Vice President
David E. Raley, Director
Robert Stewart, Director
John Longville, Director

BOARD MEMBERS ABSENT:

None

GENERAL COUNSEL PRESENT:

David Cosgrove, District Counsel

STAFF PRESENT:

Daniel Cozad, General Manager
Athena Lokelani, Administrative Specialist
Angie Quiroga, Administrative Analyst

GUESTS PRESENT:

T. Milford Harrison, San Bernardino Valley Municipal Water District
Cindy Saks, San Bernardino Valley Municipal Water District
David Smith, East Valley Water District

1. PUBLIC COMMENT

There was no public comment.

2. ADDITIONS/DELETIONS TO AGENDA

There were no additions or deletions to the posted agenda.

3. DISCUSSION ITEMS

A. SUCCESSION AND TRANSITION PLAN

Daniel Cozad reviewed the progress of the Ad Hoc Succession and Transition Committee that was created with Director Stewart and Longville as members. The Committee met on August 18. The

Committee discussed the materials presented and requested additional information, including budget impacts of the potential transitions. Proceeding with the presentation, the existing org chart was reviewed compared to a potential 2022 org chart. Red boxes are shown around transition positions to be discussed. Mr. Cozad reviewed the pros and cons of internal promotion versus external recruitment.

President McDonald reviewed historical practices of recruitment used by the District. Mr. Cozad discussed the Transition and Succession Matrix 2021-2022 from the District's succession plan. The Field Supervisor is estimated to retire in two to three years. The General Manager will retire in 2022, and the Senior Engineer/Project Manager will retire to a part-time position in 2022. Director Stewart discussed FY 2022-2025 org chart with the anticipated transitional changes. He indicated that upon reviewing this chart at the Committee level, he believed a full Board Workshop was appropriate. The engineering positions were discussed. Director Stewart noted that there is a generational gap, and fewer engineers are working their way up through the ranks.

External recruitment was discussed. Vice President Corneille discussed the General Manager position and previous outside recruitment practices. President McDonald indicated that today's workshop is an update on what occurred at the Committee level and for the Board to review and discuss, and no decisions are agendized. Mr. Cozad reviewed estimated 2022 budget impacts related to the transitions and potential new positions. He also reviewed the Committee's recommendations to the Board. Director Raley expressed his preference for a less formal format where the Board could discuss succession and transition planning. The Board directed staff to schedule an additional workshop in early December for discussion.

4. ADJOURN MEETING

It was moved by Director Longville and seconded by Director Raley to adjourn. The motion carried 5-0, with all Directors present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

At 3:15 p.m., the meeting adjourned to the next regular Board Meeting scheduled for October 13, 2021, at 1:30 p.m. at District Headquarters, 1630 W. Redlands Blvd., Redlands, CA, and via Zoom.

_____
Daniel B. Cozad, General Manager

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS MEETING

MINUTES OF OCTOBER 13, 2021
1:30 pm

President McDonald called the Board of Directors meeting to order at 1:30 pm by in-person, teleconference, and Zoom meeting; all those in attendance stood for the pledge of allegiance led by President McDonald.

ROLL CALL:

BOARD MEMBERS PRESENT:

Melody McDonald, President
David E. Raley, Director
Robert Stewart, Director
John Longville, Director (Arrival 1:40 p.m.)
Richard Corneille, Vice President

BOARD MEMBERS ABSENT:

None.

GENERAL COUNSEL PRESENT:

Dave Cosgrove, District Counsel

STAFF PRESENT:

Daniel Cozad, General Manager
Betsy Miller, Land Resources Manager/Assistant General Manager
Erwin Fogerson, Senior Engineer/Project Manager
Katelyn Scholte, Assistant Engineer
Athena Lokelani, Administrative Specialist
Angie Quiroga, Administrative Analyst

GUESTS PRESENT:

T. Milford Harrison, San Bernardino Valley Municipal Water District
June Hayes, San Bernardino Valley Municipal Water District
Susan Lien Longville, San Bernardino Valley Municipal Water District
Ron Coats, East Valley Water District
Willow Green, Tetra Tech

1. PUBLIC PARTICIPATION

President McDonald announced that any persons present, who so desired, may make an oral presentation to the Board of Directors. There being none, the meeting continued with the posted agenda items.

2. ADDITIONS/DELETIONS TO AGENDA

There were none discussed.

3. GUEST RECOGNITIONS/SELF INTRODUCTIONS

The guests listed above made self-introductions.

4. CONSENT CALENDAR

President McDonald introduced this item for discussion.

It was moved by Director Stewart and seconded by Director Raley to approve the Consent Calendar: Item A: Board Minutes, September 8, 2021. The motion carried 3-0, with all Board members present voting in the affirmative. Director Longville was absent, and Vice President Corneille abstained from the vote.

President McDonald: Yes
Vice President Corneille: Abstain
Director Longville: Absent
Director Raley: Yes
Director Stewart: Yes

It was moved by Vice President Corneille and seconded by Director Stewart to approve the Consent Calendar: Item B: Expenditure Report, September 2021 and Item C: CSDA Bylaws Approval. The motion carried 4-0, with all Board members present voting in the affirmative and Director Longville noted absent from the vote.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Absent
Director Raley: Yes
Director Stewart: Yes

5. COMMITTEE REPORTS/ACTION ITEMS

A. 2021 AUDIT REPORT

Mr. Cozad provided a verbal update of the Ad Hoc Audit Committee (Committee) meeting held on October 4, 2021. The full Audit Report is included on package pages 22 to 94. He noted the reserve levels shown on package page 44. President McDonald said that it was a clean audit and that the District is in good fiscal standing. Director Stewart reviewed the data on package pages 86 and 88.

It was moved by Vice President Corneille and seconded by Director Stewart to approve the 2021 Audit Report as presented. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes

Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

B. UNAUDITED FINANCIAL REPORT, SEPTEMBER 2021

Mr. Cozad introduced this item for discussion, noting its inclusion on package page 95. He said that a few Groundwater Council payments are pending, and mining income is above the minimum annual guarantee.

It was moved by Director Longville and seconded by Vice President Corneille to approve the Unaudited Financial Reports from September 2021. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

C. WASH PLAN REMAINING PERMITS PROJECT UPDATE AND APPLICATION FEE

Ms. Miller introduced this item for discussion, noting its inclusion on package page 101. She provided background on the AECOM contract approved in August 2020. The table with "Costs by Task Force Member" was discussed, noting that the District received a letter to commit to issuing a Lake and Streambed Alteration Agreement by November 1 from the California Department of Fish and Wildlife. It is anticipated that the 401 permit will be issued by December 2, although there is the potential for an extension through August 2022. Staff is working with the U.S. Army Corps of Engineers (COE) on answering questions they have for the 404 permit. The remainder of the permits update is included in the memo on page 102. Vice President Corneille complimented Ms. Miller on the report and asked if any projects could proceed without the permits noted within the memo. He asked if staff could link the projects to permits. Ms. Miller indicated that she has a master table with a complete list of projects covered under the Wash Plan that can be shared. She requested two checks for 1) California Department of Fish & Wildlife in the amount of $45,693.25 and 2) Santa Ana Regional Water Quality Control Board in an amount up to $177,179. President McDonald asked when Task Force members would submit reimbursements to the District. Ms. Miller said that this may be done quarterly or as the permit applications are approved. Director Stewart asked if permitting agencies could ask for additional money. Mr. Cozad indicated that permitting agencies have a calculation to determine the costs, making requests for additional funds unlikely. However, there will be ongoing annual renewal fees.

It was moved by Director Longville and seconded by Vice President Corneille to authorize the General Manager to submit payment of $45,693.25 in notification fees for the Streambed Alteration Agreement for Wash Plan construction projects to the California Department of Fish & Wildlife and authorize the General Manager to submit payment of up to $177,179 in project fees for a Clean Water Act 401 Water Quality Certification to the Santa Ana River Regional Water Quality Control Board. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

D. ACWA GENERAL SESSION VOTING DELEGATE.

Mr. Cozad reviewed this item, included it on package page 113.

It was moved by Vice President Corneille and seconded by Director Raley to appoint President McDonald as the voting delegate for the ACWA Fall Conference General Session meeting. The motion carried 5-0, with all present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

E. AB 361 REMOTE MEETINGS

Mr. Cosgrove introduced this item for discussion, noting its inclusion beginning package page 121. He indicated that the Governor's Executive order regarding remote meetings expired September 30, 2021, but signed AB 361, allowing for limited continuance of remote meetings. He reviewed the circumstances covered by the bill and indicated that the District may continue remote meetings by passing Resolution No. 592, included on package pages 124 to 125. In order to do so, the Board must make new findings and approve a new resolution every thirty days. The Board requested that this item be placed on the agenda as a standing consent calendar item, as a new resolution every thirty days for approval, so long as circumstances and factual bases for the findings so warranted.

It was moved by Director Longville and seconded by Vice President Corneille to approve Resolution No. 592, authorizing remote meetings and for staff to bring this item back every thirty days for approval. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

F. REALIGNMENT OF COMPONENT DISTRICT DIVISIONS

Mr. Cosgrove introduced this item for discussion, noting its inclusion on package page 126. The District is required to evaluate and adjust its boundaries, if necessary, after each federal census. The memo covers the criteria involved with this redistricting effort. The District last redistricted in 2012, when it reduced the Board from seven to five members. Mr. Cozad reviewed the schedule for redistricting. This item will be brought back in January or February 2022 for review and discussion. Mr. Cosgrove explained the Elections Code requires at least one public hearing for special districts; given

our regular meeting schedule, this will need to be held by March 9, 2022. Director Stewart requested staff to share the population growth since the last census was done when it is available. It was the consensus of the Board directing staff to bring back a preliminary analysis on population growth per division, to determine the need for realignment of divisions. The Board discussed previous practices and potential options for moving forward. Staff will do a preliminary analysis on potential impacts per division within District boundaries and bring it back to the Board for review.

6. INFORMATION ITEMS

A. WASH PLAN IMPLEMENTATION UPDATE

Ms. Miller provided a verbal update. She indicated that the draft SBKR protocol was distributed to partner agencies for review and comment. The comment period closed on Monday. She said that two RFPs are out for Wash Plan implementation including, 1) vegetation classification and mapping to track the progress of Wash Plan management actions and 2) a restoration program for slender horned spineflower required within three years of Wash Plan adoption. We will likely have those contracts for Board consideration in December. The potential agreements for Mill Creek will be brought back for review and consideration in November. This item was received and filed.

B. WASH PLAN TRAIL STATUS REPORT

The Wash Plan Trails Status Report is included on package page 130. Ms. Miller said that staff had made progress coordinating with cities on the trails. The City of Highland provided comments on the preliminary MOU deal points in September, and District staff has met with them to discuss. The City of Redlands was provided information on this item; they indicated that the MOU had been included in their strategic plan for 2022. Mr. Cozad said that the MOU with the City of Redlands would be brought back for review and consideration early next year. Director Raley requested the project schedule be placed on a separate sheet so that it is more readable, and the completed tasks be shown in a contrasting color. This item was received and filed.

C. ACTIVE RECHARGE TRANSFER PROJECTS STATUS REPORTS NO. 8

Mr. Fogerson reviewed this item, included on package page 131. The report was approved at the ARTP Policy Committee on October 11. The PowerPoint presentation on pages 135 to 145 was presented. Mr. Fogerson stated that staff is looking to award the first consultant contract for the feasibility study; it may be returned to the Board next month for review and approval. Mill Creek and City Creek RFPs were issued today for consultants for those feasibility studies. The feasibility study will model and analyze each proposed project to enable clear prioritization of projects. Proposals for these two RFPs are due on November 18. Vice President Corneille expressed his appreciation for staff's efforts in moving these projects forward. He said that we have a great team in place to do this work. Director Raley expressed his interest in the financial aspects of these projects and requested a detailed overview of the financials. Mr. Cozad provided a brief overview of the ARTP Partnership Agreement. The funds received for ARTP projects are invested and held in a reserve for the ARTP expenses. Director Stewart asked if project dates can be listed to track which projects are accelerating, lagging, or completed. This item was received and filed.

D. MENTONE SHOP IMPROVEMENTS STATUS REPORT

Mr. Fogerson reviewed this item, noting its inclusion on package page 146. Staff signed a contract with Hilltop Geotechnical to perform a percolation test and site investigation in the new proposed shop

location, which will be completed in the next thirty days. Staff obtained permits to perform tests for the soils report and site percolation test, which has been added to the project schedule. Staff also met with the septic system contractor. The schedule shows items that need to be done in light gray while a gray bar with a line through it identifies items that are completed. This item was received and filed.

E. GENERAL MANAGER'S REPORT AND MONTHLY RECHARGE REPORT

Mr. Cozad indicated that the written General Manager's Report was included in the Board package on pages 147 through 163. He discussed the removal of homeless encampments and the annual Groundwater Council Report on package pages 151 to 163. The Monthly Recharge Report was included on package page 164, and this item was received and filed.

F. FUTURE AGENDA ITEMS AND STAFF TASKS

Vice President Corneille requested an Operations Committee meeting and that we set quarterly meetings. He said that permitting issues should be reviewed by the Committee as well.

7. MONTHLY BOARD MEMBER MEETING REPORTS AND/OR BOARD MEMBER COMMENTS

Vice President Corneille attended the City of Redlands Council meeting on September 21. They reviewed redistricting, meeting with General Manager on September 29 and Redlands Chamber of Commerce (RCC) State of the Community Luncheon on September 30. He attended the Redlands Rise N Shine on October 1, Succession and Transition Workshop on October 6, and Valley Municipal Engineering Workshop on October 12. They have abolished the Advisory Commission and now have implemented a Water Forum. He attended the ARTP Policy Committee on October 11. Vice President Corneille reviewed the ACWA Groundwater Management Policy Principles included on package pages 165 to 166.

Director Stewart attended the Conservation Trust meeting on October 4, Succession and Transition Workshop on October 6, and Big Bear Watermaster Committee on October 12.

Director Longville attended the Conservation District Board meeting on September 8, Valley Municipal Board meeting on September 7, and Succession and Transition Workshop on October 6. He attended the Conservation Trust meeting on October 4.

President McDonald attended the Valley Municipal Board meeting on October 12, the Association of San Bernardino County Special Districts (ASBCSD) Board meeting on October 11, and the Basin Technical Advisory Committee (BTAC) and Ad Hoc Audit Committee on October 4. She attended the Valley Municipal Board meeting on October 5, Succession and Transition Workshop on October 6, Valley Municipal Resources Workshop on October 7, the ASBCSD Dinner meeting on September 20, and the Valley Municipal Board meeting on September 21. She attended the ACWA Federal Affairs Committee and Valley Municipal Strategic Planning Workshop on September 16, Valley Municipal Engineering Workshop on September 14, and ASBCSD Board meeting on September 13. She attended the Valley Municipal Policy Workshop on September 9.

Director Raley attended RCC State of the Community Luncheon on September 30, Valley Municipal Board meeting on September 21, and Redlands Rise N Shine on October 1. He participated at the Ad Hoc Audit Committee and Conservation Trust on October 4, Succession and Transition Workshop on October 6, and Valley Municipal Special Board Meeting on October 11. He attended the Big Bear Watermaster on October 12.

8. UPCOMING MEETINGS

Mr. Cozad said that the District Facilities Tour is scheduled for November 5 and confirmed that this date works for the Board. Mr. Coats from East Valley Water District (EVWD) asked if he and other members of his Board may attend. The District Board confirmed they are all welcome and requested a tour of the EVWD facilities. A special Board meeting will be held on November 3 at 1:30 pm; this will be a Closed Session meeting.

9. CLOSED SESSION

It was moved by Director Longville and seconded by Director Stewart to adjourn to Closed Session. The motion carried 5-0, with all Directors present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

General Counsel announced that the meeting would adjourn to a closed session under posted agenda items.

At 4:11 pm, the meeting reconvened into Open Session. Mr. Cosgrove noted that there was no reportable action.

10. ADJOURN MEETING

It was moved by Director Longville and seconded by Director Stewart to adjourn. The motion carried 5-0, with all Directors present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

At 4:11 pm, the meeting adjourned to the Board meeting scheduled for 1:30 pm on November 10, 2021, in-person, teleconference, and Zoom meeting.

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Daniel B. Cozad
General Manager

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
PC 10.06.21	**10/06/2021**	**Paychex**	**1012 · Citizens Busine...**		**-131.28**
			6042 · Payroll Processing	4-General Fund Ent.	131.28
TOTAL					131.28
PC 10.20.21	**10/20/2021**	**Paychex**	**1012 · Citizens Busine...**		**-117.28**
			6042 · Payroll Processing	4-General Fund Ent.	117.28
TOTAL					117.28
23133	**10/19/2021**	**California Dept of Fish ...**	**1012 · Citizens Busine...**		**-45,693.25**
			5145 · Environmental S...	5-Wash Plan	45,693.25
TOTAL					45,693.25
23134	**10/12/2021**	**ACWA**	**1012 · Citizens Busine...**		**-11,140.00**
	09/29/2021		6093 · Memberships	4-General Fund Ent.	11,140.00
TOTAL					11,140.00
23135	**10/12/2021**	**ACWA/JPIA**	**1012 · Citizens Busine...**		**-33,817.67**
	10/01/2021		6320 · General Liability ...	4-General Fund Ent.	1,690.88
			6320 · General Liability ...	1-Groundwater Ent.	25,363.26
			6320 · General Liability ...	2-Redlands Plaza/...	5,072.65
			6320 · General Liability ...	3-Land Resources	1,690.88
TOTAL					33,817.67
23136	**10/12/2021**	**ACWA/JPIA-Health**	**1012 · Citizens Busine...**		**-42,336.12**
	09/03/2021		6110 · Vision Insurance	4-General Fund Ent.	33.83
			6110 · Vision Insurance	1-Groundwater Ent.	117.12
			6110 · Vision Insurance	2-Redlands Plaza/...	10.41
			6110 · Vision Insurance	3-Land Resources	26.03
			6110 · Vision Insurance	5-Wash Plan	18.22
			6110 · Vision Insurance	6-Active Recharge ...	54.65
			6130 · Dental Insurance	4-General Fund Ent.	124.22
			6130 · Dental Insurance	1-Groundwater Ent.	429.98
			6130 · Dental Insurance	2-Redlands Plaza/...	38.22
			6130 · Dental Insurance	3-Land Resources	95.55
			6130 · Dental Insurance	5-Wash Plan	66.89
			6130 · Dental Insurance	6-Active Recharge ...	200.66
			6150 · Medical Insurance	4-General Fund Ent.	2,706.77
			6150 · Medical Insurance	1-Groundwater Ent.	9,369.57
			6150 · Medical Insurance	2-Redlands Plaza/...	832.85
			6150 · Medical Insurance	3-Land Resources	2,082.13
			6150 · Medical Insurance	5-Wash Plan	1,457.49
			6150 · Medical Insurance	6-Active Recharge ...	4,372.47
	10/01/2021		6110 · Vision Insurance	4-General Fund Ent.	30.76
			6110 · Vision Insurance	1-Groundwater Ent.	106.47
			6110 · Vision Insurance	2-Redlands Plaza/...	9.46
			6110 · Vision Insurance	3-Land Resources	23.66
			6110 · Vision Insurance	5-Wash Plan	16.56
			6110 · Vision Insurance	6-Active Recharge ...	49.69
			6130 · Dental Insurance	4-General Fund Ent.	115.74
			6130 · Dental Insurance	1-Groundwater Ent.	400.64
			6130 · Dental Insurance	2-Redlands Plaza/...	35.62
			6130 · Dental Insurance	3-Land Resources	89.03
			6130 · Dental Insurance	5-Wash Plan	62.32

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
			6130 · Dental Insurance	6-Active Recharge ...	186.97
			6150 · Medical Insurance	4-General Fund Ent.	2,492.38
			6150 · Medical Insurance	1-Groundwater Ent.	8,627.46
			6150 · Medical Insurance	2-Redlands Plaza/...	766.89
			6150 · Medical Insurance	3-Land Resources	1,917.21
			6150 · Medical Insurance	5-Wash Plan	1,342.05
			6150 · Medical Insurance	6-Active Recharge ...	4,026.15
TOTAL					42,336.12
23137	**10/12/2021**	**American Power Security**	**1012 · Citizens Busine...**		**-820.00**
	09/30/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	820.00
TOTAL					820.00
23138	**10/12/2021**	**Brownstein Hyatt Farbe...**	**1012 · Citizens Busine...**		**-15,375.00**
	10/11/2021		5122 · Wash Plan Profe...	5-Wash Plan	15,375.00
TOTAL					15,375.00
23139	**10/12/2021**	**Castro Landscaping Se...**	**1012 · Citizens Busine...**		**-250.00**
	09/30/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	250.00
TOTAL					250.00
23140	**10/12/2021**	**Edison - 6256 (Redland...**	**1012 · Citizens Busine...**		**-226.22**
	09/29/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	226.22
TOTAL					226.22
23141	**10/12/2021**	**Edison - 9779**	**1012 · Citizens Busine...**		**-424.77**
	09/29/2021		5420 · Electricity	4-General Fund Ent.	118.94
			5420 · Electricity	1-Groundwater Ent.	84.95
			5420 · Electricity	2-Redlands Plaza/...	220.88
TOTAL					424.77
23142	**10/12/2021**	**Empire Disposal**	**1012 · Citizens Busine...**		**-173.39**
	09/30/2021		5460 · Water / Trash / S...	4-General Fund Ent.	86.70
			5460 · Water / Trash / S...	1-Groundwater Ent.	69.35
			5460 · Water / Trash / S...	3-Land Resources	17.34
TOTAL					173.39
23143	**10/12/2021**	**Frontier-4860**	**1012 · Citizens Busine...**		**-395.74**
	09/28/2021		5440 · Telephone	4-General Fund Ent.	210.53
			5440 · Telephone	1-Groundwater Ent.	90.23
			5470 · Internet Services	4-General Fund Ent.	47.49
			5470 · Internet Services	1-Groundwater Ent.	28.49
			5470 · Internet Services	2-Redlands Plaza/...	4.75
			5470 · Internet Services	3-Land Resources	14.25
TOTAL					395.74

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
23144	**10/12/2021**	**Home Depot Credit Ser...**	**1012 · Citizens Busine...**		**-247.49**
	09/28/2021		5210 · Equipment Maint...	1-Groundwater Ent.	58.58
			5215 · Property Mainten...	1-Groundwater Ent.	151.13
			5215 · Property Mainten...	3-Land Resources	37.78
TOTAL					247.49
23145	**10/12/2021**	**JAN-PRO Cleaning Sys...**	**1012 · Citizens Busine...**		**-1,400.00**
	09/01/2021		6018 · Janitorial Services	4-General Fund Ent.	700.00
	10/01/2021		6018 · Janitorial Services	4-General Fund Ent.	700.00
TOTAL					1,400.00
23146	**10/12/2021**	**Lowe's Companies, Inc.**	**1012 · Citizens Busine...**		**-15.34**
	09/25/2021		5210 · Equipment Maint...	1-Groundwater Ent.	15.34
TOTAL					15.34
23147	**10/12/2021**	**Manuel Colunga**	**1012 · Citizens Busine...**		**-44.98**
	10/08/2021		5215 · Property Mainten...	1-Groundwater Ent.	35.98
			5215 · Property Mainten...	3-Land Resources	9.00
TOTAL					44.98
23148	**10/12/2021**	**Mikael Romich**	**1012 · Citizens Busine...**		**-11,916.72**
	09/07/2021		5120 · Misc. Profession...	3-Land Resources	10,723.20
			5122 · Wash Plan Profe...	5-Wash Plan	480.00
			5120 · Misc. Profession...	3-Land Resources	713.52
TOTAL					11,916.72
23149	**10/12/2021**	**Netsteller**	**1012 · Citizens Busine...**		**-633.75**
	10/01/2021		6027 · Computer Softw...	4-General Fund Ent.	137.80
			6027 · Computer Softw...	1-Groundwater Ent.	9.19
			6027 · Computer Softw...	2-Redlands Plaza/...	18.38
			6027 · Computer Softw...	3-Land Resources	18.38
	10/01/2021		5160 · IT Support	4-General Fund Ent.	180.00
			5160 · IT Support	1-Groundwater Ent.	225.00
			5160 · IT Support	3-Land Resources	45.00
TOTAL					633.75
23150	**10/12/2021**	**Nexustek**	**1012 · Citizens Busine...**		**-3,000.00**
	09/30/2021		7220 · Computer Softw...	4-General Fund Ent.	600.00
			7220 · Computer Softw...	1-Groundwater Ent.	900.00
			7220 · Computer Softw...	3-Land Resources	1,200.00
			7220 · Computer Softw...	5-Wash Plan	300.00
TOTAL					3,000.00

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
23151	**10/12/2021**	**O'Reilly**	**1012 · Citizens Busine...**		**-88.16**
	09/28/2021		5310 · Vehicle Mainten...	1-Groundwater Ent.	10.32
			5210 · Equipment Maint...	1-Groundwater Ent.	77.84
TOTAL					88.16
23152	**10/12/2021**	**Press Enterprise**	**1012 · Citizens Busine...**		**-605.87**
	09/20/2021		6090 · Subscriptions/Pu...	4-General Fund Ent.	605.87
TOTAL					605.87
23153	**10/12/2021**	**ReadyRefresh by Nestle**	**1012 · Citizens Busine...**		**-95.32**
	09/24/2021		5460 · Water / Trash / S...	4-General Fund Ent.	47.66
			5460 · Water / Trash / S...	1-Groundwater Ent.	38.13
			5460 · Water / Trash / S...	3-Land Resources	9.53
TOTAL					95.32
23154	**10/12/2021**	**Stanley Convergent Se...**	**1012 · Citizens Busine...**		**-401.22**
	09/26/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	401.22
TOTAL					401.22
23155	**10/12/2021**	**Terminix**	**1012 · Citizens Busine...**		**-86.00**
	09/10/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	86.00
TOTAL					86.00
23156	**10/12/2021**	**Thomas Purvis**	**1012 · Citizens Busine...**		**-207.60**
	10/05/2021		6051 · Uniforms	4-General Fund Ent.	42.09
			6051 · Uniforms	1-Groundwater Ent.	98.20
			5215 · Property Mainten...	1-Groundwater Ent.	32.98
			5215 · Property Mainten...	3-Land Resources	8.24
			6001 · General Adminis...	4-General Fund Ent.	13.05
			6001 · General Adminis...	1-Groundwater Ent.	13.04
TOTAL					207.60
23157	**10/12/2021**	**WEX Bank-Shell**	**1012 · Citizens Busine...**		**-742.12**
	10/06/2021		5320 · Fuel	1-Groundwater Ent.	742.12
TOTAL					742.12
23158	**10/12/2021**	**WEX Bank-Valero**	**1012 · Citizens Busine...**		**-202.53**
	09/23/2021		5320 · Fuel	1-Groundwater Ent.	202.53
TOTAL					202.53
23159	**10/26/2021**	**AAA Alarm Systems, Inc.**	**1012 · Citizens Busine...**		**-165.00**
	10/14/2021		5410 · Alarm Service	4-General Fund Ent.	82.50
			5410 · Alarm Service	1-Groundwater Ent.	82.50
TOTAL					165.00

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
23160	**10/26/2021**	**ACWA JPIA - Workers ...**	**1012 · Citizens Busine...**		**-4,623.62**
	10/19/2021		6120 · Workers' Comp. ...	4-General Fund Ent.	601.08
			6120 · Workers' Comp. ...	1-Groundwater Ent.	2,080.63
			6120 · Workers' Comp. ...	2-Redlands Plaza/...	184.94
			6120 · Workers' Comp. ...	3-Land Resources	462.36
			6120 · Workers' Comp. ...	5-Wash Plan	323.65
			6120 · Workers' Comp. ...	6-Active Recharge ...	970.96
TOTAL					4,623.62
23161	**10/26/2021**	**Aguilar Consulting Inc.**	**1012 · Citizens Busine...**		**-20,847.00**
	07/01/2021		1700 · Work in Progress	1-Groundwater Ent.	880.00
	10/15/2021		5120 · Misc. Profession...	6-Active Recharge ...	19,967.00
TOTAL					20,847.00
23162	**10/26/2021**	**Assoc. San Bernardino...**	**1012 · Citizens Busine...**		**-68.00**
	10/26/2021		6425 · Meals	4-General Fund Ent.	68.00
TOTAL					68.00
23163	**10/26/2021**	**California Special Distri...**	**1012 · Citizens Busine...**		**-7,615.00**
	10/01/2021		6093 · Memberships	4-General Fund Ent.	7,615.00
TOTAL					7,615.00
23164	**10/26/2021**	**Capitol Enquiry**	**1012 · Citizens Busine...**		**-90.08**
	10/19/2021		6090 · Subscriptions/Pu...	4-General Fund Ent.	90.08
TOTAL					90.08
23165	**10/26/2021**	**Citizens Business Bank**	**1012 · Citizens Busine...**		**-4,825.90**
	10/13/2021		5215 · Property Mainten...	1-Groundwater Ent.	99.54
			5215 · Property Mainten...	3-Land Resources	24.88
			6001 · General Adminis...	4-General Fund Ent.	42.48
			6001 · General Adminis...	1-Groundwater Ent.	42.47
			6002 · Website Adminis...	4-General Fund Ent.	493.97
			6004 · Meeting Expenses	4-General Fund Ent.	501.35
			6004 · Meeting Expenses	3-Land Resources	501.35
			6027 · Computer Softw...	4-General Fund Ent.	93.75
			6027 · Computer Softw...	1-Groundwater Ent.	6.25
			6027 · Computer Softw...	2-Redlands Plaza/...	12.50
			6027 · Computer Softw...	3-Land Resources	12.50
			6030 · Office Supplies	4-General Fund Ent.	1,276.91
			6030 · Office Supplies	1-Groundwater Ent.	79.81
			6030 · Office Supplies	2-Redlands Plaza/...	159.61
			6030 · Office Supplies	3-Land Resources	79.81
			6039 · Postage and Ov...	4-General Fund Ent.	74.14
			6039 · Postage and Ov...	1-Groundwater Ent.	33.70
			6039 · Postage and Ov...	2-Redlands Plaza/...	13.48
			6039 · Postage and Ov...	3-Land Resources	13.48
			6051 · Uniforms	4-General Fund Ent.	68.09
			6051 · Uniforms	1-Groundwater Ent.	158.88
			6435 · Conf/Seminar R...	4-General Fund Ent.	775.00
			6425 · Meals	4-General Fund Ent.	122.00
			6090 · Subscriptions/Pu...	4-General Fund Ent.	139.95
TOTAL					4,825.90

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
23166	**10/26/2021**	**City of Redlands -Muni...**	**1012 · Citizens Busine...**		**-2,671.22**
	10/07/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	2,671.22
TOTAL					2,671.22
23167	**10/26/2021**	**Diamond Environmenta...**	**1012 · Citizens Busine...**		**-88.78**
	10/11/2021		5460 · Water / Trash / S...	4-General Fund Ent.	44.39
			5460 · Water / Trash / S...	1-Groundwater Ent.	35.51
			5460 · Water / Trash / S...	3-Land Resources	8.88
TOTAL					88.78
23168	**10/26/2021**	**Echelon Chem, Inc.**	**1012 · Citizens Busine...**		**-423.48**
	10/19/2021		5215 · Property Mainten...	1-Groundwater Ent.	338.78
			5215 · Property Mainten...	3-Land Resources	84.70
TOTAL					423.48
23169	**10/26/2021**	**Edison - 6493**	**1012 · Citizens Busine...**		**-64.24**
	10/11/2021		5420 · Electricity	4-General Fund Ent.	17.99
			5420 · Electricity	1-Groundwater Ent.	12.85
			5420 · Electricity	2-Redlands Plaza/...	33.40
TOTAL					64.24
23170	**10/26/2021**	**Edison - 8958**	**1012 · Citizens Busine...**		**-551.66**
	10/08/2021		5420 · Electricity	4-General Fund Ent.	154.46
			5420 · Electricity	1-Groundwater Ent.	110.34
			5420 · Electricity	2-Redlands Plaza/...	286.86
TOTAL					551.66
23171	**10/26/2021**	**Frontier-7275**	**1012 · Citizens Busine...**		**-118.13**
	10/19/2021		5440 · Telephone	4-General Fund Ent.	30.20
			5440 · Telephone	1-Groundwater Ent.	12.94
			5470 · Internet Services	4-General Fund Ent.	37.50
			5470 · Internet Services	1-Groundwater Ent.	22.50
			5470 · Internet Services	2-Redlands Plaza/...	3.75
			5470 · Internet Services	3-Land Resources	11.24
TOTAL					118.13
23172	**10/26/2021**	**Manuel Colunga**	**1012 · Citizens Busine...**		**-27.46**
	10/22/2021		5215 · Property Mainten...	1-Groundwater Ent.	21.97
			5215 · Property Mainten...	3-Land Resources	5.49
TOTAL					27.46
23173	**10/26/2021**	**O'Reilly**	**1012 · Citizens Busine...**		**-84.68**
	10/06/2021		5210 · Equipment Maint...	1-Groundwater Ent.	10.32
	10/08/2021		5310 · Vehicle Mainten...	1-Groundwater Ent.	74.36
TOTAL					84.68

San Bernardino Valley Water Conservation District
Expenditure Report
October 2021

Num	Date	Name	Account	Class	Original Amount
23174	**10/26/2021**	**Quill Corporation**	**1012 · Citizens Busine...**		**-59.42**
	10/20/2021		6030 · Office Supplies	4-General Fund Ent.	47.54
			6030 · Office Supplies	1-Groundwater Ent.	2.97
			6030 · Office Supplies	2-Redlands Plaza/...	5.94
			6030 · Office Supplies	3-Land Resources	2.97
TOTAL					59.42
23175	**10/26/2021**	**Redlands Chamber of ...**	**1012 · Citizens Busine...**		**-20.00**
	10/26/2021		6425 · Meals	4-General Fund Ent.	20.00
TOTAL					20.00
23176	**10/26/2021**	**Redlands Ford-Ken Gr...**	**1012 · Citizens Busine...**		**-82.38**
	10/18/2021		5310 · Vehicle Mainten...	1-Groundwater Ent.	82.38
TOTAL					82.38
23177	**10/26/2021**	**Rogers, Anderson, Mal...**	**1012 · Citizens Busine...**		**-2,430.00**
	09/30/2021		5170 · Audit	4-General Fund Ent.	729.00
			5170 · Audit	1-Groundwater Ent.	874.80
			5170 · Audit	2-Redlands Plaza/...	364.50
			5170 · Audit	3-Land Resources	461.70
TOTAL					2,430.00
23178	**10/26/2021**	**The Gas Company**	**1012 · Citizens Busine...**		**-3.12**
	10/15/2021		5450 · Natural Gas	4-General Fund Ent.	1.87
			5450 · Natural Gas	1-Groundwater Ent.	1.25
TOTAL					3.12
23179	**10/26/2021**	**U.S. Bank Equipment F...**	**1012 · Citizens Busine...**		**-339.30**
	10/08/2021		6033 · Office Equipmen...	4-General Fund Ent.	254.46
			6033 · Office Equipmen...	1-Groundwater Ent.	16.97
			6033 · Office Equipmen...	2-Redlands Plaza/...	50.90
			6033 · Office Equipmen...	3-Land Resources	16.97
TOTAL					339.30
23180	**10/27/2021**	**Santa Ana Regional Wa...**	**1012 · Citizens Busine...**		**-163,660.00**
			5081 · Wash Plan	5-Wash Plan	163,660.00
TOTAL					163,660.00
100288N	**10/26/2021**	**PERS**	**1012 · Citizens Busine...**		**-16,368.11**
			6170 · PERS Retirement	4-General Fund Ent.	2,127.86
			6170 · PERS Retirement	1-Groundwater Ent.	7,365.65
			6170 · PERS Retirement	2-Redlands Plaza/...	654.72
			6170 · PERS Retirement	3-Land Resources	1,636.81
			6170 · PERS Retirement	5-Wash Plan	1,145.77
			6170 · PERS Retirement	6-Active Recharge ...	3,437.30
TOTAL					16,368.11

San Bernardino Valley Water Conservation District

Director Fees Expenditure Payroll Report

October 2021

Pay Date	Name	For Period	Director Fees	Taxes Withheld	Check Amt
10/6/2021	Corneille, R	Aug-21	$ 940.00	$ 97.19	$ 842.81
10/6/2021	McDonald, M	Sep-21	$ 470.00	$ 41.59	$ 428.41
10/20/2021	Corneille, R	Sep-21	$ 940.00	$ 97.19	$ 842.81
10/20/2021	McDonald, M	21-Oct	$ 1,880.00	$ 190.34	$ 1,689.66

RESOLUTION NO. 593

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT REGARDING A STATE OF EMERGENCY AND AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE DISTRICT'S BOARD OF DIRECTORS FOR THE THIRTY DAY PERIOD BEGINNING NOVEMBER 13, 2021, PURSUANT TO BROWN ACT PROVISIONS.

WHEREAS, the San Bernardino Valley Water Conservation District ("District") is committed to preserving and nurturing public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of the District's Board of Directors are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code secs. 54950 et seq.), so that any member of the public may attend, participate, and watch the District's Board conduct its business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition is that a state of emergency exists caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District's boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing, or, the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, by way of resolution passed on October 13, 2021, the Board found such conditions existed in the District, specifically, the District remains in an emergency state with respect to COVID-19, particularly given the impact of the highly contagious Delta variant. As of September 28, 2021, the San Bernardino County Public Health Administration has reported 339,458 confirmed cases of COVID-19, resulting in 5,030 deaths. Statewide, the total cases were 4.476,388, and deaths totaled 68,387. That same agency has recommended social distancing measures to prevent the spread of the infectious virus. The California State Public Health Department, in its guidance of July 28, 2021 urges universal masking indoors, particularly for persons who are unvaccinated; and

WHEREAS, Government Code section 54953(e) (3) permits the Board to reconsider the circumstances of the state of emergency thirty days from the date of the original set of findings, to determine whether the state of emergency continues to directly impact the ability of members to meet safely in parson, or whether State or local officials continue to recommend measures to promote social distancing; and

WHEREAS the Board of Directors does hereby find that ongoing threats of infection from COVID-19, particularly given the complicating factors of the highly contagious Delta variant, and the impact of it and all other COVID-19 virus strains upon segments of the population, especially the unvaccinated, has caused, and will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and facilities of the District; and

WHEREAS, as a consequence of the emergency, the Board of Directors does hereby find that it shall continue to conduct its meetings without compliance with paragraph (3) of subdivision (b) of Government Code section 54953, as authorized by subdivision (e) of section 54953, and that the District shall comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of section 54953; and

WHEREAS, the District is making its meetings open and accessible to the public through Zoom telephonic and internet-based remote participation vehicles, and in the conduct of its meetings, will comply with the restrictions upon same set out in the newly-enacted A.B. 361, and its amendments to Government Code section 54953;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Proclamation of Local Emergency. The Board hereby finds that a

local emergency continues to exist throughout the District in connection with COVID-19 and its continuing risk of infection transmission, particularly in indoor spaces among unvaccinated persons; and

Section 3. Remote Teleconference Meetings. The staff and General Manager of the District are hereby again authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution, including conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act

Section 4. Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until the earlier of December 13, 2021, or such time the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the Board may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

PASSED AND ADOPTED by the Board of Directors of the San Bernardino Valley Water Conservation District this 10th day of November 2021, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____

Melody McDonald, President

ATTEST:

_____

Daniel B. Cozad, Secretary

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1811

To: **Board of Directors**

From: **General Manager, Daniel Cozad**

Date: **November 10, 2021**

Subject: **Unaudited Financial Reports, October 2021**

RECOMMENDATION

Review and approve the unaudited financials for October 2021.

BACKGROUND

Each month staff presents the unaudited financials for the District. The reports submitted with this Board Letter have a closing date of October 31, 2021.

DISCUSSION

All Groundwater Council revenue has been received. Valley District has been billed for the Enhanced Recharge Lease agreement and the Exchange Plan. Payment was received in November. Wash Plan revenue, which is currently a District loan, is over budget due to state permitting expenses. These expenses have been billed to Wash Plan participants for reimbursement. All other revenue and expenses are as expected.

FISCAL IMPACT

There is no fiscal impact from reporting the financial status of the District.

POTENTIAL MOTIONS

1. Move approval of the Unaudited Financials for October 2021 as presented.
2. Move to request this item be tabled and referred to the Finance & Administration Committee to reconsider specific issues discussed.

ATTACHMENTS OR MATERIALS

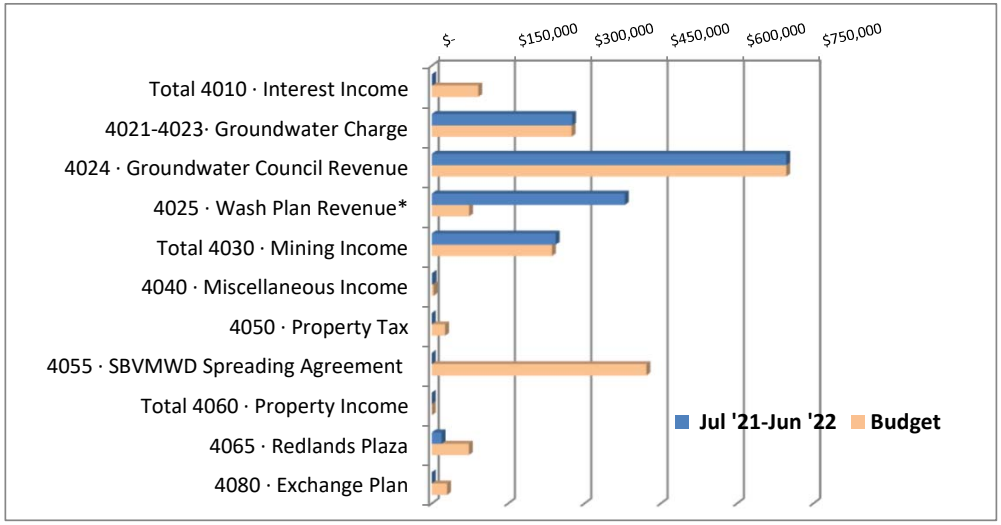
Graph Financials for October 2021
Profit & Loss to Date vs. Annual Budget

1630 W. Redlands Blvd, Suite A
Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

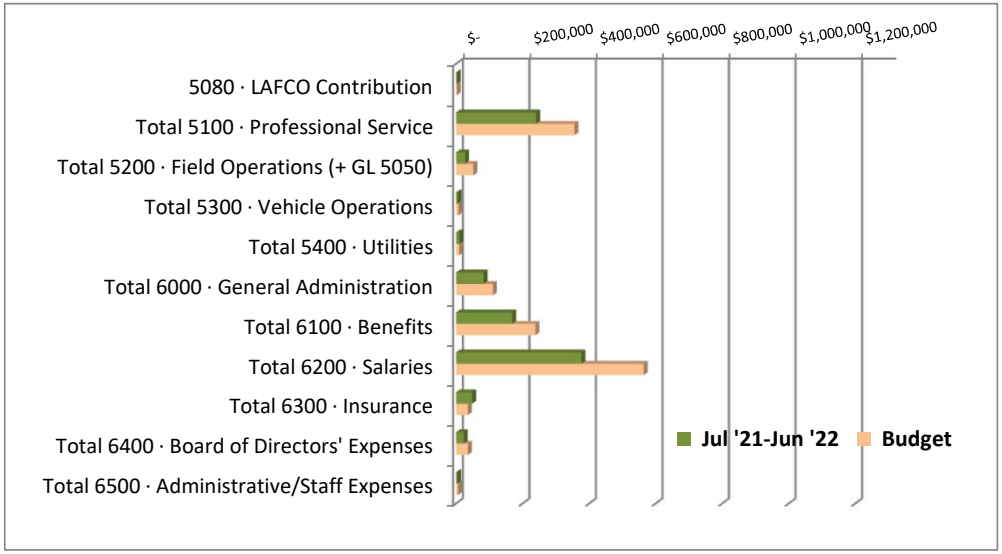
SBVWCD - All Enterprises Budget and Actual **October 2021**

REVENUE	Jul '21-Jun '22	Budget
Total 4010 · Interest Income	$ 969	$ 91,153
4021-4023· Groundwater Charge	$ 275,818	$ 274,841
4024 · Groundwater Council Revenue	$ 696,802	$ 696,800
4025 · Wash Plan Revenue*	$ 379,281	$ 73,333
Total 4030 · Mining Income	$ 243,620	$ 236,000
4040 · Miscellaneous Income	$ 1,577	$ 3,333
4050 · Property Tax	$ -	$ 26,163
4055 · SBVMWD Spreading Agreement	$ -	$ 421,846
Total 4060 · Property Income	$ -	$ 100
4065 · Redlands Plaza	$ 19,325	$ 72,679
4080 · Exchange Plan	$ -	$ 30,000
Total Revenue	**$ 1,617,392**	**$ 1,926,249**

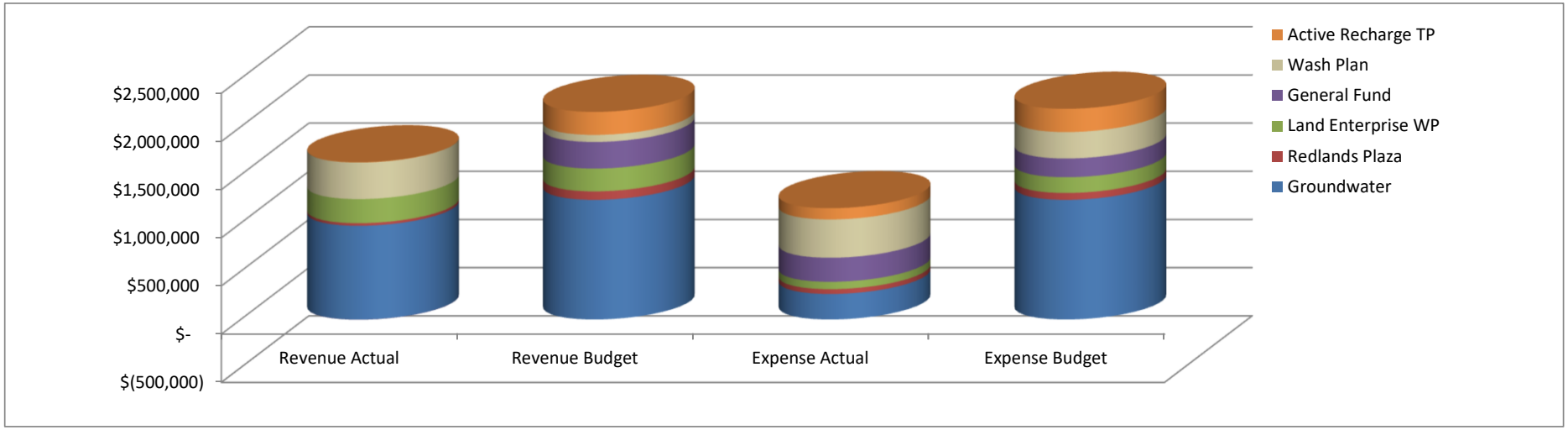
*District loans to the WP



EXPENSES Operating and Capital	Jul '21-Jun '22	Budget
5080 · LAFCO Contribution	$ 2,419	$ 2,419
Total 5100 · Professional Service	$ 241,171	$ 355,883
Total 5200 · Field Operations (+ GL 5050)	$ 26,946	$ 52,399
Total 5300 · Vehicle Operations	$ 4,700	$ 7,712
Total 5400 · Utilities	$ 10,228	$ 9,331
Total 6000 · General Administration	$ 83,334	$ 110,963
Total 6100 · Benefits	$ 169,147	$ 238,609
Total 6200 · Salaries	$ 377,215	$ 564,240
Total 6300 · Insurance	$ 48,992	$ 35,534
Total 6400 · Board of Directors' Expenses	$ 23,434	$ 35,800
Total 6500 · Administrative/Staff Expenses	$ 3,768	$ 6,092
Total Expense	**$ 991,356**	**$ 1,418,983**



Enterprises to Date (October 2021)



Enterprise	Actual	Budget	% of Budget
Groundwater Revenue	$ 972,620	$ 1,242,063	78%
Groundwater Expense	$ 264,829	$ 484,067	55%
Revenue -Expense	$ 707,791	$ 757,996	
Redlands Plaza Revenue	$ 26,889	$ 87,747	31%
Redlands Plaza Expense	$ 49,861	$ 70,940	70%
Revenue -Expense	$ (22,972)	$ 16,807	
Land Enterprise Revenue	$ 250,107	$ 236,833	106%
Land Enterprise Expense	$ 76,337	$ 163,627	47%
Revenue -Expense	$ 173,769	$ 73,206	
General Fund Revenue *	$ (921)	$ 276,148	0%
General Fund Expense	$ 249,884	$ 194,372	129%
Revenue -Expense	$ (250,805)	$ 81,776	
Wash Plan Revenue	$ 379,281	$ 73,333	517%
Wash Plan Expense	$ 397,543	$ 274,440	145%
Revenue-Expense	(18,262)	(201,106)	
Active Recharge TP Revenue	$ 2,421	$ 238,500	1%
Active Recharge TP Expense	$ 116,561	$ 241,120	48%
Revenue-Expense	$ (114,140)	$ (2,620)	
Total All Revenue - Expense	$ 475,381	$ 726,058	

Cash Status	As of 7/1/2021	As of 10/31/2021
LAIF	$ 430,623.48	$ 431,237.50
Cal Trust	$ 3,222,408.78	$ 3,220,876.06
Citizens Bank	$ 2,306,531.33	$ 2,375,366.03
UBS Financial Services	$ 500,681.82	$ 749,693.05
US Bank-CAMP	$ 18,754,702.89	$ 18,757,931.13
Total Cash	$ 25,214,948.30	$ 25,535,103.77
Less Prepaid Royalty	$ (5,000,000.00)	$ (5,000,000.00)
Less ARTP Obligation	$ (18,437,500.00)	$ (18,265,772.92)
Cash Position	$ 1,777,448.30	$ 2,269,330.85

Increase (decrease) of	$491,882.55
Percent Increase	27.7%

** General Fund Revenue shown here does not include overhead*

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Oct 21	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
4010 · Interest Income				
4012 · LAIF	262.43	4,000.00	-3,737.57	6.56%
4013 · Caltrust Investment Income	-1,532.72	25,600.00	-27,132.72	-5.99%
4014 · CalCredit Union Interest Income	0.00	0.00	0.00	0.0%
4015 · UBS Interest Income	-988.77	27,860.00	-28,848.77	-3.55%
4016 · Interest Income ARTP	3,228.24	216,000.00	-212,771.76	1.5%
Total 4010 · Interest Income	969.18	273,460.00	-272,490.82	0.35%
4017 · ARTP Capital Income	0.00	615,000.00	-615,000.00	0.0%
4020 · Groundwater Charge				
4021 · Assessments - Ag	56,479.22	0.00	56,479.22	100.0%
4022 · Groundwater Charge	662.64	549,681.07	-549,018.43	0.12%
4023 · Assessments - Non-Ag	218,675.96	0.00	218,675.96	100.0%
4024 · Groundwater Council Revenue	696,802.00	696,800.00	2.00	100.0%
4026 · GW Sustainability/Replenishment	0.00	16,814.00	-16,814.00	0.0%
Total 4020 · Groundwater Charge	972,619.82	1,263,295.07	-290,675.25	76.99%
4025 · Wash Plan Revenue	379,280.96	220,000.00	159,280.96	172.4%
4030 · Mining Income				
4031 · Plant Site - CEMEX	8,000.00	48,000.00	-40,000.00	16.67%
4032 · Cemex - Royalty / Lease	204,310.39	600,000.00	-395,689.61	34.05%
4036 · Aggregate Maintenance	31,309.58	60,000.00	-28,690.42	52.18%
Total 4030 · Mining Income	243,619.97	708,000.00	-464,380.03	34.41%
4040 · Miscellaneous Income				
4041 · Reimbursed Expenses	46.08	0.00	46.08	100.0%
4040 · Miscellaneous Income - Other	1,531.00	10,000.00	-8,469.00	15.31%
Total 4040 · Miscellaneous Income	1,577.08	10,000.00	-8,422.92	15.77%
4043 · Project Salary Reimbursement	5,486.67			
4050 · Property Tax	0.00	130,817.65	-130,817.65	0.0%
4055 · SBVMWD Spreading Agreement Reim	0.00	421,846.11	-421,846.11	0.0%
4060 · Property Income				
4062 · Mentone Property	0.00	100.00	-100.00	0.0%
Total 4060 · Property Income	0.00	100.00	-100.00	0.0%
4065 · Redlands Plaza	19,324.61	218,036.34	-198,711.73	8.86%
4066 · Redlands Plaza CAM	7,518.46	44,906.35	-37,387.89	16.74%
4080 · Exchange Plan	0.00	30,000.00	-30,000.00	0.0%
4086 · Plunge Creek IRWMP	0.00	0.00	0.00	0.0%
4999 · Trust Reimbursement-Wash Plan	0.00	592,500.00	-592,500.00	0.0%
Total Income	1,630,396.75	4,527,961.52	-2,897,564.77	36.01%
Gross Profit	1,630,396.75	4,527,961.52	-2,897,564.77	36.01%
Expense				
5040 · Regional Programs				
5080 · LAFCO Contribution	2,418.94	2,418.94	0.00	100.0%
5081 · Wash Plan	163,660.00			
Total 5040 · Regional Programs	166,078.94	2,418.94	163,660.00	6,865.77%
5050 · Basin Cleaning	0.00	50,000.00	-50,000.00	0.0%
5100 · Professional Service				
5120 · Misc. Professional Services	40,914.62	300,000.00	-259,085.38	13.64%
5122 · Wash Plan Professional Services	108,127.15	245,000.00	-136,872.85	44.13%
5123 · Habitat Management-WP	10,888.76	346,250.00	-335,361.24	3.15%
5124 · Plunge Creek Prof Services	0.00	0.00	0.00	0.0%
5125 · Engineering Services	0.00	30,000.00	-30,000.00	0.0%
5130 · Aerial Photography & Surveying	0.00	2,200.00	-2,200.00	0.0%
5145 · Environmental Services (WP)	45,693.25			
5155 · WP Trails Professional Services	0.00	25,000.00	-25,000.00	0.0%
5160 · IT Support	1,350.00	8,500.00	-7,150.00	15.88%
5170 · Audit	24,500.00	26,900.00	-2,400.00	91.08%
5175 · Legal - Wash Plan	7,950.00	5,000.00	2,950.00	159.0%
5180 · Legal	1,747.50	25,000.00	-23,252.50	6.99%
Total 5100 · Professional Service	241,171.28	1,013,850.00	-772,678.72	23.79%
5133 · Regional River HCP Contribution	0.00	25,000.00	-25,000.00	0.0%
5200 · Field Operations				
5210 · Equipment Maintenance	2,781.20	7,200.00	-4,418.80	38.63%
5215 · Property Maintenance	1,142.74	40,000.00	-38,857.26	2.86%
5225 · Field Clean Up-Illegal dumping	23,021.81	60,000.00	-36,978.19	38.37%
Total 5200 · Field Operations	26,945.75	107,200.00	-80,254.25	25.14%
5223 · Temp. Field Labor	0.00	10,000.00	-10,000.00	0.0%

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Oct 21	Budget	$ Over Budget	% of Budget
5300 · Vehicle Operations				
5310 · Vehicle Maintenance	511.02	8,000.00	-7,488.98	6.39%
5320 · Fuel	4,189.11	15,125.00	-10,935.89	27.7%
Total 5300 · Vehicle Operations	4,700.13	23,125.00	-18,424.87	20.33%
5400 · Utilities				
5410 · Alarm Service	724.00	1,545.00	-821.00	46.86%
5420 · Electricity	4,259.39	7,563.42	-3,304.03	56.32%
5430 · Mobile Phone	1,620.00	5,370.31	-3,750.31	30.17%
5440 · Telephone	1,677.78	6,000.00	-4,322.22	27.96%
5450 · Natural Gas	6.11	1,155.00	-1,148.89	0.53%
5460 · Water / Trash / Sewer	1,165.68	3,609.90	-2,444.22	32.29%
5470 · Internet Services	774.86	2,750.00	-1,975.14	28.18%
Total 5400 · Utilities	10,227.82	27,993.63	-17,765.81	36.54%
6000 · General Administration				
6001 · General Administration - Other	1,151.48	4,500.00	-3,348.52	25.59%
6002 · Website Administration	1,636.94	6,000.00	-4,363.06	27.28%
6004 · Meeting Expenses	1,304.04	2,060.00	-755.96	63.3%
6006 · Permits	2,066.00	45,000.00	-42,934.00	4.59%
6007 · Inter District Costs	0.00	10,000.00	-10,000.00	0.0%
6009 · Licenses	0.00	1,712.06	-1,712.06	0.0%
6010 · Surety Bond	1,210.00	1,900.00	-690.00	63.68%
6012 · Office Maintenance	84.59	2,550.80	-2,466.21	3.32%
6013 · Office Lease Payment	16,666.68	50,000.00	-33,333.32	33.33%
6015 · Mentone House Maintenance	408.00	3,500.00	-3,092.00	11.66%
6016 · Redlands Plaza Maintenance	556.28	35,000.00	-34,443.72	1.59%
6018 · Janitorial Services	2,940.00	10,400.00	-7,460.00	28.27%
6019 · Janitorial Supplies	125.47	515.00	-389.53	24.36%
6020 · Vacancy Marketing-Redlands Plaz	0.00	5,000.00	-5,000.00	0.0%
6026 · Redlands Plaza CAM expenses	14,614.33	32,936.31	-18,321.98	44.37%
6027 · Computer Software	1,141.00	2,000.00	-859.00	57.05%
6030 · Office Supplies	3,439.29	3,500.00	-60.71	98.27%
6033 · Office Equipment Rental	2,415.91	9,500.00	-7,084.09	25.43%
6036 · Printing	108.75	2,000.00	-1,891.25	5.44%
6039 · Postage and Overnight Delivery	254.43	1,200.00	-945.57	21.2%
6042 · Payroll Processing	950.30	2,859.13	-1,908.83	33.24%
6045 · Bank Service Charges	0.00	1,000.00	-1,000.00	0.0%
6051 · Uniforms	671.44	3,025.00	-2,353.56	22.2%
6060 · Outreach	0.00	63,000.00	-63,000.00	0.0%
6087 · Educational Reimbursement	0.00	5,000.00	-5,000.00	0.0%
6090 · Subscriptions/Publications	1,698.93	1,355.20	343.73	125.36%
6091 · Public Notices	0.00	3,200.00	-3,200.00	0.0%
6093 · Memberships	29,890.33	25,289.23	4,601.10	118.19%
Total 6000 · General Administration	83,334.19	334,002.73	-250,668.54	24.95%
6100 · Benefits				
6110 · Vision Insurance	1,159.34	3,433.34	-2,274.00	33.77%
6120 · Workers' Comp. Insurance	4,623.62	19,735.34	-15,111.72	23.43%
6130 · Dental Insurance	4,304.56	12,567.32	-8,262.76	34.25%
6150 · Medical Insurance				
6150.01 · Medical Employee Contribution	-8,499.40	-31,135.80	22,636.40	27.3%
6150 · Medical Insurance - Other	93,081.24	285,106.20	-192,024.96	32.65%
Total 6150 · Medical Insurance	84,581.84	253,970.40	-169,388.56	33.3%
6160 · Payroll Taxes-Employer	21,759.99	122,654.27	-100,894.28	17.74%
6170 · PERS Retirement				
6170.01 · PERS Employee Contributions	-51,779.35	-45,326.72	-6,452.63	114.24%
6170 · PERS Retirement - Other	104,497.47	353,223.42	-248,725.95	29.58%
Total 6170 · PERS Retirement	52,718.12	307,896.70	-255,178.58	17.12%
Total 6100 · Benefits	169,147.47	720,257.37	-551,109.90	23.48%
6200 · Salaries				
6230 · Regular Salaries	377,215.42	1,692,720.61	-1,315,505.19	22.29%
6200 · Salaries - Other	0.00	0.00	0.00	0.0%
Total 6200 · Salaries	377,215.42	1,692,720.61	-1,315,505.19	22.29%
6300 · Insurance				
6310 · Property/ Auto Insurance	4,828.74	4,420.14	408.60	109.24%
6320 · General Liability Insurance	44,163.41	33,651.74	10,511.67	131.24%
Total 6300 · Insurance	48,992.15	38,071.88	10,920.27	128.68%
6400 · Board of Directors' Expenses				
6401 · Directors' Fees				
6401.5 · Payroll Taxes-Directors	4,544.62	0.00	4,544.62	100.0%
6401 · Directors' Fees - Other	17,390.00	87,901.20	-70,511.20	19.78%
Total 6401 · Directors' Fees	21,934.62	87,901.20	-65,966.58	24.95%

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Oct 21	Budget	$ Over Budget	% of Budget
6410 · Mileage	119.49	4,000.00	-3,880.51	2.99%
6415 · Air Fare	0.00	2,500.00	-2,500.00	0.0%
6420 · Other Travel	0.00	500.00	-500.00	0.0%
6425 · Meals	480.00	3,500.00	-3,020.00	13.71%
6430 · Lodging	0.00	4,000.00	-4,000.00	0.0%
6435 · Conf/Seminar Registrations	900.00	5,000.00	-4,100.00	18.0%
6440 · Election Fees / Re-Districting	0.00	25,000.00	-25,000.00	0.0%
Total 6400 · Board of Directors' Expenses	23,434.11	132,401.20	-108,967.09	17.7%
6500 · Administrative/Staff Expenses				
6510 · Mileage	542.64	2,500.00	-1,957.36	21.71%
6515 · Air Fare	0.00	4,500.00	-4,500.00	0.0%
6520 · Travel, Other (rental car, taxi	0.00	1,500.00	-1,500.00	0.0%
6525 · Meals	678.36	2,035.00	-1,356.64	33.34%
6530 · Lodging	1,597.35	3,750.00	-2,152.65	42.6%
6535 · Conf/Seminar Registrations	950.00	4,000.00	-3,050.00	23.75%
Total 6500 · Administrative/Staff Expenses	3,768.35	18,285.00	-14,516.65	20.61%
9999 · Contribution to Capital Maint.	0.00	278,621.92	-278,621.92	0.0%
Total Expense	1,155,015.61	4,473,948.28	-3,318,932.67	25.82%
Net Ordinary Income	475,381.14	54,013.24	421,367.90	880.12%
Other Income/Expense				
Other Expense				
7000 · Construction				
7010 · Materials	0.00	12,000.00	-12,000.00	0.0%
7055 · Plunge Creek Expansion	0.00	0.00	0.00	0.0%
Total 7000 · Construction	0.00	12,000.00	-12,000.00	0.0%
7100 · Land & Buildings				
7110 · Property Capital Repairs	0.00	511,971.00	-511,971.00	0.0%
7120 · Property-Land Purchase	0.00	0.00	0.00	0.0%
7126 · ARTP Engr/Prof Services	0.00	600,000.00	-600,000.00	0.0%
7130 · Mentone Property (House)-CapRep	0.00	25,000.00	-25,000.00	0.0%
7140 · Mentone Property (Shop)-CapRep	0.00	375,000.00	-375,000.00	0.0%
7150 · Mill Creek Diversion	0.00	1,100,000.00	-1,100,000.00	0.0%
7160 · Mendoza Property	0.00	137,000.00	-137,000.00	0.0%
Total 7100 · Land & Buildings	0.00	2,748,971.00	-2,748,971.00	0.0%
7200 · Equipment & Vehicles				
7210 · Computer Hardware-Capital Purch	2,818.90	5,000.00	-2,181.10	56.38%
7220 · Computer Software	18,448.21	10,000.00	8,448.21	184.48%
7230 · Field Equipment / Vehicles	0.00	1,604.44	-1,604.44	0.0%
7240 · Office Equipment	3,265.38	1,500.00	1,765.38	217.69%
Total 7200 · Equipment & Vehicles	24,532.49	18,104.44	6,428.05	135.51%
7400 · Professional Services Capital				
7438 · Engineering Services-Other	0.00	125,000.00	-125,000.00	0.0%
Total 7400 · Professional Services Capital	0.00	125,000.00	-125,000.00	0.0%
Total Other Expense	24,532.49	2,904,075.44	-2,879,542.95	0.85%
Net Other Income	-24,532.49	-2,904,075.44	2,879,542.95	0.85%
Net Income	**450,848.65**	**-2,850,062.20**	**3,300,910.85**	**-15.82%**

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1812

To: **Board of Directors**

From: **Assistant Engineer, Katelyn Scholte**

Date: **November 10, 2021**

Subject: **Engineering Investigation Plan for 2022**

RECOMMENDATION

Staff is requesting that the Board review, discuss and recommend any changes to the Engineering Investigation Report Plan (EI Report plan) and consider approval of the 2022 EI Report plan.

BACKGROUND

Approximately seven years ago, staff prepared an EI Report Plan after receiving considerable input and discussion with the BTAC and other parties in the Basin. Staff has updated the plan to incorporate changes and revisions identified from the production of the EI Report in 2012. Additionally, staff has made non-substantive changes to the plan and report to streamline the document and reduce the burden of publication. Once again, SBVMWD has indicated they are willing to assist the District in completing the plan as needed and assisting with comparing the results with those from their groundwater model. Staff will also provide the updated Groundwater Charge Rate Change procedures should the Board consider changes to the rates.

FISCAL IMPACT

The cost to develop the EI agreement is included in the approved Groundwater Enterprise budget. The overall cost of the EI has been reduced in recent years. Currently, staff intends to prepare the report with in-house staff.

ATTACHMENTS

2022 Engineering Investigation Report Plan

1630 W. Redlands Blvd, Suite A
Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

Engineering Investigation 2022 Report Plan

1 Goals

The 2020-2021 EI will continue to follow the format from the prior year to achieve several goals for the report:

1. Provide a report which contains accurate statements of the statute required estimates based on sound science, judgment, and policy
2. Reduce effort to prepare the report to reduce the cost to the groundwater users
3. Utilize ongoing collaborative mechanisms to provide early opportunities to help plan the report and to help review the report before the hearing process and have the process support other needs in the region. Eventually, this will transition to a regional report in combination with others.
4. Create a clearer understanding of the report and options the District should consider and gain feedback before generating the report.
5. Make the report summary understandable to the public and available to all via the web.

2 Assumptions

This plan uses the general process and assumptions used in the 2019 to 2020 report. This plan would utilize the BTAC and USAWRA as a review and feedback process to ensure broad feedback on the plan and the needs of the basin managers and users are met. This plan is intended to be revised based on comments from the USAWRA and BTAC.

2.1 Water Year

As required by Water Code section 75574, the following water years will be included in the report:

Preceding Water Year (July 1st, 2020 to June 30th, 2021)

Current Water Year (July 1st, 2021 to June 30th, 2022)

Ensuing Water Year (July 1st, 2022 to June 30th, 2023)

Some issues arise due to different water years, surface water year October 1st to September 30th, groundwater year Fall to Fall (last readings commonly in November), etc. Other years used by the region will be identified, and data will be included and summarized for comparison and clarity while preserving the required EI Water Year.

3 Process and Tasks

The following process and tasks are outlined for the report preparation to allow review prior to report preparation to allow the completion of the statutory requirements for the EI shown below:

75574. The board shall, before the levy of the groundwater charge, find and determine all of the following:
(a) The average annual overdraft for the immediate past ten water years.
(b) The estimated annual overdraft for the current water year.
(c) The estimated annual overdraft for the ensuing water year.
(d) The accumulated overdraft as of the last day of the preceding water year.

(e) The estimated accumulated overdraft as of the last day of the current water year.
(f) The estimated amount of agricultural water to be withdrawn from the groundwater supplies of the District for the ensuing water year.
(g) The amount of water other than agricultural water to be drawn from the groundwater supplies of the District for the ensuing water year.
(h) The estimated amount of water necessary for surface distribution for the ensuing water year.
(i) The amount of water which is necessary for the replenishment of the groundwater supplies of the District.
(j) The amount of water the District is obligated by contract to purchase.

The District intends to use the collective capacity of the agencies in the basin to prepare the report and reduce costs. The main elements of the EI are shown below for review.

3.1 Data Request

Request agencies provide formatted digital data:
Cities of Colton, Devore, Loma Linda, Redlands, Rialto, Riverside, & San Bernardino; EVWD, EVMWD (Meeks & Daley), WVWD, SBVMWD, Riverside-Highland Water Company, Fontana Water Company, Gage Canal, Big Bear Valley Mutual, USGS, Southern California Edison, Lockheed Martin via Tetra Tech, Others include SBVMWD and Steve Mains (Watermaster Services)for comparison. If the data is available in an aggregated format due to Watermaster or other groups' work, it will be used.

An appendix will be prepared, which lists the sources of each data element that goes into the report. The list will be reported by the source and agency/contact person. Examples follow:

- Rainfall station C, Chris O'Neil, USGS
- Water production Santa Ana A1, Sam Fuller, BBWM table Z
- Stream Diversion X, SBVWCD (report A, table X)
- Stream Diversion Y, USGS station # XXXXXXX

Estimated or questionable data will be flagged.

3.2 Assess Water Elevation for Change in Storage Assessment (Appendix A):

As in prior reports, the Change in Storage reporting will represent **Fall 2020 to the Fall 2021 time period**. In this task, the District would use the same process as in 2020 and endeavor to collect and include **Fall 2020 to Fall 2021 (Current) water level data.** This will require fall water level to be reported by February 3rd at the latest for inclusion in the report; **otherwise, District will default to the prior year with changes.**

3.3 Accumulated Change in Storage for the last day of the preceding year ending June 2021

This section will include a 15-year summary table.

Appendix B will contain BTAC recommend Key Wells, which are actively measured. Key Wells are needed for several wells that are no longer monitored, especially in the farthest western areas of the Bunker Hill Basin. The District will use existing Key Wells as performed in 2019-2020 EI (last year).

3.4 Estimate of Annual Change in Storage for Ensuing Water Year (July 1st, 2022 to June 30th, 2023)

The District will continue to collect data from the historic precipitation stations. This data is used for the Regression Analysis, which will forecast the estimated annual change in storage. This data will be updated in Appendix D.

3.5 Average Annual Change in Storage for the Immediate Past 15 Water Years.

Ten years as reported in previous reports and required by water code will be covered at a minimum, and if no significant work is needed to complete for 15 years, the additional information will be included.

3.6 Estimated Amount of Agricultural Water and Non-Agricultural to be withdrawn for the Ensuing Water Year (July 1st, 2022 to June 30th, 2023)

The District has used its Groundwater Assessment database for calculating preceding water year's Agriculture and Non-Agricultural uses. The District proposes to continue to use this data; however, because the data is not compiled by month, it introduces error due to differing water years. Providers of this data summarize it for the first six months and the second six months only. The report would continue to estimate future uses based on **Preceding Water Year (July 1st, 2020 to June 30th, 2021).** No users of the report requested the District require data from the producers every month.

3.7 Estimated Amount of Water for Surface Water Diversions (Table 8): (Compiled from Daily Flow Reports)

The Surface water diversion will use the existing data compiled by area agencies with a review of compiled numbers during the January timeframe to ensure any new diversions are reflected. **These will be calculated up to June 30th, 2021.** For information only, if complete data is available, diversions will also be reported as of **September 30th, 2021**, based on last year's reporting method.

3.8 Estimated Amount of Water for Replenishment of Groundwater Supplies for Ensuing Water Year (July 1st, 2022 to June 30th, 2023) No Change

Water Quality Data: The District has historically requested and received TDS and Nitrate data along with the other Water elevations and monthly active well production values. This has not been included in any reports since 2005. The District will collect existing water quality data provided by participants. The District will not use the data for reporting into the EI Report.

4 Analysis Methods

4.1 GIS Analysis

The District will utilize Excel spreadsheets with GIS compatible field naming conventions based on SBVMWD's existing well database or other standard information to allow geo-referencing. The District has also begun requesting coordinate data for wells as of the 2019 report to update the GIS database.

4.2 Calculation of Change in Storage Analysis

The District will continue the methodology historically used for estimating the Change in Storage based on averaging the wells reported for each subbasin. The District uses wells by subbasins that are somewhat different than are in the groundwater model that SBVMWD uses. We will work with SBVMWD to run the basin wells we use once the data is compiled and validated, as was done last year.

4.3 Cross-Check Calculation Spreadsheet

The District will again use the cross-check spreadsheet to integrate all entered data and calculations for users of the report to check calculations in the preliminary state without the entire report being drafted.

5 Proposed Table of Contents

This shown proposed table of contents is similar to last year's document

1.0 Executive Summary
2.0 Introduction
2.1 Purpose and Scope
2.2 Location, Topography, and Climate
2.3 Definition of Terms
2.4 Sources of Data
3.0 **Fall 2020 and Fall 2021** Groundwater Elevation Contours
3.1 Hydrographs for Key Wells in the Bunker Hill Basin
4.0 Task 1 Annual Change in Storage **(Fall 2020 to Fall 2021)**
4.1 Hydrologic Sub-Areas
4.2 Area and Storativity
4.3 Groundwater level Elevation Changes
4.4 Change in Groundwater Storage
5.0 Task 2 – Accumulated Change in Storage 31 Year Trend **(Fall 1990 to Fall 2021)**
6.0 Task 3 –Total Groundwater Production for the **Preceding Water Year (July 1st, 2020 to June 30th, 2021)**
7.0 Task 4 – **Estimate** of the Annual Change in Storage for the **Current Water Year (July 1st, 2021 to June 30th, 2022)**
8.0 Task 5 – **Estimate** of the Annual Change in Storage for the **Ensuing Water Year (July 1st, 2022 to June 30th, 2023)**
9.0 Task 6 – Average Annual Change in Storage for the Immediate Past ten Years **(Fall 2010 to Fall 2021)**
10.0 Task 7 – **Estimated** Amount of Agricultural Water and Other Than Agricultural Water to be Withdrawn for the **Ensuing Water Year (July 1st, 2022 to June 30th, 2023)**
11.0 Task 8 – **Estimated** Amount of Water for Surface Distribution for the **Ensuing Water Year (July 1st, 2022 to June 30th, 2023)**
12.0 Task 9 - Estimated Amount of Water for Replenishment of the Groundwater Supplies for the **Ensuing Water Year (July 1st, 2022 to June 30th, 2023)**
13.0 Estimated Groundwater use in the District
14.0 General Findings
15.0 Conclusions

6 Document Compilation and Distribution

Other notes on document preparation and distribution

- Document content will be based on analysis results with the addition of early review draft information from the BTAC and USAWRA for efficiency

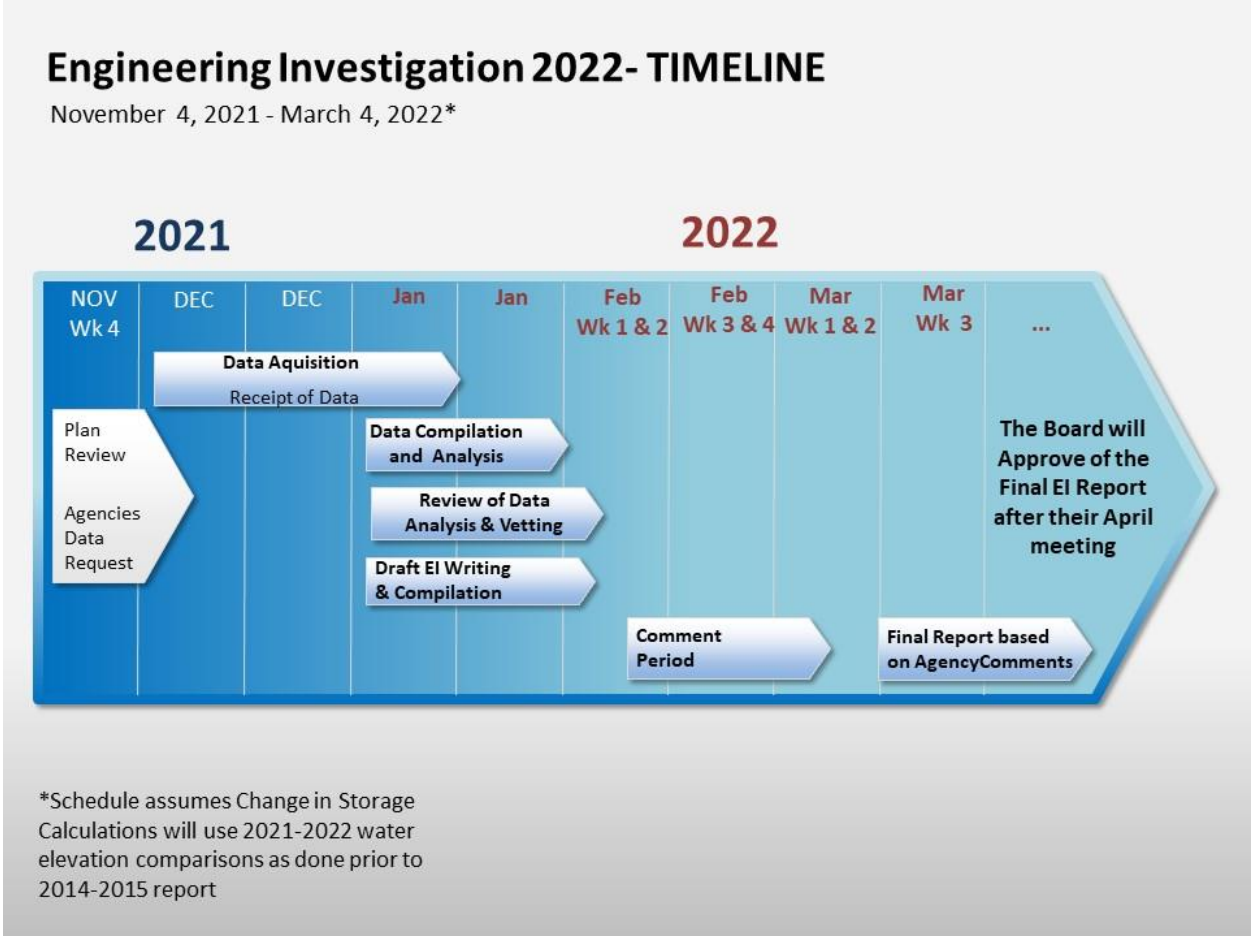
- Map updates based on last year's nine maps other graphs
- Appendices will be similar to last year but posted on-line only
- Appendices will be included as links to documents on the District Website to reduce production cost and allow ease of reference and update.
- Cross-Check spreadsheet and draft document compilation review steps will be utilized
- Final document printing as a summary only for board review all other publication via website

7 Quality Assurance and Quality Control

Virtually all information is provided by other programs and agencies that have their own QA/QC processes, and the EI relies on them for providing accurate data. Therefore, this section will briefly discuss the QA/AC process and standards for the following topics:

- Process and Method
- Data Accuracy
- Calculation Accuracy
- Comparability
- Approval

8 Schedule



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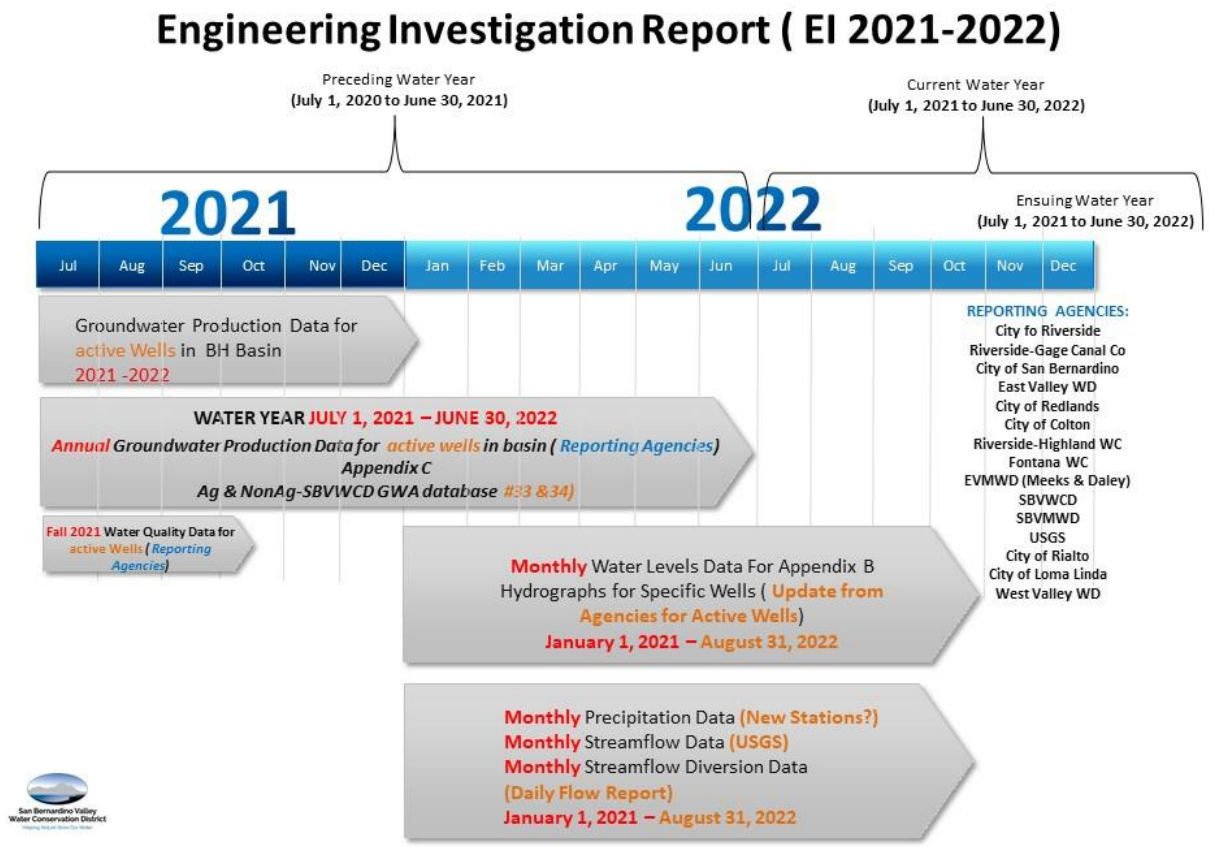
9 Water-Year Comparisons

For reference, the plan provides this overview of Water Year for the EI report



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San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1813

To: **Board of Directors**

From: **Betsy Miller, Land Resources Manager/Assistant General Manager**

Date: **November 10, 2021**

Subject: **Year 2 Amendment to Conservation Services Agreement with Inland Empire Resources Conservation District for Implementation of Permit Conditions for the Plunge Creek Conservation Project**

RECOMMENDATION

Approve Amendment 1 to the Conservation Services Agreement with Inland Empire Resources Conservation District (IERCD) for implementation of permit conditions associated with the Plunge Creek Conservation Project.

BACKGROUND

The Plunge Creek Conservation Project (Project) was issued the following permits in order to comply with State and Federal laws:

- Nationwide Permit in response to inquiry SPL-2017-00784-LRS from the U.S. Army Corps of Engineers
- Biological Opinion FWS-SB-19B0182-19F1160-R001 from the U.S. Fish and Wildlife Service
- Clean Water Act Section 401 Water Quality Certification and Order No. 362017-41 from the Santa Ana Regional Water Quality Control Board
- Operation of Law for Fish and Game Code Section 1602 Notification No. 1600-2017-0203-R6 from California Department of Fish and Wildlife
- California Endangered Species Act Safe Harbor Agreement No. 2089-2020-002-06 from California Department of Fish and Wildlife

The State and Federal permits issued for the Plunge Creek Conservation Project require the following post-construction actions over a five-year timeframe:

- Collection and spreading of seeds of native plant species from the Wash to restore habitat quality in areas that were temporarily disturbed by the Project

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Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

- Spreading and monitoring of Santa Ana River woolly-star seed collected prior to Project construction
- Wetland monitoring using the California Rapid Assessment Method
- Monitoring of the Santa Ana River woolly-star seeding locations and restoration areas
- Treatment of invasive plants within the Project area and a significant buffer area
- Monitoring of San Bernardino kangaroo rat

The District contracted with IERCD in 2020 to conduct all of the items above, with the exception of monitoring for San Bernardino kangaroo rat. IERCD staff possess the required qualifications for these tasks, and have been approved by California Department of Fish and Wildlife to act as the Project's Designated Restoration Ecologist.

During the 2020-2021 Agreement period, IERCD successfully performed the tasks required by the Plunge Creek Conservation Project permits, and the District seeks to amend the Agreement to contract with IERCD to continue providing these tasks in the second post-project year.

DISCUSSION

The Year 2 Amendment to the Conservation Services Agreement between the District and IERCD in support of the Plunge Creek Conservation Project includes the following components:

1. Clear definition of tasks to be conducted by IERCD.
2. Funding to be paid by District to IERCD in compensation for the contracted tasks.
3. Timing and mechanisms for payment.
4. Responsibilities for District and IERCD.
5. Legal protections for District and IERCD.

District will pay an amount not to exceed $31,123.31 to IERCD as compensation for services rendered in 2021-2022.

FISCAL IMPACT

Under the Conservation Services Agreement, District will pay an amount not to exceed $31,123.31 from the Land Resource fund in FY22.

POTENTIAL MOTIONS

1. Authorize the General Manager to execute the Conservation Services Agreement.
2. Authorize the General Manager to execute the Conservation Services Agreement with revisions.
3. Do not authorize the General Manager to execute the Conservation Services Agreement.

ATTACHMENTS OR MATERIALS

1. Year 2 Amendment to Conservation Services Agreement with IERCD for implementation of permit conditions associated with the Plunge Creek Conservation Project

FIRST AMENDMENT TO CONSERVATION SERVICES AGREEMENT

This **FIRST AMENDMENT TO** CONSERVATION SERVICES AGREEMENT ("Amendment") is entered into this ___ day of _____, 2021 by and between the SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT, a water conservation district formed and existing pursuant to Water Code sections 74000 et seq., and having offices at 1630 W Redlands Blvd. Suite A, Redlands, CA 92373 ("District"), and the INLAND EMPIRE RESOURCE CONSERVATION DISTRICT, a governmental special district having offices at 25864-K Business Center Drive, Redlands, CA 92374 ("IERCD") (together, "the Parties").

RECITALS

WHEREAS, the District has previously received approval to restore and preserve an approximately 1.05 mile reach of Plunge Creek, identified as the Plunge Creek Conservation Project ("Project").

WHEREAS, the Project has been constructed, and per its intended design now provides flow splitters and pilot channels to divert a portion of flows from Plunge Creek onto the historic Plunge Creek/Santa Ana River Wash, in order to provide a more complex channel morphology that would reestablish San Bernardino kangaroo rat and Santa Ana River woollystar habitats, waters of the U.S. and the State, and enhance groundwater recharge.

WHEREAS, the District has received permits from the United States Army Corps of Engineers ("ACOE"), the California Regional Water Quality Control Board, Santa Ana Region ("RWQCB"), and the California Department of Fish and Wildlife ("CDFW") for the Project (collectively, the "Agency Permits") which are as follows:

- The Clean Water Act Section 404 Nationwide Permit Verification letter issued by the ACOE dated April 11, 2019 (SPL-2017-00784-LRS);
- The Amended Streamlined Formal Section 7 Consultation for the Project dated July 22, 2020 issued by the U.S. Fish and Wildlife Service;
- The Clean Water Act Section 401 Water Quality Certification and Order for the Project (SARWQCB WDID #362017-41) dated October 3, 2018 issued by the Santa Ana Regional Water Quality Control Board; and
- The Safe Harbor Agreement (No. 2089-2020-003-06) for the Project dated July 31, 2020 issued by the California Department of Fish and Wildlife.

WHEREAS, the District and its contractors are responsible for installation, maintenance, and monitoring of this Project, in accordance with the Habitat Mitigation and Monitoring Plan ("HMMP"), the Habitat Mitigation and Monitoring Plan Amendment and Restoration Implementation Plan ("HMMP Amendment").

WHEREAS, IERCD is a Resource Conservation District formed for the control of runoff, the prevention or control of soil erosion, the development and distribution of water, and the improvement of land capabilities to pursuant to Public Resources Code section 9151 *et seq.*; and

WHEREAS, IERCD may accept grants of money and conservation easements to carry out its purposes, and may establish and charge fees for services provided upon request pursuant to Public Resources Code sections 9401 *et seq.*; and

WHEREAS, the Parties entered into that certain CONSERVATION SERVICES AGREEMENT dated _____, 2021 ("Agreement") defining the terms and conditions pursuant to which the IERCD implemented the "IERCD Activities" described in paragraph 1, below; and

WHEREAS, the Parties now wish to extend the Agreement for one (1) year beyond its original term, and towards that end, are entering into this Amendment.

AGREEMENT

NOW, THEREFORE, in consideration of the above and the mutual covenants, terms and conditions contained herein, and pursuant to the laws of the State of California, the District and IERCD hereby agree as follows:

1. IERCD Activities: The Parties agree that IERCD will continue to implement the restoration and enhancement activities, for a period of one (1) year form the date of this Amendment, from the Agreement ("IERCD Activities"): pursuant to Section 2, 3, 4, and 5 of the HMMP Amendment attached hereto as Exhibit A; and the corresponding Sections 4.2, 5.3, and 7.1 of the HMMP attached hereto as Exhibit B. This Amendment addresses only the IERCD Activities. The Parties explicitly understand and agree that the Agency Permits associated with the Project require other mitigation not addressed in this agreement.

2. Funding: The District agrees to pay IERCD the amount of $31,123.31, which was the fee that was agreed to by the parties in the Agreement after review of the HMMP and HMMP Amendment requirements, and the IERCD Activities contemplated to meet them, and which the parties have agreed is the appropriate amount of payment for IERCD to continue the IERCD Activities for an additional one (1) year. (the "Conservation Fee "). On or before thirty (30) days prior to any further extension of the Agreement by way of additional amendment , the parties shall meet and confer, to review budgets, scopes of work, status of existing efforts, and work plans for future IERCD Activities for the upcoming year, to attempt to jointly determine an appropriate amount for the Conservation Fee for the upcoming year, if any, to cover IERCD's costs for same. If joint agreement is not possible, IERCD may advise District in writing of its proposed Conservation Fee amount, and District shall be free to extend this Agreement at such Conservation Fee amount, or terminate the Agreement, without further liability of one party to the other.

3. Amendment: As per the Agreement, this Amendment represents the exercise of the parties' discretion to extend Sections 1 and 2 above for a single additional one (1) year periods, which represents the first of four (4) extensions contemplated under the Agreement. in order to complete the implementation of the IERCD Activities. Further consideration of additional extensions shall be conducted under processes set out in Paragraph 2, above.

4. Mitigation and/or Conservation Responsibility:

   a. The Parties explicitly agree that this Agreement covers only the IERCD Activities. Mitigation or other requirements of any other regulatory permit issued to the District or other changes in mitigation related to the Project, remain the responsibility of the District.

   b. District agrees that IERCD shall not be responsible to conduct any services except for the IERCD Activities outlined in Section 1, above, even if DFW, the Regional Board, ACOE and/or any other regulatory agency later modify their respective mitigation requirements. In such event, the District and IERCD shall meet and confer, to determine whether any changes in HMMP or Amendment mitigation requirements affecting IERCD Activities

may appropriately and efficiently be addressed by way of amendment to this Agreement, or whether this Agreement should be expanded, modified, or terminated, in light of such modified mitigation requirements. In no event, however, shall IERCD be bound to perform any services except the IERCD Activities specified hereunder, without further written agreement between the parties.

c. District remains responsible for obtaining final approval from DFW, the Regional Board and ACOE and/or any other regulatory agency for satisfaction of their Agency Permit conditions, including the approval from any relevant agency that the IERCD Activities, as performed or being performed, meet the required success criteria. IERCD agrees to use its best efforts assist the District in obtaining approval of the IERCD Activities by the relevant agencies.

5. IERCD as Contractor: IERCD agrees that it shall either perform or contract for the performance of all IERCD Activities required under this Agreement. The prior, written approval of District, exercising its sole discretion, shall be required on any contracting or subcontracting arrangements IERCD may enter into for the performance of the IERCD Activities, and District may require indemnifications and minimum insurance requirements for any third parties who may enter upon, or perform any IERCD Activities upon, any District properties. The District shall have no liability, monetary or otherwise, to any cooperators, subcontractors, providers of services or recipients of service under this Agreement retained or utilized by IERCD, and District's sole obligations hereunder shall be to IERCD.

6. When Payment Due: The Parties agree that the Conservation Fee is due and payable in full upon the District's receipt of IERCD's invoice therefor, which shall be no later than 30 days after full execution of this Agreement. IERCD agrees to provide the District with a written acknowledgement of receipt no later than 7 days after receipt of the Conservation Fee.

7. Time of Performance: IERCD agrees to begin the IERCD Activities within 30 days of the receipt of District's payment pursuant to Section 5 of this Agreement, or at any later time agreed to in writing by the Parties. IERCD shall be under no obligation to carry out any of the terms of this Agreement unless and until District tenders the Conservation Fee in full. In the event District does not tender the fee when due, then IERCD shall have no obligation to District whatsoever under this Agreement, whether at law or equity.

8. Cancellation: In the event District, for any reason, no longer desires IERCD to perform the IERCD Activities, it shall notify IERCD as soon as possible of its intent to cancel this agreement, including written notice by certified mail. Cancellation shall be effective ten (10) days after receipt of such notice by IERCD. In the event of cancellation after IERCD has begun the IERCD Activities, IERCD shall be allowed to complete any partially performed and unfinished activities as necessary for the protection of the public health, safety, and welfare, and the environment. IERCD shall be solely responsible for any termination or wind-up processes or obligations as may be necessary as a result of any agreement IERCD may have with any of its cooperators, subcontractors, providers of services or recipients of service under this Agreement, and IERCD indemnifies and holds District harmless from any claim or liability arising from such termination or wind-up processes or obligations IERCD shall deduct all expenses accrued as of the date of receipt of the cancellation notice, plus those expenses to complete activities as described in this paragraph from the Conservation Fee and return the balance, if any, to District within 60 days.

9. Notices. Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by first class mail, postage prepaid, addressed as follows:

To IERCD at:

Inland Empire Resource
Conservation District (IERCD)
25864-K Business Center Drive
Redlands, CA 92374
Attn: Mandy Parkes, District Manager
mparkes@iercd.org

To District at:

San Bernardino Valley Water Conservation
District (SBVWCD)
1630 W Redlands Blvd. Suite A
Redlands, CA 92373
Attn: Daniel Cozad, General Manager
dcozad@sbvwcd.org

With a copy to:

Steve Anderson
Best Best & Krieger LLP
3390 University Avenue, 5th Floor
P.O. Box 1028
Riverside, CA 92502
Steve.Anderson@bbklaw.com

David B. Cosgrove
District General Counsel
1630 W Redlands Blvd. Suite A
Redlands, CA 92373
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dcosgrove@sbvwcd.org

or to such other address as either party from time to time shall designate by written notice to the other.

10. Controlling Law. The interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue shall be in San Bernardino County.

11. Attorneys' Fees. The Parties shall bear their own attorney's fees and costs.

12. Effect of Amendment. . This Amendment, including exhibits, sets forth the entire agreement of the Parties with respect to the IERCD Activities and supersedes all prior discussions, negotiations, understandings, or agreements relating to the IERCD Activities, all of which are merged herein. This Amendment supersedes and replaces the original Agreement.

13. Counterparts. This Agreement may be executed in several counterparts and all counterparts so executed shall constitute one agreement, which shall be binding on all of the parties, notwithstanding that all of the parties are not signatory to one original or the same.

14. Authority. Each party to this Agreement warrants to the other that it is duly organized and existing and that it and the respective signatories have full right and authority to enter into and consummate this Agreement and all related documents and bind the parties thereto.

15. Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties, and shall not be assigned by Consultant without the prior written consent of the IERCD.

16. No Waiver. Failure of either party to insist on any one occasion upon strict compliance with any of the terms, covenants or conditions hereof shall not be deemed a waiver of such term, covenant or condition, nor shall any waiver or relinquishment of any rights or powers hereunder at any one time or more times be deemed a waiver or relinquishment of such other right or power at any other time or times.

17. No Third-Party Beneficiaries. There are no intended third-party beneficiaries of any right or obligation assumed by the Parties.

18. Severability. It is intended that each paragraph of this Agreement shall be treated as separate and divisible, and in the event that any paragraphs are deemed unenforceable, the remainder shall continue to be in full force and effect so long as the primary purpose of this Agreement is unaffected

SIGNATURE PAGE FOR THE CONSERVATION SERVICES AGREEMENT BY AND BETWEEN THE SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT AND THE INLAND EMPIRE RESOURCE CONSERVATION DISTRICT

_____
Date

_____
Melody Henriques McDonald
President of the Board
San Bernardino Valley Water Conservation District

_____
Date

_____
James Earsom, President of the Board
Inland Empire Resources Conservation District

Exhibit A

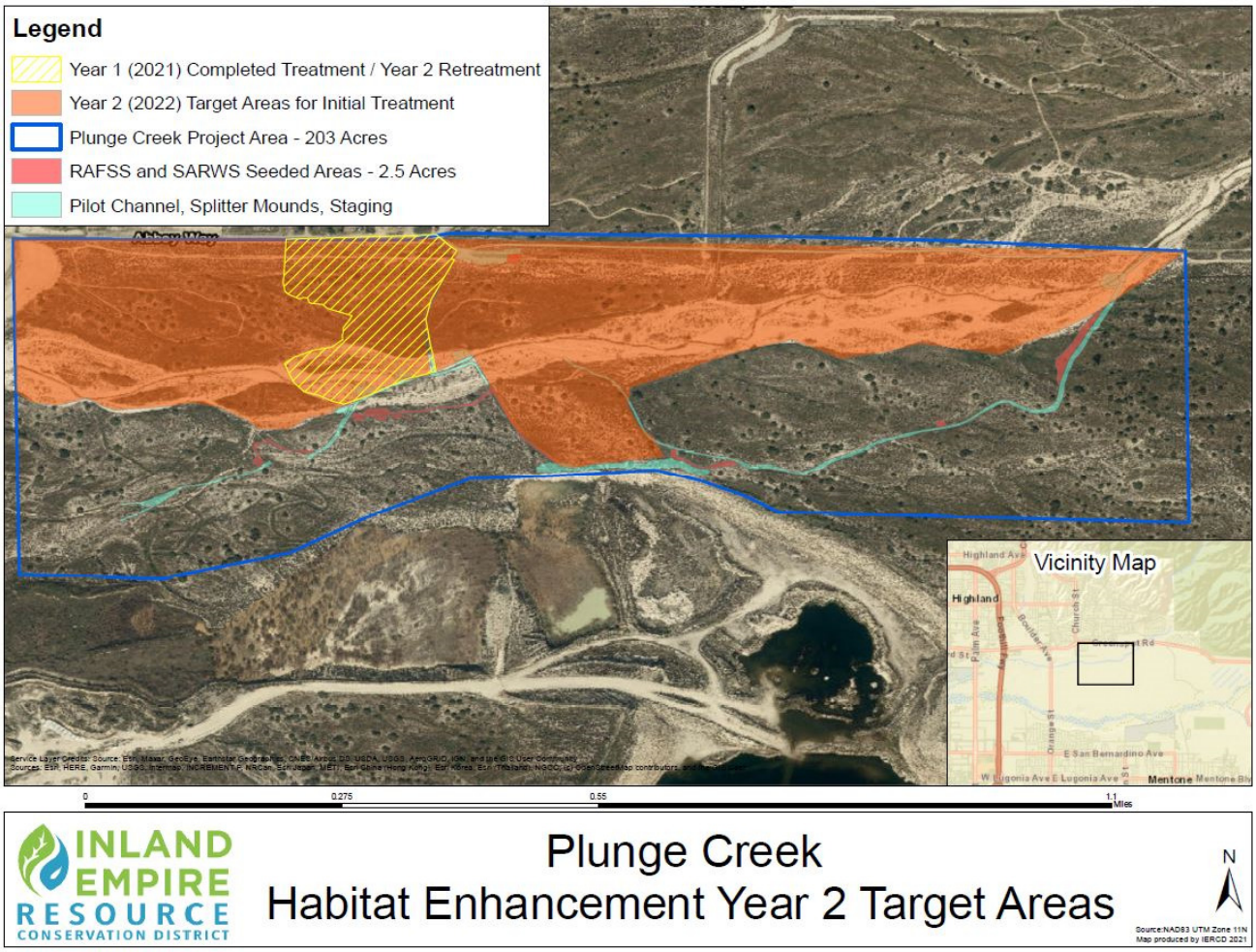
Year 2 Scope of Work
Based on the Requirements of the
Habitat Maintenance and Monitoring Plan Amendment and Restoration Implementation Plan
for the
Plunge Creek Conservation Project
Habitat Mitigation and Monitoring Plan

Within the specified time frame, the IERCD will perform the following work:

1. Habitat enhancement (invasive cover reduction) across the area detailed in the attached map consisting of approximately 100 acres of the project area.
2. Regular (bimonthly) monitoring including photo documentation, biological assessments, CRAM, data capture associated with invasive species reduction monitoring plots, and census of Santa Ana River wooly star seedlings and re-sprouts within the restoration areas.
3. Additional Santa Ana River wooly star seeding and seeding of associated species.
4. Upon completion of tasks, prepare a work summary annual report and GIS documentation.

SCHEDULE OF ACTIVITIES

2022 (Year 2)	Activity	Note
January	Wooly star seeding year 2	Areas flagged and GPS'd
January - April	Invasive grass and broadleaf treatments	100 acres of grass treatment
March	Bimonthly monitoring visits	Per HMMP
April	GPS photo point capture	
	CRAM Year 2	Year 1 skipped due to poor precipitation
	Annual vegetation cover monitoring (restoration+ grass cover assessments)	10'x10' monitoring lots
May	Perennial invasive species treatments	Fountain grass
	Additional seed collection of herbaceous annuals	if necessary
June	Wooly star census (within restoration areas)	
November	Broadcast of herbaceous annual species seed	if necessary



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San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1814

To: **Board of Directors**

From: **Betsy Miller, Land Resources Manager/Assistant General Manager**

Date: **November 10, 2021**

Subject: **Mill Creek Groundwater Recharge Facility Operations & Maintenance Permitting Professional Services Contract Award**

RECOMMENDATION

Staff recommends that the Board 1) Accept AECOM's proposal to obtain applicable environmental permits for operations and maintenance of the Mill Creek Groundwater Recharge Facility and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with AECOM's proposal and the District's form consultant services contract included in the Request for Proposals.

BACKGROUND AND DISCUSSION

The existing Mill Creek Groundwater Recharge Facility (Facility) is located along an approximately 2.3-mile segment of Mill Creek within the Santa Ana Watershed in Redlands, California, approximately 0.5 mile upstream of the confluence of Mill Creek with the Santa Ana River. This important facility supports implementation of the District's mission to recharge the Bunker Hill Groundwater Basin, and includes three sand settling basins and 57 percolation basins within approximately 450 acres owned by the Conservation District.

Maintenance and operations of this facility may be subject to aquatic, riparian, and species resources regulations administered by the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS). For example, the waters within the Mill Creek Project area, including approximately 66 acres of basins, were determined to be isolated and non-jurisdictional by the U.S. Army Corps of Engineers (USACE) in 2015. However, waters within the Facility area may be considered waters of the State, subject to state agency regulations. In addition, several listed and sensitive species are known to occur in the vicinity of the Facility.

In order to ensure continued, permitted operation of the Facility, the District issued a Request for Proposals for experienced technical consultant services to review operations and maintenance activities and obtain any necessary permits. We received six competitive proposals, which were

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reviewed based on demonstrated experience with similar projects; successfully obtaining 1602, 2081, 401 and LEHCP permits; ability to utilize existing information and Wash Plan data to optimize approach and lower costs; responsive cost proposal; and responsive schedule. Based on these factors, we recommend AECOM be selected for this contract.

FISCAL IMPACT

The recommended action would result in the expenditure of up to $250,186, funded through the Groundwater Charge and associated Reserves and Land Resources enterprise.

ATTACHMENTS OR MATERIALS

AECOM Proposal for Mill Creek Groundwater Recharge Facility Operations & Maintenance Permitting

AECOM

Photo credit: San Bernardino Valley Water Conservation District

PROPOSAL FOR

San Bernardino Valley Water Conservation District

Mill Creek Groundwater Recharge Facility Operations & Maintenance Permitting

SEPTEMBER 24, 2021

Delivering a better world

PROPOSAL TO PROVIDE

Mill Creek Groundwater Recharge Facility Operations and Maintenance Permitting

Submitted To:
San Bernardino Valley
Water Conservation District

Submitted by:
AECOM Technical Services, Inc.
401 W. A Street, Suite 1200
San Diego, CA 92101
Tel. 619.610.7600, Fax: 619.610.7601, www.aecom.com

September 24, 2021

Authority to Represent and
Designated Contact for AECOM Technical Services, Inc.:
Lindsey Cavallaro
Associate Vice President, DCS Environment
Natural Resources Group Manager, Southern/Central California
401 West A Street
San Diego, CA 92101
O: 619-610-7662
M: 619-318-6193
Lindsey.Cavallaro@aecom.com

Price specified remains firm and irrevocable for 90 days following the proposal submission date.

AECOM
401 W. A Street
Suite 1200
San Diego, CA 92101
aecom.com

September 24, 2021

Ms. Betsy Miller
Land Resources Manager/Assistant General Manager
San Bernardino Valley Water Conservation District
1630 W. Redlands Blvd., Suite A
Redlands, CA 92373

VIA DELIVERY and
EMAIL: bmiller@sbvwcd.org

RE: Proposal for Mill Creek Groundwater Recharge Facility Operations and Maintenance Permitting

Dear Ms. Miller and Selection Committee:

AECOM is thrilled to submit our proposal to the San Bernardino Valley Water Conservation District (Conservation District) to provide permitting for the Mill Creek Groundwater Recharge Facility Operations and Maintenance Project (the Maintenance Project). AECOM is currently supporting the Conservation District on programmatic permitting associated with covered activities under the Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan). As part of that effort, AECOM has provided strategic guidance to the Conservation District on the approach to permitting for the Maintenance Project. Our existing relationship with the Conservation District, resource agencies, and stakeholders and knowledge of the Maintenance Project, combined with our expert team of technical specialists and depth of resources, makes AECOM the right team, and the best team, to support the Conservation District for the Maintenance Project permitting effort.

The following are key differentiators of the AECOM team that will directly benefit the Conservation District:

Consistent Core Team. For the past year, AECOM's team of programmatic permitting experts has been working collaboratively with the Conservation District, resource agencies, and key stakeholders on permitting associated with covered activities under the Wash Plan. During this time, our team has become a trusted advisor and partner to the Conservation District. We are bringing that same core team, including project manager Ms. Michelle Fehrensen and permitting experts Ms. Paula Jacks and Dr. Erik Larsen, to lead the Maintenance Project permitting effort. Our team has demonstrated that we work collaboratively and effectively with the Conservation District, and we plan to carry that successful dynamic forward.

Technical Excellence. Our core team is supported by an extensive depth of resources and expertise, as detailed in our proposal, that will support permitting success for the Maintenance Project. Complimentary permitting and technical strengths combine related, but different, skillsets, which ultimately benefits the Conservation District by producing comprehensive, high-quality permit packages that meet agency expectations and achieve results.

Project-Specific Knowledge and 2081 Expertise. Our team will have no learning curve; we have an approach in motion and we are ready to get to work immediately. The AECOM team has specific knowledge and understanding of the Maintenance Project that will lend to a more efficient permitting process. Under our current contract, the AECOM team prepared a memorandum outlining a strategic approach to permitting for the Maintenance Project. Senior wildlife biologist and 2081 permitting expert Mr. Mike Anguiano supported initial review of the Mill Creek permitting needs and strategy and will be the lead for this permitting effort. Mike is currently leading two 2081 efforts with California Department of Fish and Wildlife (CDFW), and brings fresh perspective, wildlife biology expertise, and a depth of experience in resource agency permitting. In this way, he will support a streamlined and effective permitting process.

Ongoing Relationships with Regulatory Agency Staff. AECOM staff, especially Paula Jacks and Dr. Erik Larsen, have ongoing coordination with US Army Corps of Engineers (USACE), Regional Water Quality Control Board Region 8

(RWQCB-R8), and CDFW staff which results in streamlined review (agency staff trust our work), expedited responses (agency staff return our calls), and thoughtful consideration of our proposed solutions (agency staff respect our ideas). In addition, Dr. Collette Thogerson, a former US Fish and Wildlife Service (USFWS) employee, and Mike coordinate with the USFWS and CDFW on a weekly basis for a variety of Endangered Species Act (ESA) permitting projects. We will leverage the headway we've made with the resource agencies working on the programmatic permitting for the Wash Plan, along with our track record of over two decades of successful permitting, to move the Maintenance Project permitting process forward.

As the Conservation District knows from working with us, we partner with our clients to achieve a common goal. AECOM appreciates the opportunity to continue providing strategic and efficient support the Conservation District to achieve your permitting goals for the Maintenance Project. We look forward to the next steps in the selection process.

Sincerely,

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Project Understanding
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A. Project Understanding

Through our existing work with the San Bernardino Valley Water Conservation District (Conservation District), AECOM thoroughly understands the permitting requirements of the Mill Creek Groundwater Recharge Facility (Recharge Facility). The Recharge Facility is an essential component of the groundwater recharge facilities that the Conservation District operates and maintains. This Recharge Facility, including sand settling basins and a system of percolation basins, connecting canals and appurtenant structures across approximately 450 acres, allows stormflows diverted from Mill Creek to soak into the ground and contribute to the region's underground aquifer. We also understand that the operations and maintenance activities that the Conservation District and your predecessors have conducted have been ongoing for a century and are proposed now as the Mill Creek Groundwater Recharge Facility Operations and Maintenance Project (Maintenance Project).

The connected network of settling and percolation basins, inter-basin berms, canals, access roads, and other facility features that direct and detain water require ongoing maintenance to function optimally. The accumulation of sediment and debris can appreciably reduce their function. The diverted and naturally occurring surface waters and other resources (e.g., wetlands and listed species) that may occur throughout the Recharge Facility are potentially regulated by federal and/or state agencies. Where such resources occur, impacts from routine maintenance activities require permits or other authorizations from the regulating agencies.

We understand that the Conservation District seeks regulatory authorizations, as needed, to continue operating and maintaining the Recharge Facility while continuing to contribute to the underground aquifer in an environmentally responsible manner. We further understand that all Recharge Facility permits and authorizations, once obtained, will be implemented solely by the Conservation District.

Requested Services

AECOM is committed to continuing to partner with the Conservation District to assist you in obtaining the verifications and authorizations that you will need from the US Army Corps of Engineers (USACE), US Fish and Wildlife Service (USFWS), Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) to continue operating and maintaining the Recharge Facility. We understand that you have previous data collected throughout the Maintenance Project limits, and a wealth of information about the resources throughout the adjacent approximately 4,892-acre area that was analyzed for the Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan) approved by USFWS in 2020. Under AECOM's existing contract with the Conservation District for programmatic permitting for Wash Plan Covered Activities, our team is already familiar with much of these data. We have further reviewed these data to develop the permitting approach presented for the Maintenance Project, including to inform what additional species surveys should be conducted, determine the required technical reports and environmental documents, and develop the optimal permitting strategy.

The Conservation District's Request for Proposal (RFP), released on August 26, 2021, highlights your desire for a team that will be a strong partner with the Conservation District, lend technical expertise, offer advice, provide peace of mind, and work collaboratively with you to achieve the necessary agency authorizations. Through our work with you on the Wash Plan permitting, we have demonstrated our collaborative approach and integrated teamwork to achieve permitting success. Our regulatory specialists have successfully obtained the suite of permits that you seek. We value and embody professionalism with our clients, their partners, and the agencies, and will leverage our knowledge of the Conservation District and its resources, strong agency relations, and regulatory acumen to obtain the authorizations that you seek.

The AECOM team's task leaders all have relevant experience in the processes required for this scope of work. We believe our collective knowledge and experience will translate to fewer surprises, cost effectiveness, and the ability to secure approved permits in as timely a manner as possible.

Our approach is described in the sections below, organized per the primary tasks identified in the RFP. As requested in the RFP, our related experience, a proposed project schedule, and detailed cost estimate are also provided. Our schedule illustrates the interrelationship of the tasks and the relative timeframe for accomplishing the work.

Optional Tasks

The RFP identifies two optional tasks related to conducting additional species surveys and amending the existing California Environmental Quality Act (CEQA) Mitigated Negative Declaration. AECOM's approach to these two optional tasks is described below. We have identified other optional services for the Conservation District to consider and execute, if needed. More information on these optional services is provided herein.


AECOM
B
Project Tasks
Delivering a better world

B. Project Tasks

AECOM's approach to procuring permits for the Conservation District under this contract will be to leverage our knowledge of regulations and our experience working with regulatory staff on a variety of permits and be an advocate for the various authorizations that you seek. Our proposed method to accomplish the work is influenced by our understanding of the purpose and scope of the contract, the needs expressed in the RFP, and our extensive portfolio in obtaining various types of permits, including those that you seek for the Maintenance Project. AECOM's specific approach is described below, organized per the Scope of Work included in the RFP.

Within the tasks below, we discuss meetings and other working teleconferences with the Conservation District and the resource agencies. In AECOM's experience obtaining permits for other clients, we understand that well-organized meetings are critical to the success of both the pre-application and formal application processes, and in maintaining the overall schedule. The number of meetings and other working teleconferences that we anticipate are specified in Exhibit 7 in this proposal. Our assumptions and the deliverables for each task described below are also listed in Exhibit 8. For all proposed meetings, we are aware of travel and meeting restrictions that may apply due to the ongoing pandemic. The meetings can readily be performed via virtual platforms and AECOM has the technology and tools to facilitate a meeting of any size. For all in-person meetings that the Conservation District confirms appropriate, AECOM will adhere to required safety procedures for attendees (client-driven, local, state, and CDC).

Our project manager, Ms. Michelle Fehrensen, and lead regulatory specialists, Ms. Paula Jacks, Dr. Erik Larsen, and Mr. Mike Anguiano, who you are currently working with on the Wash Plan permitting effort, have many direct experiences in obtaining a variety of agency permits and other authorizations for other clients and will be ready to engage and have productive pre-project meetings as work starts under this contract. We are eager to continue working with the Conservation District team, further discuss and confirm the permitting approach, and start the process for obtaining the optimal state and federal authorizations for the ongoing Maintenance Project.

Our proposed approach to waters and species permitting follows. We recognize that the Conservation District may have considered an alternative strategy for one or more tasks below; we are open to discussion on the optimal approach. In all cases, we will advise you on the pros and cons of various approached and be an advocate for you in obtaining the type of authorizations that best meet your ongoing needs.

Task 1: Evaluate Existing Species Data and Conduct Additional Species Surveys As Needed

Task 1a – Existing Data Review

For this task, AECOM will focus on reviewing and synthesizing information from the existing conditions of the Biological Baseline Report prepared for the Maintenance Project site in 2019. AECOM has teamed with Mr. Mikael Romich (Origin Biological) who has conducted extensive surveys for the general biological resources, as well as target species surveys, at the Maintenance Project site. This teaming effort will facilitate an efficient review of the data relative to the needs of the permitting efforts. AECOM will have a field meeting with the Conservation District to get an overview of the Maintenance Project site. Then, a two-day habitat assessment will be conducted by two biologists (botanist and wildlife biologist) to update the existing plant community map as needed and assess the current habitat quality for the species listed in the RFP, which would be used to confirm biological conditions described in the Biological Baseline Report are still accurate.

The purpose of the habitat assessment is to update maps of the suitable habitat for the target species presented in Table 1 of the RFP. San Bernardino kangaroo rat (SBKR), California gnatcatcher (CAGN), and coastal cactus wren

habitat quality will be mapped using categories consistent with the Wash Plan to present updated data and assess impacts in a manner familiar to the wildlife agencies. A focus of the field visits will be areas that may be impacted by the Maintenance Project to add a level of refinement that may not be present in the existing Biological Report. Results of the data review an habitat assessment will be presented in the updated Biological Report, described under Task 2.

AECOM understands that the Conservation District has completed vegetation mapping, SBKR habitat mapping and focused trapping surveys, CAGN breeding surveys west of Garnet Street, and coastal cactus wren nest site mapping. Occupied habitat is well-documented throughout the Maintenance Project site for SBKR, CAGN, and coastal cactus wren. Species specific survey data is not available for least Bell's vireo, burrowing owl, spadefoot toad, and rare plant surveys, and additional data may be necessary to estimate presence/absence and potential take of individuals for these species. Suitable habitat mapping can likely be used to evaluate these species for permitting purposes, but we have provided scope and costs for optional species surveys below, in the event the Wildlife Agencies require additional surveys.

OPTIONAL TASKS: Additional Plant and/or Animal Surveys

Optional focused surveys are proved below for SBKR, CAGN, least Bell's vireo, burrowing owl, spadefoot toad, and rare plants. Separate coastal cactus wren surveys are not included below, as they could be conducted simultaneously with CAGN surveys (representing a cost efficiency). Individual survey reports will be provided for each optional survey. Assumption for surveys are provided in Exhibit 8.

Optional Task 1b – Coastal California Gnatcatcher and Coastal Cactus Wren Survey

Protocol surveys will follow the current USFWS survey protocol for the species (USFWS 1997[1]). The USFWS breeding-season survey protocol for areas in non-Natural Community Conservation Plan areas requires a minimum of six surveys conducted at least one week apart from February 15 through June 30. Surveys will occur between 6:00 a.m. and 12:00 p.m. The surveys will consist of walking meandering transects and conducting passive surveillance (i.e., listening and looking for the species) in coastal California gnatcatcher habitat within the Maintenance Project site. If an observation is not made after approximately 5 to 10 minutes of passive survey activity, a digital vocalization of coastal California gnatcatcher will be broadcast for approximately 5 to 10 seconds (i.e., active survey activity), followed by another period of passive observation. The digital vocalization will be discontinued with any positive coastal California gnatcatcher response. Surveys will not be conducted during periods of inclement weather such as extreme wind or during a rain event. The location of coastal California gnatcatcher detections will be recorded using a GPS unit. Coastal cactus wren detections will also be recorded during coastal California gnatcatcher surveys as the habitat for these species overlaps.

Optional Task 1c – San Bernardino Kangaroo Rat Survey

Live trapping surveys for SBKR will be conducted according to protocols established for SBKR, which is five consecutive nights of trapping, conducted when the species are active, when air temperature lows are above 50°F (degrees Fahrenheit), and not during inclement weather (rain, heavy ground fog, extreme wind). In general, trapping will focus on impact areas where some SBKR suitability exists to determine if SBKR are present and could therefore be subject to potential harm or take. Traps would typically be placed between 5-15 meters apart. Some trapping areas may also be chosen based on a review of previous trapping data and habitat suitability mapping to get a representative sample of data that will allow inferences to be made as to the density of SBKR within various categories of habitat quality (i.e., high, moderate, and low).

[1] U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines February 28, 1997.

Each trap is baited with either birdseed, opened at dusk each night, checked once at around midnight, and checked and closed at dawn each morning. This process will be repeated for five consecutive nights. Animals will be identified and released at the point of capture. Captures SBKR will be temporarily marked with ink to help determine recaptures within a trapping session. Individuals will not be permanently marked (e.g., toe clipping, ear clipping, PIT tagging).

Optional Task 1d – Least Bell's Vireo Survey

Surveys will follow the current USFWS survey protocol for the species, dated January 19, 2001 (USFWS 2001[2]). The surveys will consist of walking meandering transects through potential least Bell's vireo habitat within Maintenance Project site and up to a 500-foot buffer. The Maintenance Project site has limited habitat suitable to least Bell's vireo so each survey it assumed to last one half-day. Ornithologists will conduct passive surveillance (i.e., listening and looking for the species) in habitats with potential to support least Bell's vireo. Per the current USFWS protocol, suitable habitat will be surveyed eight times during the breeding season (April 10 through July 31) and each survey will be conducted at least 10 days apart. The surveys will occur between dawn and 11:00 a.m. Surveys will not be conducted during periods of inclement weather such as extreme wind or during a rain event. The location of least Bell's vireo detections will be recorded using a GPS unit.

Optional Task 1e – Burrowing Owl Surveys

The Maintenance Project site does not support good quality burrowing owl habitat due to the fairly high degree of vegetation cover, rocky and often compacted nature of the soils, and the infrequency of potentially suitable burrows and active ground squirrel colonies. In addition, recent and historical records of burrowing owl are extremely rare. During the habitat assessment surveys, suitable burrowing owl habitat will be mapped and evaluated for potentially suitable burrows. If warranted (i.e., suitable habitat with burrows is observed), focused surveys will be conducted in March, April, May, June, and July, in accordance with the protocols set forth in the Staff Report on Burrowing Owl Mitigation (CDFG 2012[3]). The guidelines recommend a minimum of four survey visits with at least one survey visit between February 15 and April 15 and a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one survey visit after June 15. Surveys will be conducted only between morning civil twilight and 10:00 AM, and two hours before sunset until evening civil twilight. Surveys will not be conducted when wind speeds exceeded 12.4 miles per hour (20 kilometers per hour) or when it was raining or during the presence of dense fog. Biologists will walk meandering transects searching the Maintenance Project site and a surrounding 500-foot buffer to assess the area for potential to support breeding burrowing owl.

Optional Task 1f – Western Spadefoot Toad Surveys

Western spadefoot toad surveys will be conducted by opportunistically surveying ponded areas following up to four rain events or when recharge basins are filled with water. Ponded areas will be surveyed at night to listen for calling western spadefoot toad in late January through March. Locations of western spadefoot detections will be recorded using a GPS unit.

Optional Task 1g – Rare Plant Surveys

Rare plant focused surveys focused on slender-horned spineflower and Santa Ana River woollystar suitable habitat will be conducted within the Maintenance Project site during appropriate blooming periods (one early spring and one late spring survey). Rare plant surveys will be conducted in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories of Federally Listed, Proposed, and Candidate Plants* (USFWS 1996); *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFG 2009); and *CNPS Botanical Survey Guidelines* (CNPS 2001)[4]. Accessible areas with a potential to support rare plant species

[2] U.S. Fish and Wildlife Service (USFWS). 2001 (January 19). *Least Bell's Vireo Survey Guidelines*. Carlsbad Fish and Wildlife Office.

[3] California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation (Dept. of Fish and Game, March 7, 2012). Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843

[4] California Department of Fish and Game (CDFG). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency, Department of Fish and Game. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline=1.

will be surveyed on foot. For each rare plant species detected, attributes of relative abundance, general distribution, and global positioning system coordinates will be recorded.

Task 2: Update Existing Species Reports As Needed

The 2019 Biological Baseline Report will be updated to incorporate results from the habitat assessment (and optional species surveys, if needed) completed as part of Task 1. Updates will include habitat assessment methodology, discussion of current existing conditions, and recommendations for additional surveys outlined in Optional Task 1b through 1g, if any, that should be conducted to support preparation of the 2081 permit application and the Low-Effect Habitat Conservation Plan (LEHCP). Figures will also be updated or created summarizing the location of special-status species data. Should any of the optional surveys described under Task 1 be conducted, the Biological Baseline Report will be updated to include information from the surveys and the standalone survey reports would be added as appendices.

The intent of the updated Biological Baseline Report is to present data in a format that would satisfy existing condition discussion requirements for the 2081 and LEHCP permit applications and thereby allow text to be directly inserted from the report into those permits for efficiency purposes. It is recommended that the Biological Baseline Report be provided to the Wildlife Agencies early in the 2081 and LEHCP process described in Task 6 and Task 8 below. This proactive approach will allow the Wildlife Agencies to review and approved the proposed approach for estimating take of each species early in the process.

Task 3: Evaluate Existing Waters Data, Conduct Waters Surveys and Prepare Aquatic Resources Delineation Report, Prepare Updated AJD, and Coordinate with Regulatory Agency Staff

AECOM uses USACE (wetland arid non-wetland waters) and RWQCB (wetland) methodologies and CDFW guidance documents to develop a scientifically valid, and agency-approved process. In addition, AECOM will serve as the Conservation District's advocate to support a reasonable interpretation of the groundwater recharge basins, diversion canal, and adjacent floodplain (especially with respect to CDFW jurisdiction).

The approach to delineating waters for the Maintenance Project will follow these steps:

1. Evaluate and incorporate existing information – preliminary waters mapping through existing data (e.g., 2015 Approved Jurisdictional Delineation [AJD] process), any recent delineations completed by the Conservation District (or other nearby projects), and existing GIS data (as inventoried by the Conservation District).
2. Utilize arid streams delineation and wetland delineation methods for the project area and focus specifically on demonstrating wetland indicators that may be evident within the basins and canal features (e.g., wetland waters

California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*. California Native Plant Society. Available at http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf.

U.S. Fish and Wildlife Service (USFWS). 1996. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (September 23, 1996). Available at http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/Listed_plant_survey_guidelines.pdf.

of the State). In addition, mapping of the western floodplain of Mill Creek will also be important, as this is where the water is diverted into the Recharge Facility.

3. Prepare an updated AJD for submittal to the USACE to obtain an official determination that the basins and canal system is considered isolated and not a regulated Waters of the United States (WOTUS).
4. Collaborate with USACE and CDFW regarding the JD results, and assist with agency buy-off of the delineation before permit applications are submitted.

An Aquatic Resources Delineation Report (ARDR) will be prepared to summarize the findings and discuss the jurisdictional limits of all wetlands and/or non-wetland waters identified within the Recharge Facility boundaries. Our approach to mapping, classifying, and characterizing the state and federal waters is described in Tasks 3a, 3b, and 3c below. Additional details about the AJD process and agency coordination pertaining to the delineation are described in Tasks 3d and 3e. An optional study of the aquatic features is described in Task 3f.

Task 3a – Clean Water Act / Waters of the US (WOTUS) and Jurisdictional Determination Process

AECOM will use the accepted arid lands delineation protocol for mapping the Recharge Facility basins, canals, and floodplain of Mill Creek adjacent to the Recharge Facility. Due to the relatively small size of this project area (compared to the large Wash Plan area), we will individually delineate a majority of applicable waters within the project area.

The JD work will be prioritized according to the locations of proposed activities, which in turn may facilitate avoidance and minimization efforts. AECOM will schedule delineations for activities based on Conservation District priority and perform delineations within the window of time the JDs remain valid (initial five years).

AECOM will also coordinate with the USACE, Regulatory Division staff to discuss the implications of the recent US District Court case which *vacated* the Navigable Waters Protection Rule (NWPR). Although the exclusions to waters of the US no longer apply, the Mill Creek basins will remain *isolated waters* no longer subject to jurisdiction under the Clean Water Act. AECOM has an ongoing conversation with USACE staff regarding this issue, and we will keep the Conservation District up to date on potential ramifications. It is our opinion that the USACE will continue to view the Recharge Facility basins as isolated, and our proposal reflects this assumption.

Task 3b – Porter-Cologne Act / Waters of the State (WOTS)

AECOM will also map WOTS and incorporate the new wetland definition and regulatory process identified in the State Water Resources Control Board (SWRCB) Procedures that became effective on May 28, 2020, as noted previously. For isolated waters mapped in the project area, which would no longer be considered jurisdictional to the USACE, the waters will be preliminarily be considered WOTS per the Porter-Cologne Act.

Aquatic features identified as exempt under the SWRCB Procedures (2019) must meet the technical wetland definition established in the Procedures. The Procedures do not address non-wetland waters, which may be the subject of future SWRCB policy and guidance. Recent input from RWQCB on the Wash Plan permitting is that the exemptions identified in the Procedure's wetland jurisdictional framework (e.g., for groundwater recharge basins) cannot be applied directly to non-wetland waters. If AECOM believes any features are exempt under the Procedures, we will provide information and documentation that those features meet the wetland technical definition. AECOM will also evaluate available hydrology data to determine if the basins are continuously inundated for over two weeks in duration (wetland hydrology requirement). The wetland delineation will also evaluate soils and vegetation to further define the basins as wetland or non-wetland waters.

If the results of the wetland delineation data is inconclusive (for officially determining wetland vs. non-wetland WOTS, then AEOCM is proposing an optional task (see below) which would implement a longer-duration study to evaluate

the basins over time (i.e., months) in order to obtain data not necessarily available in a shorter-duration delineation (e.g., up to one week in duration).

Task 3c – Fish and Game Code / Streambeds & Riparian Habitat

AECOM will also include the jurisdictional area that encompasses streambeds (bed, bank, channel), the associated floodplains (within the 100-year floodplain), and riparian habitat supported by these surfaces. We will incorporate methods and perspectives developed from the CDFW's arid stream methodologies (e.g., Mapping Episodic Stream Activity [MESA]); technically considered guidance, not official regulatory protocol). As is often the case in Southern California, the CDFW jurisdictional width may be larger than that of USACE/RWQCB jurisdiction. It is reasonable to assume that some areas mapped as Early- or Intermediate-Floodplain Sage Scrub may be mapped as CDFW jurisdictional (e.g., Vegetation Mapping Figure from Wash Plan HCP).

Based on agency coordination on the Wash Plan ARDR, CDFW has indicated that they will be considering the diversion canal and basins to be under CDFW jurisdiction. Although the same approach is likely for the Mill Creek project, AECOM will assist the Conservation District in coordinating with the CDFW and provide supporting information as applicable.

The ARDR will provide the technical data to support the results and will be able to provide the Conservation District with advocacy for defining a reasonable jurisdictional width. AECOM recommends that agency coordination be included in the JD process to encourage CDFW to agree with a defined jurisdictional area (e.g., typically between the WOTUS boundary and the mapped 100-year floodplain).

Task 3d – Prepare Updated Approved Jurisdictional Determination for USACE

In 2015, USACE issued an Approved Jurisdictional Delineation (dated September 2, 2015) concluding that the waters present within the Maintenance Project area are outside federal jurisdiction because the Recharge Facility is separated from the Mill Creek active floodplain by a levee that prevents waters entering the basins from returning to Mill Creek. This 2015 determination, valid for five years, expired on September 2, 2020. AECOM will prepare a fully revised AJD package for submittal to the USACE. This submittal will be based on the 2015 AJD, but fully revised and expanded to include recent regulatory changes. This will be completed as early as possible, as the USACE (and potentially the USEPA if subsequent guidance necessitates their involvement) will need sufficient time to review and process the request. AECOM will regularly coordinate with the USACE in order to keep the approval process in motion.

Task 3e – Coordinate with USACE, RWQCB, and CDFW During Updated Delineation Review

AECOM will continue to foster positive, collaborative coordination with agency staff through the Mill Creek Maintenance Project as we did with the Wash Plan process; among these are Deanna Cummings (USACE Regulatory Division, LA and San Bernardino Counties Section), Ms. Claudia Tenorio (RWQCB, Santa Ana Board), and Ms. Brandy Wood and Ms. Kim Freeburn (CDFW, Region 6, Inland Deserts). AECOM intends for the Conservation District and agencies to discuss the delineation methodology before fieldwork begins, during the delineation if particular issues arise, and after as a draft ARDR is prepared. Therefore, we anticipate up to three remote teleconference meetings associated with Task 3 (see list of all meetings in Exhibit 7).

Optional Task 3f – Conduct Long-Term Wetland Study at Mill Creek Basins

The ARDR (as described in Task 3) will include fieldwork during Spring of 2022 (e.g., April) and include the preparation of applicable data sheets, GIS mapping, and hydrology analysis utilizing data collected over time by the Conservation District. Based on AECOM's experience with the Wash Plan process for which the RWQCB-R8 has requested additional data to prove the case that the basins within the Wash Plan area are in fact wetland WOTS, the wetland determination of the Mill Creek basins has the potential to be a more involved issue. Therefore, AECOM is proposing an optional task that involves a longer-term wetland study of the Mill Creek basin/canal system. This could involve up to a nine-month process involving bi-weekly to monthly assessments of duration of inundation, evaluation of anaerobic soils, and vegetation surveys to evaluate the extent of anaerobic soils and hydrophytic vegetation which occurs at the seasonal wetland basins. This would provide a longer-term study, rather than a brief visit as required by the standard ARDR process (e.g., data collected within one week).

Task 4: Analyze Impacts on Regulated Resources and Propose Associated Mitigation Alternatives Under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) If Needed

Substantial environmental documentation has already been prepared to evaluate Conservation District Operation and Maintenance activities at the Recharge Facility. AECOM seeks to minimize future work through reliance on previously prepared documentation to the extent possible. In preparing this scope of work, AECOM has reviewed existing environmental documentation prepared by the Conservation District, including:

- Wash Plan EIR/EIS
- Mitigated Negative Declaration for Operation and Maintenance of Water Conservation Facilities – The Conservation District approved an MND in 2015 for Operation and Maintenance activities at both the Santa Ana River facilities and the Mill Creek Facilities.

Task 4a – Prepare NEPA Document (Low-Effect Screening Form)

The standard for the USFWS to issue a LEHCP is no adverse effects to species. Thus, the LEHCP must incorporate conservation measures sufficiently protective of listed species to meet that standard. AECOM anticipates that the USFWS will prepare a draft low-effect screening form and environmental action statement, supporting the determination that the issuance of the LEHCP qualifies for a categorical exclusion under NEPA. Under this task, AECOM will assist the USFWS in preparing the Low-Effect Screening Form[5]. As part of the Low-Effect Screening Form, AECOM will assist the USFWS in addressing questions related to the covered species, human environment, geology and soils, water quality, socio-economic impacts, cultural resources, recreation, visual resources and environmental justice. The USFWS will post the Low-Effect Screening Form as part of their public notice on the *Federal Register*. However, AECOM does not anticipate significant public comment on the form.

[5] https://www.fws.gov/midwest/endangered/permits/documents/screening_form_low-effect_hcps.pdf

Task 4b – Updated Cultural Resources Records Search and Survey Report

Task 4 includes preparation of an updated cultural resources records search and survey report to support CEQA/NEPA review and USFWS and Corps federal consultation with the State Historic Preservation Officer (SHPO) under Section 106 of the National Historic Preservation Act.

During preparation of the previously approved MND, a historical/archaeological records search, historical background research, and consultation with Native American representatives occurred. However, this effort was conducted over five years ago. Moreover, no fieldwork was included in that study. Therefore, it is anticipated that an updated cultural records search and survey report will be necessary to support CEQA/NEPA review and Section 106 Consultation.

AECOM will request an up-to-date records search from the South Central Coastal Information System (SCCIC) of the California Historical Resources Information System (CHRIS), located at California State University, Fullerton. The SCCIC houses archaeological site records, reports, and other data for San Bernardino County. The records search will include the project area and a 0.5-mile buffer. The full results of the records search will be reviewed prior to fieldwork.

A team of up to three cultural resources specialists will survey areas of the Recharge Facility where ongoing Operation and Maintenance activities occur (e.g. Basins, access roads, canals), assumed to be up to 100 acres of the 450-acre Recharge Facility. The areas surveyed will be walked over in transects spaced in 15-meter intervals, over a period of up to two days.

The survey will record and evaluate the Recharge Facility under the criteria for the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). The Recharge Facility was originally constructed using hand tools and farm equipment in 1910 with additional improvements utilizing mechanized equipment through the early 2000s. The entire facility will be documented on a single set of California Department of Parks and Recreation (DPR) 523 series site forms. In addition, this scope assumes that up to three archaeological resources will be identified during the field survey, but that they will not be significant. All resources identified during the field survey will be photographed, located using a GPS-equipped handheld device, and documented on appropriate DPR 523 series forms. It is assumed that all previously documented resources are adequately documented and will require only a DPR 523L update form.

The results of survey will be documented in a report conforming to the California Office of Historic Preservation's *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* guidelines. The report will document research methods, the results of the archival research, and field survey, and recommendations for resource eligibility and further work. DPR forms of resources identified during the archival resources or survey will be included as an appendix.

AECOM will prepare one letter draft for Section 106 consultation, to be sent under agency letterhead, seeking SHPO concurrence on the determinations of eligibility and finding of effect recommended in the cultural resource report.

It is assumed USFWS and CDFW are conducting appropriate Native American consultation; this scope does not include Native American consultation support.

Optional Task 4c – Amend Approved CEQA Mitigated Negative Declaration (Prepare Addendum)

The Conservation District approved an MND in 2015 for Operation and Maintenance activities at both the Santa Ana River Facilities and the Mill Creek Facilities (SCH# 2014121068). The MND may be relied upon by State agencies to issue discretionary permits, including the CDFW for both 1602 and 2081 permits, as well as by the RWQCB for the issuance of Waste Discharge Requirements (WDRs). As such, further CEQA review is limited to the potential

preparation of an Addendum to the MND (CEQA Section 15164) to update it with new resource information collected, as necessary.

The Addendum can be brief, and there is no public review period required, since it is filed in the Administrative Record for the Lead Agency. This Addendum will rely heavily on the analysis in the previously prepared MND and the information being prepared for the permits. The permitting agencies may require additional minimization measures specific to certain Covered Activities, but likely will not be considered new mitigation measures needed to avoid or reduce significant impacts pursuant to CEQA. This modest effort will provide an MND Addendum to avoid claims of inadequacy and potential permit delays.

Optional Task 4d – Public Review Support

At a minimum, AECOM will support the Conservation District by attending and presenting at a Conservation District Board Meeting the updated Addendum to the MND for Conservation District approval as Lead Agency.

While not required under CEQA (CEQA Section 15164(c)), in some cases the Lead Agency may circulate an Addendum for public review, to disclose updates and receive feedback on proposed administrative changes. AECOM has included assistance with public review, should it be desired by the Conservation District as Lead Agency. Tasks associated with public review include:

1. Preparation of a draft public notice, Notice of Completion (NOC), and electronic submittal to the State Clearinghouse
2. Responding to up to 10 substantive comments on the Addendum

Task 5: Prepare 1602 Permit Application

Pursuant to California Fish and Game Code (CFGC) Section 1602 and Section 1603, CDFW regulates activities that will "substantially divert or obstruct the natural flow of any river, stream, or lake"; "substantially change or use any material from the bed, channel, or bank of any river, stream, or lake"; or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." Activities meeting these criteria are required to obtain a Lake and Streambed Alteration Agreement (LSAA) from CDFW. An LSAA is required when it is determined that the proposed activity may substantially adversely affect existing fish or wildlife resources and includes measures necessary to protect existing fish and wildlife resources. CDFW jurisdiction under this law applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

The Mill Creek Project area is within the boundaries of CDFW Region 6, Inland Deserts. Based on input from CDFW for the Wash Plan programmatic permits confirming that diversion of the Santa Ana River and recharge basins are considered Fish and Game Code Section 1600 resources, we know that the waters within the Maintenance Project area diverted from Mill Creek will similarly be considered CFGC Section 1600 resources and need to be included within the Notification to CDFW. Because all of the basins in the Maintenance Project area receive waters diverted from Mill Creek, none would be exempt from CFGC regulation.

AECOM agrees with the pursuit of a Long-term Maintenance Agreement (as noted in the RFP) to authorize the Conservation District's ongoing maintenance activities throughout the Mill Creek Project area. The CFGC provides a statutory 90-day timeframe for CDFW's review and processing of a standard Agreement term of five years; however, that timeframe does not apply to Long-term Agreements. Given the long-term nature of the Maintenance Project, the additional time that may be needed for issuance of a Long-term Maintenance Agreement should be preferable to a Standard Maintenance Agreement that would need to be extended or reissued every five years. Moreover, other required authorizations for the Maintenance Project discussed herein will have timelines beyond 90 days making the benefit of the statutory timeframe associated with a Standard Agreement relatively moot. The base fee for a Long-term Maintenance Agreement is somewhat higher; however, fees thereafter are the same as the Standard

Maintenance Agreement. Although an applicant may request a type of Agreement, per CFGC Sections 1600 et seq., CDFW has the sole discretion to determine the type the applicant may obtain. The Agreement obtained will be specific to impacts on the bed, bank, and channel regulated by CDFW pursuant to CFGC Sections 1602 and 1603.

We anticipate up to three pre-application remote teleconference meetings associated with the 1602 application: one with the Conservation District alone, plus up to two more with CDFW (see list of all meetings in Exhibit 7). Once we have achieved CDFW buy-in on the type of Agreement to pursue and the mitigation approach, we will develop and assemble the Notification package for the Agreement.

Prepare Notification for Conservation District Review and Submittal to CDFW

AECOM proposes pursuit of one Long-term Maintenance Agreement for the proposed Maintenance Project activities subject to CFGC Section 1600 et sec. AECOM will prepare an LSAA Notification package for review and submittal to CDFW by the Conservation District.

The components of the Notification package to CDFW will include the following:

- Cover letter (on Conservation District letterhead)
- 1602 LSAA Notification Form (and applicable MSAA information attached)
- Supporting information:
  - Project description with tabular summary of activities
  - Effects of the proposed action on streambed processes and riparian habitat
  - Measures and BMPs for protecting aquatic resources
  - Aquatic resources delineation, and condition, function and services assessment
  - Mitigation (see Task 9 for additional discussion of mitigation)
- Applicable exhibit sheets, including project details and jurisdictional delineation maps
- CEQA document
- Notification fee
- Other agency permits

Task 6: Prepare 2081 Permit Application

Evaluate Potential State-listed Species Take

AECOM will provide the Conservation District with the support necessary to prepare a final 2081 permit application package for the state listed species known to occur within and adjacent to the Maintenance Project site. The framework for the Incidental Take Permit (ITP) application will take consider the conservation strategy that will be developed for these species in the LEHCP. The content will mirror each permit application for efficiency and cost savings.

A pre-permit application meeting with CDFW will help streamline the 2081 ITP permitting process. In accordance with Title 14, Section 783.2 of the California Code of Regulations, "DFG shall, to the greatest extent practicable, consult with applicants regarding permit applications in order to ensure that it will meet the requirements of this article when submitted to DFG." AECOM will attend one pre-permit application meeting with the Conservation District and CDFW to discuss the proposed activities in the 2081 ITP, potential effects on State-listed species, and specific information that CDFW will require in the ITP application. Before the pre-application meeting with CDFW, AECOM will meet with the Conservation District to discuss the goals of the meeting and to develop an agenda.

Prepare Technical Report for ITP Application

Following the pre-permit application meeting, AECOM will prepare a Draft Section 2081 ITP application, in compliance with Title 14, Section 783.2 of the California Code of Regulations. The application will include the following:

- Applicant's full name, mailing address, and telephone number(s)
- Common and scientific names of species to be covered by the permit and the species' status under CESA, including whether the species is the subject of rules and guidelines pursuant to Section 2112 and Section 2114 of the Fish and Game Code
- Complete description and location of activities for which the permit is being sought
- An analysis of whether and to what extent the proposed activities could result in taking of species to be covered in the permit
- An analysis of the impacts of the proposed taking on the species
- An analysis of whether the issuance of the ITP will jeopardize the continued existence of a species
- Proposed measures to minimize and fully mitigate the impacts of the proposed taking
- Proposed plan to monitor compliance with minimization and mitigation measures and the effectiveness of the measures
- Description of the funding source and the level of funding available for implementation of the minimization and mitigation measures
- Certification that the application materials are complete and accurate to the best of the Conservation District's knowledge

On completion of the ITP application and associated materials, AECOM will submit the Draft ITP application in electronic format to the Conservation District for review. After the Conservation District has reviewed the Draft ITP application, AECOM will meet with the Conservation District to discuss its comments. AECOM will revise the draft based on the Conservation District's comments and will prepare the Final ITP application. AECOM will provide the Conservation District with two hard copies and an electronic copy of the Final ITP packages for its records and for submittal to CDFW.

Task 7: Prepare Application for 401 Certification / Waste Discharge Requirements

The waters within the Maintenance Project area, though outside the jurisdiction of the USACE, are potentially regulated under SWRCB Procedures and may require a WDR under the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne). In 2019, the SWRCB issued new procedures (effective 2020) titled *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019) that provided a new state wetland definition and a new permitting framework for wetland WOTS. These Procedures describe the Water Boards' intent to include both historic and current definitions of WOTUS into the Water Boards' wetland jurisdictional framework, regardless of any subsequent changes in federal regulations. The Procedures do not address non-wetland WOTS, which may be subject of future SWRCB policy and guidance.

The USACE's determination on the AJD process discussed under Task 3 affects Task 7. As previously noted, USACE is expected to determine the Mill Creek basins and canals to be isolated waters (as was the case in 2015), and, thus, not jurisdictional per pre-2015 CWA regulations (now applicable since the NWPR was vacated). As part of Task 3 (ARDR), AECOM will consider if the basin/canal system may be considered wetland WOTS; if so, then AECOM will provide evidence to the RWQCB-R8 that these aquatic features may meet an exemption for groundwater recharge wetlands provided in the Procedures. AECOM will streamline this process for the Maintenance Project by applying guidance to be obtained in fall 2021 about the Wash Plan basins for the separate Wash Plan permit effort. However, if the basins are determined to be non-wetland WOTS, then the exemption in the Procedures cannot be applied and a

WDR will be required. For the purposes of this proposal, a WDR is assumed to be needed for the Maintenance Project. Per discussions with RWQCB-R8 over the past year for the Wash Plan, the maintenance activities within the basin/canal system are not likely to require additional mitigation for water resources. The basins do provide seasonal aquatic habitat.

For proposed permanent impacts, requirements for permitting under the SWRCB Procedures include a watershed plan, a watershed profile, and an alternatives analysis. We anticipate that the Wash Plan HCP, which includes biological goals for aquatic resources, can serve as the required watershed plan (as it did for the Wash Plan permit process). We also anticipate that the larger regional Upper Santa Ana River (SAR) HCP will provide the information necessary to evaluate factors that should be considered for a watershed profile. Also under the Procedures, if the project will be conducted in accordance with a watershed plan that was analyzed in an environmental document that contains a sufficient alternatives analysis, then a 401-specific alternatives analyses should not be required. Finally, the Procedures state that if permittee-responsible mitigation is proposed, then a climate change assessment is required. Existing hydrologic studies for the region can be used to assess potential effects of climate change. AECOM will work with the Conservation District to address these requirements under the Procedures.

Based on discussions with Region 8 staff, the comprehensive watershed-level analyses conducted for the Wash Plan HCP, as well as the Upper SAR HCP, both include the types of details that will be needed to satisfy key requirements under new Statewide Procedures.

Evaluate RWQCB Permitting Needs

This task includes evaluation of data collected in Task 3 to determine if RWQCB permitting is required for the Maintenance Project; if so, this task includes preparation of draft application materials and submittal of final materials to the RWQCB-R8. The sub-tasks will be to evaluate permitting needs for potential impacts to WOTS; and then to prepare permit applications, obtain feedback from District staff, coordination with regulatory agencies, and preparation of final permits.

Considerations for whether a 401 Water Quality Certification (401 WQC) and/or Waste Discharge Requirements (WDRs) are required are stepwise: (1) is the activity within state waters, (2) is the proposed activity regulated, and (3) is there a RWQCB-specific exemption or exclusion that applies? Because the aquatic resources within the Mill Creek Project area are anticipated to be confirmed as isolated waters, i.e., outside of USACE jurisdiction, individual Waste Discharge Requirements (WDRs) are expected to be needed for the ongoing maintenance activities (unless the exemption applies).

We anticipate up to three pre-application remote teleconference meetings associated with the 401/WDR application: one with the Conservation District alone, plus up to two more with RWQCB (see list of all meetings in Exhibit 7). Once we have achieved RWQCB buy-in on the permitting and mitigation approach, we will develop and assemble the application package for RWQCB.

Prepare Application for Discharges to Waters of the State

AECOM will prepare an application to the RWQCB requesting a WDR. Because of the uncertainty about the applicability of the groundwater recharge exemption, AECOM is proposing this task with the assumption that a WDR would be applicable.

The application package will be prepared for review and submittal to RWQCB-R8 by the Conservation District. At this point in the permit process, the application package elements will have been pre-approved by the RWQCB via agency coordination.

The components of the permit application package to RWQCB will include many of the same items as the CDFW application package:

- Cover letter
- Current RWQCB-R8 application form (applicable for either/both 401 Certification and WDR)
- Supporting information:
  - Project description with tabular summary of activities;
  - Effects of the proposed action on beneficial uses;
  - Measures and BMPs for protecting aquatic resources;
  - Jurisdictional delineation and determination;
  - Aquatic resources condition, function and services assessment*
  - Mitigation (see Task 9 for additional discussion of mitigation)
- Applicable exhibit sheets, including project details and jurisdictional delineation maps
- CEQA document
- Application Fee
- Other agency permits

** Note Regarding Supporting Information*: as noted above, the existing Wash Plan HCP and regional Upper SAR HCP may satisfy the watershed plan requirements under the SWRCB Procedures, and thus the Conservation District may be able to avoid a more detailed alternatives process as described in the Procedures. The LEHCP for the Maintenance Project may not be completed in time to include in the application to RWQCB; however, elements of that in-progress plan applicable to watershed planning can be noted. Additional water resource-related technical information may be needed. Such additional information will be the incorporation of beneficial uses for applicable waters, as well as the "abundance, diversity, and condition of aquatic resources in the project evaluation area" (assumed to be the same as the HCP and LEHCP areas). The statewide method for condition assessment is CRAM (see Optional Task).

Task 8: Prepare Low-Effect Habitat Conservation Plan

Prepare Low-Effect HCP for Conservation District Review and Submittal to USFWS

AECOM and the Conservation District have had several discussions regarding the federal permits necessary for Operation and Maintenance (O&M) activities at the Recharge Facility. The majority of known locations and potential habitat for species being considered for a federal Incidental Take Permit (ITP) are within "Potential Habitat Lands" not expected to be impacted by O&M activities at the Recharge Facility. The Project will need to obtain an ITP through the Section 10 process with the USFWS and is expected to meet the requirements for a LEHCP because impacts are expected to have minor or negligible effects to environmental resources. The Section 10 process will require National Environmental Policy Act (NEPA) analysis for issuance of the permit. The NEPA process for a LEHCP is expected to consist of a Categorical Exclusion which would be prepared by AECOM on behalf of USFWS as described in Task 4.

AECOM will facilitate the Section 10 permitting process for the Maintenance Project to facilitate compliance with the federal Endangered Species Act (ESA). AECOM will prepare a LEHCP in support of this consultation. The LEHCP will list all federally threatened and endangered species potentially affected by the Project and will consider non-listed species with potential to be federally listed during the permit term. The LEHCP will describe species' legal status, likelihood of occurrence in the planning area, likelihood of being affected by the covered activities, and the availability of sufficient information to assess effects and develop conservation measures. The LEHCP will analyze pertinent data, and will formulate an "effects determination" for species identified to be covered by the LEHCP, and will include the goals and objectives, identify conservation measures, and analyze the effects of the conservation strategy. Key

components of the conservation strategy will be measures to avoid and minimize effects (and the requirements for their implementation), and the basis for determining compensatory mitigation.

A pre-permit application meeting with USFWS will help streamline the LEHCP permitting process. Following the pre-permit application meeting, the following specific subtasks will be completed:

- Drafts of LEHCP Chapters. AECOM will develop preliminary drafts of the LEHCP chapters for coordination with the USFWS on content including Introduction, Covered Activities, Biological Resources Setting, Conservation Measures (Avoidance, Minimization, Mitigation, Monitoring, Reporting, and Adaptive Management Program; Funding LEHCP Costs; and Project Alternatives. AECOM assumes up to two revisions during this process.
- USFWS Meeting. AECOM will lead a virtual workshop with Conservation District and the USFWS to review the Draft LEHCP Chapters and revised content in an active process. Up to three (3) AECOM staff will attend.
- Administrative Draft LEHCP. AECOM will prepare an Administrative Draft HCP for review by the Conservation District followed by the USFWS.
- Final HCP. AECOM will prepare a final HCP addressing USFWS comments as appropriate. AECOM assumes one revision following comment.
- Draft USFWS Incidental Take Permit Application. AECOM will prepare the Federal Fish and Wildlife Permit Application for Incidental Take Permits (ITP) associated with an LEHCP. AECOM will submit the Draft ITP application in electronic format to the Conservation District for review. AECOM will revise the draft deliverable and prepare electronic copies of the Final ITP application package for submittal to USFWS on the Conservation District's behalf. AECOM will provide the Conservation District with electronic copies of the Final ITP packages for their records. This scope of work assumes the Conservation District will pay all required application fees.

Task 9: Support Conservation District Negotiations with the Regulatory Agencies

Permit Negotiations Support

AECOM routinely provides post-application submittal agency coordination while agency staff review application materials. AECOM staff view this as a critical stage in the process as timely responses to agencies are necessary to avoid formal permit withdrawals. As agency staff bring up issues of concern, or have questions, we respond quickly and incorporate other specialists as needed if supplemental information is requested during permit processing. Proactively, AECOM also reaches out on a regular basis to agency staff to check on their review status and offer our availability to meet and discuss materials provided in the application package, if needed. These communications can identify potential issues before they formally arise, as well as keep the application review moving forward.

Task 9a – Agency Negotiation Meetings

All of AECOM's identified regulatory and senior technical specialists for this project have positive working relationships and a history of successful interactions with the resource agencies. We work regularly with staff at USACE, USFWS, RWQCB, and CDFW, among others, and are very familiar with the processes necessary to apply for and obtain permit authorizations from these agencies. The agency staff who work in San Bernardino County that AECOM is working with on the Wash Plan permits are likely to also be involved in permitting for the Maintenance Project. Therefore, our current working relations with Ms. Claudia Tenorio (RWQCB-R8) and both Ms. Brandy Wood and Ms. Kim Freeburn (CDFW Inland Deserts Region 6) will facilitate the agency coordination for the Maintenance Project. AECOM specialists have worked with numerous project managers and supervisory staff at USFWS in southern California Field Offices and are ready to work with USFWS specialists on the LEHCP. The agency coordination will consist of formal (e.g., meeting at Conservation District, field meetings if needed) and informal discussions (e.g., e-mail, phone calls, web meetings).

In the spirit of collaboration, AECOM and the Conservation District will facilitate agency meetings. AECOM and the Conservation District will establish communication protocols between all parties. Specific to permit negotiations after applications are submitted, we are assuming one in-person meeting plus up to three remote teleconference meetings each for the 1602 and 401/WDR. For the 2081 and LEHCP, we are assuming one in-person meeting plus up to six monthly meetings each with CDFW and USFWS for these species permits.

For the agency meetings conducted under this contract, AECOM will prepare and provide meeting notices, agendas, and minutes. Draft versions of these materials will be provided to the Conservation District for review and comment, and final versions will incorporate and address all comments provided by the Conservation District.

For meetings that are held, whether prior to application submittals or follow-up meetings during agency permit reviews, AECOM will develop agendas and meeting materials for Conservation District review, schedule the meetings, and provide meeting minutes for project records.

Exhibit 7 identifies all in-person meetings and other remote teleconference meetings anticipated for the Maintenance Project. As noted previously, AECOM can facilitate a meeting of any size for this project and will institute tested safety procedures for attendees of all in-person meetings that the Conservation District confirms appropriate.

Task 9b – Conceptual Mitigation Strategy

An important topic for agency negotiation will be affirming and finalizing, as needed, the mitigation approach to offset proposed waters and species impacts from ongoing maintenance and operations activities. AECOM proposes that the recurring impacts are overall temporary in nature and should not warrant the types of compensatory mitigation that is typically required for loss of jurisdictional waters and habitats for species covered by the ITPs. Our approach to species mitigation will be to develop measures (e.g., similar to those employed for the Wash Plan area) that maintain habitat for species to persist within areas of the Recharge Facility that are not impacted by the Maintenance Project. We would also support the Conservation District in presenting that the waters impacts are self-mitigating and that additional mitigation beyond the BMPs currently employed are not warranted.

AECOM will discuss mitigation strategy with each agency starting with early meetings. The approach developed will be incorporated into the HCP and permitting applications.

Task 10: Obtain Permits for the Maintenance Project

Finalize All Permits

Following the formal application reviews (Task 9), during permit final processing, AECOM will incorporate feedback from the Conservation District and/or regulatory agencies to develop the final 1602, 2081, 401/WDR, and LEHCP. Agencies develop permit content including general and specific conditions required for future activities, pre- and post-activity notifications, annual reporting, and other requirements. AECOM will work with the agency staff to obtain draft permits/conditions for the Conservation District to understand and evaluate forthcoming regulatory compliance issues. Our team has reviewed numerous pre-final permits and can advise the Conservation District on refinements to request, where needed. If approved by the Conservation District, AECOM will contact and work directly with agency staff to facilitate obtaining the final permit language that best meets your ongoing needs for the Maintenance Project, or AECOM can be available as a facilitator between the parties as necessary.

> Together with the Conservation District, AECOM will work directly with agency staff to facilitate a mutual understanding of desired permit language.

We anticipate up to four remote teleconference meetings associated with obtaining the final permits, one each for the 1602, 2081, 401/WDR, and LEHCP (see list of all meetings in Exhibit 7).

C

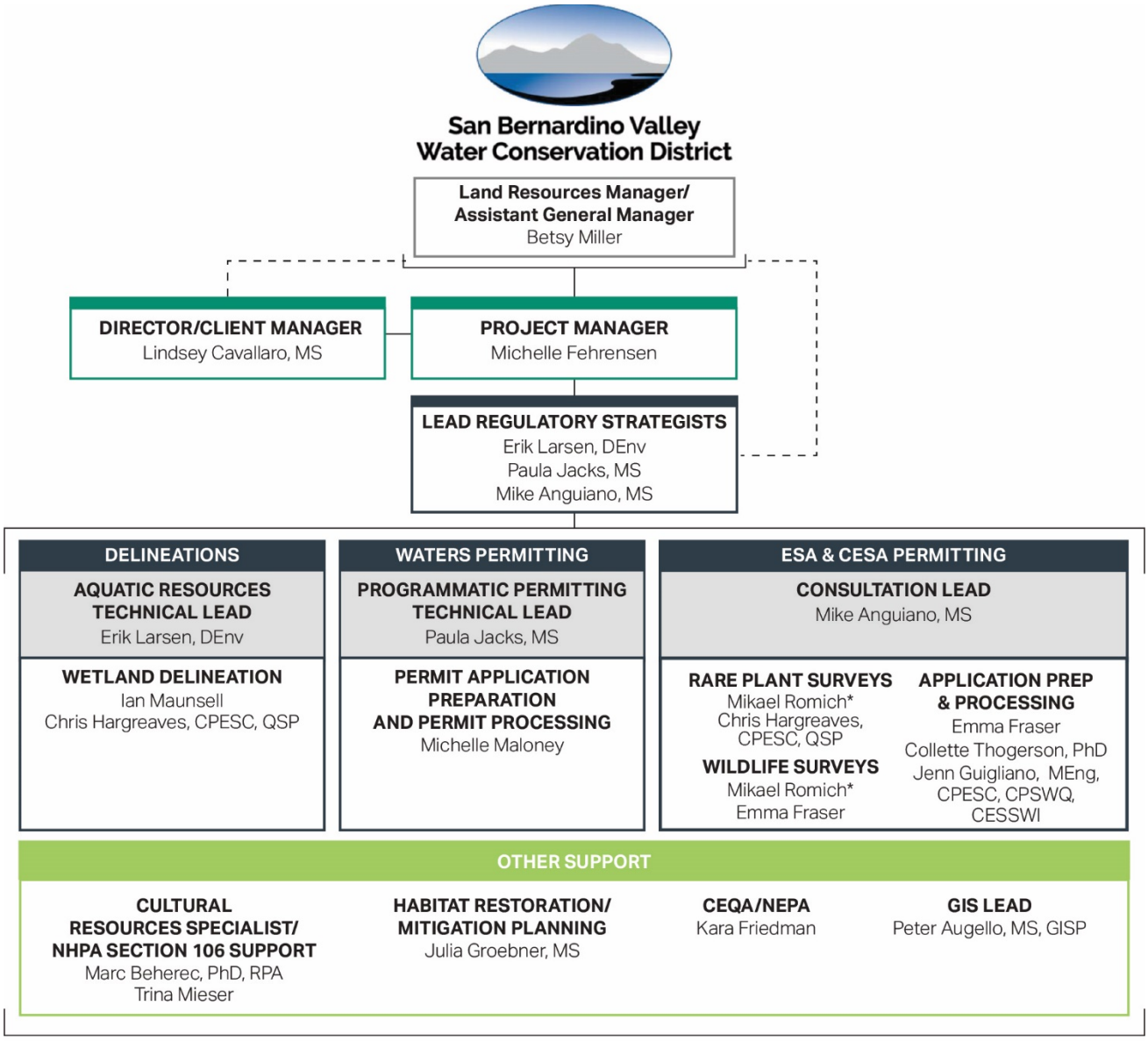
Organizational Chart

Delivering a better world

C. Organizational Chart

AECOM's core team, as shown in our organizational chart (Exhibit 1), is eager to continue supporting the Conservation District, building on the foundation of our collaborative and successful working relationship that has been established under the Wash Plan programmatic permitting effort. Our team has been assembled to provide consistency across the Wash Plan programmatic permitting and this Maintenance Project, while enhancing it with a core ESA specialty team to provide the highest quality service to the Conservation District. Additional discussion of our team is provided in the following Qualifications Section.

Exhibit 1. Team Organization Chart



*Origins Biological

AECOM

D

Qualifications

Delivering a better world

D. Qualifications

Why AECOM

- ✓ Consistent Core Team
- ✓ Technical Excellence
- ✓ Project-Specific Knowledge
- ✓ Ongoing Relationships with Regulatory Agency Staff

AECOM has assembled a highly qualified team to partner with the Conservation District on this project. Our core team is led by **Ms. Michelle Fehrensen**, AECOM's Project Manager, with over 19 years of experience in permitting utility and infrastructure projects with complex biological resource issues, including leading AECOM's current programmatic permitting project with the Conservation District. She will partner with the Conservation District on creating a vision for the Maintenance Project, maintaining project schedule and budget, and providing oversight for all project deliverables. Project Director **Ms. Lindsey Cavallaro**, who has worked with the Conservation District's Project Manager on the Wash Plan Programmatic Permits and other programmatic permitting projects in the past, will provide senior oversight/quality control, assure client satisfaction, and can commit resources on behalf of AECOM. **Ms. Paula Jacks**, an expert with programmatic approaches, has been guiding the Conservation District in developing a successful permitting program, and will continue the collaborative partnership to achieve your goals for the Maintenance Project. **Dr. Erik Larsen** (formerly a USACE Regulatory PM) is a respected expert with waters and wetlands and has been supporting the Conservation District in team meetings, presentations to District or Board Members and Task Force members, and agency coordination. His experience and relationships with agency staff will help ensure the process continues making forward progress. **Mr. Mike Anguiano** is a senior wildlife biologist who brings a strong combination biological knowledge and critical thinking skills in challenging situations. He is currently supporting a 2081 permitting effort in the Mojave desert and HCP permitting efforts for SDG&E across their entire service area. This key group—Michelle, Paula, Erik and Mike—have worked collaboratively as a team on AECOM's current contract with the Conservation District, as well as for other clients such as the San Diego County Water Authority for that agency's programmatic permitting process.

Waters permits will be led by Paula and Erik. ESA evaluation and permitting will be led by local experts Mike and **Mr. Mikael Romich** with technical support from **Dr. Collette Thogerson** and **Ms. Jennifer Guigliano. Mr. Mikael Romich** is a senior biologist with substantial history and understanding of the biological resources at Mill Creek. Collette is a former USFWS employee having worked as the National Section 7 Coordinator from 2012 through 2015 and as an Assistant Field Supervisor for the Venture Field Office from 2015 through 2018. Cultural resources survey and consultation support will be led by **Dr. Marc Beherec.** Marc has written numerous cultural resources assessments satisfying the requirements of the California Environmental Quality Act and Section 106 of the National Historic Preservation Act. The Conservation District will have access to each of these technical experts for strategic guidance, permitting, and project execution. This core team will be supported by a depth of resources within AECOM, including wetland delineators, wildlife biologists, CEQA planners, cultural resources specialists, restoration ecologists, and GIS specialists. These staff have permitting experience in addition to their technical specialties and thus are familiar with the details that are most important for agency reviews and methods to streamline permitting production.

Below are brief summaries of our key team members' professional qualifications and value to the Conservation District's pursuit of permits for the Recharge Facility. . Resumes, including a summary of licenses and certifications, for project staff shown on the organization chart are available upon request.

Exhibit 2. Key Team Members' Professional Qualifications

Name/Role/Contact Info	Summary of Professional Qualifications
Lindsey Cavallaro, MS Director/Client Manager 619-610-7662 lindsey.cavallaro@aecom.com San Diego, CA	Ms. Lindsey Cavallaro brings 19 years of profesional enviornmental consulting experience focusing on management of large-scale environmental compliance projects, complex habitat restoration programs, and multifaceted impact assessment and conservation planning for natural resources in California and Nevada. Her key project experience includes overseeing preparation of complex California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documents and technical reports; development and implementation of large-scale environmental mitigation and compliance programs; habitat restoration program planning, design, and implementation; conservation plan development; and habitat preserve management. Lindsey worked closely with Betsy Miller when she was at the City of San Diego, and has been supporting the City since 2007 on habitat conservation and planning projects, including preparation of a City-wide vernal pool Habitat Conservation Plan (VPHCP) and associated EIR/EIS for issuance from an ITP from USFWS. This work included extensive coordination with the City, a panel of scientific advisers, the wildlife agencies, stakeholders, developers, and environmental groups. Following approval, Lindsey continues to provide strategic guidance to the City on implementation of the VPHCP.
Michelle Fehrensen Project Manager 619-610-7575 michelle.fehrensen@aecom.com San Diego, CA	Ms. Michelle Fehrensen provides years of experience managing comprehensive environmental assessments and key aspects of complex biological permitting projects. She has extensive experience in managing projects involving wetland and ESA/California ESA (ESA/CESA) compliance. Her experience includes lead roles on attaining programmatic wetland permits for SDG&E, Escondido, and the City of San Diego, as well as work on the San Diego Gas & Electric's (SDG&E) Natural Communities Conservation Plan (NCCP)/HCP, County of San Diego North County MSCP, and County of San Diego Quino Checkerspot HCP. She regularly provides strategic guidance to clients, including critical leadership with the resource agencies. Michelle is adept at building and managing diverse teams of specialists and has the ability to keep the team focused on the ultimate goals of the project, including delivering high quality client service within schedule and budget. Michelle is currently managing the Conservation District's Upper Santa Ana River Wash Plan Programmatic Permitting project.
Erik Larsen, DEnv Lead Regulatory Strategist and Delineations: Aquatic Resources Technical Lead 714-648-2043 erik.larsen@aecom.com Orange, CA	Dr. Erik Larsen has completed numerous permit application processes, ranging from Nationwide Permits (NWPs) to long-term, programmatic Standard Individual Permits (SIPs). Erik's permitting experience includes preparing documents and coordinating with stakeholders for the USACE Los Angeles District Special Area Management Plans. SAMPs are watershed-level studies, which include the development of alternative, programmatic permit programs. He has been co-lead regulatory specialist on AECOM teams on several programmatic permit programs in Southern California, and brings a collaborative spirit to client advocacy, agency coordination, and AECOM team cohesiveness. Erik is a respected expert with arid lands delineation and the California Rapid Assessment Method (CRAM), including the Episodic Riverine Module. He is a certified CRAM trainer (for courses in Southern California), and has conducted CRAM evaluations in wetlands/riparian systems in all areas of the State of California.

	As a regulator with USACE Regulatory Division, and now a consultant with over 17 years of experience in the private sector, Dr. Larsen has spent his career working with staff from the USACE Los Angeles District, RWQCB-R8 (Santa Ana Region), and various CDFW Regions. Since 2014, Erik has been a lead regulatory specialist and wetland scientist for projects along the Santa Ana River; especially applicable is the Santa Ana River Parkway (SARP) project, were he facilitated the permitting of geotechnical investigation and the hiking & riding trail (with bridges over the SAR). Erik is currently one of the lead regulatory strategists for the Conservation District's Upper Santa Ana River Wash Plan Programmatic Permitting project.
Paula Jacks, MS Lead Regulatory Strategist and Waters Permitting: Programmatic Permitting Technical Lead 619-610-7577 paula.jacks@aecom.com San Diego, CA	Ms. Paula Jacks has over 20 years of professional experience as an environmental consultant. Interacting with the resource agencies regularly, she has substantial experience and an in-depth understanding of state and federal laws pertaining to wetland and special-status species. Much of Paula's experience has been in programmatic permitting, in particular for aquatic resources. She has evaluated wetlands using state and federal indicators, assessed habitat functions, and developed compensatory mitigation plans. She has led preparation of technical memoranda for Southern California Edison outlining strategies for programmatic permitting for waters and species impacts, including pros and cons of difference approaches, risks, and anticipated costs. She led the San Diego County Water Authority in its pursuit of programmatic waters permits that complement their NCCP/HCP species authorization. Paula has a long history of managing multiple contracts helping utility, municipal, and water agency clients navigate regulatory requirements, lead agency meetings, and obtain service-area- or municipal-wide permits. Paula is currently one of the lead regulatory strategists for the Conservation District's Upper Santa Ana River Wash Plan Programmatic Permitting project.
Mike Anguiano, MS ESA and CESA Permitting: Consultation Lead 619-315-8866 michael.anguiano@aecom.com San Diego, CA	Mr. Mike Anguiano is a senior wildlife biologist with 14 years of experience preparing biological studies and environmental permitting, including special-status species surveys, biological assessments, habitat conservation plans, and eagle conservation plans on lands throughout southern California. His past experience with ITP applications includes overseeing the baseline environmental studies and permitting services in support of two CDFW ITP permit applications for communication towers in the Mojave desert. He is also currently co-leading, with Ms. Michelle Fehrensen, a comprehensive amendment to San Diego Gas & Electric's (SDG&E) NCCP/HCP. He developed impact assessment methodology for over 40 covered species which includes using predictive modeling to assess impacts. The SDG&E HCP amendment also includes development of an Eagle Conservation Plan and a specialized analysis for peninsular bighorn sheep.
Ian Maunsell Delineations: Wetland Delineation Lead 202-920-3266 ian.maunsell@aecom.com San Diego, CA	Mr. Ian Maunsell is an aquatic resources and regulatory permitting specialist with over 11 years of experience in environmental consulting, including 10 years of experience in southern California water permitting and biological licensing projects. Ian specializes in conducting formal jurisdictional delineations of wetlands and non-wetland waters and preparing related documentation to support agency permitting with USACE, CDFW, and (RWQCB for aquatic resources impacts. He has conducted field assessments of aquatic resources ranging from estuarine and palustrine wetlands to non-wetland riparian systems within the Coastal, Foothill, Mountain, and Desert Regions of southern California. Ian has comprehensive experience in documentation and reporting required for inclusion in the preparation of permit application packages for Clean Water Act (CWA) Section 404 Permitting, CWA Section 401 Water Quality Certification,

	authorization under CFWC Section 1600 et seq. (e.g., Lake and Streambed Alteration Agreement), and California Water Code (CWC) Section 13000 et seq. Waste Discharge Requirements. Ian is also experienced in mitigation planning and credit acquisition assistance on behalf of clients seeking to obtain wetland mitigation credit.
Michelle Maloney Waters Permitting: Permit Application Preparation and Permit Processing Lead 619-610-7656 Michelle.maloney@aecom.com San Diego, CA	Ms. Michelle Maloney is a biologist/regulatory specialist specializing in natural resources management. She has several years of experience working on a range of environmental planning, compliance, restoration, and conservation projects for the private, public, and non-profit sectors. Her key project experience includes coastal and natural resource management and restoration, permitting and licensing of electric utility projects under jurisdiction of the CPUC, CEQA/NEPA documents, technical reports, and regulatory permit applications such as those required for California Coastal Act, Endangered Species Act and Clean Water Act compliance. Michelle exhibits strong leadership ability, knowledge of pertinent state and federal environmental laws, policies, and regulations, strong written and oral communication skills including public speaking experience, technical understanding of local natural resources, and experience coordinating with agencies and jurisdictions in Southern California.
Mikael Romich, Origins Biological ESA and CESA Permitting: Rare Plant and Wildlife Surveys 909-810-0718 mikeromich@gmail.com Redlands, CA	Mr. Mikael Romich is a senior biologist with Origins Biological. He has over 22 years of biological resource experience in the upper Santa Ana River watershed. He has worked on numerous projects for the Conservation District including conducting baseline biological surveys for the Mill Creek Study Area. He was also one of the lead biologists preparing the Upper Santa Ana River Wash HCP. He has been the project manager and biological lead on a wide variety of projects, including HCPs, CEQA biological sections, natural environment studies, biological technical reports, wildlife agency coordination, focused species surveys, translocation plans, and biological pre-construction surveys. Mikael is knowledgeable of California and federal regulations and laws pertaining to biological resources. He has prepared numerous Biological Assessments and coordinated Section 7 consultations with the USFWS and 2081 permit applications with the CDFW.
Emma Fraser ESA and CESA Permitting: Application Preparation 619-610-7668 emma.fraser@aecom.com San Diego, CA	Ms. Emma Fraser has over eight years of experience in environmental compliance and biological consulting in the southwest including areas of the Mojave Desert in California, Nevada, and Arizona. Emma also brings CDFW/Wildlife Agency experience working on NCCP/HCPs. Currently, she is working collaboratively with other subject matter experts to prepare a comprehensive amendment to SDG&E's NCCP/HCP, which includes addressing 58 wildlife and 49 plant species. Emma is coordinating all writers and facilitating management of this process. Her recent experience includes biological surveys, focused bird surveys, and monitoring tasks for a variety of local clients, including San Diego Gas and Electric and the San Diego County Water Authority.

Chris Hargreaves, CPESC, QSP, ISA Arborist Delineations: Wetland Delineation/Permit Application Preparation 714-567-2493 chris.hargreaves@aecom.com Orange, CA	Mr. Chris Hargreaves is an environmental scientist with over 14 years of experience in ecological restoration, landscape architecture and sustainable design, erosion and sediment control, natural resource reconnaissance and mitigation. His project experience with various federal, state and local government entities and large corporate clients includes erosion and sediment control compliance and design, PS&E, report compilation, implementation and construction oversight, field studies including plant identification, wetland delineations, and biological surveys. His recent work relating to wetlands includes conducting wetland delineations, preparing jurisdictional delineation reports, assisting in permit applications and conducting compliance monitoring for projects, including the Upper Santa Ana River Wash Plan Programmatic Permitting, Lake Wohlford Dam Replacement Project in Escondido, BNSF Facility Redevelopment adjacent to the Santa Ana River, and the Brea Canyon Road widening project.
Collette Thogerson, PhD : ESA and CESA Permitting: HCP Process Technical Advisor 703-953-4535 collette.thogerson@aecom.com Ventura, CA	Dr. Collette Thogerson is a senior biologist with more than 22 years of experience working with endangered species in a variety of settings (academia, government, and consulting). She has more than 8 years of experience working for the USFWS as the National Section 7 coordinator and an Assistant Field Supervisor for the Ventura Fish and Wildlife Office. She has 6 years of direct experience with California's federally and state listed species. Her past experience with HCPs include serving as an advisor for the USFWS HCP handbook revisions, reviewing dozens of HCPs as a regulatory manager for USFWS, and assisting with the development of a USFWS General Conservation Plan for Oil and Gas activities, and an HCP for Oceans Dunes State Park. Her experience with AECOM includes leading the development of a California Statewide proactive 7(a)(1) program for FEMA's controversial National Flood Insurance Program, advising on the Sustainable Conservation Statewide Restoration Consultation, and providing ESA expertise for numerous projects.
Jenn Guigliano, MEng, CPESC, CPSWQ, CESSWI ESA and CESA Permitting: HCP and 2081 ProcessTechnical Advisor 619-200-8148 Jennifer.guigliano@aecom.com San Diego, CA	Ms. Jenn Guigliano has over 20 years of experience in managing comprehensive and complex environmental assessments of energy, industrial, and other projects, as well as managing key aspects of solar permitting and compliance projects, including those with a federal process, and facilitating key stakeholder and regulatory agency coordination. Jenn has provided key permitting and compliance leadership roles for more than 10 utility-scale solar projects located on Bureau of Land Management (BLM) lands, including coordinating preparation of necessary plans and documents and leading the acquisition of project approvals for start of construction from the BLM, California Energy Commission (CEC), USFWS, CDFW, and local/municipal agencies. Jenn also directs construction compliance for multiple solar projects including development of species management and relocation plans, resource agency permitting, coordination and oversight of cultural and paleontological teams, coordination of hydrological analyses and streambed permitting (including FEMA), and mitigation. Jenn's tasks have included but are not limited to preparation and review of technical documents (technical studies, permit applications, and management and mitigation plans); coordination and negotiation with agencies; and coordination and oversight of the project team, including biological resources and engineering/design.
Marc Beherec, PhD, RPA Other Support: Cultural Resources / NHPA Section 106	Dr. Marc Beherec is an archaeologist who has been involved in the field of cultural resources management for twenty years in both state and federal regulatory frameworks. He works throughout Southern California and has written numerous cultural resources assessments satisfying the requirements of the CEQA and

951-296-7561 marc.beherec@aecom.com Los Angeles, CA	Section 106 of the National Historic Preservation Act. Dr. Beherec also assists in Assembly Bill 52 and Section 106 tribal consultation and coordinates tribal monitoring. He has authored numerous technical documents and cultural resources sections for EAs, EIRs, and EISs, and management plans, and has contributed several articles to the *Proceedings of the Society for California Archaeology.*
Trina Meiser **Other Support: Cultural Resources / NHPA Section 106** 619-610-7885 trina.meiser@aecom.com San Diego, CA	Ms. Trina Meiser is a historic preservation planner and meets the Secretary of Interior's qualifications (36 CFR Part 61) in architectural history and history. Trina has more than 20 years of experience in identifying, evaluating, and planning for cultural resources, including historic structures, districts, and landscapes. She specializes in technical analysis to support regulatory compliance, specifically under CEQA and Section 106 of the National Historic Preservation Act. She conducts cultural resources studies, including inventory, survey, and evaluation reports; impact analyses and findings of effect; National Register of Historic Places nominations; Historic Structure Reports; and Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) documents. She consults on a variety of transportation, energy, military, housing, and community projects with clients, designers, and agency representatives. Her experience in historic preservation planning provides a strong understanding of federal, state, and local historic preservation laws, and a thorough knowledge of the Secretary of the Interior's Standards for the Treatment of Historic Properties and their function in historic preservation planning.
Julia Groebner, MS **Habitat Restoration/Mitigation Planning** 6196107590 julia.groebner@aecom.com San Diego, CA	Ms. Julia Groebner is a senior restoration ecologist and biologist with over 11 years of experience in habitat restoration and general biological consulting. Her restoration ecology experience includes design, implementation, monitoring, and reporting for large-scale, complex habitat restoration programs. She has restoration experience in several habitat types, including wetland/riparian, coastal sage scrub, chaparral, vernal pool, and desert habitats. Julia also has experience designing and implementing sensitive plant salvage and translocation programs. Her skills as a general biologist include vegetation mapping, special-status species surveys, wetland delineations, habitat assessments, and the preparation of many different types of environmental documents, including biological technical reports, wetland delineation reports, and resource management plans. Julia has also led the creation, permitting, and/or approval of several conservation and mitigation banks. She brings a wide range of abilities to any project, including strong writing, organizational, and analytical skills, and extensive knowledge of local, state, and federal environmental regulations.
Kara Friedman **Other Support: CEQA/NEPA** 619-610-7882 kara.friedman@aecom.com San Diego, CA	Ms. Kara Friedman brings years of experience on a variety of projects and conducts in-depth research and analysis in the preparation of state and federal environmental documents for projects subject to compliance with CEQA/NEPA. She also has experience preparing CEQA addendums, exemptions, and documents for recirculation. Kara also supported the development and environmental assessments conducted by AECOM for the preparation of a citywide vernal pool Habitat Conservation Plan and associated EIR/EIS, in support of issuance from an ITP from USFWS. It is Kara's priority to listen to clients and lead agencies to fully understand their needs and recommend the most appropriate course of action for each situation to fulfill all legal requirements and result in superior environmental documentation and solutions.

Peter Augello, MS, GISP Other Support: GIS Lead 619-610-7774 peter.augello@aecom.com San Diego, CA	Mr. Peter Augello brings years of experience working with technical staff and clients to ensure quality spatial data products and planning for project implementation and execution. Peter uses his expertise in data collection, web mapping, CAD, GPS and GIS technologies in support of all variety of environmental planning, cultural resources, water resources, transportation, land use, hazards, and natural resources projects.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AECOM Experience Successfully Obtaining 1602, 2081, 401/WDR and LEHCP Permits

This section is organized to focus first on several of AECOM's projects, led by our specialists and completed in the last five years, that illustrate our experience successfully obtaining 1602, 2081, 401 and/or LEHCP authorizations from the regulating agencies. The list immediately below identifies our recently completed projects, the pages that follow provide more detailed descriptions of the work conducted, permits sought and obtained, permitting timeline, and other details listed in the RFP.

Listing of detailed projects:

1. High Desert Solar Project (HDSP) Solar and Storage Project, California
2. Devers-Colorado River No. 1, 500-kilovolt (kV) Transmission Line Rating and Remediation (TLRR) Project, Riverside County, CA
3. San Diego County Water Authority Individual Permit(IP)/Letters of Permission (LOP) and Streambed Alteration Agreement (SAA)
4. City of Escondido, Channel Maintenance Programmatic Permits
5. Southern California Edison (SCE) Strategic Planning for TLRR Programmatic Permitting
6. City of Vista Channel Maintenance Program
7. California State Coastal Conservancy, Southern California Wetlands Recovery Project (SCWRP) In-Lieu Fee (ILF) Program Instrument
8. Santa Ana River Parkway Project Extension Project CEQA Environmental Impact Report (EIR) and Regulatory Permitting
9. Programmatic Waters Permitting for the Distribution System Infrastructure Protection Program (DSIPP), Orange and San Bernardino Counties, CA

Following our detailed project sheets, we highlight several key examples of our experience on permitting projects that utilized a collaborative, integrated teamwork model between lead agency and consultant to advance permitting or achieve permit issuance, while developing or continuing long-term partnerships with regulatory agencies.

Finally, this section concludes with a list of other projects, conducted over the last two decades, that further demonstrate our experience in 1602, 2081, ESA Section 7 or HCP preparation, 401/WDR, and 404 permitting, for either single- or multiple-project needs (i.e., programmatic permitting).

1 High Desert Solar Project (HDSP) Solar and Storage Project, California

Client
HDSI, LLC.
Victorville, CA

Entity/Lead Agency Applicant
City of Victorville
USFWS
CDFW
RWQCB
USACE

Size of Project Area(s)
Plan Area 992,00 acres
Probable Impact Zone 64,600 acres

Project Dates
2018-2020 Permitting
2020-2021 Construction Compliance

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 NWP Obtained
- Section 7 Consultation, BO issues
- Section 10 Low-Effects Habitat Conservation Plan
- 401 WQC sought, ultimately waived by USACE
- 1602 SAA obtained.
- 2081 Incidental Take Permit

Project Lead, Project Team and Lead/Management Office Location

- Jennifer Guigliano, San Diego, CA

Original Proposed Budget/Final Consulting Services Cost
Confidential

Project Coordination Structure
Jennifer Guigliano worked with the client and agencies to develop a permitting strategy, conduct a coordination meeting to review the project and permit requirements, and develop permit applications.

AECOM led the overall permitting for the nominal 100 megawatt (MW) High Desert Solar and Storage Project for HDSI, LLC. The project was located on private lands and lands owned by the U.S. Air Force. AECOM led the strategic permitting including federal and state take permits, federal and state jurisdictional waters permits as well as construction compliance.

Project Overview

AEOCM served as the strategic lead for permitting of the proposed 108-MW utility-scale solar photovoltaic (PV) and battery storage HDSP that would be located on private lands with a generation tie-in line located on US Airforce and private lands. The project included permitting with the USACE, USFWS, CDFW, and RWQCB. AECOM provided strategic guidance on regulatory permitting processes and coordinating with the resource agencies on the ESA Section 10 process and the state permit processes, as well as coordination on jurisdictional waters permits, to obtain regulatory permits and approvals for construction and operation of the facility. As part of the Section 10 consultation process, AECOM coordinated with USFWS to facilitate a Lowe Effects HCP. AECOM prepared the document in addition to the Categorical Exclusion and application. AECOM also assisted the client with compensatory mitigation coordination and negotiation with agencies and is leading environmental compliance for construction of the facility. Subsequent to start of construction, the Joshua Tree was listed as a candidate species and AECOM led the preparation of an amendment to the state ITP to obtain coverage for impacts to the Joshua tree.

❷ Devers-Colorado River No. 1, 500-kilovolt (kV) Transmission Line Rating and Remediation (TLRR) Project, Riverside County, CA

Client
Southern California Edison

Entity/Lead Agency Applicant
Southern California Edison
Contact: Genevieve Cross
Genevieve.Cross@sce.com
626-233-5145

Size of Project Area(s)
The ROW between the Devers and Colorado River Substations includes approximately 5,500 acres

Project Dates
2016-2018

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 NWP sought, submitted May 2018 / obtained. September 2018
- 401 WQC sought, submitted July 2018 / obtained. September 2018
- 1602 SAA sought, submitted November 2017 / obtained. July 2018
- Section 7 consultation, initiated January 2017 / completed April 2018
- 2081 sought; initiated January 2017 / completed October 2018
- Section 106, need for consultation evaluated, determined not necessary

Project Lead, Project Team and Lead/Management Office Location

- Waters Permitting Specialist, Paula Jacks, San Diego, CA
- Cultural Resources Specialist, Marc Beherec, Los Angeles, CA

Original Proposed Budget/Final Consulting Services Cost
$511,000/ $1,106,000 – increase due to addition of services, as requested by the client

Project Coordination Structure
AECOM planners and specialists in San Diego, Orange, and Los Angeles offices worked as a team to conduct all services. Subcontractors supported wetland delineations and cultural resources/paleontological services.

AECOM led environmental studies and reporting and provided all permitting services in support of a 111-mile long transmission line remediation project. Permits included Section 7 permitting, CDFW ITP, and 401, 404, and 1602 waters permits.

Project Overview

AECOM led a multi-disciplinary team of environmental scientists that conducted all services for 111-mile long transmission line remediation project in Riverside County involving reconductoring and tower-raising activities. Services included preparation of CEQA (IS-MND), Section 7 permitting, 2081 CDFW permitting, waters permits for 401, 404, and 1602, Plan of Development for BLM, and mitigation plans. Strategized on behalf of client directly with resource agencies on permitting approaches and avoidance/minimization approaches. Led offsite mitigation planning efforts. Managed survey work and compliance monitoring. Primary resources of concern included federal and state listed species, waters, cultural resources, and paleontological resources.

Species permitting covered included desert tortoise, Coachella Valley fringe-toed lizard, and Coachella Valley milk vetch. Studies and analyses conducted to support species permitting included species presence, habitat mapping, mitigation potential, and due diligence analyses to avoid impacts to species during pre-project activities through avoidance and minimization measures and amendments to the project design. Based on the presence of potential habitat for these species, AECOM biologists assessed historic data and combined results of these studies to support the USFWS Biological Assessment and CDFW 2081 Incidental Take Permit.

To support the 401, 404, and 1602 permits, over 100 work areas (e.g., wire setup sites, guard structures, and helicopter landing sites) encompassing over 200 acres were evaluated for the presence of federal and state jurisdictional waters using methods required for arid settings. Approximately 15 acres of jurisdictional non-wetland waters were identified. Prepared a presentation for the pre-application agency meeting, and application packages for federal Clean Water Act Sections 401 and 404, and California Fish and Game Code Sections 1600-1617 permits. Conducted agency coordination through permit issuance.

For cultural resources, records searches were conducted and focused cultural resource surveys were completed. A cultural resource survey report and addendum were produced. Findings concluded that areas where work is proposed are designated maintenance using existing roads. Further, it was found that there are no eligible cultural resources present at proposed sites. Effective avoidance of all potentially eligible resources can occur. No Section 106 consultation was deemed necessary for this project. AECOM assisted in Assembly Bill 52 consultation with interested tribes at request of CDFW, including in-person site visits, although no tribal cultural resources were impacted.

3 San Diego County Water Authority IP/LOP and Streambed Alternation Agreement (SAA)

Client
San Diego County Water Authority, San Diego, CA

Entity/Lead Agency Applicant
San Diego County Water Authority
Contact: Summer Adleberg
sadleberg@sdcwa.org
Phone: 858-522-6754

Size of Project Area(s)
Plan Area 992,00 acres
Probable Impact Zone 64,600 acres

Project Dates
IP/LOP 2012-2015
SAA 2018-2019

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 Individual Permit sought, IP/LOP obtained. August 2012 – May 2015
- Section 7 consultation initiated and closed. March 2012 – June 2012
- 401 WQC sought, ultimately waived by USACE. December 2012 – May 2015
- 1602 SAA sought and obtained. June 2019 – November 2019

Project Lead, Project Team and Lead/Management Office Location

- Paula Jacks, San Diego, CA
- Erik Larsen, Orange, CA
- Michelle Fehrensen, San Diego, CA

Original Proposed Budget/Final Consulting Services Cost
IP/LOP: $249,389 / 254,889 ($9,500 fee increase due to software change for database)
SAA: $67,235

Project Coordination Structure
Paula Jacks, Erik Larsen, and Michelle Fehrensen worked closely with the Water Authority to develop a permitting strategy. Once the strategy was better defined, Paula worked most closely with the Water Authority and USACE to shape the final permit. Included 8 meetings with USACE; of which 3 included RWQCB, and one with the Pechanga Tribal Council. Additional working teleconferences with USACE were also held.

AECOM worked closely with the Water Authority and US Army Corps of Engineers to develop a Programmatic Master Plan Permit for Service Area-wide Covered Activities. This 50-year Section 404 permit complements the Incidental Take Permits issued for the Water Authority's NCCP/HCP.

Project Overview

AECOM provided all services necessary to obtain programmatic authorization from the USACE via a 50-year term Clean Water Act Section 404 Individual Permit/Letter of Permission process. Eligible activities covered under the master 404 permit include 1) O&M activities, 2) modification/expansion of existing facilities, 3) new construction, and 4) mitigation bank construction and management. Services also included assisting the Water Authority in obtaining regulatory coverage from RWQCB and USFWS under their authorities. Paula Jacks led all services for related document preparation and agency collaboration, including multiple meetings with USACE to support their internal NEPA evaluation (EA with 404(b)(1) Guidelines). Meetings were also held with RWQCB (2013 to 2014) to review the 404 strategy and develop a companion strategy for the 401. RWQCB prepared a draft certification, but ultimately never released it to USACE or the Water Authority. USACE waived the 401 requirement due to non-responsiveness; consistent with internal USACE guidance. The IP/LOP was issued in 2015, and through late 2019 Ms. Jacks supported the Water Authority in obtaining Letters of Permission for individual projects under the master 404 permit.

Under a separate process and contract, AECOM also supported the Water Authority in obtaining programmatic authorization from CDFW via a Streambed Alteration Agreement for O&M activities that will affect state aquatic resources at existing culverts, Arizona crossings, road crossings, and in-line structures (i.e., blow-offs and pump wells). AECOM assessed digital data representing numerous sites where the Water Authority conducts routine O&M activities. Conducted desktop review to identify locations to include. Developed standardized maintenance areas and estimated impacts for annual reporting purposes. Coordinated and co-led meetings to obtain CDFW input on permitting approach and determine the extent of field verification needed to assemble the application. Prepared an EIR Addendum to the Water Authority's existing NCCP/HCP EIR to support the 1602 permitting process. The Notification package was submitted mid-2019 and the Agreement was issued late 2019.

4 City of Escondido, Channel Maintenance Programmatic Permits

Client
City of Escondido,
Escondido, CA

Entity/Lead Agency Applicant
City of Escondido, Utilities
Contact: Alicia Appel
aappel@escondido.org
Phone: 760-839-6315

Size of Project Area(s)
64 maintenance sites 0.01 to 57 acres each (75 acres total)

Project Dates
2012-2015 Permitting
2015-2018 Permit Compliance and Mitigation Implementation

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 RGP sought, RGP94 obtained July 2013 - May 2015
- 401 WQC sought and obtained August 2013 - June 2015
- 1602 SAA sought and obtained July 2013 – July 2015
- ESA informal consultation December 2013 – November 2014

Project Lead, Project Team and Lead/Management Office Location

- Paula Jacks, San Diego, CA
- Michelle Fehrensen, San Diego, CA
- Julia Groebner, San Diego, CA
- Emma Fraser, San Diego, CA

Original Proposed Budget/Final Consulting Services Cost

$269,990 Permitting + $29,000 fee increase to include new services (CRAM assessment and additional agency support) and to cover extended timelines due to agency staff turn-over and workload.

$535,600 Compliance and Mitigation Implementation.

Project Coordination Structure

Paula Jacks and Michelle Fehrensen led the permitting and CEQA needs for this project. Paula worked most closely with the City and each of the permitting agencies to obtain the final permit. Included multiple office and field meetings and working teleconferences. Keely Craig led permit compliance oversight and related coordination with the City.

AECOM partnered with the City of Escondido to develop a citywide permit program to authorize long-term MS4 facilities and channel maintenance activities.

Project Overview

AECOM led all services to obtain programmatic authorizations for O&M activities throughout the City's storm water channels via 1) a Regional General Permit from USACE, 2) 401 Certification from RWQCB, 3) Streambed Alteration Agreement from CDFW, and 4) informal consultation and authorization from USFWS. Services included meetings with Public Works staff to define maintenance limits for impact evalutions, field delineations at 63 maintenance sites, cultural resources surveys, field and office agency pre-application meetings, Mitigated Negative Declaration preparation, Wetland Mitigation Plan preparation, and supporting the USACE in the preparation of their NEPA document.

The programmatic permits were issued in 2015, and after issuance, AECOM continued to support the City in permit compliance, including pre-activity biology surveys for rare plants and nesting birds, biological and cultural resources monitoring during authorized activities, installation of wetland/riparian mitigation within a designated 4.4-acre site, three years of maintenance and qualitative/quantitative monitoring of the mitigation site, data analysis, and agency reporting.

5 Southern California Edison (SCE) Strategic Planning for TLRR Programmatic Permitting

Client
Southern California Edison, San Diego, CA

Entity/Lead Agency
SCE, Genevieve Cross, Genevieve.Cross@sce.com 626-233-5145

Size of Project Area(s)
TLRR projects are located throughout Southern California, Mono County to San Diego County

Project Dates
2017

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:
The goal of this contract was to prepare a strategy for programmatic permitting that SCE specialists could present to internal leadership.

Project Lead, Project Team and Lead/Management Office Location

- Paula Jacks, San Diego, CA
- Erik Larsen, Orange, CA
- Michelle Fehrensen, San Diego, CA

Original Proposed Budget/Final Consulting Services Cost
$65,900

Project Coordination Structure
Paula Jacks managed this contract with a core team of specialists. Erik Larsen reviewed and provided technical input on the draft memorandum for waters permitting. Paula and other team members worked closely with SCE specialists to discuss their TLRR program and goals for the memoranda and presentation materials. Included a day-long working meeting with SCE to review comments on the draft memoranda. AECOM also presented the PowerPoint to the SCE managers as preparation for their meeting with the Director.

AECOM partnered with SCE specialists to prepare a permitting strategy for their 25-year Transmission Line Rating and Remediation Program.

Project Overview

AECOM prepared waters and species strategic planning documents to present programmatic permitting options for future service-area-wide Transmission Line Rating and Remediation (TLRR) permitting needs. The Programmatic Waters Permitting Strategy technical memorandum described an approach, benefits, and risks to standard vs. programmatic permitting with the USACE, SWRCB, RWQCBs, and CDFW. The Programmatic Species Permitting Strategy technical memorandum compared and contrasted the development of species-specific permits vs. regional Habitat Conservation Plans with USFWS and CDFW for future TLRR Program needs. Both memoranda included a high-level schedule, summaries of the pros/cons of different permitting approaches, and high-level cost estimates for the approaches presented. A PowerPoint file was also prepared for SCE's internal use.

April 2017: *Genevieve and I presented the results of the strategic planning effort on this CWA to our director last week . . . thank you again for your team's hard work on this effort.*

Nora Harris, MS, PMP
Environmental Project Manager,
Environmental Services,
Major Environmental Projects
Southern California Edison

6 City of Vista Channel Maintenance Program

Client
City of Vista, Vista, CA

Entity/Lead Agency
City of Vista, Jon Nottage, CPSWQ, Stormwater Program Manager, jnottage@ci.vista.ca.us 760- 643-5425

Receipt of Permits: all obtained in 2021

Size of Project Area(s)
45 maintenance sites, 28 acres total

Project Dates
2018-2021

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 RGP 86 reissuance sought, application submitted June 2020, executed permit obtained August 2021
- 401 WQC sought, application submitted May 2020, executed permit obtained July 2021
- 1602 SAA sought application submitted June 2020, executed permit obtained July 2021

Project Lead, Project Team and Lead/Management Office Location

- Paula Jacks, San Diego, CA
- Erik Larsen, Orange, CA

Original Proposed Budget/Final Consulting Services Cost
$165,000 for field studies, permit development and application preparation, agency meetings
$24,000 for MND and supplemental agency coordination.

Project Coordination Structure
Paula Jacks worked closely with the City's Engineering and Public Works Departments to update their Channel Maintenance Program and obtain programmatic permit renewals. Erik Larsen reviewed delineation findings and the report. Paula led working meetings with the City, two pre-application agency meetings, and agency coordination through permit issuance.

AECOM partnered with the City of Vista to improve their channel maintenance program and obtain new programmatic permits.

Project Overview

AECOM led all services to renew programmatic authorizations for storm water channel maintenance activities citywide from USACE, RWQCB, and CDFW. Initial permits issued 2010 expired early 2020. As part of the renewal process, AECOM supported the City in reexamining its maintenance needs and evaluating new sites to be included in permit renewals. Activities included conducting field surveys at over 40 sites to update 2010 mapping and records (aquatic resources delineations, vegetation mapping, and habitat assessments for sensitive species). A Manual that describes current maintenance needs and BMPs was prepared. Other activities included supporting the City in pre-application meetings with the resource agencies and preparing permit application packages. For pre-application meeting discussion, AECOM presented a matrix that summarized categories of activities (i.e., hand work within channels, excavation by equipment staged outside channels, vs. excavation from within channels), and discussed proposed sediment control and other water quality protection measures that will be employed. The organization facilitated constructive input from each agency about whether work was regulated or not or exempt from agency permitting. AECOM also prepared an MND Addendum to support the 401 and 1602 permits and led all agency coordination until renewed permits were issued.

August 2021 email to Paula Jacks: *WHOOOHOOO!!! Thank you for all the work you and your team put into this. I know it was a lot. You have been easy to work with, organized, and clearly have a good working relationship with agency staff. You set us up with complete applications, necessary support documents, and clear follow ups to meet their needs. Thank you!*

Jon Nottage, CPSWQ
Stormwater Program Manager
Engineering/Stormwater
City of Vista

7 California State Coastal Conservancy, Southern California Wetlands Recovery Project (SCWRP) In-Lieu Fee (ILF) Program Instrument

Client
California State Coastal Conservancy, Oakland, CA

Entity/Lead Agency
California State Coastal Conservancy, SCWRP
Contact: Megan Cooper
Megan.cooper@scc.ca.gov
Phone: (510) 286-4172

Receipt of Permits
N/A

Size of Project Area(s)
SCWRP program area: 12,576 square miles, 7 counties

Project Dates
01/2015-05/2019

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:
N/A

Project Lead, Project Team and Lead/Management Office Location
- Julia Groebner, San Diego, CA
- Paula Jacks, San Diego, CA

Original Proposed Budget/Final Consulting Services Cost
$93,820/ $105,960 – increase due to addition of services, as requested by the client

Project Coordination Structure
AECOM staff were integrated with the ILF Program Inter-agency Review Team (IRT). The AECOM team attended and led meetings with the IRT, conducted educational presentations for the IRT, and coordinated directly with the IRT regarding aspects of the ILF Program Instrument, although the California State Coastal Conservancy (Conservancy) completed most formal submittals to the IRT

AECOM supported the Conservancy's SCWRP in developing an ILF Program to provide compensatory mitigation for impacts to state and federal jurisdictional wetlands and waters throughout the seven-county SCWRP program area.

Project Overview

AECOM prepared the draft Enabling Instrument (Instrument) for the SCWRP ILF Program and worked with the Conservancy to develop many aspects of the ILF Program, including the Program's sub-service areas, compensation planning framework, fee schedule, and credit structure. The AECOM team conducted ILF Program and service area research, including market research on mitigation credit prices and mitigation demand within the Program's sub-service areas, and prepared supporting materials for discussions with the IRT and other stakeholders. These supporting materials were used by the AECOM team to lead presentations on various aspects of the ILF Program to the IRT and other stakeholders, including potential end users of the ILF Program. At the request of the IRT and the Conservancy, AECOM completed a mitigation demand analysis that analyzed compensatory mitigation required for impacts to state and federal jurisdictional wetlands and waters within the Program's three sub-service areas during the five-year period preceding initiation of ILF Program development. The AECOM team coordinated directly with members of the IRT when appropriate, and supported the Conservancy in discussions to further the development of an ILF Program that provides maximum benefits to the ecology and biological resources of the Program's service area, the long-term goals of the SCWRP, and the end users who seek to fulfill their compensatory mitigation requirements through the ILF Program.

*Again, a big *you ROCK* to Julia G for a terrific presentation on Friday! What a success—thank you for an absolutely A+ presentation of all AECOM's hard work. The slides showing the approach as 'equations' really made my heart sing, and the positive feedback from the IRT has been super exciting.*

Julia Elkin
Project Manager, South Coast Region
State Coastal Conservancy

8 Santa Ana River Parkway Project Extension Project CEQA EIR and Regulatory Permitting

Client
County of Orange
OC Public Works
601 N. Ross Street
Santa Ana, CA 92701

Entity/Lead Agency
Orange County Public Works
Contact: James Volz, PE
james.volz@ocpw.ocgov.com
Phone: 714-647-3904

Receipt of Permits

Geotech Investigation
404 / 401 / 1602

Hiking-Riding Trail with Bridges over Santa Ana River
404 & 401 avoided /
408 & 1602 in progress

Size of Project Area(s)
2.7 linear miles;
450 acres

Project Dates
2014-2016;
2018-Ongoing

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- Geotechnical Investigation (Completed)
  - 404 NWP. No. 6 / Pre-Cert 401 (Notice of Intent Process) / 1602
- Hiking and Riding Trail with Bridges over Santa Ana River (in Progress)
  - 404 SIP and 401 Certification no longer needed after avoidance and minimization process
  - 408 application submitted to USACE for potential effects to USACE-build levee
  - 1602 application in progress for one of the three bridges over the Santa Ana River
  - Section 7 process with USFWS (via Section 408 process)

Project Lead, Project Team and Lead/Management Office Location

- Erik Larsen, Regulatory Specialist, Orange, CA
- Paula Jacks, Regulatory Specialist (QA/QC), San Diego, CA

Original Proposed Budget/Final Consulting Services Cost
$376,856 (CEQA DEIR & FEIR; Technical Studies);
$129,985 (Revise Technical Studies; Permitting for Section 404/401/1602 for Geotechnical Borings & SARP Project Bridges 1 – 3)

- $22,575 (Supplemental Permitting for Section 408 Process)

Project Coordination Structure
For CEQA process, AECOM worked rather independently under County oversight.
For permitting, AECOM staff were integrated with County staff as an overall team.

AECOM facilitated permitting for expansion of a trail system, including the installation of bridges over the Santa Ana River. AECOM teamed with County staff through the avoidance and minimization process, which resulted in 404/401 permits no longer being needed.

Project Overview

AECOM prepared an EIR for the Santa Ana River Parkway Extension Project (project). The project includes the construction of a new Class I Bikeway, Riding and Hiking Trail, and associated amenities on the north and south banks of the Santa Ana River between Gypsum Canyon Road and the Orange County boundary. The project's main elements include trails and bikeways, three bridges, staging area, trailheads, turnouts, and vista points. This project (two-mile stretch) is part of the overall Santa Ana River Riding and Hiking Trail and Santa Ana River Class I (off-road, paved) Bikeway (SAR Parkway) which is a landscaped corridor with recreational facilities. The project will provide a recreational and commuter link from the Pacific Ocean to the San Bernardino Mountains for walkers, joggers, runners, hikers, bicyclists, and equestrians.

AECOM was responsible for the preparation/processing of the EIR in compliance with the CEQA (certified EIR in late 2016). As part of the EIR preparation, AECOM prepared technical studies associated with agricultural resources,

biological resources, hydraulics and scour assessment, traffic, air quality/GHG, noise & vibration, cultural resources, geotechnical, and hazards and hazardous materials. AECOM also provided public outreach support. Currently, AECOM is responsible for supplemental biological surveys, regulatory permits, a Habitat Mitigation and Monitoring Plan for the project.

Key regulatory permits included:

- Permits for Geotechnical Borings – USACE 404 NWP No. 6; RWQCB Section 401 Water Quality Certification (Pre-Certification Procedures), and a 1602 Streambed Alternation Agreement
- Permits for Parkway Bridges – USACE 404 NWP, USACE Section 408, RWQCB Section 401 Water Quality Certification, and a 1602 Streambed Alternation Agreement
- Section 7 Consultation between the USACE and the USFWS via the 408 process

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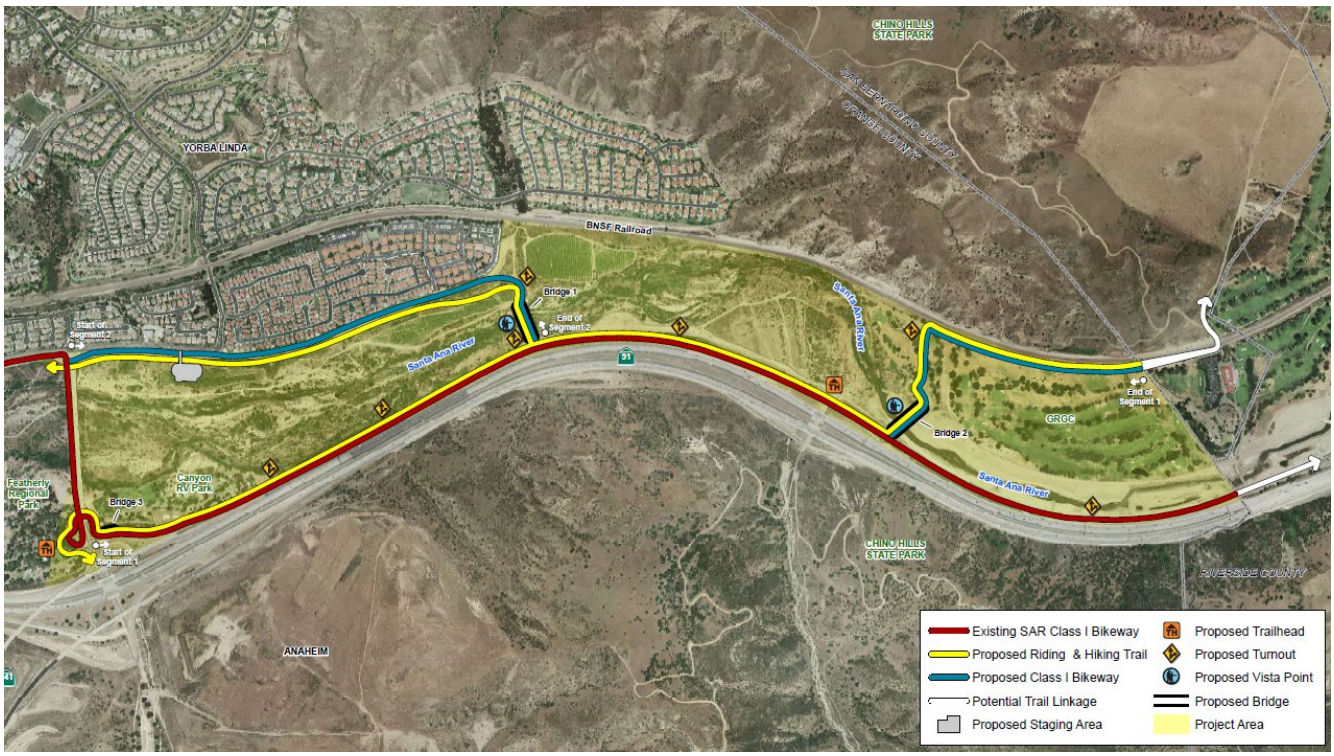
It I have worked with Erik Larsen for many years and on many projects during my 31 years working for OC Public Works. Erik is very knowledgeable regarding the preparation of biological technical reports, jurisdictional delineations and coordinating with regulatory agencies and I can count on him to do quality work.

- Jim Volz, PE (OC Public Works / Regulatory)



Santa Ana River Parkway (SARP)

9 Programmatic Waters Permitting for the Distribution System Infrastructure Protection Program (DSIPP), Orange and San Bernardino Counties, CA

Client
Metropolitan Water District of Southern California, Los Angeles, CA

Entity/Lead Agency
MWD
Jennifer Harriger
Receipt of Permits: N/A

Size of Project Area(s)
San Bernardino & Orange Counties

Project Dates
2011-2016

Permits Sought/Obtained, Status and Complete Timeframe for each permit Issuance:

- 404 Standard Individual Permit Process in support of Programmatic Regional General Permit (RGP) Development; pre-application support.
- 401 WQC Programmatic Process; pre-application participation.
- 1602 SAA Programmatic Process; pre-application participation

Project Lead, Project Team and Lead/Management Office Location

- Paula Jacks, Project Lead (San Diego Office)
- Erik Larsen, Regulatory Specialist (Orange Office)
- Michelle Fehrensen, Environmental Planner and Permitting Support (San Diego Office)

Original Proposed Budget/Final Consulting Services Cost

$80,626 – SB Ph1: field assessments with MWD to define work limits, delineate waters; site writeups, figures, photos, field forms

$135,081 – OC Ph1: field surveys over 70 sites; comprehensive findings (site writeup, figures, photos, field forms); and database

$198,828 – OC Ph2: prepare agency permit applications, three pre-application meetings, research mitigation options, Habitat Maintenance and Monitoring Plan (HMMP) preparation

MWD authorized budget incrementally, as services were needed.

Project Coordination Structure
AECOM worked with MWD key staff, organized and implemented meetings with MWD staff present at key meetings.

AECOM partnered with Metropolitan to create a regional permit program to collectively address regulatory agency compliance needs for maintenance activities.

Project Overview

AECOM led field studies (Orange and San Bernardino counties) and documentation to support programmatic permitting for O&M and minor new construction activities from the USACE via a Clean Water Act Section 404 Regional General Permit (RGP), and companion authorizations from RWQCB (CWA Section 401 certification), and CDFW (Streambed Alteration Agreement). Services included field assessments at over 70 sites to delineate wetlands and evaluate baseline data. Led a workshop with environmental and construction services departments to present interim data and processes to obtain programmatic permitting for MWD service area-wide facility maintenance, focusing initially on the Orange County operating region.

Services included documentation of the field findings (maps, site photographs, delineation data in GIS); and pre-application meetings with USACE, RWQCB, and CDFW. AECOM worked directly with MWD staff and led agency coordination meetings on behalf of MWD. A strategy for compensatory mitigation (a programmatic habitat mitigation and monitoring plan) for the proposed jurisdictional waters impacts was also prepared and presented at agency meetings. Restoration planning included coordination with MWD, Chino Hills State Park, and other consultants. In the end, the MWD obtained a 10-year SIP for maintenance.

As part of the San Bernardino County service area, AECOM conducted JD and vegetation mapping for MWD facilities that are situated across Plunge Creek. Dr. Larsen conducted mapping per the Arid Lands delineation protocol and CDFW MESA guidance and prepared a site-specific summary for work at Plunge Creek. MWD has yet to apply for programmatic permits for this service area.

AECOM Experience Successfully Utilizing a Collaborative, Integrated Teamwork Approach

At AECOM, collaboration and teamwork are cornerstones of our culture. We implement different models of collaboration to meet the needs and preferences of our clients while working professionally with stakeholders to reach successful outcomes. Foremost, we work with our clients as partners to achieve a common goal. Below are three examples that show an integrative approach to client and agency collaboration that showcase problem-solving, strong technical skills, and a commitment to the success of the project.

AECOM is excited to have an opportunity under this contract to continue to work collaboratively with the Conservation District, and in particular Ms. Betsy Miller, and contribute to the strong connections you have formed with agency staff. Below we have provided several case study's that demonstrate our collaborative and teamwork-oriented approach that have led to positive project outcomes and helped our clients achieve their goals.

Case Study in Collaboration – Wash Plan Programmatic Permits

AECOM is currently working with the Conservation District on obtaining programmatic permits for Wash Plan covered activities throughout the Wash Plan area. This project is being managed by the same waters permitting team proposed to lead permitting for the Maintenance Project. Throughout the course of the project, Ms. Michelle Fehrensen, Dr. Erik Larsen, and Ms. Paula Jacks have partnered with the Conservation District on permitting strategy, field delineation efforts, and agency communications. As Project Manager, Michelle has actively engaged in permitting strategy, reviewed all deliverables, maintained the project schedule, and partnered with the Conservation District in presenting project progress to the Board. Erik has led the agency communications with the Corps and Regional Board, building on his foundational relationships with those agency staff to advocate for the Conservation District and obtain timely review of permitting submittals. With open and honest communication, Erik is able to rely on his relationships and technical expertise to have productive conversations with the agency staff on delineation results and permitting requirements. Under this contract, Paula has maintained a strong professional relationship with Ms. Brandy Wood and Ms. Kim Freeburn regarding the optimal Streambed Alteration Agreement for the categories of activities proposed, responding in a timely and thorough manner to requests for information. It is these relationships, and the commitment to technical excellence and professionalism at the core of the entire AECOM team that have allowed the agencies to issue completeness reviews on both the CDFW Maintenance Agreement and the RWQCB Certification. Regulations have evolved over the past year, which both Erik and Paula regularly track and understand the potential effects such changes may have on the agency reviews that are in-progress for the project. Our team promptly conveys updates that are relevant to our current actions to the Conservation District team to collaboratively discuss how the regulation changes may affect our next steps. We all understand the importance of promptly communicating relevant agency changes as they arise and have the expertise to advise the Conservation District on the best path forward. AECOM anticipates timely issuance of all permits for the Wash Plan project and looks forward to parlaying these relationships into this contract.

Case Study in Collaboration – San Diego County Water Authority IP/LOP Development

This project that Paula managed under a contract with the San Diego County Water Authority had several similarities to the services you are seeking for the Maintenance Project permitting. After spending a decade to develop and complete an NCCP/HCP for service-area-wide Covered Activities, the Water Authority wanted programmatic waters

permits to complement the species authorizations they had through their ITPs. They chose to focus on the 404/401 permitting first and AECOM won the contract for these services. Under a previous contract, another consultant had concluded that a Programmatic General Permit (PGP), a type of general permit that at that time had only been issued by a USACE District outside California, may be the permit-of-choice for the Water Authority's programmatic permitting needs. Paula, Erik, and Michelle worked closely with the Water Authority and USACE during the initial phase of work to develop the permitting strategy, including working meetings to discuss the suitability of a PGP compared to other types of 404 permits. The PGP was rejected in favor of an IP/LOP, which was considered a more suitable structure for reviewing and authorizing the Water Authority's individual projects as they come online.

Once the strategy was better defined, Paula worked most closely with the Water Authority and USACE to shape the final permit. In this case, USACE requested support for preparing an Environmental Assessment for their internal NEPA document. While preparing the EA together, other details for the permit were developed, such as annual impact thresholds, pre-qualifying documents that USACE could review to confirm eligible projects, including a template for a streamlined Temporary Impact Restoration Plan. Meetings were held with the RWQCB, USFWS, and the Pechanga Tribal Council to discuss water quality certification, listed species take exemptions, and historic property concerns. Paula worked collaboratively with the Water Authority and USACE to prepare for and lead meetings with the other agencies, and in focused working sessions to develop the EA. Other AECOM specialists supported strategic needs. One special request was for the development of an intranet site to provide a multi-functional interface for permit-related data entry and QA and permit reporting. Following the issuance of the IP/LOP, Paula and others supported the Water Authority with compliance under the new IP/LOP. Finally, under a separate contract Paula and other AECOM specialists supported the Water Authority in obtaining a Streambed Alteration Agreement for service-area-wide maintenance activities. This case demonstrates a range of integrative, problem-solving collaborations that met the client's ongoing needs.

Case Study in Collaboration – The SARP Project along the Santa Ana River

Erik has had the opportunity to work with Orange County Public Works (OCPW) and OC Parks staff (County staff) for his entire career, starting with his work at the USACE Regulatory Division, through to the present day. For the most recent project, still ongoing at this time, he collaborated with the supervisor in the Regulatory Group at OCPW, Mr. Jim Volz, PE. Having known each other for years, Jim and Erik have an informal, open communication style that fosters quick action and creative, outside-the-box solutions. Sidebar discussions are common, before and after team meetings, to introduce topics for discussion, or follow up on ideas shared. The encouragement of creativity goes both ways—it includes Jim reaching out to Erik for advice, as well as Erik asking Jim to consider innovative approaches.

A key example of this arose in Spring 2020 when Erik and Jim worked together (and with design engineers) to avoid and minimize impacts, with the goal of removing structures proposed within Santa Ana sucker critical habitat. After this process, the project no longer required 404/401 authorizations, but still required a 408 and 1602, as well as consultation with USFWS. With no 404 nexus consultation via Section 7 did not seem possible. But, an outside-the-box idea was proposed by Erik: the USACE through its 408 program could do the consultation with the USFWS. Even USACE staff was not sure if it could be done, but after inquiring, USACE staff received approval to consult through 408.

Additional Experience in 1602, 2081, ESA Section 7 or Section 10, 401/WDR, and 404 Permitting

The following list of projects highlights some of our additional experience in 1602, 2081, ESA Section 7 or Section 10, 401/WDR, and 404 permitting over the last two decades. AECOM has assisted public water, utility and transportation agencies, municipalities, and private and public sector clients in obtaining numerous individual project permits as well as programmatic authorizations for multi-project construction and maintenance activities. Our project sheets

provided earlier in this section highlight our work completed in the past 5 years. Additional related experience is summarized in the exhibit below.

Exhibit 3. Additional Related Experience

Client / Project	Status	Document / Permit / Mitigation
San Bernardino Valley Water Conservation District **Federal and State Permits for the Upper Santa Ana River Wash Habitat Conservation Plan Covered Activities** The Conservation District and participating entities developed the Upper Santa Ana River Wash HCP and obtained a federal ITP in 2020. AECOM completed jurisdictional delineations within the 4,892-acre Wash Plan area and is preparing programmatic waters permitting for 404, 401, and 1602 authorizations and supporting the District's pursuit of a State ITP to complement the authorized Federal ITP.	In-progress	• USACE Individual Permit • 401 Certification • CDFW LSAA • CDFW 2081 ITP • Conceptual Mitigation Plan
California Department of Water Resources, Division of Environmental Services - State Water Project ITP for State-Listed Fish Species ITP application and EIR analyzed potential impacts of ongoing and future water management operations on fish species in the Sacramento-San Joaquin River Delta	Completed 2020	• CDFW 2081 ITP • Draft and Final EIR • Mitigation based on modelling results and extensive coordination with CDFW and DWR
California High-Speed Rail Authority **High Speed Rail, Merced to Fresno Section, 2081 and include the HST alignment** ITP and water permitting for construction and operation of the Merced to Fresno segment of the CA High Speed Train.	Completed 2014	• CDFW 2081 ITP • CDFW LSAA • HMMP (off-site location) and on-site restoration, wildlife crossing
San Diego Gas & Electric **Habitat Conservation Plan and Subregional Natural Community Conservation Plan Amendment** AECOM is preparing an Amendment to SDG&E's 1995 HCP/NCCP which covered 110 species of plant and animals. The amendment reanalyzed all 110 species and based on information gained over the last 25 years, reduced the species list and developed species specific conservation measures in coordination with USFWS/CDFW.	In Progress	• Habitat Conservation Plan Amendment • CESA/Natural Community Conservation Planning Act ITP • Eagle Conservation Plan • Mitigation Site Evaluation and Planning • Draft EIR • Draft EA
Interconnect, LLC **Nipton and Ash Hill Communications Sites** Species (desert tortoise) and waters permitting for multiple communication sites in the Mojave desert.	In Progress	• CDFW 2081 ITP • CDFW LSAA • 401 Certification • Mitigation Plan
Sempra Energy Utilities **Service Area-wide Operations and Maintenance and Minor New Construction** Programmatic authorization for jurisdictional waters impacts from O&M and minor new construction activities for transmission, distribution, and gas lines throughout the Southern California service area.	Completed 2016	• 404 – RGP (issued late 2016), 5-year term, renewable thereafter • Programmatic Biological Opinion • Coastal Resources Consistency

Client / Project	Status	Document / Permit / Mitigation
Orange County Waste & Recycling **Bowerman Landfill** Programmatic Section 404 process developed for the rest of the landfill's lifetime (47-year process). Included compliance with take authorization per the Central Coastal HCP/NCCP for upland habitats. Included search and development of offsite location for mitigating wetland/riparian impacts.	Completed 2015	• 404 – IP/LOP (issued 2015), 47-year term • HMMP (off-site location) • CEQA • HCP/NCCP Compliance • Collaboration between stakeholders allowed for County funding of an unfunded restoration project developed by Irvine Ranch Conservancy.
California Department of Water Resources **Small Erosion Repair** Federal and state programmatic species permitting for annual repairs of small erosion sites within the Sacramento River Flood Control Project area. Coverage area includes ~300 miles of levees.	Completed 2012	• Programmatic Biological Opinion with USFWS and NMFS • CDFW 2081 ITP • Section 404 RGP • CDFW 1602 • State Land Commission MOU • SWRCB 401 Certification
City of San Diego **Vernal Pool Habitat Conservation Plan** Covers vernal pools and seven listed plant and wildlife species that do not have federal coverage under the City's Multiple Species Conservation Program.	Completed 2009	• Habitat Conservation Plan • CDFW Consistency Determination
Regional Channel Maintenance Workgroup (14 Cities in San Diego County) Programmatic Permitting Guidebook. On behalf of 14 cities within the County of San Diego, represented by the Regional Channel Maintenance (RCM) Workgroup, developed a Permit Guide to summarize what members of the RCM Workgroup will need to consider, analyze, and prepare when pursuing programmatic approvals from the resource agencies for citywide channel maintenance activities. Co-led meetings with the USACE, RWQCB, CDFW, USFWS, and CCC regarding the programmatic processes and methods to expedite obtaining the programmatic permits. AEP Award Winner!	Completed 2008	The Permit Guide was completed in 2008 and addresses the following programmatic permits for municipal-wide authorizations: • 404 RGPs USFWS • Programmatic Biological Opinion • 401 Programmatic Certifications • 1602 municipal-wide SAAs • Coastal Permit and Coastal Consistency • Conceptual mitigation strategies
US Army Corps of Engineers **Special Area Management Plans for San Diego Creek and San Juan Creek/San Mateo Creek Watersheds** AECOM/URS developed the EIS/EIR document evaluating the SAMP program in two watersheds in North and South Orange County, respectfully.	Completed 2008	• Watershed restoration plan • Restoration/HMMP criteria to follow • Prioritized locations/reaches along drainages • Programmatic permit process; RGP and LOPs • Evaluation of proposed activities within watershed
San Diego County Department of Public Works **Regional General Permit #53 for Maintenance of Bridges, Culverts, and Drainages** Pre-El Nino "emergency maintenance authorization" at 400 sites; added 500 sites within the year. This RGP has been reissued every 5 years since its original authorization.	Completed 1998	• 404 – RGP #53 (issued 1998), 5-year term, has been renewed every 5 years since • Programmatic Biological Opinion – arroyo toad, least Bell's vireo, southwestern willow flycatcher • 401 – Waiver • CDFW 1602 – Master SAA • CDFW 2081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F
Project Schedule
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F. Project Schedule

A preliminary schedule for the Maintenance Project is on the following page. Ms. Michelle Fehrensen will regularly update and manage the project schedule. Where possible, we have entered potential early start dates and time reductions to shorten task durations. Michelle will maintain this living document via routine updates as the project progresses from the Project Manager and leads/task managers. AECOM will discuss the schedule regularly with the Conservation District (for example, during the twice monthly update calls).

Exhibit 4. Mill Creek Groundwater Recharge Facility Operation and Maintenance Permitting Conceptual Project Schedule

Schedule	2021		2022												2023			
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Notice to Proceed	NTP																	
Task 1 - Evaluate Existing Species Data & Additional Surveys																		
Review Species Data & Recommend New Surveys																		
Optional Additional Species Surveys and Reports										(x)	x							
Task 2 - Update Existing Species Reports As Needed																		
Biological Report (Habitat Assessment & Existing Data)			(x)	x														
Update Biological Report with Optional Survey Results (if needed)											(x)	x						
Task 3 - Aquatic Resources Delineation Report & Approved JD																		
Review Existing Data					M													
Aquatic Resources Delineation Fieldwork and Report								(x), x										
Approved JD								(x), x										
USACE and CDFW Coordination								M										
Optional Long-Term Wetland Study of Basins																		
Task 4 - NEPA & CEQA Compliance																		
Prepare NEPA Document							M		M	(x)	x							
Cultural Resource Survey & Report																		
Optional Amend Approved CEQA MND										(x)	x		(x), x					
Optional Public Review Support											M							
Task 5 - CDFW 1602 Permit Application																		
Pre-application Meeting							M											
Prepare / Submit Application									(x), x									
Task 6 - CDFW 2081 Permit Application*																		
Pre-application Meeting				M														
Prepare / Submit Application							(x)	M			x							
Task 7 - 401 Certification / Waste Discharge Requirements																		
Pre-application Meeting							M											
Prepare / Submit Application									(x), x									
Task 8 - USFWS Low Effect HCP*																		
Pre-application Meeting				M														
Internal Draft							(x)											
Agency Draft								x	M									
Administrative Draft										(x)	x							
Final LEHCP													x					
Task 9 - Support Negotiations with the Regulatory Agencies																		
Permit Negotiations Support																		
Agency Negotiation Meetings												M	M	M	M	M	M	M
Task 10 - Obtain Permits for the Maintenance Project																		
Finalize Permits																		

*Should addiitonal species survey be completed, the 2081 and LEHCP timeline would be extended to provide time to incorporate survey results

(x) = Draft Deliverable for Review
x = Deliverable
M = Meeting or Teleconference with Agency Staff

AECOM

G

Fee Schedule

Photo credit: Aaron Schusteff

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G. Fee Schedule

This section includes a detailed Cost Estimate (Exhibit 5) including the number of hours assigned to each task identified in the RFP plus the optional tasks that AECOM has identified, and our Schedule of Fees (Exhibit 6).

In addition, AECOM provides Exhibit 7 that specifies the number of meetings and teleconferences that we have scoped for this contract. We understand there will be ongoing coordination with the Conservation District and among Task Force members and the resource agencies and that meetings are important to a successful project. While we list an anticipated number of meetings and teleconferences, AECOM will maintain ongoing communications with the Conservation District and other Task Force members to advance work needed under the contract.

Finally, AECOM provides Exhibit 8 below, which lists the anticipated deliverables per task and assumptions we have made in determining our budget.

Exhibit 5. Cost Estimate

Mill Creek Groundwater Recharge Facility Operation and Maintenance Permits	Project Director	Project Manager	Environmental Scientist V	Environmental Scientist II	Biologist V	Biologist IV	Biologist III	Biologist II	Planner IV	Planner III	Planner I	Archaeologist/Architectural Historian IV	Archaeologist/Architectural Historian III	Archaeologist/Architectural Historian II	Archaeologist/Architectural Historian I	GIS Specialist IV	Technical Editor	Word Processor	Total Hours per Task	Total Fee per Task
Rate	$ 208.00	$ 172.00	$ 193.00	$ 110.00	$ 172.00	$ 156.00	$ 130.00	$ 110.00	$ 146.00	$ 130.00	$ 104.00	$ 136.00	$ 115.00	$ 94.00	$ 84.00	$ 125.00	$ 115.00	$ 104.00		
TASK 1 - Evaluate Data/Conduct Surveys	2.00	-	-	-	20.00	-	71.00	8.00	-	-	-	-	-	-	-	24.00	-	-	125	$ 16,966
TASK 2 - Update Species Reports	-	-	-	-	20.00	-	50.00	-	-	-	-	-	-	-	-	12.00	3.00	3.00	88	$ 12,097
TASK 3 - Update JD	-	-	-	54.00	48.00	24.00	-	-	-	-	-	-	-	-	-	14.00	-	-	140	$ 19,690
TASK 4 - NEPA & Cultural Survey	4.00	8.00	-	-	-	36.00	12.00	-	32.00	-	40.00	60.00	100.00	54.00	-	4.00	10.00	10.00	370	$ 45,642
TASK 5 - 1602 Permit	-	-	20.00	-	10.00	-	-	-	-	40.00	-	-	-	-	-	-	-	-	70	$ 10,780
TASK 6 - 2081 Permit	-	10.00	20.00	-	20.00	-	80.00	-	-	-	-	-	-	-	-	24.00	7.00	7.00	168	$ 23,953
TASK 7 - 401 Permit	-	-	12.00	-	24.00	-	-	-	-	48.00	-	-	-	-	-	-	-	-	84	$ 12,684
TASK 8 - Low Effect HCP	2.00	30.00	32.00	-	64.00	-	150.00	-	-	-	-	-	-	-	-	24.00	12.00	12.00	326	$ 47,888
TASK 9 - Regulatory Agency Negotiations (includes Mitigation Strategy)	4.00	45.00	52.00	-	97.00	40.00	-	-	-	-	-	-	-	-	-	-	-	-	238	$ 41,532
TASK 10 - Obtain Project Permits	-	10.00	10.00	-	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-	40	$ 7,090
Subtotal Hours	**12**	**103**	**146**	**54**	**323**	**100**	**363**	**8**	**32**	**88**	**40**	**60**	**100**	**54**	**-**	**102**	**32**	**32**	**1,649**	
Subtotal Labor Cost																			**$ 238,322**	
OTHER DIRECT COSTS - TOTAL FOR TASKS 1 - 10:																			**$ 1,658**	
SUBS COSTS - TOTAL FOR TASKS 1 - 10:																			**$ 10,206**	
GRAND TOTAL:																			**$ 250,186**	
OPTIONAL TASKS																				
Optional TASK 1A - Coastal California Gnatcatcher	-	-	-	-	4.00	-	53.00	-	-	-	-	-	-	-	-	24.00	3.00	3.00	87	$ 11,235
Optional TASK 1B - San Bernardino Kangaroo Rat	-	-	-	-	4.00	-	53.00	-	-	-	-	-	-	-	-	24.00	3.00	3.00	87	$ 11,235
Optional TASK 1C - Least Bell's Vireo	-	-	-	-	2.00	-	24.00	-	-	-	-	-	-	-	-	8.00	2.00	2.00	38	$ 4,902
Optional TASK 1D - Burrowing Owl	-	-	-	-	2.00	-	24.00	-	-	-	-	-	-	-	-	8.00	2.00	2.00	38	$ 4,902
Optional TASK 1E - Western Spadefoot	-	-	-	-	2.00	-	34.00	-	-	-	-	-	-	-	-	12.00	2.00	2.00	52	$ 6,702
Optional TASK 1F - Rare Plant	-	-	-	154.00	4.00	-	-	-	-	-	-	-	-	-	-	24.00	3.00	3.00	188	$ 21,285
Optional Task 4C & 4D CEQA Addendum & Public Review	-	8.00	-	-	16.00	-	-	-	48.00	-	80.00	-	-	-	-	6.00	6.00	6.00	170	$ 21,520
Optional Task 3F - Long-Term Wetland Study at Basins	-	-	-	80.00	16.00	-	-	-	-	-	-	-	-	-	-	8.00	-	-	104	$ 12,552
Subtotal Hours	**-**	**8**	**-**	**234**	**50**	**-**	**188**	**-**	**48**	**-**	**80**	**-**	**-**	**-**	**-**	**114**	**21**	**21**	**764**	
Subtotal Labor Cost																			**$ 94,333**	
OTHER DIRECT COSTS - TOTAL FOR OPTIONAL TASKS:																			**$ 3,189**	
SUBS COSTS - TOTAL FOR OPTIONAL TASKS:																			**$ 59,913**	
TOTAL FOR OPTIONAL TASKS																			**$ 157,435**	

Exhibit 6. AECOM Schedule of Fees

2022 AECOM Schedule of Fees
San Bernardino Valley Water Conservation District
Mill Creek Groundwater Recharge Facility Operations and Maintenance Permitting

Administrative	$94
Archaeological Technician I	$68
Archaeological Technician II	$78
Archaeologist/Architectural Historian I	$84
Archaeologist/Architectural Historian II	$94
Archaeologist/Architectural Historian III	$115
Archaeologist/Architectural Historian IV	$136
Archaeologist/Architectural Historian V	$188
Biologist I	$94
Biologist II	$110
Biologist III	$130
Biologist IV	$156
Biologist V	$172
Environmental Scientist I	$94
Environmental Scientist II	$110
Environmental Scientist III	$130
Environmental Scientist IV	$162
Environmental Scientist V	$193
Environmental Monitor	$99
Field Crew	$52
Field Leader	$68
GIS Specialist I	$78
GIS Specialist II	$94
GIS Specialist III	$104
GIS Specialist IV	$125
GIS Manager	$156
Graphic Artist I	$89
Graphic Artist II	$110
Planner I	$104
Planner II	$115
Planner III	$130
Planner IV	$146
Planner V	$193
Project Manager	$172
Project Director	$208
Principal Director	$229
Project Controls I	$94
Project Controls II	$110
Project Controls III	$120
Project Controls IV	$146
Word Processor	$104
Technical Editor	$115

Other Direct Costs

Other reimbursable expenses will be billed at cost + 5%. Invoices will be submitted on 4-week intervals for work in progress unless otherwise agreed. Invoices are due and payable within 30 days after invoice date.

Fees are valid through December 31, 2022. Rates are subject to 4% escalation effective January 1, 2023. AECOM staff may move in classification during the contract term.

Exhibit 7. Meetings and Teleconferences

Tasks	Meeting Type[1]	Anticipated No. of Meetings[2]
1. Evaluate Existing Species Data and Conduct Additional Species Surveys As Needed	Meetings	• 1 field meeting with CD when surveys begin
	Teleconferences	• Up to 2 with CD to discuss habitat assessment results
2. Update Existing Species Reports As Needed	Meetings	• Not anticipated
	Teleconferences	• Up to 2 with CD for document review
3. Evaluate Existing Waters Data, Conduct Additional Waters Surveys As Needed, and Update 2015 Jurisdictional Delineation	Meetings	• 1 field meeting with CD when delineation begins
	Teleconferences	• Up to 3 with the Conservation District and agencies to discuss the field delineation methods and findings
4. Analyze Impacts on Regulated Resources and Propose Associated Mitigation Alternatives Under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) If Needed	Meetings	• 2 (1 with CD, 1 with CD Board)[3]
	Teleconferences	• 4 (3 with CD, 1 with USFWS)
5. Prepare 1602 Permit Application	Meetings	• Not anticipated
	Teleconferences	• 3 (1 with CD, plus up to 2 with CDFW)
6. Prepare 2081 Permit Application	Meetings	• 1
	Teleconferences	• 4 (2 with CD, plus up to 2 with CDFW)
7. Prepare 401/WDR Permit Application	Meetings	• Not anticipated
	Teleconferences	• 3 (1 with CD, plus up to 2 with RWQCB)
8. Prepare Low-Effect Habitat Conservation Plan	Meetings	• 1
	Teleconferences	• 4 (2 with CD, plus up to 2 with USFWS)
9. Support Conservation District Negotiations with the Regulatory Agencies	Meetings	• 4 (1 each for the 1602, 2081, 401/WDR, and LEHCP, together with CD)
	Teleconferences	• 18 (up to 3 each for the 1602 and 401/WDR; plus up to 6 each for 2081 and LEHCP, together with CD)
10. Obtain Permits for the Maintenance Project	Meetings	• Not anticipated
	Teleconferences	• 4 (1 each for the 1602, 2081, 401/WDR, and LEHCP, together with CD)

[1] It is assumed that the Conservation District will host all in-person meetings. If in-person meetings are not feasible, alternative web-based, virtual platform meetings will be planned. Meetings are budgeted for up to 4 hours. Teleconferences are assumed to be 1 hour.
[2] CD = Conservation District
[3]Includes Optional Public Board Meeting

Exhibit 8. Deliverables and Assumptions

Task	Deliverables and Assumptions
1. Evaluate Existing Species Data and Conduct Additional Species Surveys As Needed	Assumptions • Two-day habitat assessment conducted by two biologists. • Conservation District to provide the most recent GIS data of potential impact areas prior to habitat assessment.
2. Update Existing Species Reports As Needed	Deliverables • Draft and final version of the Updated Biological Baseline Report. Report will be submitted electronically. Assumptions • Cost to incorporate additional survey data into the Biological Report are included within each optional task under Task 1
3. Evaluate Existing Waters Data, Conduct Additional Waters Surveys As Needed, and Update 2015 Jurisdictional Delineation	Deliverables • Draft and Final AJD package to USACE. • Draft and Final JD Report. Assumptions • The delineation work proposed is based on our current understanding of the area and potential need for detailed delineation data • The field jurisdictional delineation can be conducted in three days by a team of two wetland specialists. • Up to three meetings with the Conservation District and agencies to discuss the field delineation methods and findings. • Conservation District to provide the most recent GIS data of Mill Creek and the basin/canal system. • One round of review by the Conservation District on the AJD package. • One round of review by the Conservation District on the ARDR.
4. Analyze Impacts on Regulated Resources and Propose Associated Mitigation Alternatives Under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) If Needed	Deliverables • Draft, Public Draft (if desired), and Final CEQA Addendum. • Draft, Agency and Final Draft Low-Effect Screening Form • Draft NOC • Draft NOD • Draft and Final Cultural Resources Survey Report Assumptions • No newspaper filing or NOD would be prepared. • Digital copies of all deliverables • No additional technical studies/analysis (e.g. no air or noise analysis) beyond the biological and cultural studies described herein • An EA, EIS, or Subsequent CEQA documentation are not anticipated and would require contract amendment. • No Native American or Interested Party consultation will be provided.
5. Prepare 1602 Permit Application	Deliverables • CDFW 1602 LSAA notification package; includes one draft for the Conservation District review, and final version for agency submittal. Assumptions • The Conservation District will pay all fees associated with the CDFW 1602 Agreement. Permit fees are not included in this proposal.
6. Prepare 2081 Permit Application	Deliverables • One internal draft for the Conservation District review and one Final ITP application for submittal to CDFW

Task	Deliverables and Assumptions
	Assumptions • The Conservation District will confirm and/or provide revisions to the project description provided in the 2015 MND. • No more than two AECOM staff will attend the meetings. • All deliverables will be provided electronically as Word and PDF files only, except for the Final Section 2081 ITP application. The final application will be mailed hard copy to CDFW. • The Conservation District will pay all required CDFW application fees.
7. Prepare 401 Permit Application If Needed	Deliverables • RWQCB 401 certification application package; includes one draft for the Conservation District review, and final version for agency submittal. Assumptions • The Conservation District will pay all fees associated with the RWQCB permitting. Permit fees are not included in this proposal. • Existing Wash Plan HCP and LEHCP will suffice as watershed planning documents for compliance with SWRCB Procedures and an extensive alternative analysis will not be required.
8. Prepare Low-Effect Habitat Conservation Plan	Deliverables • One internal draft LEHCP, one agency Draft LEHCP in coordination with the USFWS followed by revision during a workshop, one Administrative Draft LEHCP with one review by the Conservation District followed by USFWS, and one Final HCP. • One Draft and one Final ITP application will be prepared. Assumptions • The Conservation District will confirm and/or provide revisions to the project description provided in the 2015 MND. • Any compensatory mitigation will be the responsibility of the Conservation District. AECOM will assist in the development of the requirements and criteria to be defined within the LEHCP. • All permit fees will be paid by the Conservation District. • Assume no more than 10 substantive comments on the administrative draft of the LEHCP and up to 5 substantive comments on the draft of the final LEHCP. • This scope of work does not include preparation of an implementing agreement. • All deliverables will be provided as Word and PDF files only. • No more than two AECOM staff will attend meetings.
9. Support Conservation District Negotiations with the Regulatory Agencies	Deliverables • Draft and final meeting minutes; e-mail archive of agency communications; monthly progress reports on the regulatory process. Assumptions • One in-person meeting plus up to 3 remote teleconference meetings each for the 1602 and 401/WDR. • One in-person meeting plus up to 6 monthly remote teleconference meetings each for the 2081 and LEHCP. . • Other meetings anticipated during application preparation and other tasks are listed in **Exhibit 7.** • No stand-alone HMMP is included.
10. Obtain Permits for the Maintenance Project	Deliverables • Draft and final meeting minutes; e-mail archive of agency communications on the final regulatory process.

Task	Deliverables and Assumptions
	Assumptions • Up to four remote teleconference meetings associated with obtaining the final permits, one each for the 1602, 2081, 401/WDR, and LEHCP.
11. OPTIONAL – Species Surveys	Deliverables • Draft and Final Reports (CAGN, SBKR, least Bell's vireo, burrowing owl, western spadefoot, rare plants) Assumptions • Up to six 4-day CAGN surveys will be conducted by one permitted CAGN biologists to cover approximately 320 acres of habitat • Up to approximately 13 acres of suitable SBKR habitat would be surveyed, thus requiring three 5-night trapping sessions of up to 175 traps will be set per session. • Eight half-day least Bell's vireo surveys conducted by one biologist. • Four 1-day burrowing owl surveys conducted by one biologist. Surveys will be limited to only those areas where there is potential burrowing owl nesting habitat. • Up to four 2-night western spadefoot surveys by one biologist to look for adults. Dipnet surveys are not included. Surveys will be dependent on rain and/or basins being filled with water at the appropriate season. • Special-status species observations would be submitted to the CDFW CNDDB as required by survey permits • Up to two 5-day rare plant surveys conducted by two biologists in early spring and late spring.
GENERAL / OTHER	General / Other • Deliverables for all tasks assume one round of review by CD and one round by agencies (if applicable), unless otherwise specified. • AECOM assumes anticipated agency requirements have been sufficiently covered with this proposal. This proposal does not include scope and cost to complete unforeseen agency requests for additional documentation, studies, or consultations. Such additional tasks will be discussed with the Conservation District and work can be defined in a subsequent scope and costs.

H

Additional Information

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H. Other Information

Contract Services Agreement

It is our understanding that a contract will be negotiated and finalized between AECOM and the Conservation District upon award of this project. AECOM will collaborate with the Conservation District to execute the contract provided in the RFP in a timely manner.

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

aecom.com

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1815

To: **Board of Directors**

From: **Betsy Miller, Land Resources Manager/Assistant General Manager**

Date: **November 10, 2021**

Subject: **Wash Plan Vegetation Classification and Mapping Professional Services Contract Award**

RECOMMENDATION

Staff recommends that the Board 1) Accept AECOM's proposal to prepare a vegetation classification and associated map for the Upper Santa Ana River Wash and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with AECOM's proposal and the District's form consultant services contract included in the Request for Proposals.

BACKGROUND AND DISCUSSION

The Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan), which was adopted by the Board on July 8, 2020, is a federal Habitat Conservation Plan which provides permitting for Covered Activities under the Federal Endangered Species Act. In addition to permitting take, the Wash Plan includes requirements for specific monitoring, management, and restoration actions related to Covered Species, including vegetation monitoring to evaluate long-term responses to management and environmental conditions.

In order to efficiently and effectively complete this task, the District issued a Request for Proposals for experienced technical consultant services to prepare a vegetation classification and map for District lands within the Upper Santa Ana River Wash. This project will fulfill Preserve Objective 10 in Section 5.1.2 of the Wash Plan. The Conservation District received five competitive proposals, which were reviewed based on demonstrated experience with similar projects; successfully conducting fieldwork to prepare vegetation classifications/maps; responsive cost proposal; and responsive schedule. Based on these factors, we recommend AECOM be selected for this contract.

The contract includes tasks to prepare a vegetation classification and map vegetation on parcels owned by the District.

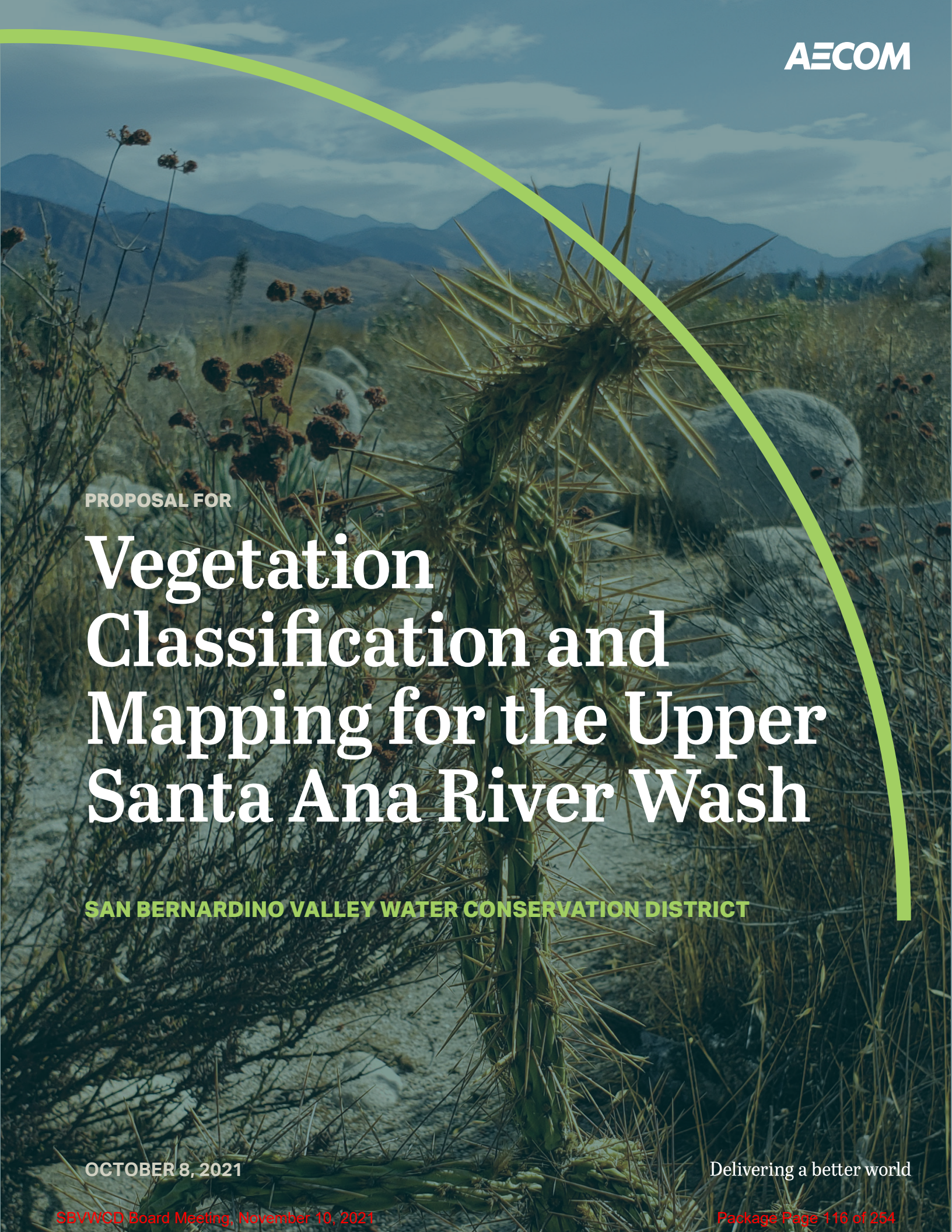
FISCAL IMPACT

The recommended action would result in the expenditure of up to $118,950 of District funds, including $13,931 in Optional Tasks. Costs will be charged to the appropriate fund for the acres being mapped: $72,560 to the Wash Plan endowment fund; $15,463 to the ARTP enterprise fund; and $20,927 to the Land Resources fund.

1630 W. Redlands Blvd, Suite A
Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

ATTACHMENTS OR MATERIALS

AECOM Proposal for Vegetation Classification and Mapping for the Upper Santa Ana River Wash



AECOM

PROPOSAL FOR

Vegetation Classification and Mapping for the Upper Santa Ana River Wash

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT

OCTOBER 8, 2021

Delivering a better world

PROPOSAL TO PROVIDE

Vegetation Classification and Mapping for the Upper Santa Ana River Wash

Submitted To:
San Bernardino Valley
Water Conservation District

Submitted by:
AECOM Technical Services, Inc.
401 W. A Street, Suite 1200
San Diego, CA 92101
Tel. 619.610.7600, Fax: 619.610.7601, www.aecom.com

October 8, 2021

Authority to Represent and
Designated Contact for AECOM Technical Services, Inc.:
Lindsey Cavallaro
Associate Vice President, DCS Environment
Natural Resources Group Manager, Southern/Central California
401 West A Street
San Diego, CA 92101
O: 619-610-7662
M: 619-318-6193
Lindsey.Cavallaro@aecom.com

Price specified remains firm and irrevocable for 90 days following the proposal submission date.

AECOM
401 W. A Street
Suite 1200
San Diego, California 92101
aecom.com

October 8, 2021

Ms. Betsy Miller
Land Resources Manager/Assistant General Manager
San Bernardino Valley Water Conservation District
1630 W. Redlands Blvd., Suite A
Redlands, CA 92373

VIA DELIVERY and
EMAIL: bmiller@sbvwcd.org

RE: Proposal for Vegetation Classification and Mapping for the Upper Santa Ana River Wash

Dear Ms. Miller and Selection Committee:

AECOM is pleased to submit this proposal to the San Bernardino Valley Water Conservation District (Conservation District) to provide vegetation classification and mapping for the Upper Santa Ana River Wash (Wash). AECOM is distinctively qualified to perform this work for the Conservation District, based on the extensive vegetation classification and mapping experience of our core team and our understanding of the Conservation District's goals. Senior botanist, **Mr. Jonathan Dunn,** will lead the technical effort, with the support of our local AECOM botany team. **Ms. Michelle Fehrensen** will serve as Project Manager.

The following are key differentiators of the AECOM team that will directly benefit the Conservation District:

- Most Experienced and Qualified Team. For the 10 past years, AECOM's core team of vegetation ecologists, Jonathan and **Dr. Ed Kentner** have collaborated on vegetation classification and mapping projects totaling over 750,000 acres throughout Southern California. There is no other team more qualified to perform vegetation classification and mapping for the Conservation District.
- Technical Excellence. The *Vegetation Classification Manual for Western San Diego County* that AECOM coauthored with the California Department of Fish and Wildlife (CDFW) Vegetation Classification and Mapping Program (VegCAMP) set a new standard for regional vegetation classification, and our mapping products that have passed third-party accuracy assessments are currently being used across Southern California by governmental organizations for land use and natural resource planning.
- Familiar & Capable Project Manager. The AECOM team has specific knowledge and understanding of the Conservation District's mission and of the Wash area. Our proposed Project Manager, **Ms. Michelle Fehrensen**, is currently managing the Wash Permitting Project and brings continuity across the projects. She will provide the same quality assurance, schedule management, and fiscal management on this project that she is providing on the Wash Permitting Project.

As the Conservation District knows from working with us, we partner with our clients to achieve a common goal. AECOM appreciates the opportunity to continue providing strategic and efficient support to the Conservation District to complete this vegetation classification and mapping exercise. We are the most qualified team to perform these services for the Conservation District. If you have any questions about the contents of this proposal, please reach out to either of us at the contact information below.

Sincerely,

AECOM Technical Services, Inc.

Lindsey Cavallaro
Authority to Represent and Designated Contact
Associate Vice President/Project Director
401 West A Street, Suite 1200
San Diego, CA 92101
O: 619-610-7662
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Michelle Fehrensen
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Table of Contents

A

Project Understanding

A. Project Understanding

Based on our current work for the San Bernardino Valley Water Conservation District (Conservation District) performing programmatic permitting for the Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan), AECOM has a deep understanding of the Wash Plan requirements. One requirement of the Wash Plan is to "Monitor vegetation to determine the effectiveness of management and to determine its response to changes in environmental conditions."

The Conservation District seeks to track change through vegetation mapping and understands that in order to effectively monitor vegetation and detect change through time, a consist approach is needed. Based on our unique and specialized experience, AECOM collaborated with the Conservation District staff on the proposed approach and scope identified in the RFP.

Two fundamental elements needed to achieve consistency in vegetation mapping are: 1) the adoption of a standardized classification system that identifies the different types of vegetation within the study area; and, 2) the application of a decision-making key, based on observable and quantifiable elements of the vegetation, to distinguish the different vegetation types.

To create a standardized classification system, the Federal Geographic Data Committee has led the development of the National Vegetation Classification Standard (NVCS), and in California, the California Department of Fish and Wildlife (CDFW) Vegetation Classification and Mapping Program (VegCAMP) has developed and maintains California's expression of the National Vegetation Classification. In collaboration with the California Native Plant Society (CNPS), CDFW published A Manual of California Vegetation (MCV) (Sawyer et al. 2009) and maintains an updated edition online (http://vegetation.cnps.org/). The MCV is intentionally consistent within the larger context of the NVCS and both are based upon a scientific approach that requires the collection of quantifiable environmental data to identify and classify biological associations that repeat across the landscape. The NVCS and MCV are multi-level hierarchical systems. The finest levels of these hierarchies, and the most suitable for fine-scale mapping, are known as "Alliances" and "Associations".

The RFP identifies in Tasks 1 and 2 that the Conservation District seeks to identify each MCV Alliance and Association present within the Upper Santa Ana River Wash, prepare a decision-making key to distinguish these Alliances and Associations, and utilize this classification and key to prepare a vegetation map for certain lands owned by the Conservation District.

Optional Task 3 of the RFP describes the requirements for obtaining high-resolution aerial photographs to support the classification and mapping efforts. It is standard practice in vegetation mapping to base the delineation of mappable units on an interpretation of recent aerial orthophotographs (photo-interpretation), and the Conservation District and its partners maintain a collection of recent aerial photographs. However, should these existing photographs prove unsuitable for this classification and mapping effort, the Conservation District may direct the execution of this task.

B

Project Tasks

B. Project Tasks

AECOM's general approach when conducting vegetation classification and mapping projects is to follow the methods developed by the National Park Service (NPS) Vegetation Inventory. These methods are detailed in the following documents:

- *Vegetation Classification Guidelines: National Park Service Vegetation Inventory, Version 2.0 (Lea 2011)*
- *Field Methods for Vegetation Classification: National Park Service Vegetation Inventory, Version 2.0 (Lea 2011)*

The Inventory uses the NVCS, which is a Federal Geographic Data Committee standard. The CDFW VegCAMP has developed and maintains California's expression of the National Vegetation Classification, known as the Manual of California Vegetation (MCV). The vegetation of the project area will be classified according to the most current version of the MCV.

Our core team has successfully applied these methods across multiple vegetation classification and mapping projects throughout Southern California. For example, our lead vegetation classification and mapping expert Mr. Jonathan Dunn led the Vegetation Classification and Updated Mapping Project for Western San Diego County. Refer to Section E for more detail on our extensive experience with vegetation classification and mapping project. In addition, our existing relationship with CDFW VegCAMP will be beneficial for collaboration on specific alliance/association treatments, if needed.

Task 1: Vegetation Classification & Key

The Conservation District seeks professional assistance to prepare a vegetation classification to classify vegetation in the project area to the alliance and/or association level of the MCV. The Conservation District also requires the preparation of a decision-making key that will allow for the consistent application of the derived classification.

The Conservation District has defined the study area for vegetation classification as a 2,245-acre portion of the Upper Santa Ana River Wash including 1,475 acres of Wash Plan Preserve, 195 acres of Community Mitigation Lands, 280 acres of Mill Creek Lands, and 295 acres of River HCP Preserve. To complete the vegetation classification, AECOM will employ the following stepwise approach:

1. Review existing mapping and regional vegetation classification data to define a preliminary set of alliances and association expected to be present within the project area
2. Design a vegetation sampling plan for the project area
3. Collect vegetation plot data
4. Conduct a valid analysis to assign each vegetation plot to an MCV alliance/association
5. Prepare a dichotomous vegetation key to all of the vegetation alliances sampled based on physiognomy and quantitative species composition data

AECOM will complete vegetation plot sampling throughout the study area, as needed to inform the classification analysis. A minimum of five plots of each alliance/association-level classification will be sampled and a minimum of four representative digital photographs will be taken for each plot. The plot locations will be spatially balanced and will not occur in ecotones or within 15 feet of paved roads or developed areas (human built environments). Care will be taken to avoid sampling stands of the same alliance in proximity in order to avoid spatial autocorrelation in the data, and the placement of multiple plots within a single stand will similarly be avoided. To avoid geospatial autocorrelation of sampling plots, some portion of the plots should be expected to be located outside of Conservation District-managed land. AECOM assumes the Conservation District will facilitate access to neighboring properties for vegetation sampling. If these conditions cannot be met in achieving the five-plot minimum, AECOM will prepare options for Conservation District consideration. During the course of the classification, AECOM ecologists Dr. Ed

Kentner and Jonathan may also consult with CDFW VegCAMP ecologists regarding the classification approach and discuss specific alliance/association treatments.

Field sampling will be timed with annual phenologies to allow identification of diagnostic plant species. Field sampling is expected to occur during the spring (March-June) of 2022. For all field surveys, AECOM will employ a "direct to digital' data collection methodology. All plot data will be collected directly into the NPS PLOTS Database Version 4.0. AECOM will modify the PLOTS database to incorporate *The Jepson Manual, Vascular Plants of California, 2nd Edition (Baldwin et al. 2012)* list of vascular plant species known to occur in Southern California to allow species entry via pull-down menus, and other modifications to enable direct recording of the plot location information via external global positioning system (GPS) units connected to the tablet computers used to record the plot data.

Vegetation plot size will be determined by the physiognomic class of the stand to be sampled and conform to the CDFW Rapid Assessment and Relevé Protocol (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18599&inline=1). Two plot sizes are expected to be used for sampling: 400 square meters (m2) for shrub-dominated vegetation and riparian forest/woodlands, and 100 m2 for herbaceous vegetation types. Shrub-dominated vegetation and riparian stands are defined as stands having greater than or equal to 10% absolute cover of shrubs or riparian species, regardless of herb cover. Herbaceous vegetation consists of stands with less than 10% absolute overstory cover. Although plots will most often be circular, the shape of the plots may be altered, while keeping the area constant, in order to capture unusually shaped stands of vegetation, such as narrow strips of riparian trees or shrubs that may occur along drainages or berms. The shape and size of each plot will be documented in the PLOTS database. For circular plots, photographs will be recorded from the plot center in each cardinal direction, starting at North and proceeding clockwise. In cases where this method is not possible or practical due to dense vegetation or other obstructions at the plot center, photos will be taken as appropriate to document the stand, and the photo locations and bearings will be recorded in the PLOTS database. A running tally of the number of plots collected for each expected vegetation alliance/association will be compiled and referenced during the sampling missions in order to prioritize vegetation types requiring additional plot data collection as the sampling progresses.

After the completion of field data collection, each plot will be assigned to an alliance/association recognized in the MCV. Most MCV alliances in Southern California are generally well defined and have been extensively sampled. AECOM will compile a tabular descriptions and representative photographs of each alliance sampled (to include species composition, ranges of percent cover, etc.).

A dichotomous key will be prepared to provide decision-making rules for distinguishing each alliance and association included in the vegetation classification for the project area. Since the key will only represent a subset of MCV alliances/associations, its intended use will be limited to the project area.

At the completion of Task 1, AECOM will provide the following deliverables to the Conservation District in a summary report of methods and results:

- A list of all alliances and associations defined within the study area arranged in full MCV hierarchical format
- A tabular description and representative photograph of each alliance sampled (to include species composition, ranges of percent cover, etc.)
- A dichotomous vegetation key to all of the vegetation alliances sampled based on physiognomy and quantitative species composition data
- The completed NPS PLOTS database containing all plots sampled and photographs
- An ArcGIS geodatabase containing a features class representing plot sampling locations

Task 1 is expected to be completed by July 30, 2022.

Task 2: Vegetation Mapping

AECOM will prepare an updated vegetation map of the 2,245-acre project area based on the vegetation classification and key defined under Task 1. Vegetation polygons will be delineated to the alliance or as appropriate to the

association level using a combination of photo-interpretation and field reconnaissance as appropriate to accurately define ecological boundaries. Vegetation will be mapped with a minimum mapping unit of 0.5 acre.

Preparation of the vegetation map will consist of four principal tasks:1) field reconnaissance:2) photo interpretation and digitization of vegetation; 3) quality control; and, 4) field validation. During field reconnaissance, the ecologists will compare aerial photo "signatures" to ground conditions and collect geo-referenced field notes and ground photographs to assist office-based photo-interpretation. The digitization of vegetation polygons will be created by the vegetation ecologists in an ArcGIS environment using on-screen digitizing methods over suitable orthophotographs. Quality control steps will include checking tables for complete attribution and performing checks of the map topology. A final validation task will be completed to field verify a sampling of map polygons to assess the accuracy of the mapped polygons and correct inconsistencies.

Task 2 deliverables will include:

- A summary report of vegetation mapping methods and results
- An ArcGIS geodatabase containing the vegetation features class

Task 2 is expected to be completed by August 30, 2022.

Optional Task 3

Should the optional task of obtaining aerial photographs of the project area be needed if existing aerial photographs are unsuitable for use, AECOM is prepared to obtain this imagery via our subcontractor partner, GeoTerra, Inc. (GeoTerra).

GeoTerra will collect raw imagery and deliver 0.5-foot resolution orthophotography. Imagery will be delivered as both a single Compressed SID mosaic and uncompressed GeoTiff tiles. Imagery will be 4-band (RGB with color near infrared), with 8-bits per band. The RFP does not define a required degree of ground accuracy. With a ground survey option and using Airborne GPS, existing LiDAR, and the ground survey points for control, GeoTerra will be able to provide the orthophotography at 100-scale accuracy. (Our costs for this option include a ground survey for control. GeoTerra can supply guaranteed 200-scale accuracy for an approximately 40% reduction in costs for this task.)

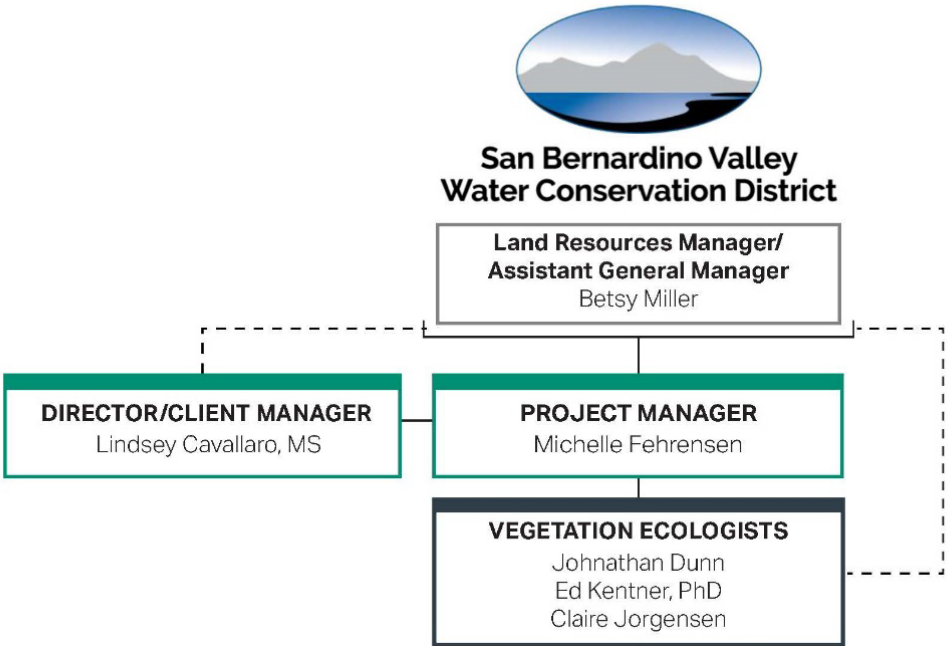
The completion date for Optional Task 3 is To Be Determined by necessity.

C

Organizational Chart

C. Organizational Chart

Exhibit 1. Team Organization Chart



D

Qualifications

D. Qualifications

AECOM is proposing a highly qualified team that will be the committed and active workforce partnering with the Conservation District through project completion. AECOM's core team will be led by Ms. Michelle Fehrensen, AECOM's Project Manager, with over 19 years of experience in projects with complex biological resource issues, including leading AECOM's current programmatic permitting project with the Conservation District. She will maintain the project schedule and budget, and will provide oversight for all project deliverables. Mr. Jonthan Dunn will serve as Technical Lead, and Dr. Ed Kentner will serve as Scientific Lead for this project. Jonathan and Ed have collaborated on multiple vegetation classification and mapping projects in Southern California. These projects total more than 750,000 acres mapped using NVCS and MCV classifications and methodologies, and several of these projects are described in greater detail in our project experience listed below. Jonathan and Ed will be supported by Ecologist Ms . Claire Jorgensen. Claire currently maintains the digital data collection infrastructure for AECOM's Southern California Natural Resources Group. She will assist with field sampling and data quality control. Ms. Lindsey Cavallaro, Project Director currently overseeing the programmatic permitting work for the Conservation District, will continue to provide support to the team and will commit the necessary resources on behalf of AECOM to complete the vegetation mapping work.

Should the optional task of obtaining high-resolution aerial photographs of the project area be required, AECOM will subcontract this acquisition to GeoTerra, Inc. AECOM has successfully partnered with GeoTerra in the past for orthophotography products, including the acquisition of four-band imagery and LiDAR data for the Marine Corps Base Camp Pendleton Vegetation Mapping and Tracking project listed below in our team's project experience. GeoTerra has over 65 years of experience in the collection and processing of aerial imagery.

Exhibit 2. Key Team Members' Professional Qualifications

Name/Role/Contact Info	Summary of Professional Qualifications
Jontahan Dunn Technical Lead 858.278.5956 jonathan.dunn@aecom.con San Diego, CA	Mr. Jonathan Dunn is a botanist and ecologist with more than 25 years of experience working in arid Southern California coastal, desert, and island ecosystems. Mr. Dunn is a principal author of both the *2011 Vegetation Classification Manual for Western San Diego County* and its 2015 Supplement. Mr. Dunn has managed vegetation classification and mapping (to the alliance or association level) for 600,000 acres of Western San Diego County for SANDAG (Section E, Project No. 1), 126,000 acres on Marine Corps Base Camp Pendleton (Section E, Project No. 2), and 18,000 acres at the US Navy's Remote Training Site Warner Springs and Camp Michael Monsoor (Section E, Project 4), and several other smaller efforts. Mr. Dunn has broad expertise in vegetation classification, vegetation mapping, photo-interpretation, GIS mapping, and has designing sampling strategies. Mr. Dunn has also previously consulted with the Conservation District on the approach for the Wash Area Plan mapping.
Ed Kenter, PhD. Sciencific Lead 619.610.7600 ed.kentner@aecom.com San Diego, CA	Dr. Ed Kentner is a botanist specializing in the flora and vegetation communities of California. Ed has formal training and experience using NVCS/MCV methods and has participated in several large vegetation classification efforts in California, including each of the projects listed below in our team's experience. He has led field crews conducting vegetation surveys and conducted the detailed analysis necessary to develop vegetation classifications via standardized data analysis methods. Ed led the survey efforts for both the Marine Corps Base Camp Pendleton and Nature Reserve of Orange County classifications. Ed is a co-author of the *Vegetation Classification Manual for Western San Diego County 2015 Supplement*. Ed has extensive experience using both the Relevé and Rapid Assessment vegetation survey techniques and, as an employee of the California Native Plant Society Vegetation Program, he assisted in teaching these

	techniques at workshops designed for natural resource professionals. In addition to his vegetation experience, he has led the botanical survey efforts for several large renewable energy and infrastructure developments in the Southern California deserts, the Tehachapi Mountains, and the southern Sierra Nevada. Ed is equally comfortable conducting field surveys, designing and implementing GPS/geographical information systems (GIS) data collection strategies, producing GIS maps, and serving as the primary author of technical reports and permit applications.
Claire Jorgensen Ecologist 619.610.7888 claire.jorgensen@aecom.com San Diego, CA	Ms. Claire Jorgensen is a botanist and data management specialist with three years of experience. Claire has botanical survey experience across the Western US, including California, Oregon and North Dakota. In her current position, Claire is involved in conducting biological surveys and habitat restoration monitoring, as well as in development of data collection and reporting tools, data processing, and maintaining project databases. She has additional experience with GIS software and writing code to perform data manipulations.
Michelle Fehrensen Project Manager 619.610.7575 michelle.fehrensen@aecom.com San Diego, CA	Ms. Michelle Fehrensen provides years of experience managing comprehensive environmental assessments and key aspects of complex biological permitting projects. She has extensive experience in managing projects involving wetland and ESA/California ESA (ESA/CESA) compliance. Her experience includes lead roles on attaining programmatic wetland permits for SDG&E, Escondido, and the City of San Diego, as well as work on the San Diego Gas & Electric's (SDG&E) Natural Communities Conservation Plan (NCCP)/HCP, County of San Diego North County MSCP, and County of San Diego Quino Checkerspot HCP. She regularly provides strategic guidance to clients, including critical leadership with the resource agencies. Michelle is adept at building and managing diverse teams of specialists and has the ability to keep the team focused on the ultimate goals of the project, including delivering high-quality client service within schedule and budget. Michelle is currently managing the Conservation District's Upper Santa Ana River Wash Plan Programmatic Permitting project.
Lindsey Cavallaro, MS Director/Client Manager 619.610.7662 lindsey.cavallaro@aecom.com San Diego, CA	Ms. Lindsey Cavallaro brings 19 years of professional environmental consulting experience focusing on management of large-scale environmental compliance projects, complex habitat restoration programs, and multifaceted impact assessment and conservation planning for natural resources in California and Nevada. Her key project experience includes overseeing preparation of complex California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documents and technical reports; development and implementation of large-scale environmental mitigation and compliance programs; habitat restoration program planning, design, and implementation; conservation plan development; and habitat preserve management. Lindsey worked closely with Betsy Miller when she was at the City of San Diego, and has been supporting the City since 2007 on habitat conservation and planning projects, including preparation of a City-wide vernal pool Habitat Conservation Plan (VPHCP) and associated Environmental Impact Report/Environmental Impact Statement for issuance from an Incidental Take Permit from Fish and Wildlife Service (USFWS). This work included extensive coordination with the City, a panel of scientific advisers, the wildlife agencies, stakeholders, developers, and environmental groups. Following approval, Lindsey continues to provide strategic guidance to the City on implementation of the VPHCP.

E

Similar Experience

E. Similar Experience

AECOM Experience Developing Vegetation Classification Systems and Keys Using Methods Conforming to the MCV

This section lists several of AECOM's projects, led by our specialists and completed in the last 10 years, that illustrate our experience developing MCV-consistent vegetation classifications and dichotomous keys to these classifications. Our core team members, Mr. Jonathan Dunn and Dr. Ed Kentner led in various capacities for each of the projects listed below.

Listing of detailed projects:

1. San Diego Association of Governments (SANDAG) Vegetation Classification and Updated Mapping for Western San Diego County, San Diego, CA
2. Vegetation Mapping and Tracking, Marine Corps Base Camp Pendleton (MCBCP), CA
3. Vegetation Classification for the Nature Reserve of Orange County, CA
4. Vegetation Mapping Protocol and Updated Mapping, Naval Weapons Station Seal Beach, Fallbrook Detachment, Fallbrook, CA
5. Natural Resources Inventory for Remote Training Site Warner Springs (RTSWS) and Camp Michael Monsoor (CMM), San Diego County, CA
6. Naval Base Ventura County Vegetation Classification and Key Development, Point Mugu, CA

1 SANDAG Vegetation Classification and Updated Mapping for Western San Diego County, San Diego, CA

Client
San Diego Association of Governments

Entity/Lead Agency Applicant
SANDAG
Contact: Keith Greer
Keith.Greer@sandag.org
(619) 699-7390

Size of Project Area(s)
450,000 acres

Overview of steps from project conception to completion:
- Phase 1 - The development of a vegetation classification system for western San Diego County consistent with the CMV.
- Phase 2 - The application of this classification to create a vegetation map through the photo-interpretation of available aerial imagery and field verification.

Project Lead, Project Team and Lead/Management Office Location
- Jonathan Dunn, San Diego, CA
- Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$835,820/original and final budget the same; no additional funding required

Project Preparation Timeframe
2009-2012

AECOM partnered with CDFW VEGCAMP to sample and classify the vegetation of Western San Diego County for SANDAG. AECOM published the Vegetation Classification Manual for Western San Diego County based on these classification results. AECOM subsequently mapped the 450,000-acre study area for SANDAG using the newly prepared classification and manual.

Project Overview

AECOM was contracted by SANDAG to create a fine-scale vegetation map for approximately 450,000 acres of Habitat Preserve and Conserved Lands in western San Diego County (study area). During this process, SANDAG established the Vegetation Mapping Oversight Committee, which included representatives from the US.

USFWS, local and state California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game), the County of San Diego, San Diego State University, CNPS, California State Parks, and others, to provide direction for this project. Based upon the guidance of the Oversight Committee, SANDAG opted to use to the CDFW standards for the classification of vegetation. CDFW has adopted a hierarchical vegetation classification system based on the MCV published by CNPS. The adoption of a hierarchical classification system for California by CDFW reflects parallel actions by federal agencies and nongovernmental organizations (including the U.S. Geological Survey, National Park Service, NatureServe, and others) in adopting the NVCS for the United States. The MCV is intentionally consistent within the larger context of the NVCS and both are based upon a scientific approach that requires the collection of quantifiable environmental data to identify and classify biological associations that repeat across the landscape. The creation of this map was conducted in two phases:

- Phase 1 – The development of a vegetation classification system (VCS) for western San Diego County consistent with the NVCS
- Phase 2 – The application of this VCS to create a vegetation map through the photo-interpretation of available aerial imagery

In Phase 1, AECOM conducted field data collection in collaboration with CDFW, which resulted in a dataset of approximately 1,300 stands of vegetation throughout the western San Diego region. These sampling locations were identified primarily through the application of a biophysical unit (BPU) model across the study area (GradSect). AECOM and CDFW conducted independent analyses of these data using a number of statistical methods, chiefly an agglomerative hierarchical cluster analysis. The results of these analyses defined the number of distinct vegetation types sampled and, when compared to existing datasets maintained by CDFW's VegCAMP, allowed the assignment of each stand to a known alliance and association from the MCV. In cases where no known vegetation types agreed with the current analyses, new alliances and associations are defined. Following the finalization of the classifications, AECOM published the Vegetation Classification Manual for Western San Diego County. This manual contains

descriptions of species composition, distribution, and ecological conditions for each alliance and association found in the study area and a dichotomous key to these alliances and associations.

In Phase 2 of this mapping project, AECOM applied the classification to the creation of a vegetation map for the western portions of San Diego County up to the borders of MCB Camp Pendleton. This mapping effort began with field reconnaissance by the vegetation ecologists equipped with field computers and mobile geographic information system (GIS) software. Reconnaissance mapping surveys were followed by office mapping sessions, in which the vegetation ecologists would conduct photo-interpretation of aerial images and extrapolate field-garnered knowledge to map subsets of the mapping area. These subsets were maintained by AECOM GIS staff to ensure QC through the mapping process. Validation steps were conducted throughout the mapping process with follow-up field visits to check polygon delineation and attribution. As the vegetation ecologists completed the photo-interpretation and attribution stages, GIS staff checked topologies and processed the geographic data to form the final geodatabase. In

2012, AECOM completed a map of approximately 600,000 acres of western San Diego County and prepared a final report containing:

- A detailed discussion of methods and analysis
- Descriptions of each alliance and association defined in the VCS
- A key to the alliances and associations
- A crosswalk to Holland classifications

This project represents our team's unique experience conducting vegetation classification and mapping projects in southern California. Jonathan Dunn served as Project Manager and Project Technical Lead for this vegetation classification and mapping project.

2 Vegetation Mapping and Tracking, MCBCP, CA

Client
US Navy, NAVFAC LANT

Entity/Lead Agency Applicant
US Navy
Contact: Gwen Kenney
gwen.kenney@usmc.mil
(760) 725-9740

Size of Project Area(s)
126,000 acres

Project Preparation Timeframe
2014-2019

Overview of steps from project conception to completion:
- Preparation of a sampling plan
- Vegetation plot sampling
- Vegetation plot analysis
- Preparation of the vegetation classification and key
- Vegetation mapping and validation
- Vegetation accuracy assessment

Project Lead, Project Team and Lead/Management Office Location
- Technical Lead - Jonathan Dunn, San Diego, CA
- Scientific Lead - Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$1.2M/original and final budget the same; no additional funding required

AECOM prepared an MCV and NVCS compliant vegetation classification and key for the 126,000-acre Marine Corp Base and oversaw vegetation mapping for the Base.

Project Overview

In 2014, AECOM was contracted by the US Navy to prepare a vegetation map for the 126,000-acre MCBCP installation using National Park System methodologies. The overall project consisted of five main components: 1) the preparation of an NVCS compliant classification, a key to the final classification, and a crosswalk to prior classifications, 2) the acquisition of aerial photographs to serve as base imagery for photo interpretation, 3) the production and validation of a vegetation map for MCBCP based on the above referenced classification, 4) the

completion of a third-party NPS compliant accuracy assessment of the map products, and 5) a comparison of the results of this mapping effort to historic mapping (change analysis).

To prepare the classification, vegetation sampling was undertaken with the goal of collecting a target minimum of five plots ("relevés") of each vegetation alliance occurring on the Base. Several sources were used for determining the general locations for vegetation plots in advance of field sampling, including a GradSect analysis, previous vegetation mapping efforts, and active field reconnaissance during sampling missions. The final decisions for the stands to be sampled and placement of the plots within stands were made in the field by the vegetation ecologists based on the conditions encountered at the time of the survey. In general, well-defined and distinct stands were chosen for sampling, and the plot boundaries were placed to capture the conditions and species composition typical and representative of the overall stand. A total of 330 vegetation plots were recorded during the field sampling missions.

AECOM employed a top-down to the vegetation classification as defined by the NPS Vegetation Inventory. The vegetation plots and observation points collected on MCBCP were each assigned to an NVCS alliance, association, or group as appropriate according to the following procedure. Each plot was evaluated by comparing its species composition and cover values to the keys and membership rules provided in the Vegetation Classification Manual for Western San Diego County, the MCV, and various regional reports, as necessary. After assigning a preliminary alliance, association, or group name to each MCBCP plot and observation point, final classification names were assigned following a detailed comparison of the species composition and cover values of each MCBCP plot versus all of the regional examples available for the same type. Plot alliance membership was assigned strictly in accordance with published and/or CDFW-vetted membership criteria with few exceptions. Stands of vegetation unique to the Base, and not matching any previously described type, were classified as "special stands" and provided a local name. The classification was completed by ecologists Dr. Ed Kentner and Mr. Jonathan Dunn, who each independently confirmed the final classification assignment of each plot.

A key to the MCBCP vegetation classification was compiled by adapting the vegetation key for western San Diego County (Dunn et al. 2015) to the vegetation present on the Base, and adding types as necessary. Preliminary drafts of the key were extensively field tested during the mapping and field verification phase of the project, and several iterations of the draft key were prepared to resolve ambiguity and to improve the reliability of the key under the field conditions.

AECOM subcontracted the acquisition of aerial imagery and LiDAR data to GeoTerra, Inc. A ground control survey was completed by GeoTerra prior to the aerial photography acquisition mission in provide extremely high spatial accuracy for the imagery products. A flight plan map was used to align flights along pre-planned flight lines and to control photo exposures at precisely planned locations with the overlaps that are required. The flight map was closely reviewed to ensure that the entire project area was covered by stereo imagery and met the minimum acquisition requirements. Post-flight, the imagery was reviewed to ensure compliance with all project specifications to include general image quality. Stereo models throughout the project were checked for proper end and side laps, resolution, blurs, and other quality factors. Upon review, all acquired imagery was found to meet the flight planning specifications and no re-flights were required.

AECOM subcontracted a portion of the vegetation mapping to Aerial Information Systems (AIS) of Redlands, California. AIS personnel performed photo-interpretation mapping for woody perennial vegetation, and AECOM personnel performed in field and photo-interpretation mapping for all herbaceous vegetation. The mapping work was separated into two main tasks: field reconnaissance, and photo interpretation and digitization of vegetation. Field reconnaissance allows the photo-interpreter to become familiar with the study area. During the photo interpretation process, a photo interpreter identified map units based on their photographic “signature.” These signatures are defined by the color, texture, tone, size, and pattern exhibited on the aerial imagery. By observing the context and extent of the photo signatures associated with specific vegetation types, the photo interpreter is able to identify and delineate the boundaries between plant communities or signature units. The completed map totaled 127,239 acres and was composed of 22,659 polygons.

For this project, Jonathan served as Technical Lead. In this role he guided the development of all analyses, led the production of all documents, coordinated all subcontractors, served was AECOM’s lead photo-interpreter, and

organized the vegetation key. Ed served as Scientific Lead for this project, and in this role he designed the sampling strategy, led all vegetation surveys, and prepared the vegetation classification. Both will serve in similar roles for the proposed project.

3 Vegetation Classification for the Nature Reserve of Orange County, CA

Client
Nature Reserve of Orange County (now known as Natural Communities Coalition)

Entity/Lead Agency Applicant
Nature Reserve of Orange County
Contact: Kristine Preston (currently employed by San Diego Mitiation and Monitoring Program)
kpreston@usgs.gov
619-225-6438

Size of Project Area(s)
120,000 acres

Overview of steps from project conception to completion:
- Preparation of a sampling plan
- Vegetation plot sampling
- Vegetation plot analysis
- Preparation of the vegetation classification

Project Lead, Project Team and Lead/Management Office Location
- Technical Lead - Jonathan Dunn, San Diego, CA
- Scientific Lead - Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$132,000/original and final budget the same; no additional funding required

Project Preparation Timeframe
2011-2012

AECOM conducted vegetation sampling and analysis and prepared an MCV- and NVCS-compliant vegetation classification for 120,000 acres of the Central and Coastal Reserve and Southern Reserve areas of Orange County.

Project Overview

In 2011, AECOM was contracted by the Nature Reserve of Orange County (NROC) to create a vegetation classification consistent with the NVCS as a first step toward creating an updated vegetation map of its reserve areas. The gross area of this project included all of Orange County, with reserve areas totaling approximately 120,000 acres. Based upon an earlier classification by Gray and Bramlet (1992), AECOM determined that approximately 330 Rapid Assessments from the study area should be sufficient to prepare the VCS. This number was determined through consideration of the size of the study area, the number of vegetation types described by Bramlet, and the expectation that existing datasets collected for similar efforts in San Diego and Riverside counties are suitable for inclusion in this classification effort. Draft 330 sampling points were distributed across the Central and Coastal, and Southern reserve areas of Orange County based on a GradSect analysis of biophysical units across the study area. Following the field data collection, AECOM combined the data from this project with data from other classification efforts in San Diego and Riverside counties that were recent at the time. For the types of analyses employed in producing a vegetation classification, a larger dataset is generally expected to produce more robust results by reducing artificial grouping. The resulting datasets were subjected to two stages of an agglomerative hierarchical cluster analysis within biostatistical software application (PC-ORD). When conducting cluster analyses on large heterogeneous datasets, it is often useful to conduct these analyses in stages that divide the dataset into more manageable groups. In the first stage of analysis, cluster analyses were performed for each of the tree, shrub, and herb subsets. This stage produced subclusters of a manageable size. This preliminary classification, based strictly on the cluster groupings, was then compared to published membership rules. The results of these analyses defined the number of distinct vegetation types sampled and, when compared to published membership rules, allowed the assignment of each stand to a known alliance and association from the MCV, or, in cases where no known vegetation types agreed with the current analyses, allowed the definition of new or provisional alliances and associations.

AECOM confirmed these results with the CDFW's VegCAMP. VegCAMP develops and maintains California's expression of the NVCS.

This project represents our team's unique experience conducting vegetation classification and mapping projects in Southern California. For this effort, Jonathan served as Project Manager and Ed served as Scientific Lead. Both will serve in similar roles for the proposed project.

4 Vegetation Mapping Protocol and Updated Mapping, Naval Weapons Station Seal Beach, Fallbrook Detachment, Fallbrook, CA

Client
US Navy, NAVFAC Southwest

Entity/Lead Agency Applicant
US Navy
Contact: Christy Wolf
Email: christy.wolf@navy.mil
Phone: (760) 731-3425

Size of Project Area(s)
8,500 acres

Project Timeframe
2012-2017

Overview of steps from project conception to completion:
- Preparation of a mapping protocol
- Vegetation plot sampling
- Vegetation plot analysis
- Preparation of the vegetation classification and key
- Vegetation mapping and validation

Project Lead, Project Team and Lead/Management Office Location
- Technical Lead - Jonathan Dunn, San Diego, CA
- Scientific Lead - Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$196,000/original and final budget the same; no additional funding required

AECOM prepared a standardized vegetation mapping protocol for the Detachment. This protocol included the preparation of an MCV- and NCVS-compliant vegetation classification and key. AECOM mapped the 8,500-acre facility using this protocol.

Project Overview

AECOM was contracted to develop a standardized vegetation mapping protocol for Naval Weapons Station Seal Beach, Fallbrook Detachment. The protocol is intended for inclusion in future Statement of Work contracting documents to guide mapping contractors. The purpose of this protocol is to provide clear vegetation classification and mapping rules that are repeatable and quantifiable such that the results of successive mapping efforts are adequately comparable to detect true vegetation change and potential trends through time.

The methodology of this protocol defines five primary stages:

1. Aerial photography acquisition
2. Photographic signature training and field reconnaissance
3. Photo-interpretation/feature creation/map attribution
4. Map finalization
5. Accuracy assessment

Following the completion of the protocol, AECOM applied its requirements to prepare updated vegetation mapping for the 8,500-acre Detachment. Jonathan authored the mapping protocol with support from Ed. Together this team created and validated the baseline vegetation map using the prepared protocol. Both will serve in similar roles for the proposed project.

5 Natural Resources Inventory for RTSWS and CMM, San Diego County, CA

Client
US Navy, NAVFAC Southwest

Entity/Lead Agency
Applicant
US Navy
Contact: Michelle Cox (currently employed with United States Forest Service)
michelle.cox2@fs.fed.us
406-329-3041

Size of Project Area(s)
18,000 acres

Overview of steps from project conception to completion:
- Preparation of a sampling plan
- Vegetation plot sampling
- Vegetation plot analysis
- Preparation of the vegetation classification and key
- Vegetation mapping and validation

Project Lead, Project Team and Lead/Management Office Location
- Technical Lead - Jonathan Dunn, San Diego, CA
- Scientific Lead - Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$216,000 (excludes costs for other Natural Resources Inventory tasks) /original and final budget the same; no additional funding required

Project Preparation Timeframe
2014-2016

AECOM conducted vegetation sampling and analysis and prepared MCV- and NVCS-compliant vegetation classifications and keys for both the 12,500-acre RTSWS and 5,500-acre CMM facilities. AECOM subsequently prepared vegetation maps for both facilities using these classifications.

Project Overview

In 2014, AECOM was contracted to prepare a Natural Resources Inventory for the US Navy's RTSWS and CMM. Two elements of this inventory were the preparation of NVCS-compliant vegetation classification for each facility and updated vegetation mapping using this classification. AECOM prepared a vegetation sampling plan for each facility based on a review of prior mapping and available aerial imagery. Vegetation plots were sampled across all habitats, and the resulting data served as the basis for classification. Cluster analyses were conducted using the PC-ORD software suite of classification and ordination tools. All cluster analyses used the Sorensen (Bray-Curtis) distance measure with a flexible beta linkage set at -0.25. Outlier analysis was used to identify and remove plots with Sorensen distances greater than three standard deviations from the mean prior to each cluster run. Nonnative species were filtered as follows to remove undue influence on the classification results: For stands with < 45 percent relative nonnative cover, all nonnative species were excluded from the analysis. For stands with > 45 percent relative nonnative cover, individual nonnative species with < 5 percent cover were deleted. All native species occurring in at least two stands were used in the cluster analysis.

A preliminary list of vegetation alliances present was generated from an initial cluster analysis of the plot data followed by the application of the alliance membership rules contained in the MCV and the *Vegetation Classification Manual for Western San Diego County.* Subsequent rounds of cluster analyses were used to compare the plot data to a larger data set of previously classified plots from Western San Diego County, Orange County, and Riverside County to further refine the preliminary classification of the CMM stands and to facilitate classification to the association level.

The resulting classification was applied to the creation of vegetation maps for each facility. Mapping was conducted by photo-interpretation over available aerial imagery. For this project, Jonathan served as Technical Lead and Ed served as Scientific Lead. Both will serve in similar roles for the proposed project.

6 Naval Base Ventura County Vegetation Classification and Key Development, Point Mugu, CA

Client
US Navy, NAVFAC Southwest

Entity/Lead Agency Applicant
US Navy
Contact: Valerie Vartanian
valerie.vartanian@navy.mil
805-989-4740

Size of Project Area(s)
4,500 acres

Overview of steps from project conception to completion:
- Preparation of a sampling plan
- Vegetation plot sampling
- Vegetation plot analysis
- Preparation of the vegetation classification and key

Project Lead, Project Team and Lead/Management Office Location
- Technical Lead - Jonathan Dunn, San Diego, CA
- Scientific Lead - Ed Kentner, San Diego, CA

Original Proposed Budget/Final Project Cost for Consulting Servies (include an explanation for any difference between the two)
$101,000/original and final budget the same; no additional funding required

Project Preparation Timeframe
2019-2020

AECOM conducted vegetation sampling and analysis and prepared an MCV- and NVCS-compliant vegetation classification and key for 4,500 acres for the Naval Base at Point Mugu.

Project Overview

AECOM was originally contracted to perform a vegetation accuracy assessment for the approximately 4,500-acre vegetation map prepared in 2014 for Naval Base Ventura County, Point Mugu (NBVCPM). In review of this vegetation dataset and associated report, AECOM discovered that the mapping process for this product did not conform to any established mapping standard, and therefore an accuracy assessment would not provide any meaningful results. Therefore, NAVFAC instructed AECOM to direct their remaining effort to complete a vegetation classification and field key for NBVCPM that conforms to state and national standards and is applicable to the preparation of subsequent mapping efforts.

Vegetation sampling was undertaken with the goal of collecting a target minimum of five plots (aka "relevés") of each vegetation alliance occurring on the Base. A total of 68 plots were recorded during two sampling periods, May 20-22, and June 24-27, 2019, and all plots were recorded by Jonathan and Ed.

The classification of vegetation aboard NBVCPM was completed by assigning each plot to an alliance recognized as occurring in southern California per the MCV. The US National Vegetation Classification (USNVC) alliances in Southern California are generally well defined and have been extensively sampled (see Sawyer et al. 2009, and CDFW and CNPS 2006). On two occasions, AECOM ecologists Ed Kentner and Jonathan Dunn consulted with CDFW Lead Vegetation Ecologist Todd Keeler-Wolf to vet the overall classification approach and discuss several specific alliance treatments.

Each of the 68 vegetation plots collected by AECOM in 2019 and 101 plots collected by a different contractor in 2012 were assigned to a USNVC alliance, group, or special stand based on species composition and cover values using the membership rules available from the California Native Plant Society (CNPS) (CNPS 2019). After assigning a preliminary type name to each plot, final classification names were assigned following a detailed comparison of all plots assigned to that type. Stands of vegetation unique to NBVCPM or not matching any previously described type were classified as "special stands" and provided a local name. The classification was completed by Ed and Jonathan, who each independently confirmed the final classification assignment of each plot.

A decision key was prepared to provide decision-making rules for distinguishing each alliance included in the vegetation classification for NBVCPM. Since the key only represents a subset of USNVC alliances, it is intended only for use on NBVCPM. Alliance distinctions were based on quantitative membership rules as defined by an MCV and the NBVCPM plot data.

Experience Preparing Vegetation Maps for Natural Areas

AECOM typically organizes the development of vegetation maps with four principal tasks, field reconnaissance, photo interpretation and digitization of vegetation, quality control, and field validation. AECOM used this methodology to prepare map products for our clients in the three examples presented below.

As AECOM also prepared a vegetation classification and key for each of this mapping efforts, these projects are described in greater detail. In this section, we highlight the factors that made our participation in these projects successful. Our examples also demonstrate a scale, from very-large efforts (greater than 100,000 acres) (Updated Vegetation Map of Western San Diego County), to large scale efforts (greater than 10,000 acres) (Remote Training Site Warner Springs), and smaller scale efforts (less than 10,000 acres) (Naval Weapons Station Seal Beach, Detachment Fallbrook).

In completing the Updated Vegetation Map of Western San Diego County for SANDAG, which ultimately encompassed an area of over 600,000 acres, AECOM deployed its team of local botanists experienced in photo-interpretation. The final map was achieved through a combination of field reconnaissance, heads-up polygon delineation in GIS, field verification, and the regional ecological understanding possessed by our core team. This project also provided AECOM with the unprecedented opportunity to collaborate with the CDFW Vegetation Classification and Mapping Program. Our team, led by Jonathan, had direct access to VegCAMP ecologists including, the principal author of the MCV, Todd Keeler-Wolf. This access led to the development of trusted personal and professional relationships.

To complete the vegetation map for Remote Training Site Warner Springs, AECOM first needed to conduct vegetation sampling to inform the classification. One concern in designing a vegetation sampling plan is the issue of spatial autocorrelation. In simple terms, the concept means that samples in close spatial proximity may lack statistical independence. Based on AECOM ecologists' relationships with CDFW VegCAMP ecologists, AECOM was provided access to “soon to be published” data collected by VegCAMP for a nearby project. These data allowed AECOM to bolster the vegetation plot data collected on RTSWS to produce a more robust analysis. The vegetation sampling, classification, and field mapping components of this project were led by Ed. Jonathan served as technical lead and lead photo-interpreter. The final map area was 12,500 acres.

The Natural Resources Manager for Naval Weapons Station Seal Beach, Detachment Fallbrook recognized that each prior vegetation map produced for the Detachment used differing methodologies, and that these differences confounded efforts to detected meaningful change in the habitats at this facility. Based on AECOM’s expertise in regional vegetation classification and mapping, the Navy engaged AECOM to design a repeatable protocol to define each step in the preparation of future vegetation maps for the Detachment. This final protocol is now incorporated into the Statement of Work for each new mapping contract. Following the completion of this protocol, Using the five-step approach defined by the protocol (see Project 4 above for additional detail), AECOM prepared a baseline vegetation map for the 8,500-acre Detachment.

F

Project Schedule

F. Project Schedule

A milestone schedule for this project is provided below as Exhibit 3. The vegetation sampling and report preparation effort is anticipated to take approximately 6 months. Kick-off in December will allow ample time to schedule and plan for field work. Seasonal restrictions on the vegetation sampling effort are driving the schedule. AECOM will discuss the schedule regularly with the Conservation District (for example, during periodic update calls).

Exhibit 3. Milestone Schedule

Vegetation Classification and Mapping Schedule	
Kickoff	December 2021
Vegetation Sampling	March-June 2022
Classification Report Draft	July 2022
Classification Report Final	August 2022
Mapping Report Draft	August 2022
Mapping Report Final	September 2022

*Assumes 2 weeks for Conservation District review of draft deliverables and 2 weeks for AECOM to revise and finalize reports.

G

Fee Schedule

G. Fee Schedule

This section includes a detailed Cost Estimate (Exhibit 4) including the number of hours assigned to each task identified in the RFP, plus the optional task that AECOM has identified. We have also included our 2022 Schedule of Fees (Exhibit 5).

Finally, AECOM has included Exhibit 6 below, which lists the anticipated deliverables per task and assumptions we have made in determining our budget.

Exhibit 4. Cost Estimate

SBVWCD Vegetation Classification & Mapping	Project Manager	Biologist V	Biologist I	GIS Specialist IV	Project Controls II	Technical Editor	Word Processor	Total Hours per Task	Total Fee per Task
Rate	**$ 172.00**	**$ 172.00**	**$ 94.00**	**$ 125.00**	**$ 110.00**	**$ 115.00**	**$ 104.00**		
TASK 1 - Vegetation Classification	15	312	170	4	20	4	4	529	$ 75,800
TASK 2 - Vegetation Mapping	10	80	80	10	-	2	2	184	$ 24,688
TASK 3 - OPTIONAL Aerial Imagery	2	8	-	-	2	-	-	12	$ 1,940
Subtotal Hours	**27**	**400**	**250**	**14**	**22**	**6**	**6**	**725**	
Subtotal Labor Cost								**$ 102,428**	
OTHER DIRECT COSTS - TASKS 1 & 2:								$ 4,531	
SUBCONTRACTOR COSTS FOR OPTIONAL TASK 3:								$ 11,991	
TOTAL TASKS 1 & 2:								**$ 105,019**	
TOTAL OPTIONAL TASK 3:								**$ 13,931**	
GRAND TOTAL:								**$ 118,950**	

Exhibit 5. AECOM Schedule of Fees

2022 AECOM Schedule of Fees
San Bernardino Valley Water Conservation District
Vegetation Classification and Mapping for the Upper Santa Ana River Wash

Administrative	$94
Archaeological Technician I	$68
Archaeological Technician II	$78
Archaeologist/Architectural Historian I	$84
Archaeologist/Architectural Historian II	$94
Archaeologist/Architectural Historian III	$115
Archaeologist/Architectural Historian IV	$136
Archaeologist/Architectural Historian V	$188
Biologist I	$94
Biologist II	$110
Biologist III	$130
Biologist IV	$156
Biologist V	$172
Environmental Scientist I	$94
Environmental Scientist II	$110
Environmental Scientist III	$130
Environmental Scientist IV	$162
Environmental Scientist V	$193
Environmental Monitor	$99
Field Crew	$52
Field Leader	$68
GIS Specialist I	$78
GIS Specialist II	$94
GIS Specialist III	$104
GIS Specialist IV	$125
GIS Manager	$156
Graphic Artist I	$89
Graphic Artist II	$110
Planner I	$104
Planner II	$115
Planner III	$130
Planner IV	$146
Planner V	$193
Project Manager	$172
Project Director	$208
Principal Director	$229
Project Controls I	$94
Project Controls II	$110
Project Controls III	$120
Project Controls IV	$146
Word Processor	$104
Technical Editor	$115

Other Direct Costs

Other reimbursable expenses will be billed at cost + 5%. Invoices will be submitted on 4-week intervals for work in progress unless otherwise agreed. Invoices are due and payable within 30 days after invoice date.

Fees are valid through December 31, 2022. Rates are subject to 4% escalation effective January 1, 2023. AECOM staff may move in classification during the contract term.

Exhibit 6. Deliverables and Assumptions

Task	Deliverables and Assumptions
1. Vegetation Classification and Key	Deliverables • A summary report of results and methods • A list of all alliances and associations defined within the study area arranged in full MCV hierarchical format • A tabular description and representative photograph of each alliance sampled (to include species composition, ranges of percent cover, etc.) • A dichotomous vegetation key to all of the vegetation alliances sampled based on physiognomy and quantitative species composition data • The completed National Park Service PLOTS database containing all plots sampled and photographs • An ArcGIS geodatabase containing a features class representing plot sampling locations Assumptions • Approximately 50-60 sample plots will be needed to represent the alliance and associations occurring on District-managed lands. • Field sampling would occur during the spring of 2022 and timed for optimal phenologies of diagnostic species. • Plot sampling is expected to require 10 field days for three ecologists. • To avoid geospatial autocorrelation of sampling plots, some portion of the plots should be expected to be located outside of District-managed land. It is assumed the District will facilitate access to neighboring properties for vegetation sampling.
2. Vegetation Map	Deliverables • A summary report of vegetation mapping methods and results • An ArcGIS geodatabase containing the vegetation features class Assumptions • The District will provide current high-resolution aerial photographs to serve as the basis for vegetation mapping (minimum of three color bands (RGB) or higher, minimum resolution of 6 inch). Alternatively, the District will authorize Optional Task 3 to acquire suitable aerial imagery. • Vegetation alliances/associations will be mapped using a minimum mapping unit (MMU)of 0.5 acre.
3. Aerial Imagery Acquisition	Deliverables • 0.5-foot' Resolution 4-band, (8-bit per band) Orthophotography in a single compressed SID mosaic and uncompressed GeoTiff tile formats

H

Other Information

H. Other Information

Contract Services Agreement

It is our understanding that a contract will be negotiated and finalized between AECOM and the Conservation District upon award of this project. AECOM will collaborate with the Conservation District to ensure that the contract provided in the RFP is executed in a timely manner.

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

aecom.com

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1816

To: **Board of Directors**

From: **Betsy Miller, Land Resources Manager/Assistant General Manager**

Date: **November 10, 2021**

Subject: **Wash Plan Slender-horned Spineflower Restoration Program Professional Services Contract Award**

RECOMMENDATION

Staff recommends that the Board 1) Accept Dudek's proposal to prepare the Slender-horned Spineflower Restoration Program and authorize the General Manager and General Counsel to prepare and execute a professional consultant services agreement substantially consistent both with Dudek's proposal and the District's form consultant services contract included in the Request for Proposals.

BACKGROUND AND DISCUSSION

The Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan), which was adopted by the Board on July 8, 2020, is a federal Habitat Conservation Plan which provides permitting for Covered Activities under the Federal Endangered Species Act. In addition to permitting take, the Wash Plan includes requirements for specific monitoring, management, and restoration actions related to Covered Species, including preparation of a Slender-horned Spineflower (SHSF) Restoration Program.

In order to efficiently and effectively complete this task, the District issued a Request for Proposals for experienced technical consultant services to prepare a SHSF Restoration Program in compliance with SHSF Objectives 3, 4, 9 and 10 in Section 5.1.2 of the Wash Plan. The Conservation District received three competitive proposals, which were reviewed based on demonstrated experience with similar projects; success in obtaining regulatory agency approval for rare plant restoration programs; fulfillment of the requirements included in SHSF Objectives 3, 4, 9 and 10 in Section 5.1.2 of the Wash Plan; responsive cost proposal; and responsive schedule. Based on these factors, we recommend Dudek be selected for this contract.

The contract includes numerous tasks including review of existing data, focused SHSF surveys, identification of environmental factors contributing to suitable SHSF habitat, seed collection and bulking, coordination with the SHSF working group, and preparation of a final SHSF Restoration Plan.

FISCAL IMPACT

The recommended action would result in the expenditure of up to $291,574.65 of District funds from the Wash Plan endowment, including $90,500 in the approved FY22 budget. Remaining contract costs will be included in the FY23 and FY24 budgets as appropriate based on the project timeline.

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Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

ATTACHMENTS OR MATERIALS

Dudek Proposal to prepare a Slender-horned Spineflower Restoration Program

PROPOSAL

SLENDER-HORNED SPINEFLOWER RESTORATION PROGRAM

SAN BERNADINO VALLEY WATER CONSERVATION DISTRICT

OCTOBER 11, 2021

605 Third Street / Encinitas, CA 92024 / 760.942.5147

DUDEK

Cover Letter

October 11, 2021

Betsy Miller
San Bernardino Valley Water Conservation District
1630 West Redlands Boulevard, Suite A
Redlands, California 92373

Subject: **Slender-horned Spineflower Restoration Program**

Dear Ms. Miller,

Designated Contact
Jake Marcon
Restoration Ecologist
605 Third Street
Encinitas, California 92024
760.479.4257
jmarcon@dudek.com

Dudek is pleased to submit this proposal to the San Bernardino Valley Water Conservation District (Conservation District) in support of the slender-horned spineflower (*Dodecahema leptoceras;* SHSF) restoration program. We understand the biological and regulatory complexities associated with this type of work through experience. We recognize and value that there are important goals specific to the Upper Santa Ana River Wash Habitat Conservation Plan (Wash HCP) to enhance the SHSF population within the site location which must be achieved, but we also appreciate that this work should provide a basis for range-wide species enhancement and recovery. These goals align with our expertise and we are passionate about studying, managing, and restoring rare annual plants.

Dudek has designed and implemented a similar program of conservation, study, and restoration for the poorly understood and listed annual plant species, San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*). Our work with the San Fernando Valley Spineflower has succeeded due to collaborative planning with a technical working group and the regulatory agencies, leading to science based approaches that are practical for implementation and which foster long term population and habitat level sustainability.

Our restoration ecologist and botanists have extensive experience working collaboratively on comprehensive annual rare plant programs with significant regulatory oversight. This project will be led by Scott McMillan serving as the principal in charge and Jake Marcon serving as lead restoration ecologist/project manager, who leads Dudek's successful San Fernando Valley Spineflower restoration work. We have kept the organizational chart small despite having many additional qualified staff, because we are committed to these staff being heavily involved in this project throughout the project term.

Thank you for the opportunity to submit this proposal. We are always happy to discuss our scope of work and make refinements to meet your needs. Please do not hesitate to contact lead restoration ecologist/project manager Jake Marcon at 760.479.4257 or at jmarcon@dudek.com with any questions.

Sincerely,

Jake Marcon
Restoration Ecologist/Project Manager

Scott McMillan
Principal in Charge

This fee estimate is valid for 90 days from the date of this proposal; after 90 days, Dudek reserves the right to reassess the fee estimate, if necessary.

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Project Understanding

Slender-horned Spineflower (*Dodecahema leptoceras*; SHSF) is a state and federally listed annual herb known from drainages of Riverside, San Bernardino, and Los Angeles County. Initial research was conducted to characterize the ecology of SHSF habitat (Allen 1996, Wood and Wells 1996), which showed SHSF habitat is composed of alluvial terraces, away from and above active flow channels in areas receiving little surface disturbance from flooding but subject to sheet or overland flows. Characteristic soils occupied by SHSF have a silt soil texture with low nutrient levels, low salinity, and low electrical conductivity (Allen 1996). Cover of perennial plant species is low within patches of SHSF, though occupied patches often occur in habitat that contains scattered perennial shrubs characteristic of intermediate and intermediate-mature stages of Riversidean alluvial fan sage scrub. Many of the occurrences within SHSFs range are disjunct.

SHSF was initially listed due to threats from development, mining, off highway vehicle use, trash dumping, and flood control measures such and dams and levees (U.S. Fish and Wildlife Service [USFWS] 2010). SHSF is a Covered Species under the Upper Santa Ana River Wash Habitat Conservation Plan (Wash HCP) due to its listing status under the state and federal Endangered Species Act.

The Wash HCP identifies a number of objectives and actions specific to SHSF as well as Wash HCP preserve wide objectives (ICF 2020). Dudek understands that the SHSF Restoration Program must fit into the overall Conservation Program of the Wash HCP, and expects to build upon the foundations of that document. Based upon preliminary review of the Wash HCP, Dudek anticipates that the SHSF Restoration Program will achieve or lay the ground work for future realization of several of the species-specific biological objectives for SHSF in Section 5.1.2 of the Wash HCP. These include the following:

> **SHSF Objective 3:** Develop a robust science-based SHSF Restoration Program to address issues unique to the maintenance and enhancement of existing SHSF populations and the potential establishment of new populations within the HCP Preserve.
>
> **SHSF Objective 4:** Establish and maintain a minimum of six new patches of spineflower in the HCP Preserve covering at least 35 square meters each in 5 years of any 8-year period. Patch size definitions and quantification methods will follow SAIC (2010). Aggregate mining of the contingency parcel may proceed after this objective has been met twice; that is, 5 years out of 8 for two 8-year cycles, without inclusion of sub-patches or outliers.
>
> **SHSF Objective 9:** Better determine the location and extent of spineflower suitable habitat in the HCP Preserve.
>
> **SHSF Objective 10:** Determine the current extent and location of spineflower occurrences in the HCP Preserve and monitor population trends over time.

The SHSF Restoration Program will exist within the overall framework of the Conservation Program outlined in the Wash HCP, which has already outlined initial guidelines for management, including prohibition of prescribed burns and grazing, while allowing monocot-specific herbicide to control annual grasses, or hand clearing (ICF 2020). All cases of herbicide use is considered provisional adjacent to SHSF patches, with proper precautions being required (ICF 2020). As an example, the SHSF Restoration Program that Dudek has proposed herein will field test monocot specific herbicide use within and around SHSF patches alongside hand removal, which will provide field based evidence and results that can be scaled to all patches within the Wash HCP preserve, and elsewhere. Also

relevant to Dudek's approach to this work is that Dudek has already implemented significant testing of monocot specific and broad spectrum herbicide use alongside hand removal within our San Fernando Valley Spineflower Introduction work. Our approaches have become standard operating procedures for that species.

Dudek carefully designed the approach described within this proposal to be reflective of the scope items described in the Request For Proposals and in compliance with the requirements of Section 5.1.2 of the Wash HCP. Dudek is well-prepared to develop, evaluate, and prioritize methods to restore SHSF within the Wash HCP Preserve through the proposed SHSF Restoration Program. The proposed program will be built upon the foundations of all work available to Dudek during the anticipated in-depth literature review process (Task 1) and require collaboration with outside experts (e.g., SHSF Working Group) (Optional Task 12). Baseline data collection (Task 2) will be critical to the success of the restoration program, and Dudek has proposed a methodology that can be used for consistent data collection through time in a scalable and efficient manner. Dudek has used existing study results (i.e., Allen, 1996; Wood and Wells, 1996) to identify key environmental parameters to study through time (Task 3), which will help provide a basis for understanding the combined and/or differential effects of management and annual climate on the performance of SHSF.

Seed collection (Task 4) and seed amplification through bulking (Task 6) will provide seeds for this effort, which is the most critical resource that drives the success of any annual plant restoration program. Dudek's experience will be combined with the expertise of the California Botanic Garden (CalBG), a partnership proven successful in seed bulking for previous rare plant restoration programs, pending the selected seed bulking methodology as agreed upon with San Bernardino Valley Water Conservation District (Conservation District) staff (See Task 6 for more details). The CalBG will also provide substantial staff and organizational expertise when taking the lead on garden based germination testing (Task 5).

Dudek will use all information gathered by Dudek and others to author a science-based draft SHSF Restoration Plan to address ongoing species specific management needs as well as potential establishment of new populations within the Wash HCP preserve (Task 7). Results and supporting data for out-planting site prioritization (Task 10) will be incorporated into this draft restoration plan, as well as initial results of out-planting trials (Task 11), including field based germination trials. Dudek anticipates working collaboratively with the SHSF Working Group as much as possible during the preparation of the draft SHSF Restoration Plan, and will convene the SHSF Working Group to solicit feedback on the draft plan, in coordination with the Conservation District (Task 8). Dudek will carefully incorporate feedback from all parties into a final SHSF Restoration Plan that will include detailed, empirical descriptions of suitable SHSF habitat, recommended methods for enhancement of occupied habitat, prioritized locations for enhancement and out-planting in suitable but unoccupied habitat, and protocols for germination, seed bulking, site selection, out-planting, and invasive species treatments within occupied/suitable SHSF habitat (Task 9).

Dudek is confident that the assembled team has the experience and expertise to author a SHSF Restoration Plan that will result in a field-tested portfolio of management and out-planting techniques that will support and enhance the likelihood of SHSF recovery within the Wash HCP preserve and throughout its range. Dudek relishes the opportunity to work alongside outside species experts, stakeholders, and regulatory agencies to create a better future for SHSF while ensuring that beneficial uses of the of the Wash HCP area can continue.

Project Tasks

Task 1: Literature Review

Dudek will conduct a comprehensive review of existing literature pertaining to SHSF requirements within the Upper Santa Ana River Wash Habitat Conservation Plan, as well as research conducted on SHSF biology and habitat ecology. Initial review indicates that the SHSF requirements include conservation objectives and actions, measures to avoid and minimize effects, and a discussion of expected outcomes. Dudek will also review results from previous SHSF Working Group meetings to understand the work completed to date and the current status of the species. Dudek will use this information to inform work to be completed in the following tasks.

Task 2: SHSF Comprehensive Survey

Dudek botanists with assistance from Conservation District staff will conduct a focused survey for SHSF within the 1,530-acre Wash HCP Preserve (Preserve) during the first spring/summer with at least average rainfall following contract award. Based on initial review of the Wash Plan, the 1,530-acre Preserve includes suitable habitat for SHSF, such as Riversidean alluvial fan sage scrub intermediate and intermediate-mature stages. Based on review of suitable habitat and occurrence data, Dudek plans to survey the Preserve in two phases. An approximate 50-meter buffer of the existing and historic SHSF occurrences within the Preserve will be surveyed in-depth using 5-meter transects to identify SHSF. Following that survey, and after botanists are familiar with SHSF and its specific microhabitat associations, but still within the suitable blooming period of SHSF, Dudek will conduct an on-foot field reconnaissance to identify SHSF within the remainder of the Preserve using 20-meter transects. If, during this reconnaissance, SHSF is identified, transect spacing would be reduced to 5 meters within an approximate 50-meter buffer of that occurrence to ensure adequate coverage of the entire Preserve. Transect lines will be created using geographic information system (GIS) mapping and uploaded into the Esri Collector application.

Botanical survey schedules vary depending on weather patterns during the growing season and will be finalized based on reference population verification. Given the typical blooming period of SHSF, it is assumed that SHSF could be surveyed for in one pass in May or June, dependent upon reference population checks in conjunction with at least average rainfall conditions. If average rainfall has not been received, postponement of the surveys would be considered in consultation with the Conservation District.

Reference population checks will involve locating known populations of SHSF during a time frame when they are known to be blooming or exhibit other phenological characteristics that allow for species identification. Observations of reference populations during peak phenology provide assurance that SHSF will be identifiable if present. 2 person-days will be allotted for reference SHSF population checks.

In reviewing the existing data and vegetation mapping as provided within the Wash Plan HCP (ICF 2019), Dudek assumes that approximately 1,530 acres of potential habitat within the Wash HCP preserve for SHSF will need to be surveyed with approximately 15% of that area within an approximate 50-meter buffer of the existing SHSF occurrences and the remaining 85% within the reconnaissance area. At 20-meter spacing, typically 40 acres of habitat can be surveyed by one biologist in 1 day. At 5-meter spacing, typically 10 acres of habitat can be surveyed by one biologist in 1 day. Therefore, for purposes of preparing a cost estimate, Dudek assumes that the suitable habitat subject to surveys for SHSF can be surveyed in 56 person-days. Of these 56 person-days, Dudek

assumes that the Conservation District will supply approximately one quarter, or 14 person-days, while Dudek botanists will account for the remaining 42 person-days.

If SHSF are encountered, the outer perimeter of the patch will be delineated using pin flags. A GPS unit with sub-meter accuracy will be used in conjunction with the Esri ArcGIS mobile application to record data points demarcating the edge of the polygon. Dudek will combine methods implemented successfully during SHSF patch variability and distribution surveys within the adjacent Woolly-star Preserve Area (WSPA) with elements of the *San Diego Management and Monitoring Program's Rare Plant Inspect and Manage Monitoring Protocol* to collect comprehensive, species-specific data that can be compared to other data collected for SHSF in the region and enable tracking of relevant species and habitat metrics over time. Dudek's survey methods will emphasize protection of SHSF patches and suitable habitat to the greatest extent feasible, to ensure surveys do not threaten the status of individual patches.

Botanists will assess population numbers for each patch. In addition, each patch will be characterized by the following attributes: associated species, habitat variables (e.g., soil characteristics [moisture, temperature, etc.]), presence/absence of cryptobiotic crust, percent cover of native and non-native plant species and bare ground, vegetation sampling, habitat classification, distance from active channel, elevation, and time since last flood event. Dudek botanists will also collect the following data during the survey: survey date and name of botanist, weather conditions, local disturbance, and collect photographs (taken across patch in the four cardinal directions from the perimeter of each patch). Additional attributes may be collected following an in-depth review of pertinent literature (see Task 1). Dudek will create a digital "Dudek Form" that will be loaded on to each botanist's mobile device. All of the required data will be collected on this digital device, in the field. If helpful for the Conservation District's long term objectives, Dudek will work with the Conservation District to site up to 5 permanent monitoring plots within occupied patches of SHSF during this comprehensive survey that can be used during ongoing long-term monitoring within the Preserve.

Dudek will prepare a brief memorandum following the survey to detail the methodology and results of the survey. The letter report will include a table of survey conditions, assessment of the suitability of the survey in terms of timing and levels of germination observed, and description of results in terms of SHSF locations and patch population sizes. Maps will be provided which illustrate the location and number of SHSF observed within the Preserve.

Task 2B: Optional Task: Conservation District-Owned Lands Survey

Optionally, the surveys described in Task 2 would be expanded onto an additional 770 acres of Conservation District-owned lands. Because no SHSF locations are currently identified in this area, it is assumed that 20-meter transect spacing would be adequate to identify locations of SHSF within approximately 90% of the 770 acres and that the remaining 10% would require 5-meter transect spacing to adequately survey for SHSF within these areas. Transect spacing would be adjusted in the field, if needed, based on the botanists' observations of highly suitable habitat for SHSF (i.e., Riversidean alluvial fan sage scrub intermediate and intermediate-mature stages). Methods would follow those described above under Task 2, SHSF Comprehensive Survey. For purposes of preparing a cost estimate, Dudek assumes that the additional 770 acres of Conservation District-owned lands can be surveyed in 25 person-days. Of these 25 person-days, Dudek assumes that the Conservation District will supply approximately one quarter, or 6 person-days, while Dudek botanists will account for the remaining 19 person-days.

Task 3: Environmental Monitoring

Per existing literature characterizing the habitat and phenology of the SHSF (i.e., Allen 1996, Wood and Wells 1996), Dudek is proposing a micrometeorological monitoring program that measures air temperature, relative

humidity, soil moisture, soil temperature, and soil electrical conductivity adjacent to occupied patches of SHSF. Three meteorological stations spanning the extent of the SHSF communities within the Wash Plan HCP preserve are proposed to capture potential micrometeorological variability at different elevations and along relic flood terraces above both the Santa Ana River and Plunge Creek. Dudek's lead ecohydrologist and botanists will identify existing patches of SHSF within slight depressions in the upper-alluvial terrace as characterized in the 1996 Wood and Wells geomorphic analysis, and will install each meteorological station within a comparable adjacent location with similar soils and microtopography while avoiding impacts to SHSF. Air temperature and relative humidity will be measured at 1-foot above ground surface, while two pairs of soil probes that measure moisture (volumetric), temperature, and electrical conductivity will be installed to capture soil conditions within the SHSF shallow rooting zone (<5 cm below ground surface) and the potential deeper rooting zone or just below the rooting zone (5–10 cm). The two pairs of soil moisture sensors will be placed at two locations with soil and topographic conditions suitable for SHSF. The first pair of soil moisture sensors will be located within a slight depression and shallow A0 soil horizon similar to what Wood and Wells defined in their 1996 geomorphic analysis. Placement of the second pair of soil moisture sensors is contingent on other site conditions identified in the field that mimic the existing soil conditions observed within the currently occupied patches of SHSF. Soil conditions and microtopography will be logged at each station during installation, including presence and depth of surface organic horizon, as well as the texture, color, and relative compaction of the horizon.

The utmost care will be taken during station installation and site access to prevent negative impacts to SHSF patches and the surrounding habitat. Due to the potential for theft or vandalism within the project site, Dudek recommends installing low-profile weather stations that continuously upload data to the cloud to ensure that a) data are not lost; and b) data gaps can be identified and addressed immediately. The Onset's HOBO MicroRX station is a low-cost option that is suitable for a short-term (i.e., 2–3 year) monitoring program where sensor or logger replacements are anticipated. In addition, Onset's HOBOnet T12 can wirelessly communicate with these stations which will allow for soil moisture installations within 1,000 feet from the station which could reduce the chance of theft or vandalism of all station components. Data will be logged hourly and uploaded through a 4G cellular network to Onset's HOBOlink web-based data management and visualization platform. Dudek will ensure proper storage of the project data, and will work with Onset to establish alarms to notify our field technicians if there are anomalous or missing data that need be addressed. This task includes funding to replace each sensor and logger at least one time (including cost of equipment and field labor) and funding for material that may help secure or camouflage the installations is included. In an effort to reduce cost, it is assumed that the Conservation District will provide assistance with the operation and maintenance portion of this task. With training from Dudek staff, this assistance from the Conservation District would consist of replacing sensors and/or datalogger (including solar panels) that may be damaged or stolen. It is assumed that the Conservation will provide approximately 64 hours for this role.

Parameters important to SHSF that are not included in the meteorological stations are solar radiation and surface wind turbulence. Solar radiation is already being collected at the Southern California Edison Santa Ana Canyon weather station adjacent to the Wash Plan HCP preserve and is readily available online. Since solar radiation is not anticipated to vary between this station and those proposed in the project area, Dudek proposes using these data for this study. Regarding wind, anemometers were not included in this study design in order to reduce the visibility of the weather stations and minimize the potential for theft or vandalism. In addition, measurement of the surface turbulence impacting the eolian depositions described in the 1996 Wood and Wells geomorphic analysis would require a complex network of three-dimensional anemometers that Dudek considers cost-prohibitive for the relative value to this effort. As a proxy for assessing wind velocities at the three stations, soil conditions at each site will be assessed to ensure fine eolian depositions are present.

This task includes funds to analyze meteorological data in association with botanical variables measured under a different task, or as otherwise supplied by the Conservation District, as well as the development of a draft report highlighting the study results. It is anticipated that this draft report will be incorporated into or appended to the Final SHSF Restoration Plan (Task 9).

Task 4: Seed Collection

Dudek will subcontract with CalBG to collect SHSF seeds from 5–10 patches following flowering/seed set during at least two growing seasons in an effort to capture the full genetic diversity of the seed bank. Additional collection locations may be prioritized in areas that will be disturbed by Covered Activities in consultation with the wildlife agencies. Collection within these additional collection locations would occur concurrent with one or both of the scheduled collection events.

Seed collection, cleaning, and storage will follow the Center for Plant Conservation's *Best Practices for Collecting Seeds from Wild Rare Plant Populations*[1]. Populations of SHSF will be visited when plants are in flower prior to making seed collections to assess population size, sampling strategy, and timing. If populations are of sufficient size and can be vouchered, SBG will collect specimens in accordance with the guidelines provided in their United States Fish and Wildlife Service (USFWS) recovery permit. Seed collections will be made along maternal lines, with each mother plant collected and maintained separately from the other samples. The sampling strategy is to collect from a minimum of 50 individuals randomly throughout each population, however numbers will be adjusted downwards depending on the size and number of reproductive individuals in the population. Populations will be distinguished utilizing California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) quarter mile rule and will be identified using CNDDB element occurrence numbers. No more than five percent of the total seed production will be harvested from each population and in each year unless otherwise approved in consultation with the USFWS and CDFW. If additional collections are deemed appropriate by the wildlife agencies, then more than 5% or any one plant or population will be collected, but not more than 10% per Center for Plant Conservation guidelines. To ensure that the maximum genetic diversity is captured, CalBG will employ a random sampling approach to collections. Dry fruits will be collected and placed into manila coin envelopes. Field forms will be completed with information regarding exact location, population status, estimated population size, the number of individuals sampled, existing or potential threats or disturbances, habitat, associated species, and any other relevant information. This information will be used to generate an accession number that will be used to track the population through propagation. Collection of seed from multiple populations is expected to occur during each collection trip.

Collections will be processed at the Seed Bank at CalBG using a combination of soil sieves, seed aspirators, and hand cleaning. All collections will be cleaned to a very high purity with little chaff or other inert material included in the collection. All chaff and inert material will be made available to Dudek for potential use during outplanting. Cleaned samples will be given a preliminary check of viability by dissecting a small sample of seeds to examine the embryo. Any seeds not used in propagation for seed bulking will be dried to less than 25-35% relative humidity at room temperature, packaged in heavy duty foil/plastic seed pouches, heat sealed, and placed into storage at -23° C at CalBG.

1 https://saveplants.org/best-practices/collecting-seeds-wild-rare-plant-populations/

A memorandum summarizing the seed collection efforts, the amount of seed collected, and seed viability will be prepared for post-activity documentation. The memorandum will include a figure showing the location of seed collections. Dudek has included a standard 15% mark-up on the subconsultant costs included in this task.

Task 5: Germination Testing

Dudek anticipates that ex-situ study of germination will be the most efficient and effective way to evaluate species specific germination methods within a controlled setting. However, Dudek also believe that field testing is critical for understanding the likely performance of seed in an outplanting setting. Therefore, this task covers laboratory based study and Task 11 includes field based germination testing.

Ex-situ germination testing will occur at CalBG. In the fall of 2022, germination trials will be administered on each population collected during the first growing season. A small portion of seeds from each population, not to exceed 50 seeds, will be randomly selected along maternal lines for germination trials. Germination trials will be conducted directly in soil in a screened lathhouse at CalBG's nursery facility. Trials will be done in a soil medium that is conducive for seed germination and seed lots will undergo a selected set of seed pretreatments. Selected pretreatments will be based on effective methods used with similar species, with input from the Conservation District and/or SHSF Working Group. A minimum of four different seed pretreatments will be randomly administered across all populations. Successful germination will be determined based on the observation of cotyledons. Results of the trial will be tabulated and analyzed to determine optimal seed germination for the creation of a standard protocol. Dudek has included a standard 15% mark-up on the subconsultant costs included in this task.

Task 6: Seed Bulking

Dudek has included two methodologies for bulking of SHSF seeds to maximize the seed resource available for outplanting and new patch establishment. Given the varying costs, benefits, and constraints associated with each method Dudek has included the opportunity to use either methodology within this proposal at the discretion of the Conservation District. The first method includes grow out of SHSF individuals at CalBG. The second method includes grow out of SHSF in the field within a managed field bulking location. Dudek has successfully bulked San Fernando Valley spineflower seed, a species similar to SHSF, using both methodologies. However, since Dudek cannot fully appreciate the operational viability of a field bulking operation within lands managed by the Conservation District at this time, Dudek can currently recommended either option to the Conservation District as each method has proven successful for a similar species. Wood and Well (1996) report that, "while seeds can be propagated under greenhouse conditions, the resulting plants produce few seeds." Dudek acknowledges that the science of bulking SHSF seed in a nursery setting may have advanced since 1996, but these results indicate that field bulking may be preferable. Dudek would engage Conservation District staff, and potentially the SHSF Working Group, to collaboratively decide which method or combination of methods is right for this project. Given the collaborative nature of this task, Dudek has include an initial cost which covers seed bulking at SBG, as described below, and an associated optional task that includes the additional funds necessary to conduct field bulking (i.e. the combined costs are equal to those required to conduct field bulking).

Seed Bulking Protocol at California Botanic Garden

Following the determination of best methods for seed germination, additional plants will be grown from each population in order to obtain at least 100 plants for seed bulking. Depending on seed availability per population, all efforts will be made to grow an equal number of plants from each population. All seed bulking efforts will be conducted along maternal lines in order to maintain genetic integrity. Maternal lines will be equalized across all

populations to ensure that no individual mother plant is over-represented in the seed bulking process. Each seedling will be grown as a two-inch container plant before being transplanted to regeneration beds. Regeneration beds will allow plants to reach optimal size and have the greatest potential of seed production. In CalBG's experience, regeneration beds offer increased opportunity for natural insect pollination to occur. All propagated plants will be grown in the CalBG Nursery and follow appropriate sanitation protocols that will include but are not limited to seed, soil, surface, and pot sterilization in accordance with Phytophthora Working Groups guidelines. Because wild-populations are in close proximity and have likely experienced gene flow in the recent past, we will conduct hand pollination between different maternal lines within and between populations to maximize genetic diversity of the bulked seed. Since all known cultivated seed efforts in the past have not produced viable seed, hand pollination is believed to offer the greatest likelihood of seed production. Plants will be set up in randomized blocks to maximize dispersion of maternal lines and to facilitate any natural cross pollination that may take place. In addition to seed bulking, propagation protocols will be documented and the best method for propagation will be determined in order to reach optimal seed bulking size.

Seed harvesting will occur once the first sign of mature fruits are observed. All seeds will be hand collected across several weeks because seeds mature at different times and this will allow CalBG to collect early maturing seed and late maturing seed, and will provide the opportunity to collect as many seeds as possible over the entire course of the ripening process. Seeds from all maternal lines and populations will be collected as one bulk collection and stored in a cool dry place until time of processing. Dudek has included a standard 15% mark-up on the subconsultant costs included in this task.

Task 6B: Optional Seed Bulking in the Field

The following protocol was designed, permitted, and implemented successfully by Dudek under Permit No. 2081(a)-19-001-RP issued by CDFW in 2019 for the San Fernando Valley Spineflower Seed Bulking Project. This effort produced approximately 212 pounds of bulk seed material and 128 pounds of pure live seed, equating to approximately 161,000,000 total seeds and 98,000,000 live seeds (approximately 9,362 seeds per plant on average). Due to species similarities, Dudek anticipates that this methodology would produce positive results for SHSF.

Field seed bulking will consist of propagating SHSF plants in seedling starter trays in a controlled setting prior to planting them within a field grow plot. The grow plot will be established in a location adjacent to potentially suitable SHSF habitat. The outside perimeter of the grow plot will be delineated by trenched in silt fence and the soil surface will be lined with landscape fabric to reduce weed encroachment, weed seed contamination, and to facilitate SHSF seed harvesting. SHSF plants will be transplanted into the field growing plot in rows to facilitate maintenance. Plants will be spaced approximately 24 inches from each other, and the rows of plants will be spaced approximately 60 inches apart. A simple watering system will be set up to facilitate watering the plants to aid in establishment and growth in the absence of natural rainfall. The watering system will consist of overhead spray irrigation utilizing MP Rotator 2000 high efficiency spray nozzles to mimic low precipitation rate watering and will be charged by a water truck. The costs associated with this task assume a total of 500 plants will be planted into the grow plot. Watering and plot maintenance is expected to occur between January and July 2022.

Field bulking within locations adjacent to suitable SHSF habitat is anticipated to increase the likelihood that appropriate climate, soils, and pollinators will be present to maximize seed production; factors that can be difficult to replicate in a greenhouse environment. However, site control is considered a risk and thus Dudek will work in collaboration with the Conservation District to confirm the preferred approach between the two suggested methods. Work described under this optional task will primarily be conducted by Dudek's subsidiary Habitat Restoration Sciences, Inc. (HRS) a full service habitat restoration contractor. Dudek has reduced our standard mark-up for subconsultant costs to 10% of the services included in this task.

Task 7: Draft SHSF Restoration Plan

Dudek will prepare a draft SHSF restoration plan for the Wash HCP Preserve area within 1 year of the first seed collection season. The draft restoration plan will include a landscape level analysis of ecological factors within the Wash HCP Preserve area and their probable effects on the success of existing and restored SHSF patches and the habitat they occur within. This analysis will lead to descriptions of suitable SHSF habitat and recommended toolkit of methods for enhancement of occupied and unoccupied but potentially suitable habitat that will be tested in Task 11. Additionally, this plan will include a description of potential locations for out-planting of SHSF as well as a quantitative method for prioritizing these locations (Task 10).

Field and laboratory studies associated with, and included in the preparation of the draft SHSF Restoration Plan, will include seed collection (Task 4), environmental monitoring (Task 3), seed germination trials (Task 5), seed bulking (Task 6), out-planting trials site selection (Task 10), out-planting trials (Task 11), and the pollinator study (Optional Task 13), if conducted.

*The d*raft SHSF restoration plan will be focused on providing approaches that have been carefully considered in prior coordination with the SHSF working group, to reduce the likelihood of major changes between the draft and final plan (Task 9).

This task includes monthly meetings with the Conservation District for 1 year (12 total meetings). Each monthly meeting is assumed to include approximately 1 hour of meeting time over a remote meeting platform (e.g., Zoom, Microsoft Teams). This task also includes two extended meeting times for "break out" coordination with members from the SHSF working group, assumed to consist of approximately 2 hours of meeting time over a remote meeting platform. Formal meetings with the SHSF working group would occur as described and accounted for in Task 8 and Optional Task 12. This task includes up to two meetings on-site, which are assumed to require approximately 5 hours in the field at the Wash HCP Preserve area each. Finally, this task includes four additional meetings, to be used as needed throughout the project period, that consist of approximately 1 hour of meeting time over a remote meeting platform.

Task 8: SHSF Working Group - Draft Restoration Plan

Dudek will coordinate with the Conservation District to convene the SHSF Working Group to solicit feedback on the draft SHSF restoration plan within 3 months of review of the draft restoration plan by the Conservation District. This task will include coordination of schedules for individuals within the SHSF Working Group by Dudek to schedule an overview meeting with the maximum attendance possible, where Dudek will present the concepts included in the draft SHSF Restoration Plan. This task then assumes that SHSF Working Group members will provide comments digitally via email. This task may include an additional meeting to discuss comments once working group members have had a chance to review the document, however, this may not be needed and an additional meeting will be conducted at the discretion of the Conservation District. Any meetings conducted under this task will last approximately 2–3 hours via a remote meeting platform to ensure maximum participation by the SHSF Working Group members.

Task 9: Final SHSF Restoration Plan

Dudek will prepare a final SHSF restoration plan within 2 years of the contract award that will include detailed descriptions of suitable SHSF habitat; recommended methods for enhancement of occupied habitat; prioritized locations for enhancement and outplanting in suitable but unoccupied habitat; and protocols for seed germination, seed-bulking, site selection, out-planting, and invasive species treatments in occupied/suitable SHSF habitat. The final plan will include a toolkit of management actions tested through other tasks within this proposal to support SHSF restoration within the Wash HCP preserve as well as range-wide species enhancement and recovery.

The final SHSF Restoration Plan will incorporate comments provided by the SHSF Working Group (Task 8) on the draft SHSF Restoration Plan (Task 7). Dudek has assumed that a moderate level of comments will be received and require edits, based on our considerable experience with finalizing plans of this nature with technical advisory bodies.

Task 10: Outplanting Trials Site Selection

Dudek will conduct field work and perform a multiple criteria analysis to prioritize two or three locations for out-planting within 1 year of contract award. Selection criteria will be based on comparison of unoccupied locations to occupied locations. Criteria will be informed by literature review (Task 1) and finalized in coordination with the Conservation District, but are anticipated to include: vegetation type, slope, microtopography, soil texture, soil compaction, native forb richness, non-native plant cover, total annual plant cover, total perennial plant cover, presence of biotic soil crust, various soil nutrients (Nitrogen, phosphorus, electrical conductivity, cation exchange capacity), and pH. An assessment of occupied locations and the prioritization criteria and draft selections will be presented to the Conservation District, USFWS, and CDFW for review and approval. Site selection will be informed by survey results from Task 2 along with additional field work conducted specifically for this task, and will include lab analysis of soil samples.

Task 11: Outplanting Trials

Dudek will utilize a portion of the seeds bulked in Task 6 to plant enhanced, unoccupied, suitable habitat within 18 months of contract award. The locations of these "outplanting trials" will be those selected under Task 10. Site preparation and seeding methodologies to be tested within the outplanting trials will be informed by literature review (Task 1), coordination with the SHSF Working Group (Optional Task 12), field work associated with outplanting trials site selection (Task 10) and the results of site selection (i.e. the specific habitat parameters observed at each site and how they compare to occupied patches).

Dudek has devised the following seeding proposal based on demonstrated success with San Fernando Valley Spineflower, but without the benefit of the additional information and collaboration that will be incorporated into the final approach after contract award.

Dudek will establish an outplanting trial focused on gathering data on site preparation and maintenance methods that is nested within a larger seeded area focused on introducing SHSF to a wider patch area. The total area of seeding at each selected location will be decided in coordination with the Conservation District and based on seed availability. In Fall, prior to the onset of the rainy season, each outplanting trial location will receive thatch removal via mechanical/hand removal of herbaceous growth from the previous year under the supervision of the Lead Ecologist. Five one-by-one meter permanent plots will be sited within each outplanting trial location in areas with similar characteristics. These five plots will be used to test two weed treatment approaches; (1) hand/mechanical removal, and (2) grass specific herbicide, and two site preparation methodologies (a) dethatching, and (b) scraping. After plot establishment, each possible combination of weed treatment approaches and site preparation methodologies will be assigned randomly to one plot and the fifth plot will be used as a control. Each of the seeded plots will then be carefully seeded at the same rate (seeds/meter squared). Seeding of the rest of the outplanting trial location will occur at a similar rate to that used within the trial plots. A cardboard square will be placed over the control plot to block the soil surface during all seeding activities.

A detailed description of the methodologies to be used is included below:

Hand/Mechanical Removal: This weed treatment approach will include mowing of herbaceous vegetation with line trimmers (i.e., weed whips) early in the growing season. This technique is intended to reduce vegetation height and reduce competition from non-native plants on SHSF. Cut thatch will be removed from the plot either by hand of by using a blower. Line trimmers will only be used when SHSF is in a stage of growth where the herbaceous vegetation height surrounding it is substantially taller (approximately 4 inches) than the majority of SHSF.

Grass Specific Herbicide: A grass specific herbicide (Fusilade II) will be used early in the growing season to treat non-native annual grasses. The herbicide concentration used will be at the low end of the range of acceptable rates included on the product label. Focused control of other exotic species not controlled by grass specific herbicide will be implemented through scalable, best case scenario management techniques (i.e., management techniques that can be scaled up to management of SHSF in its range) which may include physical cutting, daub of a broad spectrum herbicide, or another acceptable method. All control measures will be focused on avoiding impacts to SHSF.

Dethatching: Any living non-native plants will be treated mechanically or hand pulled. All herbaceous vegetation will be cut mechanically using line trimmers. A leaf rake will be used to remove cut thatch and litter, while minimizing disturbance to the soil surface. A blower may be used to remove remaining small pieces of thatch from the site only if it does not alter the microhabitat by displacing soil particles.

Scraping: The soil surface will be dug out with a flat edge shovel to remove the top one inch of the soil surface. The final surface is intended to match the general slope of the surrounding areas without significant changes to the micro-topography. The intent of this site preparation methodology is to reduce competition by removing the existing non-native seed bank, as well as any existing plants growing within the plot, and to remove organic matter that may be built up on the soil surface.

Dethatching and hand/mechanical removal will occur throughout the larger outplanting trial location (i.e. outside of the plots). This scope assumes that three weed treatment visits will be required during the study, and the study will last one year, from fall to fall. Herbicide application will be conducted by an experienced employee from HRS with a Qualified Applicator License.

Data collection is anticipated to include the following variables within each plot: number of SHSF germinated (i.e. early season), number of SHSF at maturity (i.e. late season), cover of SHSF, average longest width of SHSF plants, average height of SHSF plants, average flowers produced by SHSF plants, cover of non-native plant species, cover of native plant species, native forb richness, average height of herbaceous plant species, cover of bare ground, cover of soil disturbance, cover of biotic soil crust. The results of this data analysis will be incorporated into the draft or final SHSF Restoration Plan (Task 7 and 9). The number of SHSF germinated versus the number of seeds placed in each plot will be used to calculate a field based germination rate, to accompany the results from the work completed in Task 5.

Optional Task 12: SHSF Working Group Initial Coordination

If requested, Dudek will coordinate with Conservation District staff to convene the SHSF Working Group to discuss optimal approaches to the project tasks within four months of contract award. This task assumes that Dudek will facilitate setting of a meeting time by gathering the availability of individuals on the SHSF Working Group. Dudek will then participate in a meeting with the SHSF Working Group that may extend up to 4 hours. This task also assumes that additional comments and questions will be provided by SHSF Working Group members via email that will require collation and response. Dudek has assumed a level of effort for this task consistent with our expectations of the level of coordination required to gather technical advisory groups and come to collective conclusions based on our previous experience doing such.

Optional Task 13: Pollinator Study

Dudek, with assistance from Conservation District staff, will conduct a pollinator study to track, identify, and record visitors to three extant SHSF locations across a gradient of habitat, geography, and adjacent land use during the first season with average or greater than average rainfall following contract award. This scope of work assumes that additional work required the following season to clarify data collected in the first season will be limited to 4 person-days (1 from the Conservation District and 3 from Dudek) and 20 hours of additional coordination/reporting.

The pollinator study will generally follow methods previously employed for a similar species, the San Fernando Valley spineflower (Jones et al. 2002, 2004, 2009, 2010; Dudek 2020). Prior to the field study, Dudek will conduct a literature review and prepare materials to aid in the identification of potential pollinators. Observers will familiarize themselves with potentially occurring taxa prior to going in the field for the formal observations.

Each of the three SHSF locations selected as part of the study based will include three sublocations, for a total of nine sublocations. During each survey, one observer will be assigned to a single SHSF location. An observer will record all invertebrate visitors to SHSF flowers for six 10-minute periods between 10:00 a.m. and 5:00 p.m. At each sublocation, the observer will be positioned to observe the maximum number of flowering plants from a sublocation, for ten minutes. The observer will then walk to the next sublocation and survey there for ten minutes, and will repeat this process at the third sublocation. During the next hour, the observer will then begin again at the first sublocation and cover all three sublocations again in sequence.

Observers will begin earlier on the first day of the field study, to scout specific suitable sublocations within each study location. Dudek will conduct three surveys at each location, one during the early bloom, one during the mid-bloom, and one during the late bloom. Each survey will be conducted over 3 consecutive days, so that 9 days of surveys will be conducted at each location over the entire season. The study will define early bloom as when at least 25% of plants are in flower, mid-bloom as when 50% to 75% of plants are in flower, and late bloom as when at least 75% of plants have completed flowering. If rain is forecasted, field observations will be delayed until the first suitable day with suitable conditions.

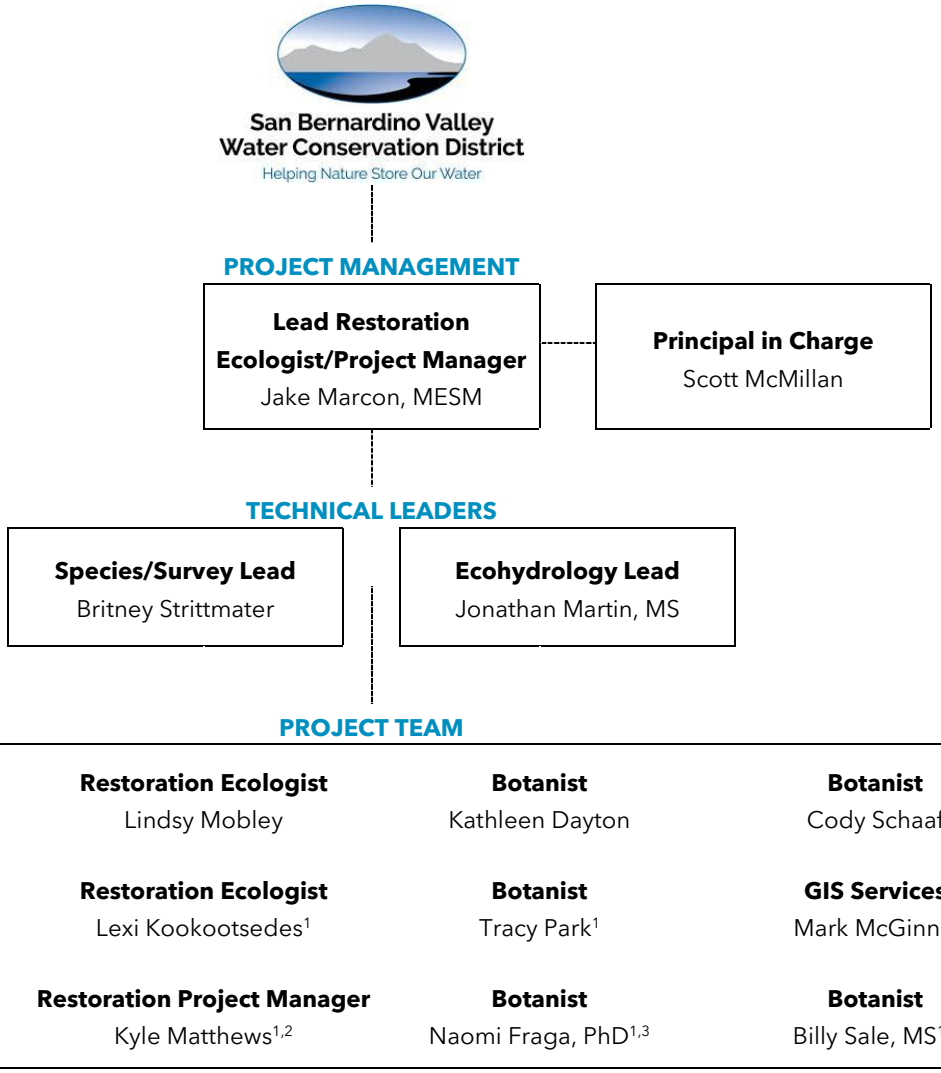
During the surveys, observers will record all “visitors” observed. “Visitor” will be defined as any organism that lands on a SHSF plant and comes into contact with the anther or stigma of a flower. The identification of each visitor will be recorded using generalized taxonomic categories (e.g., bee, wasp, ant, beetle, true bug, fly). Observers will also record the number of “visits” observed by each visitor. “Visit” will be defined as the number of times a pollinator lands on and probes a SHSF flower.

To identify taxa observed at each location, Dudek will collect visitors present in the vicinity of each location during each day of surveying. Voucher specimens of taxa seen visiting three or more SHSF plants will be collected using a blowing aspirator or net placed in kill jars with ethyl acetate, and eventually preserved and stored before being sent to a lab for identification. All samples will be collected in the vicinity of the observation sites, but not within the sampled sublocations themselves, to prevent the possibility of decreasing pollinator visits as a result of collection. Specimens will be sent to staff at the San Diego Natural History Museum or other qualified institution for identification.

For the purpose of the cost estimate, Dudek assumes that 27 person-days would be needed to complete this task. Of these 27 person-days Dudek assumes that the Conservation District will provide approximately one quarter, or 7 person-days and the remaining 20 person-days would be conducted by Dudek biologists.

Organizational Chart

Figure 1. Dudek Team Organization



1 *Resumes available upon request*
2 *Support from Dudek's subsidiary HRS on Task 6 and 11.*
3 *Outside support from California Botanic Garden for Tasks 4, 5, and 6*

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Qualifications

Jake Marcon | Lead Restoration Ecologist/Project Manager

RESTORATION ECOLOGIST

Jake Marcon is a restoration ecologist with 8 years' experience in habitat restoration and mitigation planning, implementation, and success monitoring; land management planning; and project management. Mr. Marcon uses an ecological approach to restoration of a variety of sensitive and native habitats. Mr. Marcon specializes in rare and endangered plant mitigation, re-introduction, and restoration; including writing long term monitoring studies and habitat manipulation experiments for rare plant species, preparing rare plant monitoring protocols, conducting rare plant surveys, and conducting general botanical surveys. Mr. Marcon has drafted and implemented comprehensive rare plant management and restoration programs, and has experience with the associated weed management strategies; landscape-scale conservation planning; and ecological data analysis required for the work. He supplements the above skills with field expertise in habitat restoration installation, monitoring and maintenance, and botany. Mr. Marcon participates on the Technical Advisory Committee to the San Fernando Valley Spineflower Adaptive Management Working Group as a restoration and management expert. Mr. Marcon has prepared numerous restoration plans for sensitive resources alongside stakeholders and regulatory agencies and takes pride in collaboratively reaching solutions while retaining a focus on what is best for the species and/or resource. Mr. Marcon has prepared and implemented remote sensing analyses to identify ecologically significant landscape factors as well as vegetative responses/growth, and performed advanced technical analyses to assist with various habitat restoration and biological tasks.

Education

UC Santa Barbara
MESM, Conservation Planning

UC Irvine
BS, Earth System Sciences

Certifications

CDFW Voucher Collecting Permit No. 2081(a)-16-010-V for State-Listed Plants

CRAM Trained Practitioner in Riverine, Vernal Pool, Depressional, and Estuarine Wetlands

40-Hour Wetland Delineation Training, Wetland Training Institute

Sustainability Certification, University of California, Irvine

Tenure with Dudek

8 years

Scott McMillan | Principal in Charge

SENIOR RESTORATION ECOLOGIST

Scott McMillan is a habitat restoration ecologist with 28 years' experience conducting botanical consulting in the Southern California floristic province. Mr. McMillan has conducted hundreds of vegetation and general botany surveys as well as hundreds of rare plant surveys. He has conducted surveys for almost all of the habitat types found in Southern California, including coastal sage scrub, chaparral, vernal pools, riparian, dune, saltmarsh, and oak woodland.

Mr. McMillan conducted botanical research as part of his unfinished thesis working with Dr. Ellen Bauder, Dr. Michael Simpson, and Dr. John O'Leary at San Diego State University. He was an instructor at San Diego State University (general biology and botany) and at the University of San Diego (botany). He has given many scientific presentations on the species and habitats in Southern California, including vernal pools and the species

Education

San Diego State University
BS, Biology

Certifications

County of San Diego Certified Restoration Ecologist

Tenure with Dudek

3 years

found in them. Mr. McMillan is coauthor of the USFWS' Vernal Pool Recovery Plan, as well as the Checklist of the Vascular Flora of San Diego County. His experience includes knowledge of species identification and distribution, as well as the affinities that these species have toward habitat type, soil type, hydrological regime, and other ecological factors.

Mr. McMillan has experience conducting numerous restoration projects on a wide range of habitats. He has conducted restoration of mountain meadow, riparian woodland, coastal sage scrub, chaparral, and vernal pool habitats throughout the Southern California region. Mr. McMillan's experience in native habitat restoration is often associated with vernal pools and other sensitive species habitats, and associated with mitigation for impacts to sensitive species such as San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), Otay Mesa mint (*Pogogyne nudiuscula*), San Diego mesa mint (*Pogogyne abramsii*), San Diego button-celery (*Eryngium aristulatum var. parishii*), spreading navarretia (*Navarretia fossalis*), California gnatcatcher (*Polioptila californica*), cactus wren (*Campylorhynchus brunneicapillus*), and Quino checkerspot butterfly (*Euphydryas editha quino*). In addition, he has conducted extensive desert habitat restoration projects throughout Southern California and Nevada, including restoration of creosote scrub, ironwood and palo verde woodlands, and desert riparian habitat. Much of this desert restoration has included habitat for the desert tortoise (*Gopherus agassizii*), flat-tailed horned lizard (*Phrynosoma mcallii*), and desert bighorn sheep (*Ovis canadensis nelson*).

Britney Strittmater | Species/Survey Lead

BIOLOGIST

Education

Humboldt State University
BS, Botany

Certifications

CDFW Plant Voucher No. 2081(a)-12-02-V

Tenure with Dudek

14 years

Britney Strittmater is a biologist with 14 years' experience in the Inland Empire specializing in general biological assessments, focused rare plant surveys, wildlife surveys, vegetation mapping, wetland delineations, biological monitoring, CEQA document preparation, and biological technical report preparation. Ms. Strittmater's field experience includes extensive biological surveys of flora and fauna, including special-status species investigations for federally and state-listed endangered slender-horned spineflower (*Dodecahema leptoceras*), state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and Parry's spineflower (*Chorizanthe parryi* var. *parryi*). Ms. Strittmater was the project manager for vegetation mapping and slender-horned spineflower surveys for the Woollystar Preserve Area Multi-Species Habitat Management Plan and has extensive experience with these species and their habitats.

She also has experience with vegetation mapping for both native and developed land uses based on Gray and Bramlet, Holland, and CDFW habitat classification systems, including Riversidean alluvial fan sage scrub, as well as biological monitoring in biologically sensitive areas to ensure avoidance of impacts to potentially occurring threatened, endangered, and sensitive species.

Jonathan Martin | Ecohydrology Lead

WATERSHED HYDROLOGIST

Jonathan Martin is an ecohydrologist and watershed hydrologist with 15 years' experience researching hydrological, ecological, and meteorological dynamics from reach to watershed scale. His graduate research at the University of Arizona was a study assessing urban impacts on xeririparian microclimates and plant community functions (e.g., density, leaf-area index, litter decomposition). With this background, Mr. Martin joined Dudek to help spearhead studies assessing plant-water demands in coastal oak woodlands, willow riparian communities, and spring complexes home to endemic flora and fauna. Additional areas of expertise include development and implementation of surface and shallow-subsurface hydrology and water quality monitoring programs, aquatic bioassessments, and environmental site assessments.

Education

University of Arizona, Tucson
MS, Watershed Management and Ecohydrology

Northern Arizona University
BS, Physical Geography,

Certifications

OSHA 40-Hour HAZWOPER

SWAMP Certified

Tenure with Dudek

12 years

California Botanic Garden

California Botanic Garden was founded in 1927 by Susanna Bixby Bryant as a botanic garden and scientific institution whose mission is to document and preserve California's native flora and plant community diversity while inspiring, informing and educating the public and the scientific community about that flora. CalBG programs and facilities have had a long and successful history in promoting conservation and restoration of California's natural heritage through research, education, and collections. The CalBG herbarium is the largest and most active in southern California. The collection contains nearly 1.2 million specimens, of which more than 400,000 are from California. The Garden is also home to the California Seed Bank, the largest seed bank dedicated to California native plants with over 5,500 accessions representing over 2,100 taxa. The Garden has greenhouses, growth chambers, shade houses, and experimental plots to develop successful propagation methods. These facilities and resources provide the Garden's staff with a powerful toolkit to carry out the Garden's mission and to advance conservation and restoration of California native plants.

Naomi Fraga | Director of Conservation

SENIOR BOTONIST

Noami Fraga has over 20 years of experience as a botanist working in rare plant conservation and coordinating conservation projects. Ms. Fraga will be responsible for CalBG project reports, overseeing field collections and field work, and budget management. CalBG will provide quarterly written reports on project progress, and provide regular updates and participate in conference calls as needed. All reports will document progress made, provide finalized deliverables including narrative descriptions, GIS shape files, photographs, collection records of plants, propagation trials, and recommendations for future work.

Education

Claremont Graduate University
PhD, Botany; MS, Botany

California State Polytechnic University, Pomona
BS, Biology and Botany

Tenure with CalBG

6 years

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Similar Experience

Experience Successfully Planning and Implementing Comprehensive Rare Plant Restoration Programs

San Fernando Valley Spineflower Introduction Plan

Client: The Newhall Land and Farming Company
Species: San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*; 1B.1, State Endangered, Federal Candidate Conservation Agreement)
Location: Santa Clarita, California
Project Area: Predictive site selection model run across approximately 18,110 acres. Introductions planned within 10 total acres between 6 non-contiguous locations. Each location contains sublocations based on fine scale introduction suitability.
Program Components: Seed collection, Seed bulking, Seeding trials, Species Introductions/Population Establishment, Initial Monitoring and Management Period, In-Perpetuity Monitoring and Management. Led to completion of a Candidate Conservation Agreement with the USFWS.
Program Outcomes: Ongoing. As of 2021, four of six introduction areas and 15 sublocations have been used for approximately 9.7 total acres of introductions. One of these introduction areas represents expansion of an existing population to a previously unoccupied location, and the other three active introduction areas represent establishment of new population areas, one of them in a different ecoregion than the core populations. This work has identified two successful site preparation methodologies for use prior to seeding, two successful seeding methodologies (i.e., broadcast, topsoil salvage and placement), and three successful maintenance approaches which has produced a proven toolkit able to be used throughout this species' range to support its persistence. Introduced populations rival existing populations for total areal extent and total number of individuals each year. Implementation has been consistent with the Incidental Take Permit and experimental research permits from CDFW, and the Candidate Conservation Agreement with the USFWS.
Program Timeframe: May 2016–Oct 2031 (Ongoing)
Project Team: **Planning:** Andy Thomson, Jake Marcon **Implementation:** Jake Marcon, Lindsy Mobley, Charles Adams, Lexi Kookootsedes. Encinitas, California
Budget: **Planning**: Client confidential, Within anticipated budget **Implementation**: Ongoing, to date: $212,100 (original) $190,930 (ongoing)

Wright's Field San Diego Thornmint Restoration Project

Client: Back Country Land Trust
Species: San Diego Thornmint (*Acanthomintha ilicifolia*; 1B.1,State Endangered, Federal Threatened)
Location: Alpine, California
Project Area: 1.65 acres
Program Components: Seed collection, seed bulking, seeding for population expansion, container planting, maintenance, monitoring, access control.
Program Outcomes: The Wright's field population of San Diego Thornmint was on the brink of extirpation with less than 20 plants remaining between two subpopulations that once supported over 500 plants. After the 3-year effort the population was recovered to over 5,000 plants between the two subpopulations, along with a newly established subpopulation. This project provided a successful set of establishment techniques that can be

applied elsewhere within the range of San Diego thornmint, and showed that the species can be brought back from the brink of localized extirpation successfully.
Program Timeframe: 2013–2016
Project Team: Scott McMillan (during tenure at AECOM). San Diego, California
Budget: $103,000 (original) $103,000 (final)

Wilson III Basin Parry's Spineflower Mitigation Project

Client: City of Yucaipa
Species: Parry's spineflower (*Chorizanthe parryi* var. *parryi*; *1B.1*)
Location: Yucaipa, California
Project Area: Wilson III Basin Project Area (100 acres) and on-site preserve (17 acres), Impacts and mitigation to existing Parry's Spineflower: 0.89 acres
Program Components: Initial surveys included rare plant surveys and focused spineflower surveys. Program included the preparation of the Sensitive Plant Species Mitigation Plan for the Wilson III Basin Project, which outlines the salvage and translocation of Parry's spineflower populations from within the development footprint to an onsite preserve, native habitat restoration of the receptor site, as well as enhancement of existing Parry's spineflower occurrences within the preserve area. The goal of the program is to preserve, restore, and enhance a self-sustaining population of spineflower individuals at least at a 1:1 ratio (8,080 plants on 0.89 acres). The approach included seed collection and storage, spineflower-containing topsoil salvage, species introductions/population establishment and associated habitat restoration.
Program Outcomes: Ongoing. Conducted seed collection of both Parry's spineflower and associated native species for application in restored areas to ensure the target habitat and species assemblage establishes adequately to support spineflower. Implemented soil salvage and translocation to the restoration site, where the historic access road was ripped and contoured for soil placement and habitat establishment. Habitat within the preserve area known to support Parry's spineflower habitat is being enhanced through invasive weed control and thatch removal. Soil salvage and seed collection conducted in 2019–2020. Partial installation at receptor site conducted in 2020, with future phased installation scheduled following construction activities utilizing stored salvaged topsoil and seed.
Program Timeframe: August 2019–June 2026 (Ongoing)
Project Team: **Planning:** Andy Thomson, Stuart Fraser, Lindsy Mobley **Implementation:** Stuart Fraser, Lindsy Mobley, Jake Marcon, Charles Adams, Lexi Kookootsedes. Dudek, Encinitas, California: Aaron Echols, Inland Empire Conservation District (Establishment period monitoring)
Budget: **Planning:** $9,650 (original) $9,650 (final) **Implementation: $150,000**, currently on budget

Persea Brodiaea

Client: Persea Senior Borrower, LLC
Species: Thread-leaved brodiaea (*Brodiaea filifolia*) *(1B.1,* State Endangered, Federal Threatened)
Location: Vista, California
Project Area: Persea Project Area (approximately 10.4 acres), thread leaved brodiaea preserve area (approximately 0.28 acres), impacts to thread leaved brodiaea habitat (approximately 0.13 acres)
Program Components: Conducted initial surveys including general rare plant surveys and follow-up focused thread-leaved brodiaea surveys. Provided planning and design for thread leaved brodiaea transplantation and associated restoration, preparation of the salvage and translocation plan (STP) and short-term management plan, and prepared and obtained the Incidental Take Permit (ITP). The purpose of the program was to salvage and transplant the total 2,871 flowering thread leaved brodiaea plants and associated occupied habitat documented

within the impact site. Implemented the successful salvage and translocation of the entire occurrence of occupied habitat to the on-site thread leaved brodiaea preserve receptor site utilizing the soil block method. Also established native grassland habitat within receptor site and buffer. Providing long-term maintenance and monitoring during the initial seven-year maintenance and monitoring program.

Program Outcomes: Ongoing. The Incidental Take Permit, mitigation measures outlined in the Environmental Impact Report for the Persea Project, and STP require a minimum of 90% of the 2,871 documented thread leaved brodiaea individuals (2,584 plants) flower during any two of the last 5 years of the 7-year monitoring period, initial quantitative monitoring results indicate the successful transplantation of more than 11,000 flowering thread leaved brodiaea individuals.

Program Timeframe: November 2016–April 2026 (Ongoing)

Project Team: **Planning:** Andy Thomson, Jake Marcon, Megan Enright, and Lindsy Mobley. **Implementation:** Jake Marcon, Lindsy Mobley, Charles Adams, and Lexi Kookootsedes. Encinitas, California

Budget: Client confidential

Experience Successfully Obtaining Approval from USFWS and CDFW for Rare Plant Restoration Efforts

Strauss Wind Energy Project

Dudek authored a program for research, management, enhancement, and management for Gaviota tarplant (*Deinandra increscens* ssp. *villosa*: Federally Endangered, State Endangered), a poorly understood rare annual plant species, that received approval from CDFW and the USFWS in 2021. This program included an Enhancement Plan, a Mitigation Monitoring and Long Term Management Plan, and a Range-wide Species Management Plan. Dudek also created a comprehensive survey protocol for data collection that served as the baseline for much of the work included in these plans.

Gaviota Tarplant Enhancement Plan

Within this plan Dudek designed a Habitat Characterization Study to accomplish the following: 1) identify the range of biotic and abiotic conditions associated with occupied Gaviota tarplant habitat; 2) characterize how biotic and abiotic habitat characteristics influence Gaviota tarplant occupation and success by assessing occupied and unoccupied sites, as well as the reproductive success within sites; and 3) identify biotic and abiotic characteristics that may preclude Gaviota tarplant by assessing unoccupied but potentially suitable habitat. Dudek implemented the study and described significant relationships between Gaviota tarplant occupation and cover of non-native plant species (-), cover of bare ground (+), cover of soil disturbance (+), thatch buildup (-), herbaceous plant height (-), and soil texture (e.g., sandy loam preferred), among other things that had not been quantitatively described for Gaviota tarplant before. This study helped provide a baseline quantitative understanding of the habitat preferences of Gaviota tarplant and the types of habitat characteristics that management should provide.

Dudek also designed approaches for a range wide habitat suitability modeling, germination trials, seeding trials, introductions to unoccupied but potentially suitable locations, seed bank enhancement/augmentation, seed collection, seed bulking, and seed bearing topsoil salvage and translocation within this plan. Dudek coauthored a genetic study alongside experts from Santa Barbara Botanic Garden and University of California Santa Cruz as part of this plan. In addition to CDFW and USFWS staff, the Gaviota Tarplant Enhancement Plan was reviewed by a Technical Advisory Committee composed of individuals from research organizations (i.e., Santa Barbara Botanic Garden, United States Geologic Survey), universities (i.e., California Polytechnic State University San Luis Obispo, University of California Santa Barbara), and other interested stakeholders (i.e., California Native Plant Society, The Land Trust for Santa Barbara County).

Gaviota Tarplant Mitigation Monitoring and Long Term Management Plan

Within this plan Dudek described the baseline setting for Gaviota tarplant by summarizing the species conservation status, life history, taxonomy, and regulatory setting. Dudek also described a program for annual management with specific management, enhancement, and restoration actions, as well as a monitoring program. The monitoring program included a pollinator study and monitoring framework coauthored by Dudek, as well as an atmospheric moisture and hydrology study to track environmental variables, a quantitative Gaviota tarplant and habitat factor monitoring program, and additional monitoring protocols authored by Dudek. Unoccupied but potentially suitable locations were identified and scored for suitability across a number of metrics within this plan, and will be utilized for out planting at later stages of the program. This plan defined two oversight bodies, a Technical Advisory Committee and a Gaviota Tarplant Range-wide Management Team, that combine to form a single Tarplant Management Group which is meant to oversee all work performed on Gaviota tarplant. Including review by the Technical Advisory Committee, this document was reviewed and commented on by 28 different individuals credited within the document, and several more who did not received formal credits.

Gaviota Tarplant Range-Wide Management Plan

Within this plan Dudek described previous efforts to enhance and restore Gaviota tarplant within its range as well as results of studies performed on specific populations or occurrences. This plan also defines the existing setting of each of the seven populations of Gaviota tarplant, identifying the status, current threats, management/conservation needs, and conservation actions recommended to occur at each population. It additionally provides for Gaviota tarplant restoration, as well as baseline assessments, range-wide seed collection, and standardized range-wide surveys. This document further defines a structure for collaboration between land owners, land managers, conservation organizations, and regulatory agencies within the Gaviota Tarplant Range-Wide Management Team.

Newhall Land and Farming/FivePoint

Dudek has been leading survey and conservation efforts for San Fernando Valley Spineflower since 2003. A description of the Spineflower Introduction Plan is included specifically above, but given the regulatory complexity of this project there have been separate efforts to permit this restoration work under state and federal law. The Candidate Conservation Agreement with the USFWS is described above, and this section will describe a separate but parallel effort within the state permitting jurisdiction of CDFW.

Spineflower Conservation Plan

The Spineflower Conservation Plan (SCP) is a conservation and management plan to permanently protect and manage a system of preserves designed to maximize the long-term persistence of the San Fernando Valley spineflower. Dudek prepared the SCP in 2010 which allowed for issuance of the Incidental Take Permit overseeing all project activities. Dudek implements the SCP, including conducting quarterly qualitative and annual quantitative monitoring; collecting spineflower seed for conservation efforts and long-term storage; proposing, implementing, and monitoring adaptive management; coordinating the Technical Advisory Subgroup and Adaptive Management Working Group; and preparing and implementing Annual Work Plans. Dudek has also prepared and implements the Fire Management Plan, Enhancement Plan, and Argentine Ant Control Plan.

San Fernando Valley Spineflower Experimental Introductions

Dudek synthesized all accumulated biological and ecological information collected on San Fernando Valley Spineflower to date, as well as the variety of regulatory requirements from multiple permitting avenues, to formulate a technical approach to San Fernando Valley Spineflower introduction in unoccupied but suitable habitat. This work occurred both within the original boundary of the Spineflower Conservation Plan, and outside of it, and was therefore approved by CDFW under both the Spineflower Conservation Plan (ITP) and Scientific, Educational, or Management Permit No. 2081(a)-19-001-RP (San Fernando Valley Spineflower Experimental Introductions), both documents prepared by Dudek. This work utilized seed field bulked by Dudek, and included the following two site preparation methodologies experimentally proven to work for San Fernando Valley Spineflower; 1) dethatching the soil surface; and 2) scraping the top 1–2 inches of topsoil and removing it. It also utilized two seeding methodologies experimentally proven to work for San Fernando Valley Spineflower, broadcasting and raking seed, and placement of salvaged topsoil. With germination following winter precipitation events maintenance was conducted using a scaled up version of a methodology previously tested on a small scale, which utilizes a grass specific herbicide to target non-native annual grasses, and daub of a broad spectrum herbicide on dicots, alongside limited use of physical treatment (i.e., weed whipping).

Otay Ranch Village 4

Dudek authored an Otay tarplant (*Deinandra conjugens*; Federally Threatened, State Endangered) compensation and mitigation plan for this project which was approved by the regulatory agencies in 2017. This plan summarized the existing conditions and occurrences of Otay tarplant within the project area, including impact and development areas. It provided compensation and mitigation goals, and defined the implementation, monitoring, and management methods required to achieve the goals within the ecological context of the site. Dudek performed a site selection analysis and recommended approximately 2.9 acres of suitable planting area for Otay tarplant, while outlining a program of seed collection, seed bulking, and topsoil salvage and translocation to provide the resources for establishment of a new population. Dudek is under contract to begin implementing this work in the fall of 2021.

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Project Schedule

Table 1. Project Schedule

Task	Start Date[1]	Completion Date[1]
Task 1: Literature Review	November 15, 2021	December 15, 2021
Task 2: SHSF Comprehensive Surveys	May or June, 2022[2,3]	June 30, 2022
Task 3: Environmental Data Collection	December 15, 2021	December 15, 2024
Task 4: SHSF Seed Collection	September or October, 2022[3]	September or October, 2023[3]
Task 5: SHSF Germination	October, 2022	February, 2023
Task 6: SHSF Seed Bulking	January, 2023	August 31, 2023
Task 7: Draft SHSF Restoration Plan	May, 2022	September 30, 2023
Task 8: Convene SHSF Working Group	August 31, 2023	November 30, 2023
Task 9: Prepare a final SHSF Restoration Plan	September 1, 2023	November 15, 2023
Task 10: Selection of Out-planting Locations	May, 2022	November, 2022
Task 11: Out-planting Trial	November, 2022	November, 2023
Optional Task 12: Convene SHSF Working Group	December 15, 2021	March 15, 2022
Optional Task 13: Pollinator study	April 1, 2022[2,3]	June 30, 2022[2,3]

1 Assumes notice to proceed is received on November 15, 2021.
2 Start dates assume that the 2021–2022 rainfall year will provide average or greater precipitation totals to the project area. However, the National Oceanic and Atmospheric Administration is projecting a 70-80% likelihood of weak La Nina conditions, which may lead to below average precipitation amounts, causing several tasks to be postponed, pending discussions with the Conservation District.
3 Exact dates will be adjusted according to observed SHSF phenology.

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Fee Schedule (updated 10/18/2021)

	Project Team Role: / *Team Member:*	Senior Specialist II Scott McMillan	Senior Specialist I Kathleen Dayton	Sr. Hydrogeologist I Jonathan Martin	Specialist V Britney Strittmater	Specialist III Jake Marcon	Hydrogeologist II/ Desiree Otillio	Analyst V Tracy Park/ Lindsy Mobley	Analyst IV Cody Schaaf/ Charles Adams	Analyst II Alexandra Kookootsedes	GIS Analyst IV Mark McGinnis	Publications Specialist II Kara Murphy	California Botanic Garden (Sub) Various Staff	District Staff	Total Dudek Hours	Dudek Labor Costs	Total Sub-Consultant Hours	Sub-Consultant Costs	Other Direct Costs	Total Fee
	Billable Rate:	$200.00	$190.00	$190.00	$180.00	$160.00	$140.00	$120.00	$110.00	$90.00	$170.00	$95.00	$60.00	n/a						
Task 1. Literature Review																				
		2			2	8				12					24	$3,120.00				$3,120.00
	Subtotal Task 1	*2*			*2*	*8*				*12*					*24*	*$3,120.00*				*$3,120.00*
Task 2. Survey																				
2.1	Prep/Coordination		8		8	4			16		6				42	$6,380.00				$6,380.00
2.2	Reference Checks				12				12		2				26	$3,820.00				$3,820.00
2.3	Drive time (56 pds)				6	6		22.5	25.5					20	60	$7,545.00			$2,032.80	$9,577.80
2.4	Fieldwork - 56 pds (1,300 acres @ 40 pd/acre = 33 person-days and 230 acres @ 10 pds/acre = 23 person-days)				45	22.5		150	195					137.5	412.5	$51,150.00			$7,676.25	$58,826.25
2.5	Data review				8				8		2				18	$2,660.00				$2,660.00
2.6	Report	2	4		4	6			24		8	6			54	$7,410.00				$7,410.00
	Subtotal Task 2	*2*	*12*		*83*	*38.5*		*172.5*	*280.5*		*18*	*6*		*157.5*	*612.5*	*$78,965.00*			*$9,709.05*	*$88,674.05*
Task 2b Optional Task: Survey additional 770 acres																				
2b.1	Travel							9	9					6	18	$2,070.00			$907.50	$2,977.50
2b.2	Fieldwork (25 pds)							93.75	93.75					62.5	187.5	$21,562.50			$3,426.90	$24,989.40
	Subtotal Task 2b							*102.75*	*102.75*					*68.5*	*205.5*	*$23,632.50*			*$4,334.40*	*$27,966.90*
Task 3 Environmental Monitoring Program																				
3.1	Site Selection and Installation (3 Stations)			40		10	24								74	$12,560.00			$21,812.60	$34,372.60
3.2	Station O&M			8			24							64	32	$4,880.00				$4,880.00
3.3	Data Management			16			40								56	$8,640.00				$8,640.00
3.4	Draft and Final Report			40		16	40								96	$15,760.00				$15,760.00
	Subtotal Task 3			*104*		*26*	*128*							*64*	*258*	*$41,840.00*			*$21,812.60*	*$63,652.60*
Task 4 Task 4. Seed Collection																				
4.1	California Botanic Garden (sub)												216				216	$12,960.00		$14,904.00
	Subtotal Task 4												*216*				*216*	*$12,960.00*		*$14,904.00*
Task 5 Germination Testing																				
5	California Botanic Garden (sub)												56				56	$3,360.00		$3,864.00
	Subtotal Task 5												*56*				*56*	*$3,360.00*		*$3,864.00*
Task 6 Seed Bulking																				
6.1	California Botanic Garden (sub)												417				417	$25,020.00		$28,773.00
	Subtotal Task 6												*417*				*417*	*$25,020.00*		*$28,773.00*
Task 6b Optional Field Bulking (additional costs)																				
6b.1	Plot Establishment, Irrigation, SHSF planting					10									10	$1,600.00	See Att.	$30,000.00		$34,600.00

	Project Team Role: *Team Member:*	Senior Specialist II Scott McMillan	Senior Specialist I Kathleen Dayton	Sr. Hydrogeologist I Jonathan Martin	Specialist V Britney Strittmater	Specialist III Jake Marcon	Hydrogeologist II/ Desiree Otillio	Analyst V Tracy Park/ Lindsy Mobley	Analyst IV Cody Schaaf/ Charles Adams	Analyst II Alexandra Kookootsedes	GIS Analyst IV Mark McGinnis	Publications Specialist II Kara Murphy	California Botanic Garden (Sub) Various Staff	District Staff	Total Dudek Hours	Dudek Labor Costs	Total Sub-Consultant Hours	Sub-Consultant Costs	Other Direct Costs	Total Fee
	Billable Rate:	$200.00	$190.00	$190.00	$180.00	$160.00	$140.00	$120.00	$110.00	$90.00	$170.00	$95.00	$60.00	n/a						
6b.2	Plot Maintenance and Watering					4				24					28	$2,800.00	See Att.	$36,000.00		$42,400.00
6b.3	Harvesting, Cleaning, and Storage																See Att.	$10,000.00		$11,000.00
	Subtotal																			*$88,000.00*
	Less task 6.1 cost																			*$28,773.00*
	Subtotal Task 6b					*14*				*24*					*38*	*$4,400.00*		*$76,000.00*		*$59,227.00*
Task 7 Draft SHSF Restoration Plan																				
7.1	Drafting SHSF Restoration Plan	24				56		32	32		16	12			172	$24,980.00			$280.00	$25,260.00
7.2	Meetings	34				46									80	$14,160.00			$280.00	$14,440.00
	Subtotal Task 7	*58*				*102*		*32*	*32*		*16*	*12*			*252*	*$39,140.00*			*$560.00*	*$39,700.00*
Task 8 SHSF Working Group - Draft Restoration Plan																				
		8				12									20	$3,520.00			$140.00	$3,660.00
	Subtotal Task 8	*8*				*12*									*20*	*$3,520.00*			*$140.00*	*$3,660.00*
Task 9 Final SHSF Restoration Plan																				
		8				24		16	8		4	12			72	$10,060.00				$10,060.00
	Subtotal Task 9	*8*				*24*		*16*	*8*		*4*	*12*			*72*	*$10,060.00*				*$10,060.00*
Task 10 Outplanting Trials Site Selection																				
		8				16		16	16						56	$7,840.00			$800.00	$8,640.00
	Subtotal Task 10	*8*				*16*		*16*	*16*						*56*	*$7,840.00*			*$800.00*	*$8,640.00*
Task 11 Outplanting Trials																				
		16				70		34	46		6				172	$24,560.00	See Att.	$1,000.00	$840.00	$26,500.00
	Subtotal Task 11	*16*				*70*		*34*	*46*		*6*				*172*	*$24,560.00*		*$1,000.00*	*$840.00*	*$26,500.00*
Task 12 Optional initial SHSF Working Group Coordination																				
		10				14		14							38	$5,920.00				$5,920.00
	Subtotal Task 12	*10*				*14*		*14*							*38*	*$5,920.00*				*$5,920.00*
Task 13 Pollinator Study (Optional Task)																				
13.1	Survey Prep/Organization (incl. lit review and guide creation; Dudek Form updates)		8					20			4				32	$4,600.00				$4,600.00
13.2	Fieldwork (3 locations x 3 cons days x 3 season = 27 pds; 1 pd = 10 hrs = 6 hrs survey + 4 hrs driving)							101.25		101.25				67.5	202.5	$21,262.50			$2,835.00	$24,097.50
13.3	Species Identification (SDNHM)																		$5,750.00	$5,750.00
13.4	Report (incl. data QA/QC)		8					16		16	6				46	$5,900.00				$5,900.00
13.5	Follow-up the next season (4 PDs + 20 hrs)					20		30						10	50	$6,800.00			$900.00	$7,700.00
	Subtotal Task 13		*16*			*20*		*167.25*		*117.25*	*10*			*77.5*	*330.5*	*$38,562.50*			*$9,485.00*	*$48,047.50*
	Total Hours	**102**	**12**	**104**	**85**	**296.5**	**128**	**270.5**	**382.5**	**12**	**44**	**30**	**689**	**221.5**	**1466.5**		**689**			
	Total Costs	**$20,400.00**	**$2,280.00**	**$19,760.00**	**$15,300.00**	**$47,440.00**	**$17,920.00**	**$32,460.00**	**$42,075.00**	**$1,080.00**	**$7,480.00**	**$2,850.00**	**$41,340.00**			**$209,045.00**		**$42,340.00**	**$33,861.65**	**$291,547.65**
	Total Hours Including Optional Tasks	**112**	**28**	**104**	**85**	**344.5**	**128**	**554.5**	**485.25**	**153.25**	**54**	**30**	**689**	**367.5**	**2078.5**		**689**			
	Total Costs Including Optional Tasks	**$22,400.00**	**$5,320.00**	**$19,760.00**	**$15,300.00**	**$55,120.00**	**$17,920.00**	**$66,540.00**	**$53,377.50**	**$13,792.50**	**$9,180.00**	**$2,850.00**	**$41,340.00**			**$281,560.00**		**$118,340.00**	**$47,681.05**	**$432,709.05**

Other Information

Sample Contract

Dudek will meet the insurance requirements, and proposes the following changes to the San Bernardino Valley Water Conservation District Standard Services Agreement:

1.3 Compliance With Law. All work and services rendered hereunder shall be provided in accordance with applicable ordinances, resolutions, statutes, rules, and regulations of the District and any Federal, State, or local governmental agency of competent jurisdiction. **Consultant shall perform the services with the skill and care ordinarily exercised by members of the same profession operating under similar circumstances.**

2.4 **Remittance of Payment. District agrees to pay Consultant within 30 days of receipt of a properly prepared invoice.**

4.2-03 Consultant shall defend, at its own cost, expense and risk, with Counsel of District's choice, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District or District's directors, officers, employees or designated volunteers. **Notwithstanding the foregoing, with respect to any professional liability claim or lawsuit, this indemnity does not include providing the primary defense of District, provided, however, Consultant shall be responsible for District's defense costs to the extent such costs are incurred as a result of Consultant's negligence, recklessness or willful misconduct.**

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Jake Marcon

RESTORATION ECOLOGIST

Jake Marcon is a restoration ecologist with 8 years' experience in habitat restoration and mitigation planning, implementation, and success monitoring; land management planning; and project management. Mr. Marcon uses an ecological approach to restoration of a variety of sensitive and native habitats. Mr. Marcon specializes in rare and endangered plant mitigation, re-introduction, and restoration; including writing long term monitoring studies and habitat manipulation experiments for rare plant species, preparing rare plant monitoring protocols, conducting rare plant surveys, and conducting general botanical surveys. Mr. Marcon has drafted and implemented comprehensive rare plant management and restoration programs, and has experience with the associated weed management strategies; landscape-scale conservation planning; and ecological data analysis required for the work. He supplements the above skills with field expertise in habitat restoration installation, monitoring and maintenance, and botany. Mr. Marcon participates on the Technical Advisory Committee to the San Fernando Valley Spineflower Adaptive Management Working Group as a restoration and management expert. Mr. Marcon has prepared numerous restoration plans for sensitive resources alongside stakeholders and regulatory agencies and takes pride in collaboratively reaching solutions while retaining a focus on what is best for the species and/or resource.

Education

University of California, Santa Barbara
MESM, Conservation Planning

University of California, Irvine
BS, Earth System Sciences

Certifications

CDFW Voucher Collecting Permit No. 2081(a)-16-010-V for State-Listed Plants

CRAM Trained Practitioner in Riverine, Vernal Pool, Depressional, and Estuarine Wetlands

40-Hour Wetland Delineation Training, Wetland Training Institute

USFWS Certified Monitor for Ridgeway's Rail

Sustainability Certification, University of California, Irvine

Professional Affiliations

California Society for Ecological Restoration

Project Experience

San Fernando Valley Spineflower Habitat Manipulation and Introduction Study, Newhall Land and Farming Company, Valencia, California. Serving as lead restoration ecologist during reintroduction of San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*, state-endangered) with the intent of creating new viable populations of this extremely rare plant. Project began with a habitat manipulation and introduction study designed to examine which factors influence the suitability of habitat for San Fernando Valley spineflower and the effectiveness of habitat treatments designed to establish new spineflower occurrences. Knowledge gained in initial studies was used to implement introductions, where seed bearing topsoil salvaged from planned development areas and collected and bulked seed are being used to establish San Fernando Valley spineflower occurrences in open space areas in an effort to expand preserve populations and inform conservation and management of the species. A contributing member of the Technical Advisory Subcommittee reporting to the Adaptive Management Working Group which collectively oversees San Fernando Valley spineflower conservation across an established preserve network.

Gaviota Tarplant Mitigation for the Strauss Wind Energy Project, BayWa r.e., Santa Barbara County, California. Served as the lead ecologist designing mitigation of Gaviota tarplant (*Deinandra increscens* ssp. *villosa*, federally endangered, state endangered, CRPR 1B.1) and drafted a Mitigation, Monitoring, and Long Term Management Plan, and a Gaviota tarplant Enhancement Plan under separate covers. Together these two plans oversee in-

perpetuity monitoring and management of the Tranquillon Mountain/Sudden Peak Gaviota tarplant Occurrence within a 1,946 acre preserve. Specifically, these plans include qualitative and quantitative monitoring methods, as well as methods for Gaviota tarplant seeding trials, re-introduction, germination trials, seed bank enhancement, a genetics study, a habitat characterization study, seed bank monitoring, pollinator study/monitoring, a range wide habitat suitability model, conservation focused seed collection, hydrology monitoring, and argentine ant monitoring. Met with the Pacific Southwest regional director of the USFWS, and the director of CDFW during the permitting phase of the project and was ultimately successful in receiving state and federal permits and approval of all plans. Designed the survey protocols for the baseline Gaviota tarplant surveys that occurred in 2019 and 2020 across 2,573 acres of the project site.

Gaviota Tarplant Habitat Characterization Study, BayWa r.e., Santa Barbara County, California Served as lead ecologist and principal investigator during the planning, design, implementation, and reporting on this study which identified the biotic and abiotic habitat characteristics associated with occupied Gaviota tarplant (*Deinandra increscens* ssp. *increscens*) habitat, characterized how environmental factors influenced the performance of Gaviota tarplant, and identified the environmental characteristics that may preclude Gaviota tarplant. The results of this study inform long term management, focus re-introduction efforts to suitable locations, and increased what is quantitatively known about the rare subspecies.

San Fernando Valley Spineflower Seed Bulking Project, Newhall Land and Farming Company, Valencia, California Served as a lead botanist on this project to grow San Fernando Valley Spineflower adjacent to native habitat with the goal of increasing the seed resources available to reintroduction and other conservation efforts. Drafted and received an experimental research permit (2081(a)) from the California Department of Fish and Wildlife (CDFW), which described the methodologies used to maintain genetic integrity, and provide suitable soils, climate conditions, increase pollination (i.e. seed viability). This field bulking operation ultimately produced approximately 128 pounds of pure live seed, which amounts to approximately 100 million live seeds.

Wilson III Basin Project, City of Yucaipa, Yucaipa, California Served as senior restoration ecologist providing technical oversight on a restoration plan for San Bernardino spineflower (*Chorizanthe parryi* var. *parryi*, CRPR 1B.1) to mitigate for impacts from the Wilson III Basin flood control improvement project. Provided technical support during mitigation implementation including focused San Bernardino spineflower seed collection, storage, and redistribution; topsoil salvage and re-distribution; and native seeding. Plan includes long-term management within the Wilson III Basin Preserve.

Alkali Mariposa Lily Long Term Monitoring Study at the Edwards Air Force Base Solar Project, Terra-Gen Power LLC, Edwards Air Force Base (AFB), California Designed and authored a long-term monitoring study intended to quantitatively assess the relative importance of biotic and abiotic factors on the performance of the rare Alkali Mariposa Lily (*Calochortus striatus*, CRPR 1B.2) throughout the project site, including short term direct impacts and long term indirect impacts. The study focuses on collecting actionable data to inform adaptive management of the species and promote effective conservation and mitigation on-site and throughout it's range, as well as measuring the likelihood of species persistence under varying impact regimes.

SANDER Vernal Pool Mitigation Plan, City of San Diego, San Diego County, California. Serving as project manager and lead restoration ecologist for drafting and implementing this vernal pool mitigation plan that provides mitigation for the North City Project through 0.26 acre of vernal pool enhancement, 0.29 acre of vernal pool rehabilitation, and 0.60 acre of vernal pool re-establishment. Performed vernal pool existing conditions survey, restoration potential assessment, disturbance mapping, hard pan mapping with ground penetrating radar (GPR), and performed a focused survey for biological crust. Designated specific restoration actions at 67 vernal pool locations. San Diego mesa mint (*Pogogyne abramsii*; federally endangered, state-endangered, CRPR 1B.1)

occurred within one of the existing vernal pools on site, and is being seeded into an additional 15 vernal pools on site to expand its population. The project site has additional mitigation measures for rare plants including Orcutt's brodiaea (*Brodiaea orcutti*; CRPR 1B.1), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*, CRPR 1B.2), San Diego barrel cactus (*Ferocactus viridescens*; CRPR 2B.1), Nuttall's scrub oak (*Quercus dumosa*; CRPR 1B.1), and San Diego County Bahiopsis (*Bahiopsis laciniata*; CRPR 4.2). Plan is consistent with the requirements of the Vernal Pool Habitat Conservation Plan (VPHCP).

Old Otay Mesa Road Improvements Restoration Project, City of San Diego, California. Served as the lead restoration ecologist for mitigation projects associated with this road improvements project in Otay Mesa, Ca. Project included seed collection and topsoil salvage and translocation for Otay tarplant (*Deinandra conjugens*, federally threatened, state-endangered, CRPR 1B.1). Oversaw monitoring and management, as well as making adaptive management recommendations. Otay tarplant restoration over achieved the success criteria and was signed off at the end of the anticipated five year maintenance and monitoring period.

Persea, LLJ Ventures LLC, San Diego, California. Served as project manager and lead restoration ecologist for block salvage and transplantation of approximately 2,871 thread-leaved brodiaea (*Brodiaea filifolia*; California Rare Plant Rank [CRPR] 1B.1, state-endangered, federally threatened) individuals totaling 0.129 acres to an onsite preserve. Work was conducted as part of the mitigation for the development of a 10.6-acre project parcel. Conducted initial focused rare plant survey according to USFWS, CDFW, and California Native Plant Society (CNPS) guidelines during the project planning phase and wrote technical mitigation approach memo to outline mitigation approach. Served as designated biologist, approved by CDFW, while leading the translocation effort.

Palomar Station, Integral Project Owner II LLC, San Marcos, California. Served as project manager and lead restoration ecologist in the monitoring phase of a design/build vernal pool restoration project at Fry's Vernal Pool Preserve. Monitored ponding duration and special-status species presence, with success criteria for aquatic crustaceans, vernal pool indicator plant species, and upland CSS habitat. Constructed vernal pools contain San Diego fairy shrimp (*Branchinecta sandiegonensis*, Federally Endangered) and the rare plants Orcutt's brodiaea, San Diego button-celery (*Eryngium aristulatum* var. *parishii*; federally endangered, state-endangered), and spreading navarretia (*Navarretia fossalis*, Federally Threatened, CRPR 1B.1). Monitored ponding duration remotely within constructed pools using custom thermocron arrays. Drafted annual monitoring reports and made remedial recommendations helping the project reach success criteria on time.

Crest Canyon Storm Drain Replacement and Habitat Restoration Project, San Diego County, California Serving as project manager and lead restoration ecologist for this habitat restoration project. Developed avoidance and minimization measures for Orcutt's spineflower (*Chorizanthe orcuttiana*, State Endangered, Federally Endangered, CRPR 1B.1), Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia,* Federally Endangered), and mitigation approaches for impacts to Torrey pine (*Pinus torreyana* ssp. *torreyana*, CRPR 1B.2) and other rare species. Served as the primary author of the project conceptual restoration plan and lead restoration ecologist during creation of restoration construction documents. Oversaw implementation of restoration installation and acting as lead restoration ecologist during the long-term monitoring period.

Relevant Previous Experience

Habitat Restoration Associate, Coal Oil Point Reserve, Santa Barbara, California. Involved with an experimental out-planting effort to identify/discover suitable habitat for the federally endangered/state-endangered Ventura milk vetch (*Astragalus pycnostachyus* var. *lanosissimus*) in and around the Deveroux Slough area. Involved with nursery propagation, out planting, and monitoring of Ventura milk vetch individuals.

Scott McMillan

SENIOR RESTORATION ECOLOGIST/BOTANIST

Scott McMillan is a habitat restoration ecologist with over 25 years' experience conducting botanical consulting in the Southern California floristic province. Mr. McMillan has conducted hundreds of vegetation and general botany surveys as well as hundreds of rare plant surveys. He has conducted surveys for almost all of the habitat types found in Southern California, including coastal sage scrub, chaparral, vernal pools, riparian, dune, saltmarsh, and oak woodland.

Education

San Diego State University
BS, Biology, 1991

Certifications

County of San Diego Certified Restoration Ecologist

Professional Affiliations

California Native Plant Society

San Diego Natural History Museum

Mr. McMillan conducted botanical research as part of his unfinished thesis working with Dr. Ellen Bauder, Dr. Michael Simpson, and Dr. John O'Leary at San Diego State University (SDSU). He was an instructor at San Diego State University (general biology and botany) and at the University of San Diego (botany). He has given many scientific presentations on the species and habitats in Southern California, including vernal pools and the species found in them. Mr. McMillan is coauthor of the US Fish and Wildlife Service's Vernal Pool Recovery Plan, as well as the Checklist of the Vascular Flora of San Diego County. His list of scientific publications includes the Current Distribution and Historical Extent of Vernal Pools in Southern California and Northern Baja California, Mexico (coauthored with Dr. Ellen Bauder). Mr. McMillan has extensive experience with many of the sensitive plant species and habitats found in Southern California. His experience includes knowledge of species identification and distribution, as well as the affinities that these species have toward habitat type, soil type, hydrological regime, and other ecological factors.

In addition to conducting botanical surveys and assessments, Mr. McMillan has also conducted Quino checkerspot butterfly, fairy shrimp, and California gnatcatcher surveys. He is also responsible for authoring many biological technical reports, work plans, and restoration and management plans for projects in San Diego County. As part of these projects, he has coordinated and scheduled other biologists, equipment operators, surveyors, and landscape maintenance crews.

Mr. McMillan has experience conducting numerous restoration projects on a wide range of habitats throughout Southern California region and beyond.. He has conducted restoration of mountain meadow, riparian woodland, coastal sage scrub, chaparral, native grassland, and vernal pool habitats, just to name a few.. Mr. McMillan's experience in native habitat restoration has often been associated with vernal pools and other sensitive species habitats. Much of Mr. McMillan's efforts have often been associated with mitigation for impacts to sensitive species such as San Diego fairy shrimp, Riverside fairy shrimp, Otay Mesa mint, San Diego mesa mint, San Diego button-celery, spreading navarretia, San Diego thornmint, California gnatcatcher, cactus wren, and Quino checkerspot butterfly. In addition, he has conducted extensive desert habitat restoration projects throughout Southern California and Nevada, including restoration of creosote scrub, ironwood and palo verde woodlands, and desert riparian habitat. Much of this desert restoration has included habitat for the desert tortoise, flat-tailed horned lizard, and desert bighorn sheep.

Project Experience

Dennery Canyon Vernal Pool and Quino Habitat Restoration Project, Caltrans, San Diego, California. Developed and implemented he Habitat Restoration Plan for vernal pool and Quino habitat restoration on Otay Mesa in San Diego County. Over 45-acres of vernal pool and vernal pool watershed habitat was restored for Caltrans as part of the mitigation for impacts from the State Route 905 roadway. Over 40 vernal pools were created/restored with over a dozen sensitive species, including 5 federally listed fairy shrimp and vernal plant species. Managed and directed all field restoration activities on the site including the monitoring and reporting. This project set a new standard for vernal pool and restoration in general in the San Diego area and has been widely recognized by the agencies as exceeding expected success standards. (2010–2016)

Vernal Pool Habitat Conservation Plan (VPHCP), City of San Diego, California. Co-developed the Vernal Pool Habitat Conservation Plan (VPHCP) for the City of San Diego. This Plan was developed to preserve and manage the vernal pool habitat in the City of San Diego, including habitat for the seven federally listed vernal pool plant and animal species (San Diego fairy shrimp, Riverside fairy shrimp, San Diego Mesa mint, Otay Mesa mint, San Diego button-celery, spreading Navarretia, and California Orcutt's grass. The Plan define the strategy for long-term conservation, management, and monitoring of vernal pools in the City of San Diego, including a cost analysis to implement the Plan over the life of the VPHCP. This Plan was approved by the wildlife agencies (USFWS and CAFW) and the City Counsel in January of 2018, and is currently in Year 1 of implementation by the City. (2013–2018)

Wright's Field San Diego Thornmint Habitat Restoration Grant, SANDAG EMP Program, Alpine, California. In partnership with the Back Country Land Trust, Scott co-authored a successful grant proposal with SANDAG's EMP program to restore habitat for the federally listed San Diego thornmint at Wright's Field in Alpine, California. Directed the implementation and monitor of the project which included access control, weed control, seed collection and bulking, seed bank establishment, and monitoring. Brought population of 14 plants to over 3,000 during the 3 year project period. (2014–2017)

State Route 125 Vernal Pool and Quino Checkerspot Butterfly Habitat Restoration, Caltrans and South-Bay Expressway, San Diego, California. Directed the implementation and restoration of this 52-acre restoration site. This award-winning project was completed and signed-off by the regulatory agencies and included vernal pools, maritime succulent scrub, native grassland, cactus wren habitat, burrowing owl artificial burrows, and Quino butterfly habitat restoration. (2004–2010)

Eldorado-Ivanpah Transmission Line Vegetation Restoration Program, Southern California Edison Company, California and Nevada. Senior restoration ecologist for the EITP project, providing guidance and oversight during restoration planning, implementation, maintenance, monitoring, and reporting. The EITP project consists of construction of a transmission line between Eldorado substation in Nevada and Ivanpah substation in California for all of the project's temporary impact areas, consisting of over 300 acres of desert habitat supporting sensitive plants and wildlife. The planning portion of the project includes the preparation of a restoration plan that outlines methods and approach, as well as success criteria to be evaluated in conjunction with SCE and the regulatory agencies. The implementation of this plan included cactus salvage and transplantation of over 10,000 plants, hand seeding and raking, mechanical imprinting, sensitive plant seed collection and propagation, weed control, qualitative and quantitative monitoring, and agency coordination. (2013–2019)

Devers-Palo Verde 2 Transmission Line Vegetation Restoration Program, Southern California Edison Company, Riverside County, California. Senior restoration ecologist for the program, providing guidance and oversight during restoration, including implementation, maintenance, monitoring, and reporting. Implementation included cactus salvage and transplantation, hand seeding and raking, imprinting, and sensitive plant seed collection and application. Maintenance primarily includes weeding and access control measures. Led the team to meet SCE's

mitigation requirements for Coachella Valley Milkvetch, an endangered plant species, within the restoration program time period. The success included ongoing adaptive management, as well as seed collection, propagation, transplantation, and supplemental watering. The project is providing habitat restoration for the DPV2 line and included planning, implementation, maintenance, and monitoring services for 209 acres of native habitat at 191 sites across 153 miles, including jurisdictional areas and one special-status plant species. The team implemented the project's weed control plan, in concert with the restoration plan, across an additional 518 sites. Scott's role included the co-ordination and consultation with the U.S. Forest Service on this project. (2014–2019)

Sunrise Powerlink Restoration, San Diego Gas & Electric Company, San Diego and Imperial Counties, California. Senior restoration ecologist that assisted in pre-activity site assessments and baseline data collection; cactus salvaging and transplanting; support to construction personnel on grading and post-construction site preparation issues; preparation of site-specific habitat restoration plans and sensitive plant restoration plan; implementation of habitat restoration activities; monitoring for 5 to 10 years post-implementation; resource agency coordination and support. Providing support for upland and wetland habitat restoration as well as sensitive plant mitigation planning and implementation services for temporary impacts resulting from construction of the Sunrise project, a 117- mile, 500-kilovolt powerline from Imperial County to San Diego. Services were provided during the construction phase and post-construction restoration phase and involve over 20 sensitive habitat types, 350-plus acres, and numerous sensitive species. (2012–2019)

SANDAG EMP Grant for Vernal Pool and Quino Checkerspot Restoration and Management, City and County of San Diego, California. Conducted the fieldwork and data collection. Co-authored the report to the City, County of San Diego, regulatory agencies, and SANDAG. Report analyzed numerous vernal pool locations within San Diego for restoration and management needs. Report included recommendations for implementation at six sites, where habitat was restored for vernal pools and Quino checkerspot butterfly. Directed the implementation of weed control, seed collection, plant propagation, and monitoring. (2007–2009)

San Onofre Vernal Pool Conservation Plan, NAVFAC, California State Parks Lease Area, Marine Corps Base Camp Pendleton, California. Mr. McMillan was the senior technical advisor and co-author for the preparation of an overarching vernal pool conservation plan for the 15-acre Vernal Pool Mesa at the San Onofre State Beach Lease Area on Marine Corps Base Camp Pendleton (MCBCP). The project included vernal pool floral and mapping surveys, wet and dry season fairy shrimp surveys, a jurisdictional wetland delineation, the preparation of the Conservation Plan, and the development of a recreation scheme and interpretive signs for the Vernal Pool Mesa. Mr. McMillan provided technical oversight for the field surveys, preparation of the conservation plan, and co-ordination with NAVFAC Southwest, MCBCP, California State Parks, and U.S. Fish and Wildlife Service. (2011–2013)

Cleveland National Forest - Powerline Replacement, San Diego Gas & Electric, San Diego County, California. Provided strategic leadership to SDG&E for this project replacing wood poles with steel. Provided technical support for preparation of the permits and plans, including the habitat restoration plan. Provided technical support as the construction phase progresses toward post-construction activities. Includes leadership and direction of the implementation of habitat restoration as the project moves through the various phases of construction into restoration. This includes directing the collection, processing, and storage of native seed to be used on the restoration sites following construction, as well as plant salvage and planting. Scott was also a lead on co-ordination and consultation with the U.S. Forest Service on this project. (2017–2019)

Publications and Presentations

Bauder, E. T., and S. McMillan. 1996. Current Distribution and Historical Extent of Vernal Pools in Southern California and Northern Baja California, Mexico. Proceedings from the 1996 conference: Ecology, Conservation, and Management of Vernal Pool Ecosystems. Sacramento. Published by the California Native Plant Society.

Bauder, E. T., A. D. Kreager, and S. McMillan. 1998. Recovery Plan for the Vernal Pools of Southern California. Written for the US Fish and Wildlife Service, Portland.

McMillan, S. 1995. Vernal Pools and the Coastal Sage Scrub Community. Presented at the 1995 seminar: Coastal Sage Scrub; A Vanishing Habitat. Quail Botanical Gardens, Encinitas.

McMillan, S. 1996. The Vernal Pools of Southern California and Northern Baja California, Mexico. Presented at the Symposium for Botanical Research in Baja California and Adjacent Areas. Universidad Autonoma de Baja California, Ensenada, Mexico.

McMillan, S. 2012. The Distribution, Ecology, and Conservation of Clay Soil Endemic Plants of Southern California and Northwest Baja California, Mexico. Presented at the 2012 Southern California Botanist Symposium: From the Ground Up: Edaphic Factors and Plant Diversity.

McMillan, S., L. Cavallaro, T. Oberbauer, and L. Spears-Lebrun. 2012. An Update on the Current Distribution, Conservation, and Restoration of Vernal Pool Habitat and Species in Southern California and Baja California, Mexico. Presented at the 2012 California Native Plant Society Conservation Conference.

McMillan S. and L. Cavallaro. 2014. Vernal Pool Restoration in Southern California: A 25-Year Perspective. Presented at the 2014 AquaAlliance Vernal Pool Conference: Vernal Pools in Changing Landscapes, from Shasta to Baja. Publication in 2015.

McMillan, S. and L. Cavallaro. 2015. Salvage, Transplant, and Restoration of San Diego Ambrosia (Ambrosia pumilla) at Jeffries Ranch for SDGE. Presented at the 2015 SERCAL Conference.

McMillan, S. L. Cavallaro, and B.Hanson. 2017. Habitat Restoration and Seed Bulking for the Endangered San Diego Thornmint at Wright's Field in Alpine, California. Presented at the SANDAG EMP Working Group Meeting in May.

McMillan, S., L. Robb, S. Prahbu, and C. Benitez. 2018. Desert Habitat Restoration on SCE's Eldorado to Ivanpah Transmission Project. Presented at the 2018 SER Southwest Conference

Britney Strittmater

BIOLOGIST

Britney Strittmater is a biologist with 14 years' experience in the Inland Empire specializing in general biological assessments, focused rare plant surveys, wildlife surveys, vegetation mapping, wetland delineations, biological monitoring, CEQA document preparation, and biological technical report (BTR) preparation. Ms. Strittmater's field experience includes extensive biological surveys of flora and fauna, including special-status species investigations for federally and state-listed endangered slender-horned spineflower (*Dodecahema leptoceras*), state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and Parry's spineflower (*Chorizanthe parryi* var. *parryi*). Ms. Strittmater was the project manager for vegetation mapping and slender-horned spineflower surveys for the Woollystar Preserve Area Multi-Species Habitat Management Plan and has extensive experience with these species and their habitats.

Education

Humboldt State University
BS, Botany, 2007

Certifications

CDFW Plant Voucher No. 2081(a)-12-02-V

Professional Affiliations

California Invasive Plant Council

California Native Plant Society

Southern California Botanists

She also has experience with vegetation mapping for both native and developed land uses based on Gray and Bramlet, Holland, and CDFW habitat classification systems, including Riversidean alluvial fan sage scrub, as well as biological monitoring in biologically sensitive areas to ensure avoidance of impacts to potentially occurring threatened, endangered, and sensitive species.

Project Experience

Santa Ana Woolly Star Preserve Area Habitat Mapping and Slender-Horned Spineflower Patch Analysis and Distribution Surveys, County of San Bernardino Flood Control District, Redlands, California. Served as project manager and field lead during a month-long focused distribution survey and patch analysis effort for the federal and state endangered slender-horned spineflower within the 825-acre Woolly Star Preserve Area (WSPA) in the Santa Ana River floodplain in addition to vegetation mapping in accordance with protocols as described within the WSPA Multi-Species Habitat Management Plan. Provided senior oversight on a patch analysis and distribution survey report that included all survey results, discussions on annual variations in patch attributes and annual precipitation analyses. The report will be used to inform species management decisions within the WSPA in the future.

Newhall Ranch Surveys Project, Newhall Land and Farming Company, Los Angeles County, California. Project biologist conducting focused surveys for the state-listed endangered San Fernando Valley spineflower on and off since 2007. Performed population counts and point-intercept transects. Assisted with writing related biological technical reports and environmental impact statements/environmental impact reports.

Operations and Maintenance EIRs, Metropolitan Water District (MWD) of Southern California, Orange and San Bernardino Counties, California. Served as project biologist. Conducted vegetation mapping, focused special-status plant surveys and jurisdictional waters delineations in support of MWD's Distribution System Infrastructure Protection Programs (DSIPPs) for both Orange and western San Bernardino Counties. Rare plants encountered and mapped included Parry's spineflower, Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), and Plummer's mariposa lily (*Calochortus plummerae*).

Wilson Creek Basin III, City of Yucaipa, California. Served as project biologist. Led focused rare plant surveys. Rare plants encountered and mapped included Parry's spineflower.

Master Stormwater System Maintenance Program, San Bernardino County Flood Control District, County of San Bernardino, California. Served as lead biologist for vegetation mapping and delineation of jurisdictional waters in support of the San Bernardino Flood Control District's Master Stormwater System Maintenance Program. Ms. Strittmater assisted with BTR in support of the district's programmatic permit application for routine maintenance activities. Ms. Strittmater assisted with waters and species permitting including preparation of permit applications for an Individual 404 Permit, 401 Certification, and Master Streambed Alteration Agreement, and preparation of an Incidental Take Permit Application in support of Section 2081.

Salton Sea North Shore Beach and Yacht Club Dredging Project, Riverside County Facilities Management., Unincorporated Community of Mecca, Riverside County, California. Served as project manager. Also performed a jurisdictional delineation of wetlands and waters, mapping of vegetation communities mapping in accordance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), and evaluation of the potential for special-status plant and wildlife species covered under CVMSHCP. Lead permitting effort to obtain ACOE Pre-Construction Notification for Nationwide Permit, 1600 California Department of Fish and Wildlife (CDFW) streambed alternation agreement, and Regional Water Quality Control Board 401 Certification.

Mountain View Wind Repower Project, Confidential Client., City of Palm Springs, Riverside County, California. Served as project biologist. Led and performed a jurisdictional delineation of wetlands and waters and preparation of the jurisdictional delineation report. Assisted in preparation of the biological technical report (BTR). Also led and prepared a Joint Project Review (JPR) and Consistency Analysis for the CVMSHCP.

Lake Elsinore Back Basin Existing Conditions, City of Lake Elsinore, California. Served as vegetation mapping and special-status plant field lead. Survey teams conducted vegetation mapping and focused surveys for special-status plants over an approximately 1,600-acre study area. Provided communication between survey teams and project management. Assisted in preparation of an existing conditions report that summarized all survey work conducted throughout the study area.

Thermal Beach Club Project, Albert A. Webb Associates, Unincorporated Community of Thermal, Riverside County, California. Served as lead project biologist. Performed a general habitat assessment, including vegetation mapping and a focused rare plant survey of the project area. Prepared biological resources assessment report, including a CVMSHCP Consistency Analysis. Also lead a jurisdictional delineation of the 309-acre site that contained remanent soft playa and collected data at 23 data stations on an approved ACOE Arid West Wetland Determination Data form. The site was evaluated for wetland vegetation, wetland hydrology, and hydric soils. Prepared the jurisdictional waters delineation report for the project.

Level 3 Powerline Road Fiber Optics Installation Project, HP Communications Inc., San Bernardino County, California. Served as project manager for a fiber optics installation project located on Bureau of Land Management (BLM) lands. Coordinated and performed a general reconnaissance survey as well as conducted a formal jurisdictional delineation. Prepared biological assessment report.

Bandicoot and Oak Hills Basins, County of San Bernardino, California. Served as project biologist and field lead for general reconnaissance surveys, including vegetation mapping. Assisted in writing and preparation of the BTR. Assisted in formal (routine) wetland delineation.

Jonathan Martin

ECOHYDROLOGIST / WATERSHED HYDROLOGIST

Jonathan Martin is an ecohydrologist and watershed hydrologist with 15 years' experience researching hydrological, ecological and meteorological dynamics from reach to watershed scale. His graduate research at the University of Arizona was a study assessing urban impacts on xeririparian microclimates and plant community functions (density, leaf-area index, and litter decomposition). With this background Jonathan joined Dudek to help spearhead studies assessing plant-water demands in coastal oak woodlands, willow riparian communities, and spring complexes home to endemic flora and fauna. Additional areas of expertise include development and implementation of surface and shallow-subsurface hydrology and water quality monitoring programs, aquatic bioassessments, and environmental site assessments.

Education

University of Arizona, Tucson
MS, Watershed Management and Ecohydrology, 2009

Northern Arizona University
BS, Physical Geography, 2000

Certifications

OSHA 40-Hour HAZWOPER

SWAMP Certified

Project Experience

Gaviota Tarplant Mitigation for the Strauss Wind Energy Project, BayWa r.e., Santa Barbara County, California. Design monitoring program for endangered Gaviota tarplant in coordination with USGS, USFWS, and CDFW specialists to ensure minimal impact to hydrologic resources resultant from proposed wind turbines. Include identification of control and effect stations, and parameters necessary for assessing fog distribution throughout known tarplant communities.

Watershed Budget, San Diego County, California. Develop/implement long-term monitoring programs for measuring streamflow and evapotranspiration demands in a 25,000-acre watershed in San Diego County. Since 2010, sap-flow sensors have been deployed throughout the Quercus and Salix communities to assess plant functions in relationship to known hydrologic variables including: precipitation, soil moisture, groundwater elevation, and streamflow. The monitoring program captured the response of two Quercus engelmannii stands during the course of the recent 5-year drought that significantly depleted the plant-available moisture in the shallow soil horizons.

Habitat Assessment Protocol, Santa Ana Sucker Translocation Plan, San Bernardino Valley Municipal Water District, San Bernardino, California. Function as lead hydrologist for the team developing site evaluation protocol to estimate the feasibility of a reach to support the translocation of the sucker. Two phases for the site evaluation protocol were developed: Phase 1 consisted of a desktop review assessing feasibility and resiliency of the proposed relocation reach (e.g. topographic constraints, long-term provision of streamflow with anticipated shifts due to climate change, site access issues); Phase 2 included in-field measurements of channel geomorphology, water quality, and available food sources (including Plunge Creek, Mill Creek, City Creek, and tributaries to the Upper Santa Ana River). Scoring matrices were developed to assist in prioritization of potential relocation reaches.

Baseline Habitat Characterization for Rare Aquatic Snail Species, Santa Clarita, California. Design/implement methods for monitoring baseline biotic and hydrologic conditions in a spring with a rare endemic snail. Monitoring program consisted of continuously measuring spring discharge, evapotranspiration (saturated-unsaturated flow assessment), and groundwater elevations/temperature. Work included the development of a Habitat Management Program with monitoring frequency, objectives, and thresholds for triggering adaptive management.

Raw Water Intake Bypass Flow Study, San Jose Water Company, San Jose, California. Serve as deputy project manager and lead hydrologist for a long-term study 1) identifying suitable habitat for five aquatic species, 2) developing an H&H model assessing potential flow through the seasonal streams across multiple water year scenarios, and 3) establishing interim bypass flows that will preserve habitat for the species of concern. Work includes continuous communication with CDFW and the RWQCB.

Review and Update Reservoir Monitoring and Reporting System, City of San Diego, California. The City of San Diego is currently in the process of reviewing and updating their system for tracking inputs and losses to their nine water supply reservoirs that receive water from the San Diego County Water Authority (i.e. California State Water Project, Colorado River Aqueduct, and desalination), watershed runoff, and their upcoming recycled water program (Pure Water Project). Phase 1 of this project has included an assessment of their current hydrological monitoring systems for reservoir stage/area/volume, daily precipitation and evaporation, watershed runoff, and reservoir leakage. The final Phase 1 assessment presented steps for updating the reservoir monitoring and reporting system, including updated evapotranspiration methodology, gauged and ungauged runoff quantification, and updated data management, visualization, and reporting platforms integrated with their existing SCADA.

Hydrology Analysis for Habitat Restoration Project, Valley Springs, California. Develop hydrology model for a small watershed in the eastern Sierra foothills to characterize potential water budget for a proposed restoration pond for California red-legged frog. The model utilized the soil-moisture accounting method which allowed for an hourly time step with a 20-year rainfall record in order to capture losses to evapotranspiration between rainfall events and across various water years, and to establish a suitable lag in discharge based on soil properties (storage/tension/depth for different horizons).

City of Goleta Creek and Watershed Management Plan, Goleta, California. Serve as Watershed Health and Resiliency Specialist in guiding the development of a creek and watershed management plan for twelve major drainages that bisect the City of Goleta. Coordinate materials for stakeholder meetings and discussions with the technical advisory committee (TAC) consisting of a mix of government and non-profit entities.

Water Quality EIR for the City of San Diego's Pure Water Project, Miramar Reservoir, California. Provide technical support to City staff in identifying potential water quality shifts in Miramar Reservoir and associated impacts to aquatic ecosystem, including an in-depth analysis identifying external nutrient sources to the reservoir (e.g., runoff, avian feces, recreation).

McIver Dairy Aquatic Bioassessment, Truckee, California. Conduct aquatic bioassessment within High Sierra wetland to characterize pre-project conditions within a small intermittent stream.

Preliminary Natural Treatment Wetland Assessment and Design for Hodges Reservoir Nutrient Reduction Program, San Diego, California. Conduct large-scale watershed modeling effort and hydrology study to identify drainages contributing greatest phosphorus loads to the reservoir. Develop cost-benefit analysis of multiple natural treatment wetland designs/locations for removal of nutrients from reservoir and urban discharge to the reservoir. Assess Preliminary Designs of Natural Treatment Wetland under varying loading rates and with different vegetation management programs to identify most suitable design parameters for removing nutrients.

Megan Enright

BIOLOGIST/PERMITTING SPECIALIST

Megan Enright is a senior project manager with 24 years' experience in environmental planning, specializing in biological resource analyses for environmental documents, regulatory compliance, and botanical surveying. Ms. Enright has served in a variety of project management and lead biologist roles for a diverse client base, including cities, counties, special districts, joint powers authorities, and land development companies. In her project work, Ms. Enright solves biological and regulatory challenges and leads interagency coordination efforts to facilitate the entitlement and environmental permitting process. Additionally, she conducts wetland delineations and endangered species surveys and evaluates mitigation sites. Ms. Enright is trained and skilled in botanical surveying, including vegetation mapping, rare plant surveys, and wetland delineations. She is also experienced in the identification of Southern California flora.

Ms. Enright has served as extension of staff for several agencies, including water and wastewater districts and the Western Riverside County Regional Conservation Authority (RCA), a joint powers authority tasked with implementation oversight of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Education

University of California, San Diego
BS, Biology/Ecology, 1997

Certifications

CDFW Rare, Threatened, and Endangered Plant Voucher Collection Permit, Permit No. 05006

Professional Affiliations

California Native Plant Society

Association of Environmental Professionals

Southern California Botanists

Project Experience

Master Stormwater System Maintenance Program, San Bernardino County Flood Control District, San Bernardino, California. The District is in the process of obtaining long-term (20-year) permits from the resource agencies, including the ACOE, CDFW, and State Water Resources Control Board (SWRCB), for the routine operations and maintenance of all flood control facilities within the County. Ms. Enright is the project manager overseeing the preparation of all necessary technical studies, and obtaining the necessary permits including an Individual Permit from the ACOE, a Water Quality Certification and Waste Discharge Requirement from the SWRCB, a Master Streambed Alteration Agreement from CDFW, an 2081 Incidental Take Permits from CDFW, and a Section 7 Biological Opinion from the U.S. Fish and Wildlife Service. To date, Dudek has prepared the Maintenance Plan and completed the Draft and Final EIR and associated technical studies including vegetation mapping, assessment of habitat for listed species, delineation of jurisdictional waters, watershed mapping, air quality and greenhouse gas analysis, noise assessment, hazards assessment, and conceptual mitigation plan. Dudek engaged the resource agencies in ongoing early consultation and has submitted applications for the long-term permits.

Persea Project, LLJ Orion Pacific Vista, LLC, Vista, California. Ms. Enright served as the permitting lead for 10.4-acre multifamily residential project in the City of Vista. The project is environmentally constrained due to the presence of thread-leaved brodiaea (*Brodiaea filifolia*), a federally listed threatened and state-listed endangered species, and jurisdictional waters of the U.S./State. Dudek and the applicant conducted multiple pre-application meetings with the resource agencies prior to circulating the public review draft of the EIR to discuss the required permitting and preferred mitigation as well as project alternatives that the resource agencies wanted analyzed in the EIR. In August 2017, Dudek

prepared permit applications for a Section 404 Nationwide Permit (NWP) from the U.S. Army Corps of Engineers (ACOE), Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW), and a 2081 Incidental Take Permit from CDFW for take of thread-leaved brodiaea. Despite of significant environmental and regulatory constraints, all permits were issued in less than 1 year meeting the project schedule.

Joli Ann Leichtag Elementary School Project, San Marcos Unified School District, County of San Diego, California. Served as the project manager for CEQA documentation and regulatory permitting. Dudek prepared a biological technical report for draft EIR and conducted the following biological resources surveys: (1) vegetation community mapping; (2) a jurisdictional of waters of the U.S., including wetlands, under the jurisdiction of the ACOE, CDFW, and RWQCB.; (3) conducted focused surveys for rare plants, including thread-leaved brodiaea, San Diego thornmint (*Acanthomintha ilicifolia*), Orcutt's brodiaea (*Brodiaea orcuttii*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), and San Diego goldenstar (*Muilla clevelandii*); and (4) focused protocol surveys for the state- and federally listed least Bell's vireo and state-listed endangered southwestern willow flycatcher.

Advised the district on resource agency permitting strategies in accordance with Section 404 and 401 of the federal Clean Water Act, Section 1602 of the California Fish and Game Code, and the state and federal Endangered Species Act for the state and federally listed thread-leaved brodiaea. Following the development of a permitting strategy, prepared and processed the following: (1) Section 401 Water Quality Certification from the RWQCB; (2) 1602 SAA from the CDFW; (3) Section 404 Individual from the ACOE; (4) USFWS Section 7 Consultation; and (5) 2080 ITP from CDFW.

Strauss Wind Energy Project, Strauss Wind LLC (or BayWa), Santa Barbara County, California. Dudek is providing environmental licensing services to Strauss Wind LLC to support development of the Strauss Wind Energy Project—an approximate 3,000-acre wind farm and 8.6-mile, 115 kV transmission line. The project will provide up to 100 MW's of renewable energy. Dudek is focused on guiding Strauss Wind LLC through the licensing process that includes an aggressive schedule. When built, this project will be the first wind energy project to be licensed in Santa Barbara County along the Gaviota coastline. Dudek's scope includes CEQA/NEPA support, biological permitting, cultural resources management, UAS services, and urban forestry. Ms. Enright's role on the project is lead biologist and permitting specialist. To date, Ms. Enright has obtained the following permits for the project: (1) Nationwide Permit 12 from the ACOE; (2) Section 401 Water Quality Certification from the RWQCB; (3) Streambed Alteration Agreement from CDFW; (4) a Biological Opinion from the USFWS for California red-legged frog and Gaviota tarplant; and (5) a 2081 Incidental Take Permit from CDFW for Gaviota tarplant.

Distribution System Infrastructure Protection Program (DSIPP), Metropolitan (Metropolitan) Water District of Southern California, Orange and San Bernardino Counties, California. Ms. Enright serves as the project manager for the preparation of two Programmatic Environmental Impact Reports (PEIRs)—one in Orange County and one in San Bernardino County—for Metropolitan's DSIPP. Dudek was contracted to prepare the Operations and Maintenance Manuals, conduct biological surveys, assist with permit applications, and prepare the PEIRs for each region. The programmatic analysis addressed maintenance activities that are conducted on a recurring or as-needed basis within existing Metropolitan facilities. The PEIRs described each category of maintenance activities and identified capital projects, expected impacts, and avoidance and minimization measures applicable to each category of activities to minimize potential environmental impacts where practical.

Lindsy Mobley

HABITAT RESTORATION ECOLOGIST AND BIOLOGIST

Lindsy Mobley (*LIN-zee MOB-lee; she/her*) is a habitat restoration ecologist and biologist with 5 years' experience in biological habitat restoration and mitigation design, implementation, and monitoring, as well as long-term land management for a variety of habitats and resource types. Ms. Mobley specializes in habitat preserve/resource management and conservation planning within a changing climate. She utilizes practical ecological methodologies for mitigation design and management practices. Ms. Mobley has prepared numerous habitat mitigation and monitoring plans, conceptual design documents, sensitive-species salvage and translocation plans, permitting documents and applications, resource management plans, mitigation feasibility studies, and monitoring reports for agency and stakeholder review. She regularly conducts desktop and biological field assessments including general and focused rare plant surveys, the California Rapid Assessment Method (CRAM) for wetlands, jurisdictional wetland delineations, biological/restoration data collection and analysis, soil sampling, camera trapping, vegetation mapping, restoration/mitigation opportunity analysis, ArcGIS mapping, habitat linkage analysis, and landscape surveying. Ms. Mobley has provided a wide range of biological monitoring and project management expertise to numerous restoration planning efforts within California landscapes.

Education

California Polytechnic State University, San Luis Obispo
BS, Environmental Management and Protection (Minors in Biological Sciences and Sustainable Environments), 2017

Certifications

40-Hour Wetland Delineation Training, Wetland Training Institute

CRAM Trained Practitioner in Riverine, Depressional, and Estuarine Wetlands

USFWS Certified Monitor for Ridgeway's Rail

Project Experience

Development

San Fernando Valley Spineflower Habitat Manipulation and Introduction Study, Newhall Land and Farming Company, Valencia, California. Serving as supporting restoration ecologist during reintroduction of San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*, state-endangered) with the intent of creating new viable populations of this rare plant, based on habitat manipulation and seeding trial study results. Introductions include the placement of seed-bearing topsoil and collected seed from future impact sites within open space preserve areas to expand and preserve populations and inform overall conservation and management of the species. Assisted with implementation and monitoring of the habitat and seeding trial studies, seed bulking effort, and introductions. Initial results contributed to the ruling by USFWS to not list the species as threatened or endangered.

Spineflower Conservation Plan, Newhall Land and Farming Company, Los Angeles County, California. Acts as lead restoration ecologist for habitat enhancement within a series of San Fernando Valley spineflower preserves near Santa Clarita, California. Management includes quarterly monitoring, annual quantitative monitoring, project management, coordination and data analysis, and reporting to document compliance with the incidental take permit and Spineflower Conservation Plan. Working alongside interim preserve manager for long-term preserve success, which includes annual spineflower core population surveys throughout the ranch, preserve monitoring, and collaboration for adaptive management strategies for population viability.

Wilson III Basin Project, City of Yucaipa, California. Served as restoration ecologist to provide technical support on a restoration plan for Parry's spineflower (*Chorizanthe parryi* var. *parryi*, CRPR 1B.1) to mitigate for impacts from the Wilson III Basin flood control improvement project. Assisted with the preparation of the Sensitive Plant Species Mitigation Plan and provided technical, management and field support during mitigation implementation, including focused San Bernardino spineflower seed collection, storage, and redistribution; topsoil salvage and translocation; and native habitat seeding. The plan includes long-term management within the Wilson III Basin Preserve.

Slender Mariposa Lily Mitigation Project, Newhall Land and Farming Company, Los Angeles County, California. Serving as lead biologist for the implementation of the Mission Village Slender Mariposa Lily Mitigation Plan, which has the goal of establishing suitable habitat in Santa Clarita for slender mariposa lily (*Calochortus clavatus* var. *gracilis,* CRPR 1B.2) to be preserved in perpetuity. Long-term implementation includes the salvage and translocation of bulbs via topsoil, establishment of suitable CSS habitat, and seed collection, storage and application within suitable habitat. Providing ongoing oversight of monitoring tasks, reporting and management for maintenance action.

Sand Canyon Plaza Project, Sand Canyon LLC., Santa Clarita, California. Serving as lead biologist and restoration ecologist for the Sand Canyon Plaza mitigation projects. Preparing the Mitigation Plan for Impacts to Wetlands and Waters of the U.S. and State for Sand Canyon Plaza. The plan includes the off-site restoration, creation, enhancement and preservation of habitats and features including but not limited to alluvial channel/streambed, floodplain, Prunus ilicifolia Shrubland Alliance (S4), and a population of slender horned spineflower (*Dodecahema leptoceras,* federally and state listed endangered and CRPR 1B.1) within Bee Canyon (Significant Ecological Area). The spineflower population is planned for preservation with continued focused monitoring efforts to inform management action. Additionally, prepared and implemented the Slender Mariposa Lily Mitigation and Monitoring Plan in order to re-establish slender mariposa lily to a receptor site for preservation within a restricted on-site open space area. Included focused surveys for slender mariposa lily. Providing long-term reporting and maintenance and monitoring oversight.

Persea, LLJ Ventures LLC, San Diego, California. Serving as project manager and lead restoration ecologist for the long-term monitoring phase of the riparian enhancement project and thread-leaved brodiaea preserve. Monitored the successful block salvage and transplantation of thread-leaved brodiaea (*Brodiaea filifolia*; California Rare Plant Ranking 1B.1, state-endangered, federally threatened) individuals totaling 0.129 acres to an onsite preserve. Conducted pre-construction aerial extent survey and was a contributor to the preparation of the salvage and transplantation plan and prepared the associated Thread-Leaved Brodiaea Incidental Take Permit application.

Laurel Creek Project, DR Horton, Vista California. Currently serving as lead biologist and task manager for the sensitive-species long-term monitoring portion of the project within a nearby preserve, which includes a successfully salvaged and translocated population of thread-leaved brodiaea. Conducting qualitative and quantitative monitoring assessments and preparing monitoring reports for agency review. Monitored translocation using the "soil block method." Served as task manager and lead biologist for the implementation of the riparian enhancement plan, during both the installation and long-term monitoring phases of the project.

Joli Ann Leichtag Elementary School, San Marcos Unified School District, San Diego County, California. Serving as land manager for the perpetual habitat management of this mitigation project, which includes the long-term management of riparian and upland habitats including populations of the endangered thread-leaved brodiaea. Conducting quantitative population analysis annually to monitor thread-leaved brodiaea population trends to inform management. Preparing annual monitoring reports for submittal to state and federal resource agencies.

Kathleen Dayton

BIOLOGIST

Education

University of California, San Diego
BS, Environmental Systems: Ecology, Behavior, and Evolution, 2007

Kathleen Dayton is a biologist with 15 years' experience in general biological resource surveys, focusing on botanical resource data collection and reporting including vegetation mapping, vegetation monitoring, rare plant surveys, and rare plant monitoring. Experience includes development of Incidental Take Permits for listed plant species, and monitoring and management plan development and implementation for vegetation and special-status species, as well as development of biological technical reports to support California Environmental Quality Act (CEQA) documents and in accordance with Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs).

Project Experience

Resource Management

Spineflower Conservation Plan, Newhall Land and Farming Company, Los Angeles County, California. Acts as interim Preserve Manager for a series of San Fernando Valley spineflower preserves near Santa Clarita, California. Management includes quarterly monitoring, annual quantitative monitoring of spineflower extent and abundance, coordination of technical advisory subgroup members and adaptive management working group members, and reporting to document compliance with the incidental take permit and Spineflower Conservation Plan. Reporting also includes development of annual work plans that propose appropriate adaptive management provided results of monitoring data and research conducted regarding effective management strategies for San Fernando Valley spineflower. Monitoring includes Argentine ant monitoring. Management also includes seed collection during above-average rainfall years for both conservation-related research through seeding trails and introductions of spineflower into previously unoccupied habitat, as well as long-term storage for conservation. Also assisted with preparation of a spineflower pollination study in 2019. In 2011–2021, organized and assisted in plant surveys to document the extent of and conditions of spineflower populations and prepared reports describing the methods and results of these surveys.

Slender-Horned Spineflower Patch Variability and Distribution Survey for the Woolly Star Preserve Area Multi-Species Habitat Management Plan, San Bernardino County, California. Reviewed the 2020 report documenting patch variability and distribution of the federally endangered slender-horned spineflower (*Dodecahema leptoceras*) within and outside of the Woolly Star Preserve Area (WSPA), in San Bernardino County, California. Document review included placing results in the context of the Santa Ana River WSPA San Bernardino, California, Final Multi-Species Habitat Management Plan and interpreting results in the context of the species' life history and environmental conditions.

Initial Management Action Plan, Rancho Mission Viejo Land Trust, Orange County, California. Led and performed vegetation monitoring within riparian/wetland, oak woodlands, and coastal sage scrub habitats following established habitat-specific protocols involving quantitative assessments of vegetation characteristics. Aided in developing the digital data collection platform, analyzing the data, and report preparation. Led and performed monitoring of Argentine ants in 2019, including data analysis and reporting. Assisted with avian point counts in 2021.

Sycuan Natural Resources Management Plan (NRMP) Monitoring, Sycuan Band of Kumeyaay Nation, San Diego County, California. Led an effort to map vegetation in accordance with the Manual of California Vegetation II over approximately 1,000 acres and helped to refine long-term vegetation monitoring procedures and implement them in the field at over 20 data stations. Data was collected to support updating the Coastal Sage Scrub Area Specific Adaptive Management Plans.

Development

Middle Canyon Spring, Newhall Land and Farming Company, Los Angeles County, California. Manages long-term monitoring of a unique spring habitat that supports special-status Newhall sunflower. Monitoring includes annual Leaf Area Index (LAI) measurements, annual vegetation relevé plots, quarterly photo documentation, and an annual census of the Newhall sunflower. Reporting includes annual data analysis and comparison of that data to previous trends and management thresholds.

Various Projects, Newhall Land and Farming Company, Los Angeles County, California. Managed botanical field surveys of teams of several biologists on over a thousand of acres of habitat, mainly coastal sage scrub and chaparral. Fieldwork included mapping host plants for San Emigdio blue butterfly, special-status plant focused surveys, and vegetation mapping in accordance with the 2019 California Department of Fish and Wildlife natural communities list. Conducted data review and compilation and report coordination and review. Also assisted in the preparation of biological resource reports for various projects to support CEQA documents.

Energy/Natural Resource Management

Strauss Wind Energy Project, Strauss LLC, Santa Barbara County, California. Participated in surveys focused on the identification, mapping, and quantifying Gaviota tarplant in 2018 and 2020. Aided in the development of the Gaviota Tarplant Mitigation Monitoring and Long-Term Management Plan (MMLMP), Gaviota Tarplant Enhancement Plan (GTEP), Habitat Characterization Study for Gaviota Tarplant, and Covered Species Range-Wide Management Plan (CSRMP). Helped to recruit and coordinate Technical Advisory Committee (TAC) members. Contributed to and documented the Gaviota tarplant quantitative monitoring methodology to support the MMLMP. The MMLMP also includes seed collection for conservation and introduction efforts, as well as a pollination study. Led and conducted quantitative monitoring for Gaviota tarplant throughout Conserved Lands in 2021.

Desert Renewable Energy Conservation Plan (DRECP), California Energy Commission and Aspen Environmental Group, Southern California. Contributed to development of a plan in which renewable energy and transmission development projects in California's deserts will conserve natural communities and species pursuant to the California Natural Community Conservation Planning Act and the federal Endangered Species Act. Wrote sections of the baseline biology report, developed a species matrix used to determine species coverage, researched species information to write detailed species profiles, and reviewed species habitat models that were created in a geographic information system.

Habitat Monitoring Program, Yucaipa Valley Water District, Yucaipa, California. Led and conducted a long-term vegetation monitoring program in the San Timoteo Creek study area to evaluate the potential impact to riparian habitat resulting from the reduced discharge of recycled water to San Timoteo Creek. Prepared biological components of the annual reports for submittal to the U.S. Environmental Protection Agency (EPA) and US Fish and Wildlife (USFW) that document the findings from the previous water year and evaluate conditions relative to the baseline condition.

Specialized Training

- "Measuring & Monitoring Plant Populations." California Native Plant Society (CNPS). April 24–26, 2019.
- "San Diego Management and Monitoring Program's (SDMMP) Inspect and Manage (IMG) Rare Plant Training." SDMMP.

Cody Schaaf

BIOLOGIST/ECOLOGIST

Education

University of California, Berkeley
BS, Environmental Sciences with High Honors, 2015

Cody Schaaf is a biologist/ecologist with more than 4 years' experience conducting botanical and wildlife surveys, vegetation community classification and mapping, jurisdictional aquatic resource delineations, and other biological fieldwork throughout southern and central California. He is a skilled technical writer and has produced quality biological resource assessments, annual monitoring reports, jurisdictional delineation reports, and technical studies for a wide range of clients. His work history in the ecological sciences spans the private, public and academic sectors. He has participated in public speaking engagements at scientific conferences and has produced a scientific publication in a peer-reviewed fish ecology journal. His knowledge of California's unique flora and fauna and the regulatory mechanisms that protect them helps his clients navigate complex projects of all shapes and sizes.

Project Experience

Santa Ana Wooly Star Preserve Area (WSPA) Habitat Mapping and Slender-Horned Spineflower Patch Analysis and Distribution Surveys, County of San Bernardino Flood Control District, Redlands, California. Served as field lead during a month-long focused distribution survey and patch analysis effort for the federal and state endangered slender-horned spineflower (*Dodecahema leptoceras*) within the 825-acre WSPA in the Santa Ana River floodplain. Utilized field data to author a lengthy patch analysis and distribution survey report that included all survey results, discussions on annual variations in patch attributes and annual precipitation analyses. The report will be used to inform species management decisions within the WSPA in the future.

San Fernando Valley Spineflower Pollination Study, Newhall Land and Farming Company, Santa Clarita, California. Served as assistant biologist in a pollination study aiming to better characterize the assorted insect pollinators essential to the reproduction of the state endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). The three-week field effort required intense study of individual spineflower populations and observation/collection of individual insect visitors to spineflower plants from dawn until dusk. Conducted insect identification in the field to the family level and later coordinated directly with entomologists at the San Diego Natural History Museum to identify collected specimens to the species level. Data is being utilized to draft a manuscript that will satisfy requirements of the spineflower preserve set up by the Newhall Land and Farming Company.

East Lake Specific Plan, Western Riverside County Multiple Species Habitat Conservation Plan, Biological Resources Assessment and Surveys, City of Lake Elsinore, California. Worked alongside Dudek biologists to conduct various surveys throughout the Lake Elsinore Back Basin, a 2,000+ acre study area, collecting data to inform preparation of a Multiple Species Habitat Conservation Plan (MSHCP) on behalf of the City of Lake Elsinore. Conducted early, mid, and late season rare plant surveys for MSHCP criteria area and narrow endemic plant species within the study area. Conducted habitat assessment surveys for burrowing owl (*Athene cunicularia*), which included surveying for and mapping any suitable burrows and potential sign of burrowing owl presence.

Middle Canyon Spring Annual Report, Newhall Land and Farming Company, Santa Clarita, California. Authored the annual monitoring report for the Middle Canyon Spring preserve, the only site in the world known to support Newhall sunflower (*Helianthus inexpectatus*). Summarized monitoring methods, results and discussed health of the sunflower population and associated vegetation in the spring compared to previous years and baseline data. The annual report satisfies the requirements of the Habitat Management Plan required as part of mitigation for the Newhall Ranch development project.

Coastal Sage Scrub Vegetation Monitoring and Avian Surveys, The Reserve at Rancho Mission Viejo, San Juan Capistrano, California. Served as field lead during large-scale vegetation monitoring surveys of over 70 plots of coastal sage scrub vegetation within the Rancho Mission Viejo preserve and surrounding lands. Methods included utilizing randomized transect sampling (point intercept and quadrats) to characterize and document species presence and abundance for long-term tracking of coastal sage scrub health within the preserve. Also participated in avian point count surveys throughout the preserve; special-status species supported within upland survey areas include California gnatcatcher (*Polioptila californica*) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). The monitoring program aims to satisfy Habitat Conservation Plan monitoring requirements while actively tracking the presence and abundance of sensitive species and habitat on preserve lands.

Confidential Project, San Diego, California. Conducted biological reconnaissance surveys, vegetation mapping, and a formal jurisdictional aquatic resources delineation on a parcel in the Scripps Ranch area of San Diego for a proposed housing development. The property contained several sensitive vegetation communities and numerous rare plants, including Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), San Diego County viguiera (*Viguiera (Bahiopsis) laciniata*), San Diego barrel cactus (*Ferocactus viridescens*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and Nuttall's scrub oak (*Quercus dumosa*). Authored a corresponding biological technical report analyzing existing conditions, potential project impacts, compliance with the City of San Diego's Biology Guidelines and Multiple Habitat Preserve Area (MHPA) Land Use Adjacency Guidelines, and suggested mitigation and impact avoidance measures for sensitive biological resources occurring within and adjacent to the development footprint.

Fanita Ranch Host Plant Mapping and Jurisdictional Delineation Update, HomeFed Rancho LLC, Santee, California. Conducted botanical surveys for the federally endangered Quino checkerspot butterfly's *(Euphydryas editha quino)* host plants. Host plants include dot-seed plantain (*Plantago erecta*), purple owl's clover (*Castilleja exserta*), white snap dragon (*Antirrhinum coulterianum*), Chinese houses (*Collinsia concolor*), and thread-leaved bird's beak (*Cordylanthus rigidus*). Also assisted in a jurisdictional aquatic resource delineation (including vernal pool identification and delineation) throughout several thousand acres of coastal sage scrub, chaparral and grasslands on the property. The work aims to assess impacts to special-status species from proposed development of portions of the property

Strauss Wind Energy Botanical Surveys, BayWa Renewable Energy, Lompoc, California. Served as a field lead during focused gaviota tarplant (*Deinandra increscens* ssp. *villosa*) surveys of 3,000+ acres of coastal sage scrub, non-native grassland and oak woodland adjacent to Vandenberg Air Force Base. Led a team in surveying, mapping, and estimating gaviota tarplant population sizes in 2019 and 2020. The project also included mapping host plants for El Segundo Blue Butterfly (*Euphilotes battoides allyni*) in addition to the mapping of native grasslands, invasive weeds and other special-status plant species (black flowered figwort [*Scrophularia atrata*] and mesa horkelia [*Horkelia cuneata* var*. puberula*]). The work was used to analyze potential impacts to sensitive plants from installation of a large wind farm. Focused surveys for Gaviota tarplant were conducted to satisfy USFWS requirements for proposed take and mitigation of the federally endangered plant.

Mark McGinnis, GISP

GIS MANAGER

Mark McGinnis is Dudek's geographic information systems (GIS) group manager and has 19 years' experience in geospatial technologies and application development in both the private and public sectors. Mr. McGinnis has been responsible for project management and coordination, application development, software integration, spatial modeling/analysis, best practices initiatives, data development, and map production. His experience includes database development and management, spatial analysis, spatial model building, and online Web and mobile applications.

Mr. McGinnis has assisted in the preparation of habitat conservation plans (HCPs), biological resources technical reports, and environmental impact reports (EIRs). He has also provided needs assessments and as-needed GIS services to municipalities and agencies. In addition, Mr. McGinnis has provided GIS support for numerous biological resources reports, wetlands permitting and jurisdictional delineation.

Education

San Diego State University
MA, Geography (Geographic Information Science emphasis), 2001

University of California, Santa Barbara
BA, Geography (Geographic Information Science emphasis), 1998

Certifications

Certified GIS Professional (GISP), No. 00060883

FEMA Basic Hazards – U.S. Multi-Hazard

SWAMP Certified

Professional Affiliations

San Diego ESRI Technology Showcase

Urban and Regional Information Systems Association

Project Experience

Newhall Specific Plan, Newhall Land and Farming Company, Los Angeles and Ventura Counties, California. Served as principal GIS analyst for 14,500-acre development project. Provided GIS support in preparation of biological resources technical reports, management plans, wetland delineations, focused surveys, and EIRs. Responsible for all aspects of data collection and management, as well as display of hundreds of GIS layers. Coordinated data distribution and collection between client and consultant team. Incorporated numerous data layers from different sources and formats for use on project. Project is in progress.

West Coyote Hills Development Project, Chevron USA Production Company and Chevron Pacific Homes, Orange County, California. Served as GIS analyst responsible for data development, spatial analysis, and map book production. Work involves numerous biological technical reports and environmental compliance regarding endangered species issues and coordination with public agencies. Work is ongoing.

Vista Canyon Ranch Project, JMB Development Company, Los Angeles County, California. Served as principal GIS analyst for this project, which includes a conceptual wetlands mitigation plan, California Native Plant Society List 1B.2 slender mariposa lily (*Calochortus clavatus* var. *gracilis*) mitigation plan, and California Rapid Assessment Method analysis for the Santa Clara River within the project site. Responsible for data development, spatial analysis, and map production. Project is in progress.

Newhall Ranch Project, Newhall Land and Farming Company, Los Angeles and Ventura Counties, California. Assisted in San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina)* focused surveys from 2002 to 2005 on up to 14,500 acres of land. Used sub-meter GPS unit with custom data forms to accurately map and efficiently collect associated data on hundreds of plants. Project is complete.

Trabuco Canyon, The Planning Center, Orange County, California. Served as principal GIS analyst for preparation of biological resources technical reports for CEQA documentation for the Trabuco Canyon Project, which encompasses over 1,110 acres. Project involved vegetation mapping, jurisdictional wetlands delineation and focused rare plant surveys from 2005 to 2006. GIS supported all aspects of the project, including data management, analysis, and display of numerous GIS layers. Project is complete.

Rancho Mission Viejo Planning Area 1 Tree Survey, Rancho Mission Viejo Company, Orange County, California. Served as principal GIS analyst for GPS tree survey within Rancho Mission Viejo's planning area 1. Utilized sub-meter GPS unit with custom data forms to accurately map and efficiently collect associated data on hundreds of trees. Employed laser rangefinder hardware to map tree data in areas difficult to access. Project is complete.

As-Needed GIS Services, City of Indian Wells, California. Served as GIS manager working with the City of Indian Wells providing GIS support for their Planning department. First task involved modifying their overall GIS setup and design to improve the workflow to process and display GIS data. The City's GIS layers were organized into a geodatabase, and attributes modified to make the editing process smoother and more streamlined. Map templates have been produced to automate cartographic production, and a script was developed to download data from Riverside County's website. In addition, a GIS layer showing short-term rental locations based on parcels was created.

Habitat Conservation/Preservation Framework Study, San Bernardino Association of Governments (SANBAG), San Bernardino County, California. Served as principal GIS analyst. Tasks included data management, analysis/modeling, and map production. Data has been compiled, organized and assimilated from a variety of sources into a comprehensive GIS database. Project flow has been dynamic, requiring map production supporting day-to-day client interaction and timely decision making. Project is in progress.

Publications

McGinnis, M. 2001. Predicting the Spatial Pattern of Urban Growth in San Diego County: An Application of the Clarke Urban Growth Model. Master's thesis, San Diego State University.

Syphard, A., K. Clarke, J. Franklin, H. Regan, and M. McGinnis. 2010. "Forecasts of Habitat Loss and Fragmentation Due to Urban Growth are Sensitive to Input Data Quality and Scale." Landscape and Urban Planning. Land-D-10-00048.

Presentations

Coley-Eisenbery, L. and M. McGinnis. 2010. "GIS-Based Monitoring Techniques for the RMV Habitat Reserve Lands." 2010 ERSI User Conference. July 16–20.

Coley-Eisenberg, L. and M. McGinnis. 2010. "GIS-Based Monitoring Techniques for the RMV Habitat Reserve Lands." 16th Annual California GIS Conference. April 19–21.

McGinnis, M. 2001. "Predicting the Spatial Pattern of Urban Growth in San Diego County." Association of American Geographers Annual Meeting.

October 5, 2021 2021-156

Jake Marcon
Restoration Ecologist/Biologist
Dudek Street
605 Third Street
Encinitas, CA 92024

Subject: Proposal to Support the Slender-horned Spineflower Restoration Program

Dear Mr. Marcon,

Habitat Restoration Sciences, Inc. (HRS) is providing this proposal to support Dudek on the Slender-horned Spineflower Restoration Program. The cost estimate and scope of work are provided below.

1 Scope of Work

Task 6B

HRS will provide all labor, equipment, and materials necessary to perform of field seed bulking of Slender-horned spineflower (SHSF) in the Upper Santa Ana River Wash HCP area. The site location is planned to be in the near vicinity of the Cemex Redlands Quarry located at 8731 Orange St, Highland, CA 92346.

Field seed bulking will consist of propagating SHSF plants in seedling starter trays in a controlled setting prior to planting them within a field grow plot. The grow plot will be established in a location adjacent to potentially suitable SHSF habitat. The outside perimeter of the grow plot will be delineated by trenched in silt fence and the soil surface will be lined with landscape fabric to reduce weed encroachment, weed seed contamination, and to facilitate SHSF seed harvesting.

SHSF plants will be transplanted into the field growing plot in rows to facilitate maintenance. Plants will be spaced approximately 24 inches from each other, and the rows of plants will be spaced approximately 60 inches apart. A basic irrigation system will be set up to facilitate watering the plants to aid in establishment and growth in the absence of natural rainfall. The irrigation system will consist of overhead spray irrigation utilizing MP Rotator 2000 high efficiency spray nozzles to mimic low precipitation rate watering and will be charged by a water truck. HRS assumes a maximum of 24 watering/maintenance events are required. The costs associated with this task assume a total of 500 plants will be planted into the grow plot. Watering and plot maintenance is expected to occur between January and July 2022.

Field bulking within locations adjacent to suitable SHSF habitat is anticipated to increase the likelihood that appropriate climate, soils, and pollinators will be present to maximize seed production; factors that can be difficult to replicate in a greenhouse environment. However, site control is considered a risk and thus Dudek will work in collaboration with the Conservation District to confirm site protection mechanisms.

Task 11

HRS will provide an individual with experience in rare plant management with a Qualified Applicator License to conduct maintenance and herbicide spraying as described in the description of Task 11 within Dudek's proposal. This scope of work assumes 3 separate field days associated with this effort.

2 Cost Estimate

ITEM NO.	DESCRIPTION	PRICE
6B.1	HRS Spineflower Planting, Irrigation, and Plot Establishment (500 plants)	$30,000.00
6B.2	HRS Plot Maintenance and Watering	$36,000.00
6B.3	Harvesting, Cleaning, and Storage	$10,000.00
	Task 6B Subtotal	***$76,000.00***
11	HRS Outplanting Trials Maintenance	$3,000
	TOTAL	**$79,000**

All fees will be billed fixed fee and invoiced monthly. The total cost for this scope of work is $79,000.00. The total for this scope of work would not be exceeded without client approval. This scope of work covers labor and materials, and is based upon our understanding of the projects specifications and scope of work. Additional services required beyond this scope of work would need to be negotiated between HRS and the client accordingly.

Assumptions: HRS assumes non-prevailing wages. HRS assumes the client will provide a point of connection (POC) for filling the water truck.

Exclusions: This proposal does not include permit fees, water costs, water meter fees, hazardous materials removal, coring, boring, or breaking. HRS excludes cost of development of SWPPP plan and any QSD/QSP services.

Thank you for the opportunity to propose on these services. This cost estimate is good for 30 days from the date on the proposal.

If you have any questions regarding this scope of work, you can contact Kyle Matthews via email at kmatthews@hrs.dudek.com or his cell phone at (760) 310-4512. I can be reached through e-mail at kdisabatino@hrs.dudek.com and by phone at (760) 479-4210.

Sincerely,

Kevin DiSabatino, President
Habitat Restoration Contractor
License A & C-27 #842661

Robert Kyle Matthews, Vice President

DUDEK

800.450.1818 | HELLO@DUDEK.COM
DUDEK.COM

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1817

To: **Board of Directors**

From: **Daniel Cozad, General Manager**

Date: **November 10, 2021**

Subject: **2022 Draft District Board Meeting Calendar**

RECOMMENDATION

Review, revise and consider approval of the proposed District Board Meeting Calendar for calendar year 2022. There is no action requested today. Staff only requests feedback before this item is before the Board for final approval.

BACKGROUND

Staff has prepared a draft Board Calendar for 2022. The May Board meeting is proposed for the third Wednesday of the month because the ACWA Annual Spring Conference will be held the second week of May and the Vice President, President and General Manager typically attend.

DISCUSSION

Staff prepared draft calendar in accordance with previous practices of the Board. The Board may wish to make further changes before approval.

FISCAL IMPACTS AND BENEFITS

There is no fiscal impact related to setting meetings.

ATTACHMENTS

DRAFT Board Calendar for 2022

1630 W. Redlands Blvd, Suite A
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www.sbvwcd.org Email: info@sbvwcd.org

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

2022 Board Calendar - San Bernardino Valley Water Conservation District

JANUARY						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Jan. 12 Board Meeting
Jan. 26 2nd Qtr. Finance & Admin Mtg.

FEBRUARY						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

Feb. 9 Board Meeting

MARCH						
S	M	T	W	Th	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Mar. 9 Board Meeting
Engineering Investigation Report Presentation
Mar.23 3rd Qtr. Finance & Admin Mtg.

APRIL						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Apr. 13 Board Meeting
Public Meeting/Groundwater Charge
Apr. 27 Board Meeting
Public Hearing/Groundwater Charge

MAY						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

May 18 Board Meeting

JUNE						
S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
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19	20	21	22	23	24	25
26	27	28	29	30		

Jun. 8 Board Meeting

JULY						
S	M	T	W	Th	F	S
					1	2
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Jul. 13 Board Meeting
Jul. 27 4th Qtr. Finance & Admin Mtg.

AUGUST						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
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21	22	23	24	25	26	27
28	29	30	31			

Aug. 10 Board Meeting

SEPTEMBER						
S	M	T	W	Th	F	S
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18	19	20	21	22	23	24
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Sept. 7 Board Meeting

OCTOBER						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Oct. 12 Board Meeting

NOVEMBER						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Nov. 9 Board Meeting
Nov. 23 1st Qtr. Finance & Admin Mtg.

DECEMBER						
S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Dec. 7 Board Meeting
(@ 9:30 a.m.)
Holiday Luncheon

Wash Plan Trails
Project Summary & Status Report

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

November 2021

Project Management Approach / Work Plan

a. Develop/obtain support from Cities on trails MOU
b. Complete trail permitting, including 1) Wash Plan HCP Certificate of Inclusion and 2) State/waters permits
c. Install signs/fencing
d. Open trail(s) that do not require ancillary facilities such as trailheads or parking lots
e. Obtain grant funding for ancillary trail facilities such as trailheads and parking lots
f. Bid construction of/build ancillary trail facilities

Current Status

District and Highland staff met on October 7, 2021, to discuss the draft MOU. On October 28, Highland staff indicated that the MOU was undergoing review by the City Attorney. Redlands staff are also reviewing the Draft MOU.

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

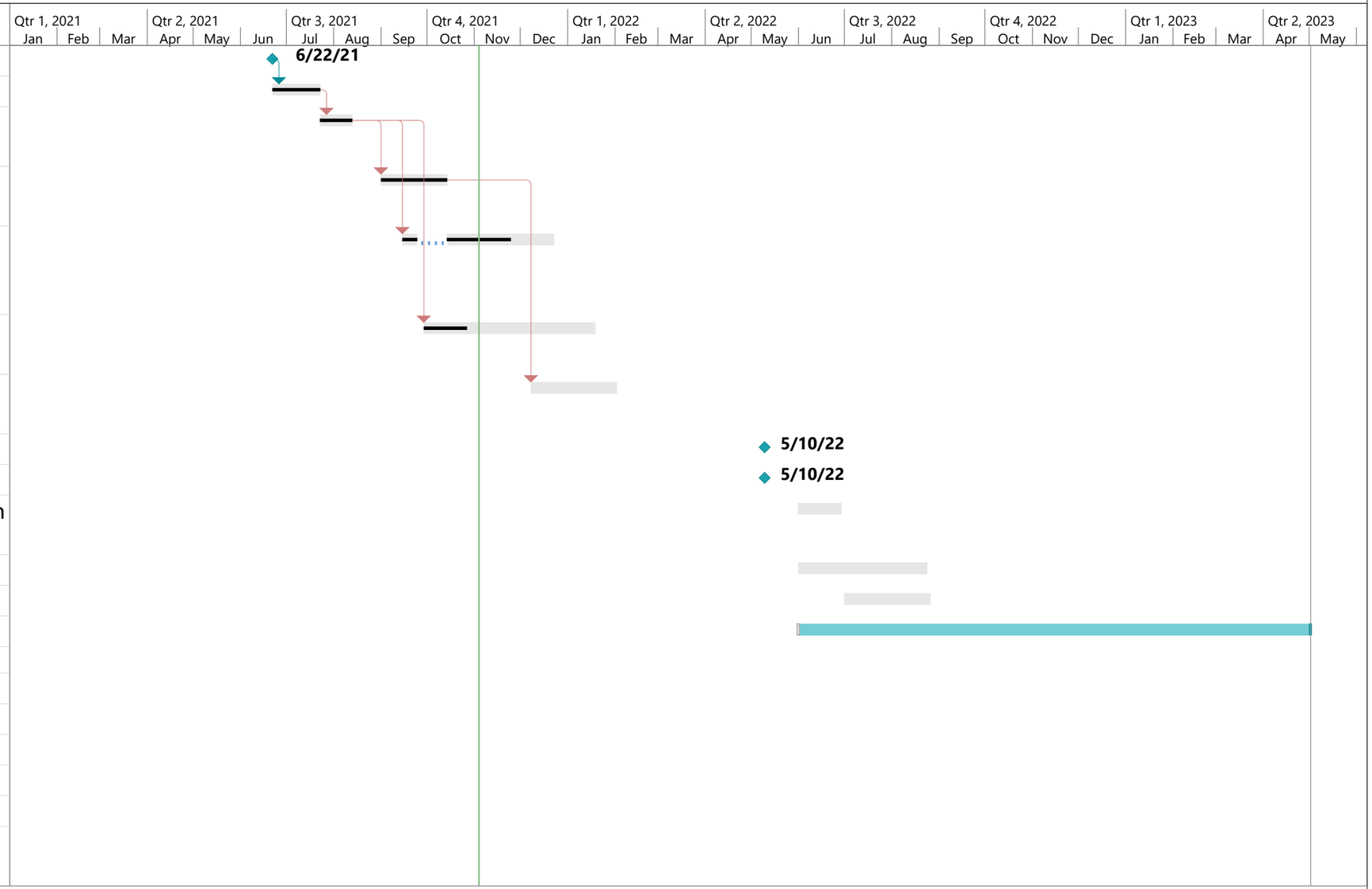
UPPER SANTA ANA WASH LAND MANAGEMENT AND HABITAT CONSERVATION PLAN (WASH PLAN)

TRAILS MASTER PLAN

PROJECT SCHEDULE

Thu 11/4/21

ID	Task Name
1	Implentation meeting with AD Hoc Committee
2	Meet with City staff to discuss MOU detail points
3	Develop an agreement for the cities, if they are willing
4	Develop a draft MOU for cities review and comment
5	Finalize funding plan for O&M and mitigation (if needed) based on preliminary funding plan in project charter
6	Identify improvements for immediate trail openings (limited signage etc.)
7	Identify Capital Improvements for long-term trail openings, where possible (parking, trailheads, etc.)
8	MOU approved by Cities and Board
9	Final trail budget approved by Board
10	Prepare trail use policies based on City codes and Wash Plan requirements
11	Recruit and/or train trails staff
12	Plan initial trail opening and press release
13	Fund applications for Capital improvements
14	
15	*Potential issues / work items not identified*
16	*Apply / Process LAFCO Activation of Powers*
17	*CEQA documentation*
18	*Environmental permitting*
19	*Construction*
20	*Various anticipated Ad Hoc Committee Approvals milestones and various Board Approval Milestones*



Mentone Yard Shop
Project Summary & Status Report No. 6

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

November 2021

Project Management Approach / Work Plan

a. District prepared initial site plan, needs analysis and prelminary design - COMPLETE
b. Bid out building as a Design / Build contract
c. Bid out septic improvements as a separate design / build contract
d. District staff to perform construction management and oversee permitting
e. Bid out storage cabinets / install including hazardous material cabinets separately (portion may be done by Ops staff)

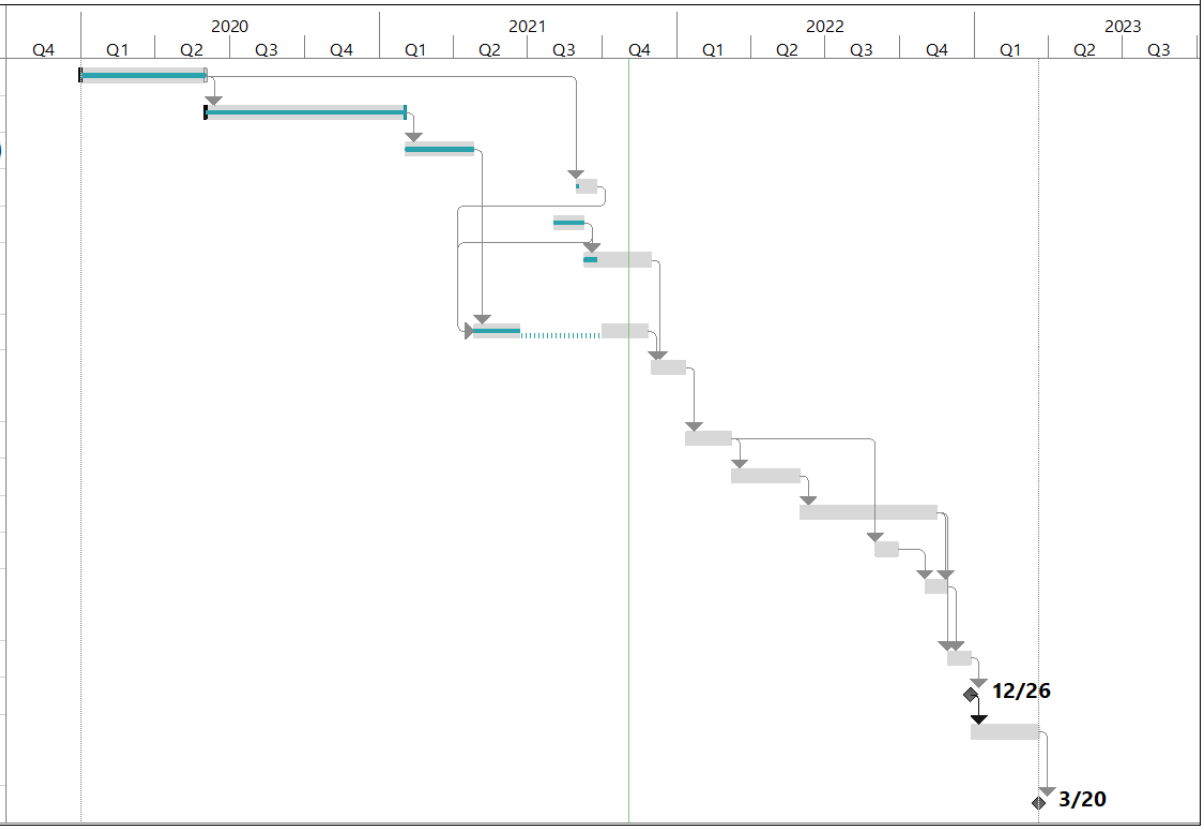
Current Status

Geotechnical Investigation Report contract has been issued. Field exploration scheduled for November 9th. Design/Build Bid package has been prepared and reviewed by Counsel. RFB will be issued once geotechical work is completed. RFB will be sent to local firms that know County requirements and are pre-approved manufacturers.

Project Schedule (note added soils and septic work as separate tasks)

MENTONE SHOP IMPROVEMENTS
Project Schedule
revised October 2021

ID	Task Name
1	Preliminary Site design
2	Needs Analysis
3	Architect Procurement (Initial)
4	Perform field surveys
5	Soils Investigation RFP
6	Soils Investigation (building foundation and septic)
7	Design Build RFP
8	Design Bid Advertise and Award
9	Initial Plan Submittals
10	Obtain Building Permits
11	Construction
12	Septic System RFB
13	Septic System Permits and Construction
14	County Final Approval
15	Initial occupancy
16	Obtain Cabinets and misc interior features
17	Building Complete



San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1818

To: **Board of Directors**

From: **General Manager, Daniel Cozad**

Date: **November 10, 2021**

Subject: **Overview and Update Report for the Active Recharge Partnership Agreement for the Upper Santa Ana River Habitat Conservation Plan**

RECOMMENDATION

Informational report; no action is recommended.

BACKGROUND

On September 10, 2018, at a Joint Board meeting with SBVMWD, the Board approved Resolution No.

561 directing staff a partnership agreement relating to mitigation and expanded recharge projects for the Upper Santa Ana River Habitat Conservation Plan (River HCP). In November 2018, the Board approved the subject agreement with SBVMWD on behalf of 13 other agencies, and staff is now reporting on the status of efforts under that Agreement.

By way of background, SBVMWD is leading the development of the River HCP, which will secure the necessary permits to allow the construction and operation of several stormwater capture and recycled water projects. These projects have been identified as cost-effective alternatives to increase the water supply reliability of our region, especially during droughts. The acquisition of mitigation land to offset the impacts of these water supply projects is the primary focus in this stage of the development of the River HCP.

SBVMWD has been leading the River HCP partners to secure the necessary mitigation land resources essential to complete the HCP. Although they have purchased several parcels on the open market, there is still a need to acquire several hundred more acres of San Bernardino Kangaroo Rat habitat for the HCP. The District has up to 295 acres of land in the Santa Ana River Wash that could be used to provide such SBKR conservation easements for mitigation purposes. This land is located on District lands outside of existing preserves. This acreage was not needed to mitigate the Wash Plan HCP Covered Activities and was available for other conservation purposes. To acquire mitigation lands at the lowest possible price and find additional ways to cooperate, Conservation District and Valley District Staff forged a partnership to facilitate the recharge aspects of the project.

In updating the District's Community Strategic Plan in 2017, three of the seven priorities the Board identified related to creating recharge and expansion of services and habitat management. This partnership significantly advances these strategic goals.

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The agreement provides SBVMWD the ability to purchase up to 295 acres of Conservation Easements for mitigation for River HCP-covered activities at $125,000 per acre, a total of $36,875,000. Half of the total was paid after the initial due diligence period, with the rest due upon final commitment to use the remaining acreage in the HCP, as final River HCP permitting may require. In turn, the Conservation District has committed to using the proceeds of the mitigation land sale to build a portion of the Active Recharge Projects. These stormwater capture projects are located along the base of the San Bernardino Mountains that utilize flows in the tributaries to the Santa Ana River for groundwater recharge, often in flood control facilities. The Active Recharge Project is modeled after the successful development of the Enhanced Recharge Project along the Santa Ana River, albeit at much-reduced scales due to the smaller watersheds that feed the remaining tributaries.

Under this joint project scenario, SBVMWD will pay our District to secure mitigation lands, with the purchase price agreed to be dedicated by the Conservation District to build a portion of the planned stormwater capture improvements to enhance recharge. The District will operate the facilities, designate new staffing, and initiate a review of the conceptual projects.

In 2019 the Board authorized additional staffing to support the ARTP and established the ARTP Reserve to obligate the roughly $18 million already paid. The District invested the funds in CalTrust. In 2019 and early 2020 they earned adequate interest to fully offset the staffing and other costs of the program incurred, which include preliminary site investigations and design for initial ARTP projects. In late 2020 and 2021 interest earnings were reduced by federal efforts intended to support the economy during the COVID Pandemic, and some use of capital is required to continue engineering and design.

Financial Implications

The core rationale for this agreement rests in the symbiotic interests of SBVMWD and our District it addresses. Instead of having both parties approach the open market for conservation land buying and selling, with widely variable supply, demand, pricing, and timing, this agreement assures the availability of conservation lands for projects that benefit both parties, and offers dedicated funding for the use of Conservation District expertise in their design and operation. The result will be faster delivery of projects of regional benefit, through funds of one agency, and the project implementation efforts of the other. The sale of the Conservation Easements is a significant monetization of District land assets. At full implementation of the agreement, the purchase would be up to $36,875,000. While this is a large sum, it is not adequate for full funding of the project benefits intended by all aspects envisioned in the conceptual active recharge program. The full list of projects cannot be completed without additional funding. To provide supplemental funding, SBVMWD has developed a funding proposal to the USWPA under the Water Infrastructure Finance and Innovation Act (WIFIA) for the Upper Santa Ana River Watershed Infrastructure Financing Authority. When successful, the program would fund projects in several phases and would include the remaining funding for the ARTPs.

Ongoing Conservation District operational costs will come from District groundwater charge and Groundwater Council Annual operations and maintenance budget, befitting of the regional benefit the ARTP facilities will confer. Legal strictures on rate setting, and controls in the annual budgeting processes of the Groundwater Council, will assure long term costs of service operations should also be revenue neutral.

ATTACHMENTS OR MATERIALS

Partnership Agreement

PARTNERSHIP AGREEMENT FOR JOINT ACTIVE RECHARGE PROJECT DEVELOPMENT UNDER THE UPPER SANTA ANA RIVER HABITAT CONSERVATION PLAN

This PARTNERSHIP AGREEMENT FOR JOINT ACTIVE RECHARGE PROJECT DEVELOPMENT UNDER THE UPPER SANTA ANA RIVER HABITAT CONSERVATION PLAN ("Agreement") is entered into this 8th day of January, 2019, by and between the SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT ("Conservation District") and SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT ("Valley District"), in consideration of all of the following:

RECITALS:

WHEREAS, the Conservation District and Valley District (individually sometimes referred to herein as a "party," or collectively "parties") enjoy a strong, recent history of cooperation and pooling of resources toward regional betterment of the availability, quality and flexibility of groundwater supplies and management, including all of the following:

1. Entering into an "Easement and License Agreement" on or about April 2008, whereby the Conservation District and Valley District agreed to cooperate in the sharing of available recharge facilities, and the development of additional facilities and the sharing of maintenance costs in connection with same;

2. Entering into an "Agreement to Develop and Operate Enhanced Recharge Facilities" on or about October 2012, under which Valley District leased facilities of the Conservation District, and the parties delineated responsibilities for the operation and maintenance of existing spreading basins and opportunities for the development, ownership, and operation of new facilities; and

3. Assuming joint lead organizational responsibilities leading to the "San Bernardino Basin Groundwater Council Framework Agreement," an initiative which formed a multi-agency forum for assessment, planning, and funding for balancing the availability of local native water supplies with imported water supplies, and balancing commitments under prior water adjudications with historical and evolving current groundwater production demands, while striking an equitable balance for prospective funding and planning for long-term groundwater resource sustainability;

WHEREAS, the Conservation District has for some time been formulating, sponsoring, coordinating, and serving as lead agency for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan ("Wash Plan"), under which it has undertaken extensive habitat modeling development, field surveys and verifications, habitat assessments, formulations of habitat management plans and funding estimates for same, and otherwise

conducted negotiations with resource protection agencies, including the United States Fish and Wildlife Service and the California Department of Fish and Wildlife, to establish reasonable and responsible criteria for the balancing of habitat preservation and management needs with the demands for the public benefits resulting from public work projects and other "Covered Activities" under the Wash Plan;

WHEREAS, through the efforts of the Wash Plan, the Conservation District, acting in coordination with the resource protection agencies, has developed habitat surveys, habitat assessment tools, and proposed management plans and programs which are anticipated to serve as the basis of a successful approval of the Wash Plan, and implementation of a multi-agency Incidental Take Permit, along with a habitat conservation plan to offset impacts to endangered and threatened species and their critical habitats from covered activities included within the Wash Plan;

WHEREAS, Valley District has been a supportive member and investor of the Wash Plan;

WHEREAS, Valley District has, in its own right and in conjunction with public agency partners, including the Conservation District, undertaken the Upper Santa Ana River Habitat Conservation Plan ("River HCP"), as part of its mission to expand and improve the region's capacity to divert, store, and recharge water. The governance of the River HCP is still in the process of being negotiated, but its participants presently anticipate a Joint Powers Authority or some similar mechanism. The River HCP's covered activities will include the proposed Active Recharge Projects, which will expand available facilities for increased regional groundwater management, including accommodation of both native water and imported water supplies on a regionally cooperative basis;

WHEREAS, the Conservation District as a partner in and member of the River HCP has participated in review of the Active Recharge Projects, especially the Mill Creek Project;

WHEREAS, both Valley District and the Conservation District seek to build upon the positive work done in the Wash Plan, and the positive working relationships with resource protection agencies fostered thereby, in advancing the Active Recharge Projects and the River HCP;

WHEREAS, Valley District and its River HCP partners have estimated that mitigation requirements for the River HCP, including Active Recharge Projects, may call for substantial amounts of acreage of San Bernardino kangaroo rat or other species habitat to be placed under conservation easements in mitigation of effects from River HCP covered activities;

WHEREAS, the Conservation District and Valley District now wish to draw upon their strong and productive recent history of cooperation to combine their resources and expertise in service of the advancement and effectuation of the River HCP and Active Recharge Projects, while at the same time ensuring that the fiscal and other benefits flowing from the necessary

habitat preservation and mitigation components of those efforts redound to the benefit of, and stay within the purview of, local regional water interests, to serve the joint constituencies of the Conservation District and Valley District;

WHEREAS, the Conservation District has identified that it owns approximately two hundred ninety five (295) acres of lands it believes constitute suitable San Bernardino kangaroo rat or other species' habitat, which may be appropriate for use in conjunction with the anticipated habitat mitigation requirements expected for the River HCP, including Active Recharge Projects; and

WHEREAS, both the Conservation District and Valley District realize that available San Bernardino kangaroo rat and other species' habitat could be purchased from, or sold to, private development or other interests, at varying costs, and by varying purchasing agencies. However, both Conservation District and Valley District believe that coordinating the available habitat owned by one water agency to the use and benefit of another agency, in furtherance of projects which will improve the overall capacity of the region they both serve to preserve, manage, and maximize groundwater supplies, is in their mutual best interest, and more importantly in the best interest of their joint constituencies.

NOW THEREFORE, IN CONSIDERATION OF ALL OF THE FOREGOING, THE PARTIES DO HEREBY AGREE AS FOLLOWS:

I. HABITAT AREA

The property to which this Agreement pertains consists of the approximately two hundred ninety five (295) acres of property designated as "neutral lands" under the Wash Plan, and area in portions of the Conservation District's Mill Creek spreading grounds, or other areas owned by the District within the designated Critical Habitat of the San Bernardino Kangaroo Rat, or other threatened or endangered species ("Habitat Area"). The Habitat Area is depicted in Exhibit A, hereto. The parties understand that formal legal description will be required for all component properties of the Habitat Area, for the successful recordation of a conservation easement. Consequently, the parties agree to identify the Habitat Area for present purposes by way of general reference and mapping, and agree to meet and confer as may be necessary to share the responsibility and cost of delineating with more precision the areas to be included in the Habitat Area, with the objective being to assure it includes the contemplated two hundred ninety five (295) acres within SBKR or other species' Critical Habitat in all or portions of the following parcels: 016831106, 029705102, 029701107, 029707113, 029707108, 029707103, 029707116, 029707110, 029705106, 029707102, 029705105, 029705101, 016832110, 016832102, 016838102, 016834104, 016834204, 016834209, 016834206, 030213114 or in other lands owned by the District.

II. DUE DILIGENCE PERIOD FOR REVIEW AND ASSESSMENT OF HABITAT AREA

Although significant information on the biological and habitat status of the Habitat Areas have been developed by the Conservation District through the Wash Plan and the Mill Creek Habitat Evaluation, both conducted in cooperation with SBVMWD, the Conservation District makes no warranty, guarantee, or representation that the Habitat Area, or any part of it, is suitable for Valley District's purposes in connection with the habitat requirements of the River HCP. Beginning on the date that this Agreement is signed by both parties, and continuing for a period of one hundred twenty (120) days thereafter, Valley District shall have the right to enter on, though, and over the Habitat Area, and to perform any such surveys, mapping, species observation or trapping, soil sampling, or other reviews and investigations of the Habitat Area as it may, in its discretion, deem necessary or appropriate to determine for its own purposes whether these areas of critical habitat are suitable for potential application as habitat mitigation for covered activities under the River HCP. Valley District shall defend, indemnify, and hold harmless the Conservation District from any claim for injury or damage, whether to persons or to property, arising out of the exercise by Valley District, or any of its consultants, employees, contractors, or assignees, of this right of entry. Both parties acknowledge Conservation District has made available to Valley District existing mapping, GIS files, and habitat surveys or models performed, and Conservation District will provide at no cost other literature reviews or summaries, assessments, or other reports or data within its possession and control which Valley District may reasonably request, in order that Valley District may verify for its own purposes that these areas of the Habitat Area are suitable for River HCP mitigation purposes. After such 120 day period, if Valley District determines that the Habitat Area is not suitable for mitigation purposes for the River HCP, it shall so notify the Conservation District in writing, and this Agreement shall thereupon terminate, with no further obligation of either party to the other. Any such notice must pertain to the entire two hundred ninety five (295) acres of Habitat Area, and Valley District may not opt to accept some but not all of such area, or divide the Habitat Area, though in the event the due diligence investigations indicate the parties' present presumptions regarding the suitability and amenability of the Habitat Area prove to be incorrect, the due diligence period may be extended by mutual written agreement of the parties for their exploration of potential modification of the scope or location of the constituent properties of the Habitat Area. Absent such rejection notice from Valley District to the Conservation District, however, at expiration of the due diligence period (as may be extended), Valley District shall be deemed to have satisfied itself regarding the physical condition, habitat suitability, and amenability of the Habitat Area for use as prospective mitigation for the covered activities under the River HCP.

III. CONSERVATION EASEMENT FUNDING

Within thirty (30) days of the expiration of the due diligence period, Valley District shall pay to Conservation District the sum of EIGHTEEN MILLION FOUR HUNDRED THIRTY SEVEN THOUSAND FIVE HUNDRED DOLLARS ($18,437,500.00), which represents a unit

price of $125,000 per acre for 147.5 acres or one half of the two hundred ninety five (295) acres of Habitat Area to be set aside and reserved for satisfying the anticipated habitat mitigation requirements for the River HCP ("Initial Conservation Easement Funding"). The remaining EIGHTEEN MILLION FOUR HUNDRED THIRTY SEVEN THOUSAND FIVE HUNDRED DOLLARS ($18,437,500.00), half of the Conservation Easement Funding ("Subsequent Conservation Easement Funding") shall be remitted by Valley District to Conservation District upon the occurrence of the first of the following :

- The governance entity for the River HCP or Valley District commits to the use of acreage from the Habitat Area in excess of 147.5 acres in the aggregate, pursuant to any habitat conservation plan, incidental take or other environmental regulatory permit application
- The Conservation District is requested to commit in writing to agree to the imposition of conservation easements serving the River HCP over acreage from the Habitat Area in excess of 147.5 acres in the aggregate,
- Valley District and Conservation District both agree that, regardless of the status of environmental or other processing on the River HCP, Conservation District requires funding in excess of the initial one-half payment of the Conservation Easement Funding to meet financial demands of water conservation efforts, including "Transfer Projects" as defined below, or related land acquisitions, water quality or supply facilities development, and other related projects.
- Thirty-Six (36) months following the Effective Date of this Agreement

Both the Initial Conservation Easement Funding and Subsequent Conservation Easement Funding shall be remitted in cash, and shall be paid in a single, lump-sum payment. Immediately upon receipt of the Initial Conservation Easement Funding, the Conservation District will revise its reserve policy to segregate the entire amount in a separate fund, and shall not commingle any Conservation Easement Funding with any other reserves, funds, or monies of the Conservation District. Conservation District shall provide to Valley District, upon reasonable request by Valley District but no more than once in any twelve month period, an accounting of the amount of the Conservation Easement Funding remaining, and any application of Conservation Easement Funding to any purpose since the date of the last accounting.

IV. RESTRICTED USE OF CONSERVATION EASEMENT FUNDS

Conservation District shall hold and administer the Conservation Easement Funding, and shall have the authority, in its discretion, to invest all or any part consistent with the Conservation District's then-applicable statement of investment policy. All interest or other revenues that may be earned thereon shall accrue to the Conservation District and shall designate a share of said interest to be utilized to offset the staff and overhead expenses associated with the development and administration of the Transfer Projects incurred by the Conservation District. Notwithstanding the foregoing, Conservation District shall not pledge, encumber, or otherwise hypothecate any portion of the Conservation Easement Funding principal, except as may be

specifically permitted herein. Conservation District shall hold, apply, and use the Conservation Easement Funding principal only in the furtherance of water conservation efforts, including "Transfer Projects" (defined below) or related land acquisitions, water quality or supply facilities development, and other related projects contemplated hereunder with similar benefits, which projects are located within the jurisdictional boundaries of at least one of the two parties hereto.

V. PARTNERSHIP AGREEMENT POLICY COMMITTEE

The parties shall form a "Partnership Agreement Policy Committee" consisting of the general managers and one Board appointed member of both the Conservation District and Valley District, or their designees, and one representative of the San Bernardino Basin Groundwater Council, to be appointed by the San Bernardino Basin Groundwater Council pursuant to procedures it shall determine. The Partnership Agreement Policy Committee shall meet regularly, no less than quarterly, to review and advise the Conservation District on the status and commitment of the Conservation Easement Funding to capital projects and its interest revenues, and implementation of renewal, upgrade, relocation, rehabilitation, or maintenance projects to which the Conservation Easement Funding is to be devoted, including the Transfer Projects. The Partnership Agreement Policy committee's advice and recommendations shall be provided to the Conservation District and Valley District in writing, with a copy to be delivered to the Groundwater Council. All actions taken by the Partnership Agreement Policy committee shall be based on unanimous agreement. The Partnership Agreement Policy Committee may make recommendations, but except as otherwise provided in this Agreement, may not itself bind the legislative bodies of either the Conservation District or Valley District.

VI. RESERVATION OF HABITAT AREA FOR CONSERVATION EASEMENT

From and after the receipt of the Initial Conservation Easement Funding by the Conservation District, the Conservation District shall reserve two hundred ninety five (295) acres of conservation easement capacity within the Habitat Area in trust on behalf of water conservation and supply projects for all formally participating agencies of the River HCP (whether through a joint powers agency or other cooperative agreement or mechanism), for the purpose of the dedication, use, and ultimate commitment under conservation easements of the property included therein for mitigation requirements for the River HCP. From and after the receipt by the Conservation District of the Initial Conservation Easement Funding, and continuing until the recordation of conservation easements on the entirety of the Habitat Area, or the other termination of this Agreement, the Conservation District shall not encumber, hypothecate, pledge, sell, lease, or otherwise transfer or assign any right, title, or interest in any portion of the Habitat Area that might reduce the potential use of the Habitat Area for habitat mitigation purposes for the River HCP, such that the useable portion of the Habitat Area falls below the two hundred ninety five (295) acres. Conservation District shall continue to use reasonable diligence in the oversight of the Habitat Area during the time the Habitat Area is so reserved, and shall continue to take reasonable measures to protect such areas from trespass, spoliation, or destructive unauthorized use which would prevent its use for habitat mitigation, in

accordance with existing Conservation District land stewardship policies. Likewise, during the time the Habitat Area is so reserved, the Conservation District shall undertake no activity on, over, or within the Habitat Area that destroys, derogates, or eliminates the habitat qualities of the Habitat Area, including grading, scraping, or intentional introduction of destructive, non-native plant or animal species.

VII. CONSERVATION EASEMENT – PLEDGE AND RECORDATION

To the extent that the Conservation Easement Funding has been paid to the Conservation District (either through the Initial Conservation Easement Funding as to 147.5 acres of the Habitat Area, or the Subsequent Conservation Easement Funding as to any acreage in the Habitat Area in excess of 147.5 acres), upon approval of the River HCP, and at such time as incidental take permits or other permits requiring mitigation from the Habitat Area are ready to issue, or at any such earlier time as may be agreed to by both parties hereto, Conservation District shall record conservation easements over the Habitat Area, up to and including the full two hundred ninety five (295) acres of the Habitat Area. The form of such conservation easement shall be subject to the reasonable approval of the applicable permitting agencies, the Conservation District, and Conservation Trust, which approval shall not be unreasonably withheld or delayed.

VIII. VALLEY DISTRICT HABITAT OBLIGATIONS

The Conservation Easement Funding is intended as consideration to the Conservation District for making the Habitat Area available for conservation easements, and its cooperation in facilitating recorded conservation easements over the same. It shall be the sole responsibility of Valley District, at its cost and expense, to absorb the cost of any Habitat Area surveys, mapping, trapping or other habitat tracking, assessment, characterization, or any physical site preparation work that may be required by the applicable permitting agencies as a condition to the acceptance of the Habitat Area as appropriate offsetting mitigation to impacts from River HCP covered activities. Further, it shall be the responsibility of Valley District, at its sole cost and expense, to fund any initial treatment, or management efforts, on the habitat Area, and to fund the non-wasting or other endowment that will be required by applicable permitting agencies to sustain the permanent habitat mitigation management programs that may ultimately be approved as part of the River HCP for the Habitat Area. The parties contemplate that the non-wasting or other endowment shall be held by the Conservation Trust, a 501(c) (3) nonprofit corporation, in compliance with California Department of Fish and Wildlife requirements and regulations.

IX. SAN BERNARDINO VALLEY CONSERVATION TRUST

Both Conservation District and Valley District contemplate that the conservation easements will be held by the San Bernardino Valley Conservation Trust, who will also administer non-wasting or other endowment that will be required and approved as part of the River HCP. Valley District and the San Bernardino Valley Conservation Trust may enter into any such agreements, memoranda of understanding, or other contracts governing the details of Valley District's payment of non-wasting or other endowments, habitat management plan

compliance and reporting of same, or other matters, as may be necessary or convenient to assure the smooth, efficient implementation of habitat management plan responsibilities, and funding for meeting such responsibilities that would be carried out on up to the two hundred ninety five (295) acres of Habitat Area under Conservation Easements by the San Bernardino Valley Conservation Trust. Both Conservation District and Valley District will petition the San Bernardino Valley Conservation Trust for an expansion of its board of directors, to include one representative selected by Valley District. Notwithstanding the statements of intention of the parties herein, the Conservation Trust is not intended to be, and is not, a third party beneficiary of this Agreement.

X. TRANSFER PROJECTS

Conservation District and Valley District have identified the following conceptual projects contemplated to be included as part of the covered activities of the River HCP as "Transfer Projects." Conservation Easement Funding will be applied to these conceptual projects or to projects which achieve similar benefits to the "Transfer Projects", and the ownership and responsibility for them will be allocated as provided herein:

(a) Plunge Creek Basins 1 and 2 construction

(b) City Creek Basins construction

(c) Waterman Basin reconstruction and maintenance

(d) Twin Creek Basin repairs and maintenance

(e) Mill Creek Diversion Expansion Construction

Additional description of these conceptual projects, their estimated costs, and a diagram showing the general location of the Transfer Projects is attached hereto as Exhibit B. The Transfer Projects are at this time conceptual, and their costs are estimated. They are listed herein as examples of projects to which the Conservation Easement Funding will be applied, pending further identification of scope, timing, and available funding between the parties hereto, and the ultimate approval of the River HCP. The Transfer Project listing is not exclusive as to projects for which the Conservation Easement Funding may be applied, nor is it a commitment on the part of the Conservation District herein to fund, construct, or manage such Transfer Projects, or any of them.

XI. TRANSFER PROJECT PROCESSING.

Valley District will continue to have responsibility for permitting the Transfer Projects, to the extent such approval is part of the River HCP. To the extent additional permitting, in addition to or beyond that provided by the approvals attendant to the River HCP, is required prior to implementation of the Transfer Projects, Conservation District may, but is not obliged to, require that Valley District serve as lead agency for the filing, prosecution, funding, and

completion of all such additional permitting applications or procedures, including but not limited to processing under NEPA or CEQA. For those Transfer Projects the Conservation District does decide to proceed to fund in whole or in part with proceeds from the Conservation Easement Funding, in consultation with Valley District through the Partnership Agreement Policy Committee, Conservation District will assume the lead role in feasibility studies, engineering design, construction plan development, construction permitting, advertising, bidding, award, property or right of way acquisition, scheduling, construction, and maintenance and operation of the Transfer Projects, as may be required for each. Prior to initiating any Transfer Project, the parties shall meet and confer regarding its planning, engineering, award, bidding, and construction costs. Conservation District shall, prior to putting any Transfer Project out to bid, present the final construction engineering drawings, contract specifications, construction cost estimates, construction schedules, and the advertising and bid package ("Construction Package") to the Partnership Agreement Policy Committee for their review and concurrence. To the extent the planning, engineering, award, bidding, and construction costs of a Transfer Project undertaken by the parties hereunder cannot be fully funded by the proceeds of the Conservation Easement Funding, the parties shall determine, before undertaking the Transfer Project, whether Valley District will advance or reimburse the Conservation District for the additional project costs above available Conservation Easement Funding for the completion of the applicable Transfer Project, whether other funding is available to meet any shortfall, or whether a reduced or modified scope of the Transfer Project is appropriate to secure the highest available benefit to preserve, manage, and maximize groundwater supplies within existing available funding. Upon concurrence by the Partnership Agreement Policy Committee with the Construction Package, the Conservation District will undertake construction of the Transfer Project, and shall pursue it diligently to completion. The Conservation District shall report of the progress of any Transfer Project construction to the parties at all meetings of the Partnership Agreement Policy Committee, including schedules, budgeting, change orders or changes in scope, and any disputes or potential disputes with the contractor. To the extent the Valley District believes through the course of a Transfer Project's construction that the Conservation District is proceeding at a pace which exhibits bad faith delay, or the Conservation District's construction management and oversight is substantially below the prevailing standards of skill, competence, or timeliness in the professional construction fields generally given the scope and nature of the applicable Transfer Project ("Construction Default") , Valley District shall present written documentation supporting such belief at a meeting of the Partnership Agreement Policy Committee, and the parties shall thereupon proceed to Dispute Resolution under Section XVII below. If such processes fail to yield resolution, the parties agree that either may pursue any legal remedy at law or in equity, and specifically agree that among such equitable remedies, a court or other agreed tribunal may upon making an independent judgment finding of the existence of a Construction Default by the Conservation District, permit Valley District to assume control of the supervision of and completion of the construction of the Transfer Project, in which event Valley District may utilize those portions of the Conservation Easement Funding budgeted and concurred in by the Partnership Agreement Policy Committee for the applicable Transfer Project, towards such completion. Upon completion of each of the Transfer Projects, Conservation District shall maintain and operate such projects. The application of Conservation Easement Funding toward

capital construction of the Transfer Projects, and the relative priority of application of such funding to the Transfer Projects, shall be determined by the Conservation District, with input by Valley District in the forum of the Partnership Agreement Policy Committee.

XII. ADDITIONAL PARTNERSHIP ON TRANSFER PROJECTS

To the extent that any Transfer Project develops "new water" under the Western Judgment, the Riverside County entities benefitting from such "new water" may participate in the Transfer Projects, up to 27.95% of the costs paid to the Conservation District, upon such terms and conditions as all participants may agree. In the event the Riverside County entities choose not to join a Transfer Project at inception, but later determine to participate in such projects, such terms and conditions will include an escalation rate to reflect the time value of funds invested by the parties hereto, and other prior contributions to the applicable Transfer Project by the participants in same up to that point, as all participants may agree.

XIII. LAFCO APPROVAL

To the extent that implementation of any of the Transfer Projects by the Conservation District may require approval of the San Bernardino County Local Agency Formation Commission ("LAFCO"), whether through activation of latent powers or the adjustment of jurisdictional boundaries of the Conservation District, or otherwise, Conservation District and Valley District agree to present a joint application for such LAFCO approval, agree to cooperate reasonably in supporting such application to effectuate the purposes hereof, and shall share evenly in the costs of any such proceeding.

XIV. STATE WATER BOARD PETITION

To the extent that a request to the State Water Resources Control Board is required for any change in diversion location to any prior water right, whether held by Valley District or Conservation District, in order to effectuate the Transfer Projects, the River HCP, or the effective habitat mitigation plan ultimately approved for the Habitat Area as part of the River HCP, and so long as not in derogation of the cooperating party's own existing water rights, each party agrees to cooperate reasonably with the other to develop such an application, and agrees to cooperate reasonably in supporting such application to effectuate the purposes hereof.

XV. TERM

This Agreement shall take effect immediately upon its approval by both parties, and shall continue in full force and effect for a period of five (5) years thereafter, except those provisions relating to the transfer of the Transfer Projects to the Conservation District, which in the event such Transfer Projects are funded and implemented, the Conservation District obligations with respect to such Transfer Projects will survive the termination of this Agreement. In the event the River HCP is not approved within the five (5) year term of this Agreement, the parties may agree

in writing to an additional extension, up to and including an additional five (5) years, for a total of ten (10) years. In the event the River HCP effort is discontinued or abandoned by the River HCP partners, prior to the expiration of the term of this Agreement, and prior to the recordation of conservation easements on the Habitat Area, this Agreement may be terminated earlier than the expiration of its term, by mutual agreement of the parties.

XVI. RELEASE OF HABITAT AREA IF RIVER HCP FAILS OR IS ABANDONED

In the event the River HCP does not come to fruition, and either fails to secure approval from the applicable regulatory agencies, or is otherwise abandoned by the River HCP partners, prior to the expiration of the term of this Agreement and prior to the recordation of conservation easements on the Habitat Area, Conservation District may, but is not obligated to, release the Habitat Area from its reservation for River HCP mitigation purposes. In the event there is a factual dispute regarding whether the River HCP effort has been discontinued or abandoned by the River HCP partners, the matter shall be referred to dispute resolution processes as provided under Section XVI below. If the Conservation District attempts to exercise this right prior to the expiration of this Agreement, it must provide written notice to Valley District for one (1) year prior to the effective date of any release from reservation of any then-remaining, undedicated portions of Habitat Area, which are not then under conservation easements, and for which no non-wasting or other endowment has been paid. The one-year period shall be tolled during the pendency of dispute resolution proceedings regarding any factual dispute regarding whether the River HCP effort has been discontinued or abandoned by the River HCP partners. On or before the expiration of the one year period following such notice, Conservation District shall refund to Valley District the amount of $125,000 per acre of all then-undedicated areas of Habitat Area, which are not then under conservation easements and for which no non-wasting or other endowment has been paid, and for which either the Initial Conservation Easement Funding or the Subsequent Conservation Easement Funding has been paid by Valley District to Conservation District, as a precondition to removing such areas from reservation. Notwithstanding any of the foregoing, however, the sum of five million dollars ($5,000,000.00) from the Initial Conservation Easement Funding shall be exempt from any refund by the Conservation District to Valley District, and shall be restricted only by the requirement for Conservation District to use such funds as specified in Section IV above. In the event the Conservation District exercises the right hereunder before the River HCP has received dedication or the benefit of Conservation Easements of at least forty (40) acres of the Habitat Area, the parties shall meet and confer to identify a proportionate amount of undedicated acreage from the Habitat Area which shall be made available to Valley District for other projects meeting the project objectives of the use restrictions of Sections IV above. In no event, however, shall the amount of Habitat Area made available for Conservation Easements to Valley District from the Habitat Area be less than forty (40) acres, once the Initial Conservation Easement Funding has been paid.

XVII. DISPUTE RESOLUTION

The Parties recognize that there may be disputes regarding the obligations of the Parties or the interpretation of this Agreement. The Parties agree that they may attempt to resolve disputes as follows:

A. Statement Describing Alleged Violation of Agreement

A party alleging a violation of this Agreement (the "Initiating Party") shall provide a written statement describing all facts that it believes constitute a violation of this Agreement to the other party alleged to have violated the terms of this Agreement (the "Responding Party").

B. Response to Statement of Alleged Violation

The Responding Party shall have sixty (60) days from the date of the written statement to prepare a written response to the allegation of a violation of this Agreement and serve that response on the Initiating Party or to cure the alleged violation to the reasonable satisfaction of the Initiating Party. The Initiating Party and the Responding Party shall then meet within thirty (30) days of the date of the response to attempt to resolve the dispute amicably.

C. Mediation of Dispute

If the Initiating Party and the Responding Party cannot resolve the dispute within ninety (90) days of the date of the written response, they shall engage a mediator, experienced in water-related disputes, to attempt to resolve the dispute. Each party shall ensure that it is represented at the mediation by a Director or other representative with authority to settle. These representatives of the Initiating Party and the Responding Party may consult with staff and/or technical consultants during the mediation and such staff and/or technical consultants may be present during the mediation. The costs of the mediator shall be divided evenly between the Initiating Party and the Responding Party. The decision of the mediator shall be non-binding.

D. Reservation of Rights

Subject to the above requirements, in the event that mediation fails, each party retains and may exercise all legal and equitable rights and remedies it may have to enforce the terms of this Agreement; provided, that prior to commencing litigation, a party shall provide at least five (5) calendar days' written notice of its intent to sue.

XVIII. RELATIONSHIP TO WATER RIGHTS IN PRIOR AGREEMENTS

Nothing in this Agreement is intended to modify the water rights of the parties, whether existing under a judgment, proceedings of the State Water Resources Control Board, or the common law. Nothing in this Agreement is intended to modify any existing agreements between

the parties, unless expressly stated herein. Nothing in this Agreement shall be construed as an admission by any party regarding any water right or priority of either of the parties, and the parties agree that this Agreement, to the extent allowed by law, preserves all rights of the parties as they may exist as of the effective date of this Agreement. Nothing in this Agreement is to be construed as altering the priorities or entitlements of water right holders among themselves to water from the Santa Ana River, Mill Creek, or any other source.

XIX. MISCELLANEOUS

A. Authority

Each signatory of this Agreement represents that s/he is authorized to execute this Agreement on behalf of the party for which s/he signs. Each party represents that it has legal authority to enter into this Agreement and to perform all obligations under this Agreement, and that by doing so; such party is not in breach or violation of any other agreement or contract.

B. Amendment

This Agreement may be amended or modified only by a written instrument approved by both parties.

C. Jurisdiction and Venue

This Agreement shall be governed by and construed in accordance with the laws of the State of California, except for its conflicts of law rules. Any suit, action, or proceeding brought under the scope of this Agreement shall be brought and maintained to the extent allowed by law in the County of San Bernardino, California.

D. Headings

The paragraph headings used in this Agreement are intended for convenience only and shall not be used in interpreting this Agreement or in determining any of the rights or obligations of the Parties to this Agreement.

E. Construction and Interpretation

This Agreement has been arrived at through negotiations, and each party has had a full and fair opportunity to draft, review, and revise the terms of this Agreement. As a result, the normal rule of construction that any ambiguities are to be resolved against the drafting party shall not apply in the construction or interpretation of this Agreement.

F. Entire Agreement

This Agreement constitutes the entire agreement of the parties with respect to its subject matter, and supersedes any prior oral or written agreement, understanding, or representation relating to the subject matter of this Agreement.

G. Partial Invalidity

If, after the date of execution of this Agreement, any provision of this Agreement is held to be illegal, invalid, or unenforceable under present or future laws or adjudicatory decisions effective during the term of this Agreement, such provision shall be fully severable. However, in lieu thereof; there shall be added a provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and be legal, valid and enforceable.

H. Successors and Assigns

To the extent authorized by law, this Agreement shall be binding on and inure to the benefit of the successors and assigns of the respective parties to this Agreement. No party may assign its interests in or obligations under this Agreement without the written consent of the other party, which consent shall not be unreasonably withheld or delayed.

I. Waivers

Waiver of any breach or default hereunder shall not constitute a continuing waiver or a waiver of any subsequent breach either of the same or of another provision of this Agreement, and forbearance to enforce one or more of the remedies provided in this Agreement shall not be deemed to be a waiver of that remedy.

J. Attorneys' Fees and Costs

The prevailing party in any litigation or other action to enforce or interpret this Agreement shall be entitled to reasonable attorneys' fees, expert witnesses' fees, costs of suit, and other and necessary disbursements, in addition to any other relief deemed appropriate by a court of competent jurisdiction.

K. Necessary Actions

Each party agrees to execute and deliver additional documents and instruments and to take any additional actions as may be reasonably required to carry out the purposes of this Agreement.

L. Compliance with Law

In performing their respective obligations under this Agreement, the parties shall comply with and conform to all applicable laws, rules, regulations and ordinances.

M. Notices

All notices, requests, demands or other communications required or permitted under this Agreement shall be in writing unless provided otherwise in this Agreement and shall be deemed to have been duly given and received on: (i) the date of service if served personally or served by facsimile transmission on the Party by delivery to the person(s) at the address(es) designated below, which designation may be changed from time to time by a Party in writing; (ii) on the first day after mailing, if mailed by Federal Express, U.S. Express Mail, or other similar overnight courier service, postage prepaid, and addressed as provided below, or (iii) on the third day after mailing if mailed to the Party to whom notice is to be given by first class mail, registered or certified, postage prepaid, addressed as follows:

To SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT:	SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT Attn: Douglas Headrick, General Manager 380 E. Vanderbilt Way San Bernardino, CA 92408
To SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT:	SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT Attn: Daniel Cozad, General Manager 1630 West Redlands Blvd., Suite A Redlands, California 92373

N. **Counterparts**

This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute but one and the same instrument.

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT

By: Richard Corneille
Richard Corneille
Its: Board President

ATTEST:

By: _____

APPROVED AS TO FORM:

RUTAN & TUCKER, LLP

By: David B. Cosgrove
David B. Cosgrove,
General Counsel

SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

By: T. Milford Harrison
T. Milford Harrison
Its: Board President

ATTEST:

By: Douglas D. Headrick
Douglas Headrick
Board Secretary

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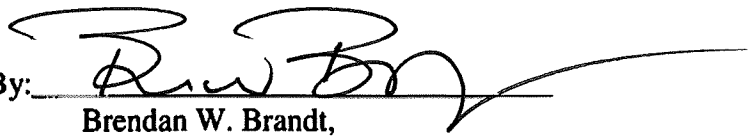
12893627.1 a01/07/19
1541156.1

APPROVED AS TO FORM:

VARNER & BRANDT LLP

By: 

Brendan W. Brandt,
General Counsel

EXHIBIT A

HABITAT AREA

Exhibit A: Habitat Area

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD. CASIL, SBVMWD
GIS Contact: Katelyn Scholte
M:\Habitat Lands Outside Wash Plan
December 11, 2018

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

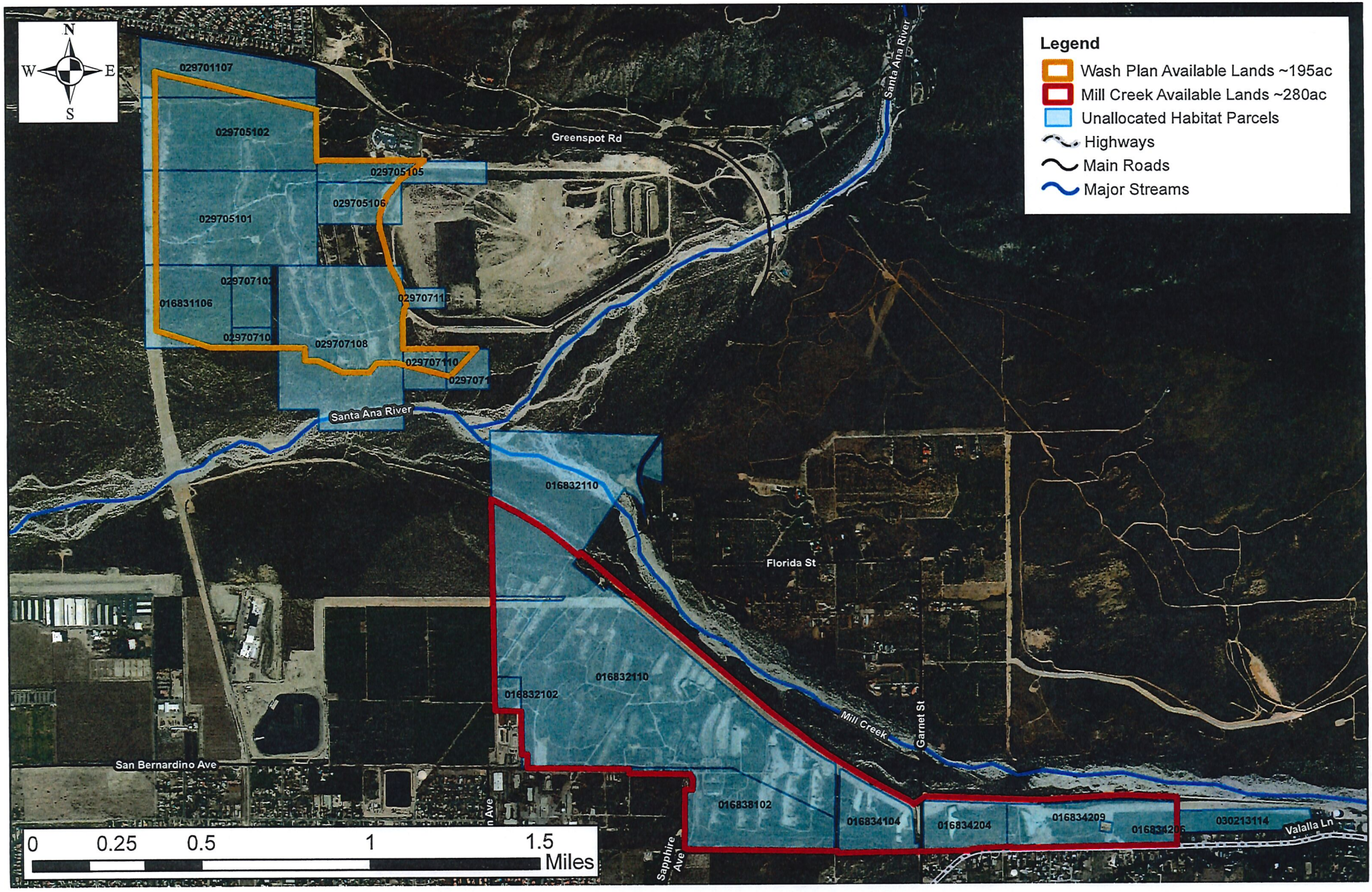


EXHIBIT B

Transfer Projects Conceptual Description and Diagram

Mill Creek:

Location: SBVWCD's existing Mill Creek Diversion structure east of Garnet Street and north canal diversion gate west of Garnet Street

Description: Increase the flow capacity of the North Canal from approximately 55 CFS to 210 CFS. The conceptual improvements would demolish the existing inlet and reconstruct the canal inlet structure in order to increase the north canal capacity to 210 CFS. Additionally, the bypass outlet structure will be re-designed and re-constructed to increase the sediment bypass function by adding an additional sediment bypass gate and channel within the inlet structure. The downstream entrance of the north canal into the spreading facility through the Army Corps of Engineers (USACOE) Mill Creek Flood Control Levee would also need to be reconstructed to handle 210 CFS. All facilities would require Section 408 permitting by the USACOE.

Mill Creek North Canal Project (210 CFS)	
Project Footprint	0.1 Acres
Diversion Capacity	385 CFS
Average Annual Flow Captured	6,096 AF
Pre-construction Cost Estimate	$65,000
Construction Cost Estimate	$2,530,025

Plunge Creek Basin 1:

Location: 800 feet northwest of the Orange Street Plunge Creek Crossing in the City of Highland within the existing flow path of Plunge Creek.

Description: Conceptual improvements include the construction of an 8 ft x 165 ft rubber dam and diversion structure within plunge creek. The singular basin will have perimeter berms along the south-east and south-west sides approximately 10 ft in height with a maximum operating water level of 8ft. There will be a total wetted area of 6 acres and a storage volume of 40 AF and a diversion capacity of 250 CFS. The basin will also have an overflow structure and 36-inch diameter drain.

Plunge Creek Basin 1	
Project Footprint	10 Acres
Diversion Capacity	250 CFS
Average Annual Flow Captured	2,481 AF
Pre-construction Cost Estimate	$225,000
Construction Cost Estimate	$10,675,345

Plunge Creek Basin 2:

Location: 350 feet west of the 210 freeway Plunge Creek Crossing in the City of Highland within the existing flow path of Plunge Creek. The northern edge of this basin is adjacent to the City Creek Project described below.

Description: Conceptual improvements at Plunge Creek site 2 for the ARP is to construct two basins, an approximately 7' diameter by 90' long rubber dam and a diversion structure within Plunge Creek. The southern edge of the new basin will act as a levee to channelize high flows past the basin. The south-east corner of the conceptual basin will be the point at which the basin berm constricts Plunge Creek; this will also be the location for the construction of an inflatable rubber dam diversion. The basin will be split into two smaller basins with one basin will have a volume of approximately 16 AF and the other approximately 50 AF. Basin berms will be approximately 10 feet high with 8 foot operating level for a total wetted area of about 11 acres and storage volume of 66 AF and a diversion capacity of 350 CFS. The basin will also have a basin overflow structure and a 36-inch basin drain.

Plunge Creek Basin 2	
Project Footprint	29 Acres
Diversion Capacity	350 CFS
Average Annual Flow Captured	1,050 AF
Pre-construction Cost Estimate	$225,000
Construction Cost Estimate	$12,583,867

City Creek Basin:

Location: Project is located along City Creek and is bordered by Baseline Ave due to the north and Plunge Creek to the South. The southern edge of the City Creek project borders the northern edge of the Plunge Creek 2 project described above.

Description: The conceptual improvements are to construct an inflatable rubber dam diversion across City Creek and a series of approximately 9 basins from Baseline Avenue extending southwest 6,200 feet. The basin layout has been developed to utilize a gravity conveyance system and to maximize usage of the available area on the site while maintaining adequate flood control capacity in City Creek Channel. Improvements include approximately 38 acres of basins with basin transfer structures, over flow structures, 36-inch basin drains, a 60' x 8' inflatable rubber dam, construction of approximately 500 CFS diversion structure, an approximately 500 CFS conveyance under Boulder Ave, an approximately 250 CFS crossing under the 210 freeway and a 250 CFS crossing under West 5th street.

City Creek Basin	
Project Footprint	64 Acres
Diversion Capacity	500 CFS
Average Annual Flow Captured	5,247 AF
Pre-construction Cost Estimate	$330,000
Construction Cost Estimate	$32,493,285

Waterman Basin Improvements:

Location: The Waterman Basins site is located along the west branch of Waterman Creek and is bordered by North Waterman Avenue to the west and East 40th Street to the south. The basins are an existing SBCFCD facility located approximately 3 miles north-east of the 210 Freeway/215 Freeway interchange.

Description: Conceptual improvements are to construct an inflatable armored dam diversion across the west branch Waterman Creek bypass channel. The existing radial gate will also be refurbished. A new operational plan would need to be implemented with SBCFCD and existing basins would need to be cleaned to remove existing silt and clay deposits. The total wetted area is about 32 acres with a storage volume of approximately 180 AF with an expected diversion capacity of about 1,000 CFS. Physical improvements include construction of two 17' x 8' spillway gates, refurbishment of the existing radial gates, refurbishment of 3 inner-basin surface transfer structures as well as 10 low-level outlets and drains.

Waterman Basin Improvements	
Project Footprint	0.25 Acres
Diversion Capacity	1,000 CFS
Average Annual Flow Captured	1,675 AF
Pre-construction Cost Estimate	$235,000
Construction Cost Estimate	$9,972,218

Twin Creek Spreading Ground Improvements:

Location: Spreading grounds within Twin Creek bordered by Harrison Street to the east and E 40th Street to the north. The spreading grounds are an existing SBCFCD facility located approximately 3 miles north-east of the 210 Freeway/215 Freeway interchange.

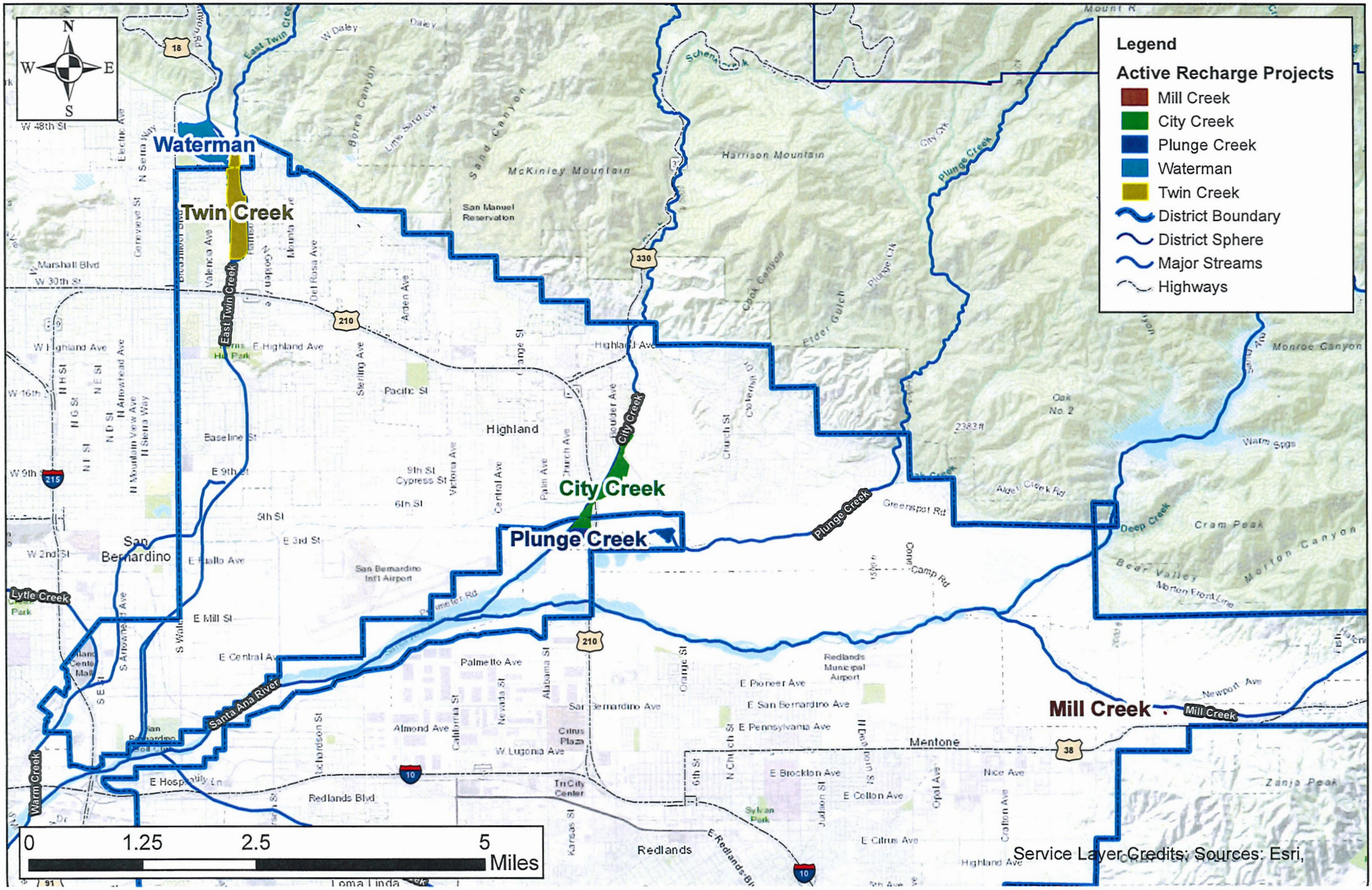
Description: Improvements would include reconstructing and armoring the berms between each basin that are currently in disrepair as well as adding low level outlets and drains to each basin. A new operational plan would need to be implemented with SBCFCD and existing basins would need to be cleaned to remove existing silt and clay deposits. The total wetted area is approximately 70 acres with a storage volume of about 370 AF. There is no diversion structure associated with this project. The physical improvements include re-construction and armoring of the 7 existing berms, construction of 1 new water conservation berm above East 40th Street, construction of approximately 8 new low-level outlets/drains and basin re-grading.

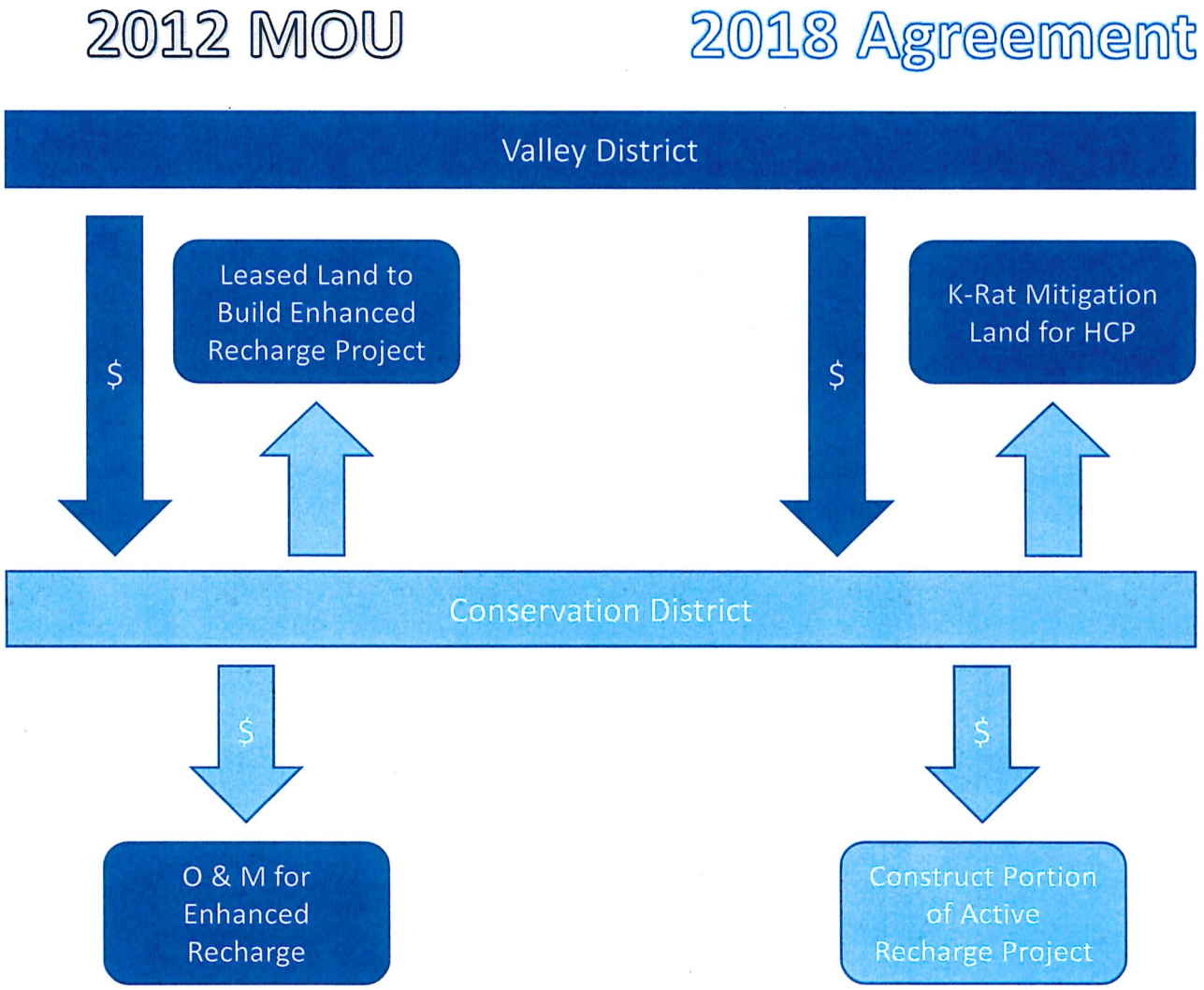
Twin Creek Spreading Grounds Improvements	
Project Footprint	145 Acres
Diversion Capacity	NA
Average Annual Flow Captured	4,087 AF
Pre-construction Cost Estimate	$350,000
Construction Cost Estimate	$16,327,990

Exhibit B: Transferring Active Recharge Projects

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD. CASIL, SBVMWD
GIS Contact: Katelyn Scholte
M:\Active Recharge
December 11, 2018

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water




2012 MOU
2018 Agreement
Valley District
$
Leased Land to Build Enhanced Recharge Project
$
K-Rat Mitigation Land for HCP
Conservation District
$
O & M for Enhanced Recharge
$
Construct Portion of Active Recharge Project

General Manager's Report

From October 9, 2021, to November 5, 2021
Daniel B. Cozad

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

The District currently remains at Phase 2 COVID 19 response level. CalOSHA Standards for COVID require masks in the common areas of the office by unvaccinated or undocumented staff. San Bernardino County and California cases and transmission rates are moderate, and the Board has approved a resolution of emergency. Staff will notice all Board meetings as in-person/hybrid as allowed by the Brown Act or health guidance allows. OSHA is expected to issue an emergency rule as well soon.

The following report covers the weeks between meetings and the efforts and activities during the reporting period.

1. **Water Conservation** – *Plan Goal 1* – Santa Ana River, Mill, and Plunge Creeks have been mostly dry for several months, and summer storms have added some flow with significant sediment. Mill Creek's total recharge for the Water Year is nearly 302 AF. The Santa Ana River recharge is 290 AF for the Water year beginning last month. Total recharge for the year, including Plunge Creek, is nearly 600 AF

2. **Facility Maintenance and Cleanout** – *Plan Goal 1* – Water operations are limited, allowing field maintenance and vegetation management to take center stage. All facilities are in operation and available. Staff are repairing gates and dealing with homeless issues, and removing vegetation from canals. Field staff spotted landscapers dumping on BLM property and informed them. The sheriff and BLM law enforcement apprehended and cited them. Photos below:

3. **Aggregate Management** – *Plan Goal 1* – Upland Rock continues screening and selling sand and rock from District basin cleaning efforts and supporting land management costs.

4. **Personnel/Administration/Staff** – Staff continues to monitor and implement the District Extreme Flu/COVID19 plan. Staff is using the modified return to work program to increase effectiveness and maintain office occupation limits. One Board Member has tested positive for COVID, with no staff exposure. The Finance & Administration Committee will review a revision to the personnel manual for work-from-home policies and other updates when they meet in November. Staff is supporting the Boards discussions on Succession and Transition planning.

5. **Finance/Budget/Audit** – Support for the Board's financial reporting and standard accounting efforts were completed. Staff is implementing the budget. The Annual audit was reviewed and approved in October.

6. **Mill Creek Diversion Engineering** – *Plan Goals 1/4* – Erwin reports on the engineering and construction projects at meetings when updates are not included in agenda items. Staff continues to provide the additional requested information for environmental and engineering questions in the hopes of having permits in time to construct in mid-2022.

7. **Plunge Creek Conservation Project** – *Plan Goals 1/4* – Both operations and habitat management and monitoring efforts are ongoing. Recharge for this water year is very limited.

8. **Enhanced Recharge Project** – *Plan Goal 1* – The Enhanced Recharge Phase 1A is completed. Engineering design is nearing completion for the new basins scheduled for construction in 2022. State and Waters permitting are needed to proceed and being processed by SBVMWD.

9. **Active Recharge Transfer Project Partnership** – *Plan Goals 1, 2, and 4* – The Committee met on October 11, 2021. Staff is negotiating proposals for design support and expects awards in December, with other RFPs coming in December. Staff prepared an update on the 2018 ARTP Partnership Agreement at the request of Director Raley, which is in this month's Board package.

10. **Edison Divestiture to Water Users** – *Plan Goals 1/4* – The Committee held a meeting on August 4, 2021, updating the group on SCE feedback.

11. **Groundwater Council** – *Plan Goal 1* – The Groundwater Council Budget Committee meets on November 15 to discuss preliminary issues and the draft budget. The GC will next meet on December 13, 2021.

12. **Shop Facilities for Field Staff** – *Plan Goals - 1* – Staff awarded the geotechnical work for the Design-Build delivery method and will release the procurement package as soon as the results are completed. A separate report has been listed on the agenda.

13. **Wildland Trails** – *Plan Goal 3* – Developing and opening Wildland Trails on District property is a Board priority and now has a separate report listed on the agenda. Progress is being made with the cities of Highland and Redlands.

14. **Wash Plan** – *Plan Goal 4* – The Wash Plan has a separate report listed on the agenda. Staff worked with AECOM on preliminary permitting, and staff working with CDFW staff on the 1602 permit and with the Regional Board to review the permits and negotiate terms. Staff submitted the revised 2081 application in October and paid permit fees.

15. **Santa Ana River Wash Plan Land Exchange Act Implementation –** *Plan Goal 4* **–** S.-47 was passed and signed by the President, becoming PL 119-6. Staff, District Counsel, and special legal counsel worked on and issued an RFP, awarded a contract, and the selected contractor completes the Appraisal. Staff and the BLM are working on the Right of Way needed to support the District's activities under the land transferred to the BLM.

16. **Conservation Trust –** *Plan Goal 4* **–** The Conservation Trust Board of Directors met on October 4, and staff has met with entities with which a deposit agreement is on file. Most projects continue to move forward slowly with the SBCTA efforts in the lead. The District and Trust have been reimbursed for services and funding for conservation easements and contributions to the endowment. The next Conservation Trust meeting is scheduled for January 5, 2021.

17. **Property/Redlands Plaza** – Staff continues to manage Redlands Plaza tenants and maintenance issues. All units are now fully leased, with the church is working with the City on permitting the changes needed for the CUP. Many tenants utilizing the Board's payment plan to weather the COVID 19 downturn have begun repayment schedules for these deferrals. Staff executed an access permit to D. R. Horton related to the trespass on District lands and the need to restore nearly half an acre; no restoration plan has been received.

18. **Mining** – Mining efforts by CEMEX contractors continue at the Plant Site quarry. Mining above the guaranteed minimum continues resulting in additional revenue to the Land Enterprise and large stockpiles for ongoing freeway and construction projects.

19. **Public Outreach and Legislative** – *Plan Goal 5* Staff worked with consultants to coordinate outreach and award applications. At the suggestion of the City of Highland, the outreach team applied for an award for the Plunge Creek Conservation Project.

20. **Community Recharge and Mitigation** – *Plan Goal 1 and 4* – The 2017 Community Strategic Plan (CSP) included this effort for planning and implementation. The Active Recharge Transfer Projects in the Partnership Agreement are the first efforts under this goal. Additional recharge options where flows and open space allow recharge will be sought as staff has time.

21. **Current Board Action Implementation** – Many priority efforts have separate sections of the General Manager's Report or independent Board requested reports. Staff and District Counsel worked closely on EHL/CBD v. USACOE settlement-related studies. Staff also has several MOUs and agreements in development to support the Wash Plan and its projects. The status of the agreements are shown below:

    - BLM MOU for Wash Plan – pending ROW issues above likely early 2022.
    - Blossom Trails Conservation Easement/Endowment awaiting CDFW approval
    - Trails MOU with Redlands and Highland awaiting feedback on draft MOU from cities

22. Future Board Activities – Expected short-term items for consideration or note

- Exchange Plan Amendment – the Task Force reviewed in September, providing comments in October. After legal comments and edits, Board consideration is planned for later 2021 or early 2022.
- BLM Land MOU/ROW working with regional manager to complete in early 2022
- Alliance JPA for River HCP when completed

23. District Successes

- Office and Field staff worked with Document Management interns to dispose of and reorganize duplicate files and furniture to make room for two new interns to support Wash Plan, Redistricting, and ARTP efforts.
- Field staff were in the office to attend the virtual California Invasive Plant Council Conference as well.
- American Public Works Association, Inland Empire Section's Board selected San Bernardino Valley Water Conservation's Plunge Creek Conservation as the Water Supply Protection and Enhancement Project of the Year award! A combination of a great project and excellent application skills from our Outreach Team. The Award was presented on November 4, 2021.

San Bernardino Valley Water Conservation District

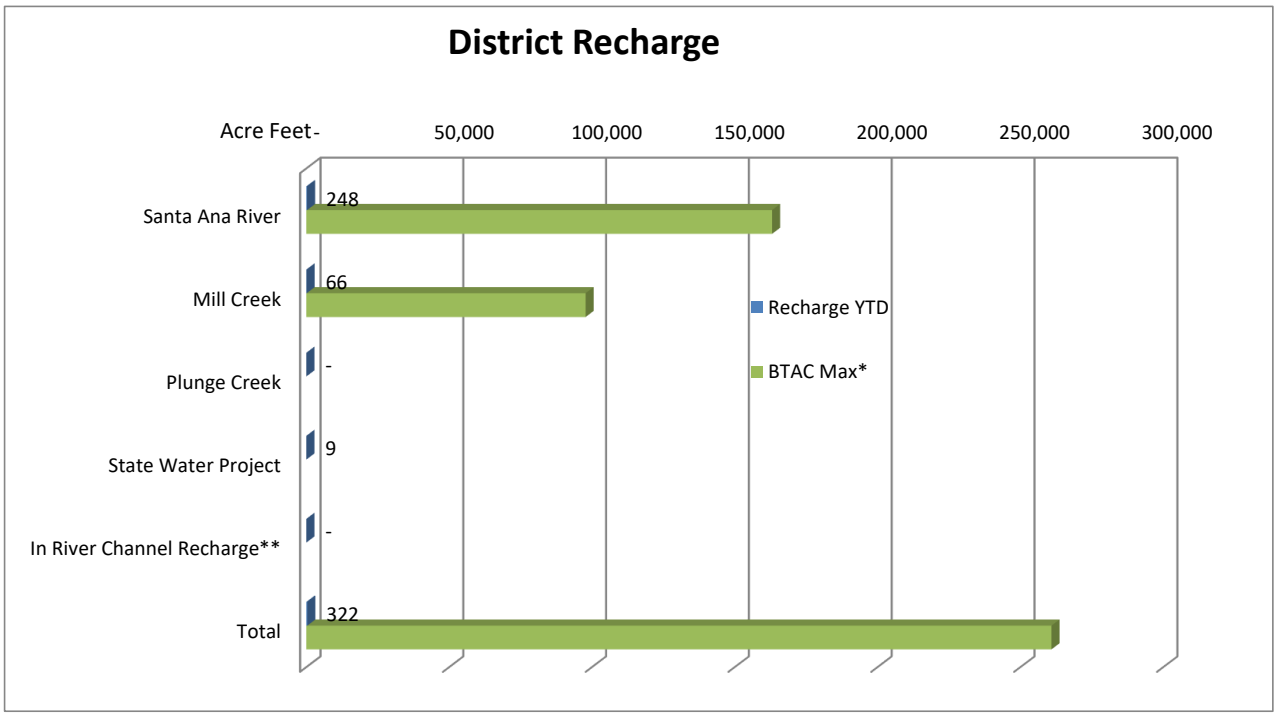
Monthly Recharge Report

From: 10/1/2021
To: 10/31/2021

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

	October				
	Avg Daily Recharge	**Monthly Recharge**	**Recharge YTD**	**BTAC Max***	**% Max**
Santa Ana River	8.0	248	248	163,100	0%
Mill Creek	2.1	66	66	97,800	0%
Plunge Creek	0.0	-	-	#N/A	#N/A
State Water Project	0.3	9	9	#N/A	#N/A
In River Channel Recharge**	0.0	-	-	#N/A	#N/A
Total	**10**	**322**	**322**	**260,900**	**0%**

Values in Acre Feet
**BTAC Revised Max in December 2020*
***Monitoring began in Mid-April 2011*
**** All Values Based on Water Year Oct-Sep 2022*



San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

2021 Board Calendar - San Bernardino Valley Water Conservation District

JANUARY						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Jan. 13 Board Meeting
Jan. 27 2nd Qtr. Finance & Admin Mtg.

FEBRUARY						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

Feb. 10 Board Meeting

MARCH						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Mar. 10 Board Meeting
Engineering Investigation Report Presentation
Mar.24 3rd Qtr. Finance & Admin Mtg.

APRIL						
S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Apr. 14 Board Meeting
Public Meeting/Groundwater Charge
Apr. 28 Board Meeting
Public Hearing/Groundwater Charge

MAY						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

May 12 Board Meeting

JUNE						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Jun. 9 Board Meeting

JULY						
S	M	T	W	Th	F	S
				1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Jul. 14 Board Meeting
Jul. 28 4th Qtr. Finance & Admin Mtg.

AUGUST						
S	M	T	W	Th	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Aug. 11 Board Meeting

SEPTEMBER						
S	M	T	W	Th	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Sept. 8 Board Meeting

OCTOBER						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Oct. 13 Board Meeting

NOVEMBER						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Nov. 10 Board Meeting
Nov. 15 1st Qtr. Finance & Admin Mtg.

DECEMBER						
S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Dec. 8 Board Meeting
(@ 9:30 a.m.)
Holiday Luncheon