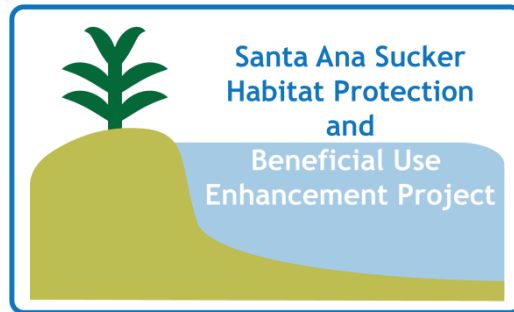


Request for Proposals (RFP) for the Design of the Santa Ana Sucker Protection and Beneficial Use Enhancement Project



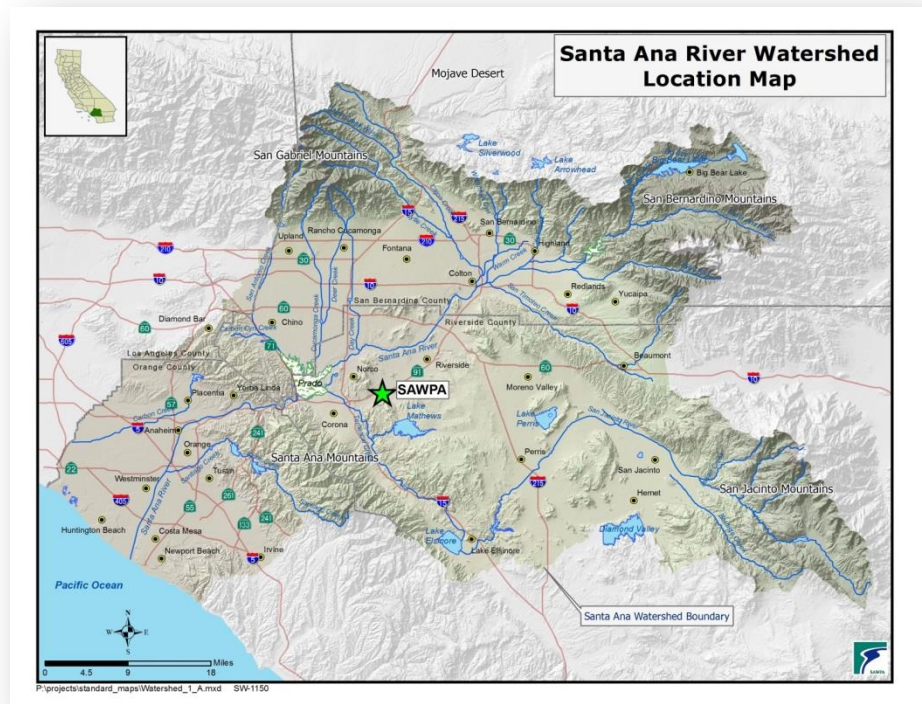
February 21, 2017

Agency Background

The Santa Ana Watershed Project Authority (SAWPA) was formed in 1975 to plan and build facilities to protect water quality in the Santa Ana River Watershed. SAWPA, located in Riverside, California, is a Joint Powers Authority (JPA) composed of five member agencies: Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD).

Project Background

The Santa Ana Sucker Fish Conservation Team (SASFCT) is a task force composed of the City of Riverside, Orange County Water District and SAWPA. On behalf of the SASFCT, SAWPA is working with partner agencies throughout the watershed, in seeking to implement the Santa Ana Sucker Protection and Beneficial Use Enhancement Project (Project). The goal of the



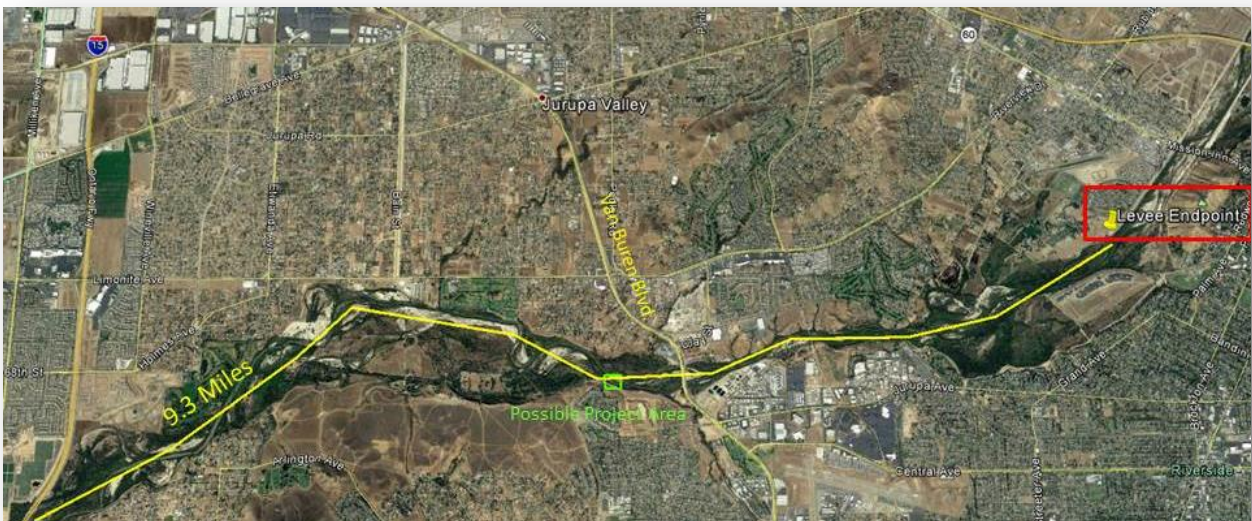
Project is to create habitat for the Santa Ana Sucker Fish (*Catostomus santaanae*) and support preservation of the beneficial uses of the Santa Ana River Mainstem. The habitat structures shall provide useful habitat, as described in the section below, to the Santa Ana Sucker and, if possible, the Arroyo Chub (*Gila orcuttii*). The structures shall enhance freshwater fish habitat below the ordinary high water mark, by means such as adding boulders, gravel, and/or woody materials, as well as benefit flood control by ensuring that the low flow is directed away from any flood control structures in the project area.



Brief Summary of Consultant's Scope of Work

The consultant selected through this RFP process will draft at least three alternative habitat structure designs at the concept level and describe them in a conceptual project alternative memorandum. One of the alternatives will be selected as described in the task summary below, and the consultant will design the selected alternative at the 65% level before permit applications are submitted for the Project.

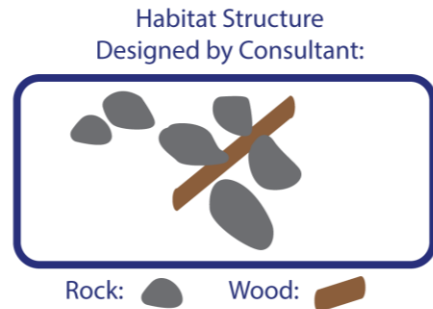
After permit review by regulatory agencies, the consultant shall finalize the design at the 100% level. The selected alternative should be able to be replicated in the field multiple times, over long segments of the Santa Ana River spanning upstream from the Prado Basin near Highway 15 to the [downstream end](#) of the Riverside County Flood Control and Water Conservation District levees near the intersection of 46th Street and Crestmore Road in the City of Jurupa Valley (Project Extents).



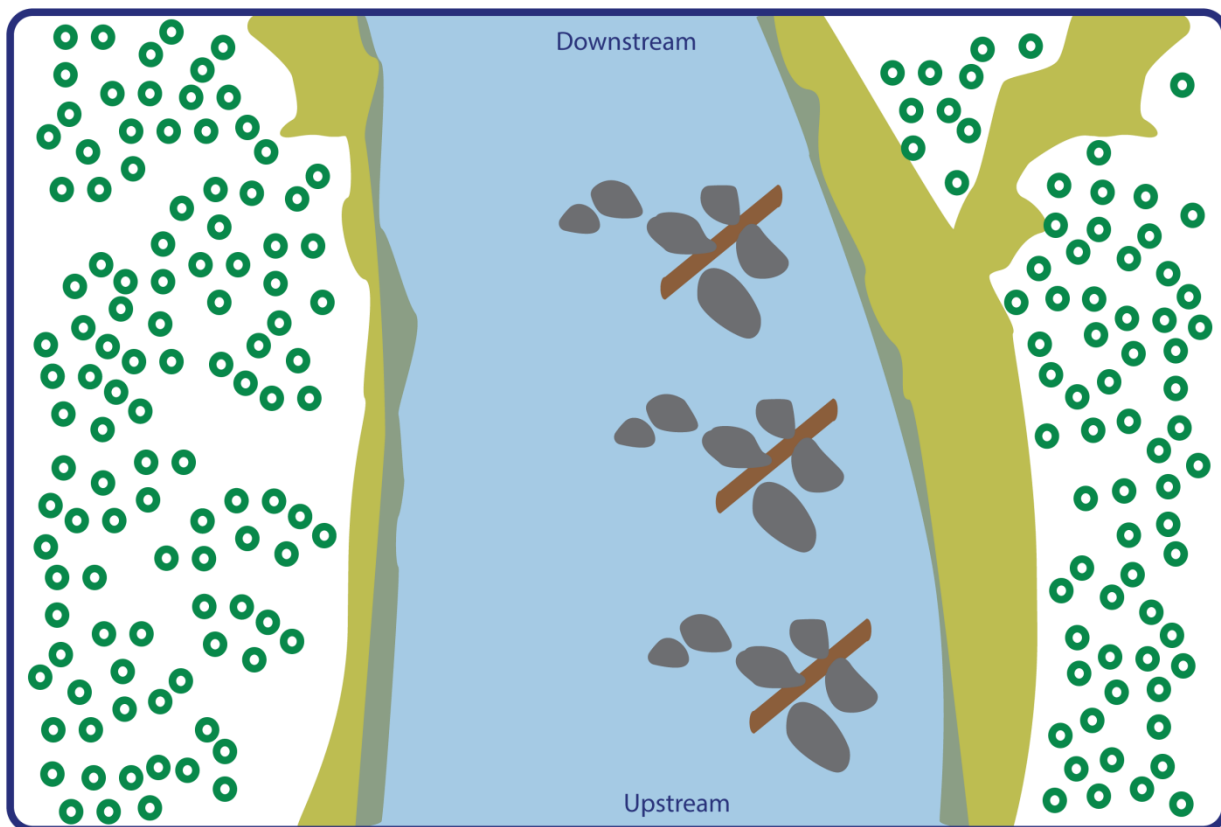
The graphic below shows an example of a conceptual habitat structure design in which, using wood and rock, the structure is constructed three times in the field. At least two additional alternatives would also be designed by the consultant.

The size of the individual habitat structures should be based on conditions such as but not limited to:

- The median low flow channel width in the Santa Ana River between the Van Buren Bridge area and the downstream end of the Riverside County levees,
- Construction limitations such as load bearing levels on the Santa Ana River Trail and Parkway, and
- The ability to create the unique habitat variability described in the Useful Habitat for the Santa Ana Sucker section below.



Habitat Structure
Implemented in Field:



The scope also includes the preparation of plans and specifications, and the estimation of construction cost. The consultant shall complete the 0%-65% design work (Tasks 1 - 5) by June 5 2017. The design shall reflect useful habitat for the Santa Ana sucker per the description and definitions below.

Useful Habitat for the Santa Ana Sucker:

The design shall reflect the habitat variability described below. See definitions for certain terms below for full description of habitat conditions.

- A *reach* where at least 45% is considered a *riffle*.
- A *reach* where approximately 15% or less is considered a *pool*.
- A sunlit *reach* where *canopy cover* allows between 0 to 20% shading of the reach.
- A reach where *flow* is able to create habitat variability, including *riffles*, and localized scour where the cobble to silt/sand ratio is at least 4:1 within the *reach*. Flow should possibly be at 2.0 to 3.3 feet per second.

Definitions:

Canopy Cover: Uppermost tree layer preventing light from hitting the water surface.

Pool: An area of the stream that has greater depths and slower currents than riffles and runs; deep areas (20.8---53.1 cm.) with slow flowing or non-turbulent water (0.0 to 0.6 ft. /sec.).

Substrate conditions: Size of substrate such as cobble, boulder, etc. shall be determined using the American Geophysical Union Sediment Classification System.

Riffle: Shallow areas (24.9---59.9 cm.) with swift or turbulent flows (1.6 to 3.6 ft. /sec).

Run: Areas where the water is flowing rapidly, generally located downstream from riffles; deeper than riffles.

Reach: For the purposes of this scope of work, a reach should be the total area that is uniquely impacted by the habitat structure designed by the consultant.

Possible Project Area:



The Project will be constructed by SAWPA within the Santa Ana River (SAR) Mainstem approximately 0.6 miles downstream of the Van Buren Blvd. Bridge crossing near the City of Jurupa Valley. SAWPA has coordinated with some of the landowners in a portion of the SAR Mainstem approximately 0.6 miles downstream of the Van Buren Bridge crossing. Access agreements are not be final at the time of the RFP release. Given that the access agreements are not final, the possible project location shall not be entered as it contains property not owned by SAWPA. Note: After site visits and data gathering tasks, Consultant shall provide recommendations and feedback on other possible locations, if necessary, in the Project Extents

SAWPA Responsibilities

SAWPA will:

- Brief the SAWPA Commission on the Project periodically.
- Work with Orange County Water District (OCWD), who will be responsible for drafting the permit and California Environmental Quality Act (CEQA) documents.
- File CEQA documents.
- Serve as the initial contact with permit agencies.
- File final permit applications.
- Pay permit filing fees.
- Lead the coordination with stakeholders, which include members of the SASFCT. It should be noted that SASFCT meetings are open to the public, and typically personnel from flood control, water agencies and non-profits attend.
- Lead the coordination with landowners and execute landowner access agreements.
- Lead meetings with the SASFCT and transcribe meeting minutes.
- Review and comment on consultant's work.
- Review and approve invoices submitted by consultant.

SAWPA can provide the consultant with:

- 2015 three inch resolution imagery of the project location (which can assist in mapping products produced by the consultant) provided through a grant managed by the Department of Water Resources.
- Riparian vegetation and species classification data for the project location provided by partner agency SBVMWD.

Detailed Scope of Work (Task List):

It should be noted that design will be at the 65% level before permit applications are finalized. After permit/CEQA approval, designs will be produced at the 100% level. Tasks might not be done in the following order; however, they should be completed in the order that produces the highest quality deliverables. All data produced as part of the following Tasks should be provided to SAWPA.

TASK 1: SITE VISIT

Visit the potential project location and surrounding locations in the Santa Ana River Mainstem near the Van Buren Bridge crossing in order to recommend a suitable or set of suitable project locations.

TASK 2: KICK OFF MEETING

Attend the kick off meeting with SAWPA, the SASFCT, and project partners including SBVMWD, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board.

TASK 3: DATA COLLECTION AND GEOTECHNICAL WORK

TASK 3A: DATA COLLECTION

Collect site specific data through such actions such as field measurements and database searches that may include but are not limited to:

- bank material information;
- substrate gradient over Project area likely near Van Buren Blvd., as well as the Santa Ana River Mainstem within the area(s) identified by SBVMWD and SAWPA known as the Project Extents;
- historical high, low and median flow velocity;
- vegetation size and health near the access point to the Project area;
- historical high, low, median, flow volume; etc.

Data should be tabulated in table format, preferably Excel.

Calculate the type, amount, weight and size of material needed to construct the habitat structures. The habitat structures shall provide useful habitat, as described in the Useful Habitat for Santa Ana Sucker section, to the Santa Ana sucker fish and, if possible, the Arroyo Chub. Material type may include but is not limited to boulder, cobble, woody material, etc. Calculations and references shall be included as part of the design packet.

TASK 3B: GEOTECHNICAL

If necessary, review existing geotechnical and geologic studies in the vicinity of the possible Project area near Van Buren Blvd. and perform exploratory borings to supplement existing information. The number of borings shall be based on a geotechnical engineer's interpretation of needs. Soil samples shall be taken to determine the engineering properties of the native soils. Consultant shall evaluate the field and existing studies data and take the information into account when drafting the 65% design technical memorandum.

TASK 4: CONCEPTUAL PROJECT ALTERNATIVE MEMORANDUM

Produce a conceptual project alternative technical memorandum that describes a minimum of three project alternatives of different habitat structure types, with concept drawings showing location in the wetted channel, habitat structure size and placement. The memorandum should provide descriptions

(at approximately one page in length), at the concept level that include the likely impacted area. Concepts may include but are not limited to structures that change elevation of surface water or constrict surface water flow, but should reflect the useful habitat definition provided in this RFP. Cost estimates should be developed for the designs that take into account access construction, equipment needs, material needs, material hauling, etc. Cost estimates should also be at the concept level.

The conceptual project technical memorandum shall include general descriptions that compare the alternatives. For example, the comparisons should note if the other concepts would likely displace more sediment locally in the Project area, require larger material to build the structures, withstand larger flows, etc. The conceptual project technical memorandum shall discuss the possible project location and if other locations within Project Extents would be more suitable. Other proposed locations by the Consultant shall be suitable for access of construction equipment. A workshop, approximately two hours, will be conducted by the Consultant with the project partners to discuss merits of the alternatives.

TASK 5: 65% DESIGN TECHNICAL MEMORANDUM FOR CHOSEN HABITAT STRUCTURE

Produce a technical memorandum, at the 65% level of design for construction of the preferred habitat structure. The preferred habitat structure will be selected from the list of at least three habitat structure designs described in the conceptual project technical memorandum. It will be selected by SAWPA working with partner agency SBVMWD. SAWPA and SBVMWD will base their selection on costs to implement, the cost of the habitat structure materials and their accessibility from local vendors, the impact of the habitat structure on the system, the ability of the structure to provide multiple benefits, etc. The preferred habitat structure will be selected after receiving the conceptual project alternative technical memorandum and conducting the workshop, but some direction may be given after the initial site visit, kick off meeting and data collection tasks on the likely preferred habitat structure(s).

The 65% design technical memorandum will be used as the basis for producing the final plans and specifications. It should also include a preliminary table of contents, and the 65% plans and specifications. The drawings shall be produced at the proposed scale of 1 inch = 200 feet on 11"x17" sheets showing placement location of habitat structure material with specific information for the habitat structure material. The 65% design technical memorandum shall also specify, at a minimum, the following: describing the habitat structure material type and size, channel width, access needed for construction equipment, vegetation clearing needed (using biological survey results from SBVMWD), the proposed staging area, etc.

The Technical Memorandum shall also include, at a minimum, the following:

- Calculations for the flow in cubic feet per second and the time interval where the habitat structures chosen would be moved by natural causes from their initial placement in the SAR Mainstem. The extent of the movement shall be calculated in feet. Calculations and applicable references shall be included.
- Calculations for the flow in cubic feet per second that will result in river sediment covering the habitat structures. Calculations and applicable references shall be included.

- Calculations for the total size of area to be impacted by fill/excavation due to implementation of the chosen habitat structures. Calculations and applicable references shall be included.
- A map showing the vegetation and vegetation type that will be impacted by creating access to the project site using vegetation classification mapping products provided by SBVMWD.
- Calculations (for planning purposes) for the temporary stream modifications, such as coffer dam(s) size and placement, needed for placement of the chosen habitat structures. Calculations and applicable references shall be included.
- Description and calculations for effects both temporary and permanent, including those on flood control capacity, from the modifications from the chosen habitat structures to the surrounding area within the SAR Mainstem using existing models. Effects should include but not be limited to surface hydrology, flood control, habitat, and substrate composition. Calculations and applicable references shall be included.
- Identification of utilities in critical areas.
- Identification of project constraints such as loading limits on trails, size of equipment needed, in order to implement project design.
- Description of the project phasing and construction sequence, as well as any constraints for implementing and coordinating the design and construction activities.
- Identification of traffic control issues and locations, additional permits and permit requirements, and temporary or permanent construction easements.
- A preliminary opinion of probable construction costs and quantities.
- A construction equipment list by type and amount, construction crew quantification, and the hours the equipment will be in idle mode and in full operation.

SAWPA will provide comments, while coordinating comments with the Santa Ana Sucker Conservation Team, SBVMWD, OCWD, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Santa Ana Regional Water Quality Control Board, approximately 20 calendar days after receipt of a draft 65% draft technical memorandum. A final version should be completed by the date specified in the schedule.

TASK 6: FINAL DESIGN, CONSTRUCTION COSTS AND UPDATED CALCULATIONS

TASK 6A: FINAL DESIGN

After regulatory agencies review and approve the permit applications, the consultant will be directed to move forward with the production of the plans and specifications. These shall be signed and sealed by a licensed civil engineer in the State of California at the 100% level for the selected habitat structure, covering vegetation clearing and revegetation if applicable, access to project site, staging areas, fencing, etc. The consultant shall ensure plans and specifications are properly coordinated and reflect utilities in the project area and shall include any traffic control requirements as part of the project specifications. Consultant shall ensure plans and specifications reflect property owners, utilities, right of ways, and easements.

The drawings included shall be plan sheet format accompanied by a title sheet, site plan and required detail sheets. Full size drawings (22"x34") shall be at a scale of 1" to 100' (a greater scale may be needed for Near Term Project, short and long term project details and key locations) and shall be suitable to be reduced to half-size (11"x17") at a scale of 1" to 200'.

Project specifications shall be based on the Standard Specifications for Public Works Construction (latest 17th edition) ("Greenbook"). The cover of the specifications must be signed and sealed by a professional engineer licensed to practice in the State of California. Specifications shall include environmental considerations, permit requirements, contract durations and sequence of construction.

The consultant shall ensure that all project construction and material procurement documents are prepared for an open and competitive bid. The consultant shall indicate if there are any project specific issues that cannot be addressed through competitive bidding and will provide documentation and a recommendation to SAWPA regarding these specific issues.

Provide one final signed and sealed hard copy set of the contract specifications and one full-size (22"x34") hard copy set and one half-size (11"x17") hard copy set of the contract drawings. A single CD or DVD shall also be provided with the electronic files in PDF format of the final signed and sealed contract specifications, signed and sealed full-size and half-size contract drawings, electronic files in AutoCAD format of the contract drawings and electronic files in Word format of the contract specifications.

TASK 6B: UPDATED CALCULATIONS (IF NEEDED) BASED ON PERMIT AGENCY FEEDBACK OR DESIGN CHANGES TECHNICAL MEMORANDUM

During the permit/CEQA process, if feedback is received from the regulatory agency that results in the need for updated calculations, the consultant shall prepare a technical memorandum to address those needs, in conjunction with final design documents, to include the following updated calculations based on the 65% design technical memorandum:

- Calculations for the flow in cubic feet per second and the time interval where the habitat structures chosen would be moved by natural causes from their initial placement in the SAR Mainstem. The extent of the movement shall be calculated in feet. Calculations and applicable references shall be included.
- Calculations for the flow in cubic feet per second that will result in river sediment covering the habitat structures. Calculations and applicable references shall be included.
- Calculations for the total size of area to be impacted by fill/excavation due to implementation of the chosen habitat structures. Calculations and applicable references shall be included.
- A map showing the vegetation and vegetation type that will be impacted by creating access to the project site using vegetation classification mapping products provided by SBVMWD.

- Calculations (for planning purposes) for the temporary stream modifications, such as coffer dam(s) size and placement, needed for placement of the chosen habitat structures. Calculations and applicable references shall be included.
- Description and calculations for the effects both temporary and permanent, including those on flood control capacity, from the modifications from the chosen habitat structures to the surrounding area within the SAR Mainstem using existing models. Effects should include but not be limited to surface hydrology, flood control, habitat, and substrate composition. Calculations and applicable references shall be included.
- Description of the project phasing and construction sequence, as well as any constraints for implementing and coordinating the design and construction activities.
- Final estimates of probable construction costs, including the equipment needed, and quantities that are suitable with regard to project constraints.
- A construction equipment list by type and amount, construction crew quantification, and the hours the equipment will be in idle mode and in full operation.

Note: The plans and specifications must be suitable for public works construction and include where applicable, updated material from Task 6B. A draft copy of the plans and specifications shall be submitted to SAWPA for review and approval prior to the production of a final version. SAWPA will provide comments no later than ten working days after receipt of the draft plans and specifications.

TASK 7: DESIGN SUPPORT DURING CONSTRUCTION

During construction of the Project in fall 2018, the consultant shall provide support to SAWPA by reviewing submittals, requests for information and design change requests. For any design changes prepared by the consultant, the deviations must be signed and sealed by a licensed civil engineer in the State of California and be appropriate for public works construction. After the completion of the construction, the consultant shall provide record drawings incorporating any changes from the construction contractor.

Summary of Consultant's Deliverables

1. Tabulated data from field collections and database searches (including geotechnical data)
2. Conceptual Project Alternative Technical Memorandum.
3. 65% Design Technical Memorandum.
4. Final Plans and specifications signed and sealed by a licensed civil engineer in the State of California, as well as updated construction costs, for the Chosen Habitat Structure. Note: SAWPA will provide final contract document reproduction, bid advertisement, and contract document distribution.
5. Updated Calculations Technical Memorandum (including updated cost estimate to implement the Final Plans)
6. Revise design documents, if needed during construction, with plans and specifications signed and sealed by a licensed civil engineer in the State of California
7. Record drawings if deemed necessary by SAWPA

8. Bi-monthly invoices

Schedule for Consultant's Portion of the Project

Date	Task Description
February 21, 2017	RFP Release Date
March 15, 2017	RFP Responses Due Date
March 20-21, 2017	Interviews
March 22, 2017	Consultant Selection Recommendation by SAWPA Staff
April 4, 2017	Consultant Selection and Contract Approval by SAWPA Commission
April 4 - June 5, 2017	Tasks 1-5 completion by Consultant
Within fifty (50) calendar days of receiving direction from SAWPA*	Task 6 completion by Consultant. A draft final design and updated calculations should be completed within the first 25 calendar days of the 50 day period.

* Direction from SAWPA will be given after SAWPA receives permit review feedback from regulatory agencies.