

EXHIBIT A - SCOPE OF WORK

This scope of work reflects the Scope of Work contained in the Request for Proposal dated February 24, 2016 as modified by the proposal by the Consultant dated March 25, 2016. If ambiguities arise during the study as to the intent of the scope of a task that are not addressed in either document, MPWMD and the Consultant should review the original Scope of Work.

Task 1 Feasibility Study Preparation (Consultant)

Task 1 is focused on the technical preparation for the concept development described in Section 3 - Approach. The Consultant will compile and review salient background information needed to prepare for a concept development workshop with the TRC, and will prepare workshop materials including passage concepts, evaluation criteria and an evaluation process. The review will allow TRC members to become familiar with the operational, physical, hydrologic, and biological setting of the LPD, the range of alternatives that could be considered, and draft criteria to evaluate concepts. This information will be important for identifying concepts and alternatives that can reasonably and realistically fit within the construct of existing operations (including downstream passage), are compatible with hydrological and physical constraints, and that meet the stated objective of improving upstream passage for Carmel River steelhead.

This background information will be utilized and added to as necessary throughout all tasks of the Study, and will be documented in the Final Report.

Task 1-1 Compile Background Information - Information to be compiled and reviewed will include:

- **Physical Data**
 - Physical layout of the facility stilling pool, dam, spillway, abutments, reservoir, and adjacent hill slopes. This may include the following as necessary to define alternatives:
 - a site plan with topography/channel bathymetry, and features in the vicinity of the ladder, plunge pool, dam, and spillway
 - sections through the dam at the west end of the dam, middle of the dam, spillway, and east of the spillway, with design water surface elevations
 - section of western slope immediately downstream of the dam from elevation 1060 to the plunge pool

- enlarged plan at the plunge pool and existing ladder
 - Flow frequency and quantity that passes through the reservoir and down the Carmel River; this also includes any available stage vs. discharge data
 - Temperature or water quality data
 - Reservoir data from water years subsequent to 1999 will be added to the period of record and characterized into wet, normal, and dry operational conditions. Data prior to 1999 may be reviewed and, if deemed applicable, may be included in the analysis.
 - Additional USGS and District records will be combined with the previous period of record to update the available hydrology data set
- **Operational data**
 - Instream flow enhancement objectives
 - Operational scenarios, including operation of existing trap and truck and downstream fish passage facilities
 - Historic reservoir stage data
 - Maintenance requirements, outlet works operations, safety requirements, or similar type information related to the reservoirs function
 - Specific measures required to achieve facility objectives
- **Biological data**
 - Species and life stages targeted for upstream and downstream passage (inclusive of other steelhead and resident life histories exhibited in the Carmel River)
 - Migration periodicity for each target species and life stage
 - Known fish abundance and estimates of current and future peak rates of migration, and biological performance objectives for the Carmel River.

The Consultant will collect additional data obtained at San Clemente Dam prior to its decommissioning, trap and transport data available for the LPD adult fish collection facility operations, in addition to trapping and monitoring data of juveniles and adults available through efforts by the District. This newest information can be used to augment the baseline already established in the 2009 report. As required in other tasks, the information gaps present in the biological framework will be identified and discussed with the TRC.

The deliverables for this task include:

- *a written “working version” compilation of background information related to the project*

Task 1-2 Obtain Bathymetric and Topographic Data for Los Padres Reservoir

Using a combination of ~~multi~~single--beam-beam sonar soundings and laser scanning, the Consultant will obtain data to characterize the reservoir bottom and sides from the lowest reservoir elevation (the bottom) to approximately elevation 1050 (NGVD 1929) or 1053 (NAVD 1988).

- Utilizing single-beam bathymetric survey methods combined with aerial LiDAR for upland areas, obtain topographic/bathymetric data and provide cross-sections at 100-foot intervals from the dam spillway to the extent of backwater at the highest elevation. Single-beam sonar data survey data will be collected in parallel and perpendicular transects at a variable spacing in order to best delineate the bathymetric elevations.
- Run a transect along the perimeter of the reservoir so that the border of the reservoir is captured for surface and contour generation.
- Field verify reservoir inundation area for passage constraints at varying levels of the reservoir stage (minimum 5-foot stage intervals) from spillway elevation to elevation 1000 (NGVD 1929).
- Collect RTK field topographic positions to supplement and validate the aerial LiDAR data, focusing efforts on the upstream extent of the data to ensure any above Normal Maximum Water Surface Elevation (NMSWE) area calculations accurately represent the extent of upstream contours.

The deliverables for this task include:

- *a ~~report~~ technical memorandum describing methods used, a digital elevation model of Los Padres Reservoir, reservoir cross-sections at 100-foot intervals, inspection reports including photos and descriptions of passage through reservoir sediments*

Task 1-3 Prepare Evaluation Criteria

Following the compilation, preparation, and review of background information, the Consultant will prepare the draft evaluation criteria using technical, biological and economic feasibility criteria.

The deliverables for this task include:

- *draft feasibility criteria*

Task 1-4 Identify Critical Data Gaps

The Consultant will identify missing or additional desired information and appropriate steps to acquire the necessary material. This process to address any information gaps will be identified based on the specifics of the necessary information, and a plan to address this information need will be formulated for TRC and Advisory Group review.

The deliverables for this task include:

- *data gaps tracking log which identifies missing data or information*
- *proposal for acquiring data or information*

Task 2 Prepare Biological Performance Tool (Consultant and TRC)

This task involves development of a biological performance tool that will be used to estimate potential steelhead passage survival using fish passage concepts to be identified and refined in the feasibility study. Successful steelhead passage at the Project must consider both upstream and downstream migratory pathways and the potential for both upstream and downstream movement to occur at the same time. The existing ladder, trap and transport program is to be evaluated for improvements separately from this study. Its relation to this study may be as an alternative to be considered if volitional passage cannot be achieved.

Upstream Collection and Passage – The Consultant will evaluate existing flow patterns and attraction in the plunge pool below LPD and determine if there may be competing flows from spill or other releases. Frequency, magnitude, water quality and location of flow releases play an important role in determining appropriate attraction flow designs and the feasibility of effective attraction. Effective attraction to fish passage facilities may be further complicated where flow releases occur at separate locations, such as from the spillway or through the existing ladder or through the downstream passage facilities.

Downstream Passage – The existing downstream passage facility was intended to serve as an interim measure to improve passage until a permanent facility could be built. This may compete with the upstream passage facility for flow releases from the reservoir and there is a potential for exit flow into the reservoir from the upstream passage facility to attract downstream migrants.

Biological Performance Tool – The biological performance tool will consist of a spreadsheet

based fish passage model that tracks steelhead survival through the various alternatives available. The values developed from the fish passage model will be used to compare and evaluate potential fish passage concepts, but will not represent estimates of the size of the steelhead population. Estimates of the proportion of the potential migrant population using each alternative will be integrated with estimates of survival associated with each alternative under representative average, wet and dry hydrologic conditions. An evaluation of the uncertainty associated with each assumption will provide an indication of the robustness of modeling results and the potential influence on recommendations of fish passage feasibility.

Task 2-1 Compile Background Information on Migratory Pathways (Consultant)

Information needed to develop and populate the fish passage model includes physical, hydraulic and biological information on conditions in the watershed and in particular at Los Padres Reservoir, flow releases, and operational characteristics of downstream fish passage facilities. Results of studies conducted at other water control projects, conceptual-level drawings of potential fish passage facilities, and where appropriate the professional opinions of the TRC may also be compiled.

Passage conditions will be evaluated using average daily flow data for representative average, wet, and dry years. Project operations data will include daily reservoir water surface elevations, average daily flow releases through the outlet pipes and spillway, and periodic water quality data. Recent data on releases from storage and reservoir pool levels will be reviewed. This is presumed to be representative of current and proposed future conditions. Representative years will be selected in coordination with members of the TRC to evaluate fish passage facilities. Information compiled as part of Task 2-1 will be used to populate the fish passage model and will be presented with a progress report at the end of this task.

Characterize Passage Considerations in Los Padres Reservoir – Juvenile and adult steelhead passing the Project must pass over or through LPD and LP Reservoir. During reservoir passage they may be exposed to predation, poor water quality, thermal gradients, or become disoriented and delay or fail to pass through the reservoir. The Consultant will gather data on specific passage related factors within the reservoir including:

- Average daily reservoir flow data for representative average, wet, and dry water years. Representative years to be selected in coordination with the TRC.
- Periodicity of steelhead migration (peak and shoulder periods)

- Monthly reservoir water temperature profiles and other water quality data, if available
- Daily reservoir water surface elevations under representative average, wet, and dry water years
- Relationship of fish migration rate to average daily flow (provided by MPWMD)
- Species, abundance and feeding behavior of potential piscivorous predators, including brown trout (if data are available)

The deliverables for this task include:

- *Technical memorandum characterizing available Los Padres Reservoir data and recommendation of target flows/reservoir elevations for passage*
- *Review of studies and concepts appropriate to Los Padres Dam fish passage*

Task 2-2 Review and Identify Critical Biological Data Gaps (Consultant and TRC)

No site specific data are available to make survival estimates, so these will depend on data collected at similar facilities, literature values, or professional opinions of the researchers. The focus of this Project is on the engineering constraints, biological needs of steelhead (i.e., ability of different life stages to use a particular alternative), and the economic costs of volitional passage. Should definitive data on steelhead use and population in the reservoir and upper watershed become available, it could be factored into the recommendations from this Project.

If additional information is needed, the TRC will work with Consultant to take appropriate steps to acquire the necessary material or develop reasonable assumptions. The process to address information gaps will be identified based on the specifics of the information. If data gaps are identified that prove critical to the feasibility evaluations and TRC recommendations, the TRC will identify the most appropriate means to fill those gaps, including influence on ability to complete an meaningful analysis, timing to acquire and evaluate the information and potential outcomes as they could affect the recommendations by the TRC. The following steps will be utilized in Task 2-2:

- Perform a background review of biological information, and identify information needs.
- Identify any biologically-related critical data gaps.
- The TRC will review information from Task 1 (background) and Task 2 (biological performance tool) with the Consultant to determine suitability for work to evaluate passage facilities. It is expected that review will be completed using web access.

The deliverables for this task include:

- *incorporation of data needs into the data log developed as part of Task 1-4*

Task 2-3 Develop and Populate Fish Passage Model with Available Information

The Consultant will evaluate potential fish passage facilities at the Project using the biological performance tool (BPT) that tracks survival at LPD and reservoir. The BPT will be used to conduct a relative comparison of the biological performance of fish passage facilities. An evaluation of the uncertainty and sensitivity of the assumptions used to develop the mathematical functions will provide an indication of the robustness of modeling results. Evaluation of critical parameters, and background information available to define them, will be evaluated to determine the influence of the values in evaluating the potential feasibility of fish passage facilities.

The following steps will be utilized in Task 2-3:

- Finalize the biological performance tool, which will be a spreadsheet-based passage evaluation model.
- Populate the model with data and perform sensitivity runs to assess the model's output prior to use on the fish passage concepts and alternatives.

The deliverables for this task include:

- *a compilation of background information related to the project biology,*
- *a draft of the spreadsheet based model and data set, and*
- *a sample of a model run with output and a preliminary sensitivity analysis*

Task 3 Identify Fish Passage Concepts (Consultant, TRC)

The Consultant will develop concepts based on studies, experience, and history of other fish passage facilities and specific criteria and guidelines published by NMFS and CDFW. Concepts might be based on components of fish passage facilities, operational procedures, locations of facilities at the LPD site, or may replicate an entire facility. Proven methods of fish passage will be reviewed. Experimental methods will not be considered or presented to the TRC for review.

The concepts will be organized for an initial evaluation and a “fatal flaw analysis” will be performed to eliminate any concept that cannot meet the basic criteria. For concepts that have fatal flaws, the Consultant will document contacts with appropriate review experts and agencies including, but not limited to DSOD, CDFW, and NMFS. Concepts at this early phase of development that are fatally flawed will be documented and presented to the TRC, but will not be further developed unless there is direction from the TRC to do so. Concepts without fatal flaws will be considered technically feasible for further analysis and development.

Task 3-1 TRC Meeting #1 – Concept Workshop

Under the coordination and guidance of the meeting facilitators provided by the HDR team, the TRC and HDR team will meet to discuss the results of the fish passage functional assessment and will consider the selection of fish passage concepts for further evaluation in light of dam operations, physical, and biological information collected as part of other Tasks.

The meeting will include a presentation summarizing the primary operational, physical, and biological parameters that inform the type, size, configuration and effectiveness of fish passage technologies or concepts. Additional review of proposed comparison and evaluation criteria will be conducted to make sure that all attendees are approaching discussions and consideration of options off of the same basis of comparison. Potential for fatally flawed options and technologies that don't appear to meet performance expectations or specific constraints identified by DSOD or others will be discussed. The TRC will collaborate with the HDR team to create a list of technically feasible concepts that meet the basic criteria for further consideration and to define what constitutes fatal flaws for feasibility. Concepts selected for further consideration will be assembled into like categories and considerations for upstream, downstream, and combined passage facilities will be addressed. Documentation for concepts not selected for further evaluation will be developed for the project record.

An initial alternative evaluation matrix will be formulated based upon any refinements made to the evaluation criteria that occur during the TRC Meeting No. 1. It is assumed that the matrix will be based upon a grid analysis technique (Pugh Matrix) with weighted evaluation criteria and scoring of how well each alternative meets the evaluation criteria definition. Decisions regarding the weighting of each evaluation criteria, as well as the ranking or scoring of alternatives will be made at this meeting.

The HDR team will facilitate the discussion by providing numerous previous examples, from other successful projects completed by the HDR team, their advantages and disadvantages, and discussion of tradeoffs as part of this meeting. A refined draft of the grid analysis technique will be defined and agreed upon prior to the end of the meeting.

Prior to adjourning, a summary of decisions recorded, next steps, milestone dates, and priority information needs will be discussed and included for the meeting documentation. A facilitator and project manager from the HDR team will attend the meeting in person while the remaining participants from the HDR team will attend via conference call, webinar, and/or video conference in a manner that maintains meeting effectiveness and efficiency. The HDR team will provide the means for conference calling, webinars, and or video conferencing. MPWMD will provide a meeting room, a phone line and a high speed internet connection.

The deliverables for this task include:

- *electronic copies of a technical memo describing design parameters, functional fish assessment of fish passage technologies, initial summary of concepts, evaluation criteria and definitions, and initial analysis*
- *base drawings*
- *draft (for review) and final workshop agenda*

Meeting Protocols and Preparation – A TRC member will be selected as a facilitator prior to the meeting to assure the workshop is conducted in an efficient manner. Clerical staff should be provided to record and distribute draft meeting notes for review. Existing and expected future conditions at LPD will be considered with the concept development, including the potential for reservoir dredging, reservoir expansion, and/or continued reservoir siltation that may reduce surface storage and flexibility of releases from storage.

Concepts will be developed based on design considerations described below, NMFS and CDFW fish passage guidelines, and the TRC members’ professional experience and opinion regarding fish passage facilities. The identification and design of concepts will include physical considerations (including biological and environmental) and specific evaluation criteria.

Task 3-2 Meeting #1 Summary

The Consultant will prepare a document summarizing the primary discussion topics and results of TRC Meeting No. 1. The document will clearly note meeting discussion topics, accomplishments, major decisions, next steps, milestone dates, and priority information needs.

This summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. As part of the summary, updates and refinements to work products prepared in previous tasks will be incorporated as a result of the feedback obtained during the TRC Meeting No. 1.

The deliverable for Task 3-2 will be a meeting summary with the following:

- *Updated criteria document and a draft evaluation spreadsheet.*
- *List of fish passage concepts identified in the session.*
- *List of additional information necessary to reduce uncertainty or risks associated with each concept.*
- *A discussion of the fatal flaw analysis and documentation of concepts eliminated from further consideration at this time.*
- *Status update on the biological performance tool and any further development recommended by the Panel.*
- *A short list of fish passage concepts for further development.*

Task 4 Alternative Development (Consultant, TRC, Advisory Group)

Potential volitional fish passage alternatives will be identified and evaluated concurrently with the existing trap and transport program. Volitional passage is the concept of giving fish the choice of moving upstream or downstream based on their own motivation. The following is the definition of volitional passage:

“Volitional fish passage is a means of fish passage with appropriate hydraulic conditions such that all individual migrating adult and juvenile fish of the species of interest have the opportunity to move freely and safely upstream and/or downstream past the Project according to their own motivation.”

The intent of the Task 4 activities is to use the concepts selected for further evaluation in Task 3, formulate a series of fish passage alternatives, and develop initial narrative and illustrative products to depict the type, size, configuration, functionality, and operation of each alternative. Site-specific constraints, as well as risk and uncertainties for each alternative, will be defined as part of this task. The alternative development process includes the following steps: 1) development of alternatives; 2) scoring of initial alternatives using the grid matrix with input

from the TRC; 3) refinement of alternatives based upon the results and feedback obtained in TRC Meeting No. 2; 4) submission of refined alternatives and scoring matrix to TRC for independent review and feedback, and 5) facilitation of teleconference webinar to discuss comments and feedback prior to preparation of the Draft Fish Passage Feasibility Report. These activities associated with Task 4 are described further in the following sections.

Task 4-1 Develop Initial Concepts into Alternatives (Consultant)

The Consultant Team will use the concepts selected for further evaluation as part of Task 3 and begin the process of formulating comprehensive fish passage alternatives that address the objectives and constraints for this project. In general, each alternative will be developed to clearly define the type, size, and configuration of the primary alternative components and also to describe its theory of operation, anticipated functionality and performance with respect to site constraints, and anticipated environmental operating conditions.

The physical illustration and description of components will be developed to a level of detail sufficient to inform Class V Opinion of Probable Construction Cost (OPCC) development. As the alternatives are developed, the HDR team will identify any concepts or alternatives that appear to be fatally flawed or infeasible. Those alternatives will be modified if possible or a recommendation for removal from evaluation will be made to the TRC. The HDR team will retain at least one upstream volitional alternative for further evaluation during this alternative development process.

For each alternative, the HDR team will generate both narrative and illustrative information as follows:

- A clear narrative description summarizing the primary alternative components and theory of operation
- Hydraulic operational parameters and characteristics created as figures in the text or HGLs on the drawings
- Plan and sectional drawings to scale on 11x17 drawing sheets
- Benefits, risks, and a comparison of advantages and disadvantages comparable to other alternatives being formulated based upon the evaluation criteria developed in Task 3

- Results from application of the BPT
- Initial OPCC values and summary of relative anticipated operating costs (high, medium, or low)

As part of this task, the Consultant will compile the grid form evaluation matrix based upon the evaluation criteria established in Meeting #1 and the alternatives developed as part of this task. Scores for this matrix will be left blank and the matrix will be prepared for use in TRC Meeting No. 2 described below.

All OPCC and operational costs will be developed to a Class V level of detail based upon the information available at the time. Cost data will be developed for comparative purposes. The Consultant recognizes the risk and uncertainty in developing costs for complex facilities such as the type of projects implemented for the purposes of fish passage. To proactively inform the ability to accurately address project costs and to reduce the disparity between planning level costs and actual costs that are realized by many project owners throughout the Pacific States, the Consultant will provide a compiled list of feasibility level, design level, and construction level cost data for numerous similar facilities throughout the Pacific implemented in the past decade. The Consultant will employ the use of parametric cost estimates, scaled and calibrated to this site for the purposes of cost development.

The deliverables for Task 4-1 include:

- *compilation of alternatives*
- *an evaluation matrix*
- *supporting documentation*

Task 4-2 Meeting #2 – Review and Refine Alternatives (Consultant, TRC)

The facilitation experts provided by the Consultant will coordinate and facilitate a second meeting with the TRC. The overall intent of the second meeting will be to discuss and refine passage alternatives while focusing on the initial completion of the evaluation matrix. In a collaborative forum, rates will be selected to represent how well an alternative achieves a given evaluation criteria based upon the system generated in Task 3 and results will be computed representing the overall score given to an alternative. Higher scores will represent alternatives

that reflect a great level of compatibility with the selected evaluation criteria. The results of the grid analysis will be used as a decision tool to further refine facility components, identify data gaps, and assess the potential influence of sensitivity and uncertainties. A progress summary on the use of the BPT as well as identification of additional fatal flaws or modifications required for alternatives will be discussed.

The Consultant will incorporate the results and feedback obtained during Meeting No. 2 to update descriptions and drawings for the fish passage alternatives to more effectively meet project objectives. The results will be presented to the TRC at the meeting, with the goals of receiving input and the TRC reaching consensus on a list of alternatives for final refinement in Task 5.

A facilitator and project manager from the Consultant will attend the meeting in person while the remaining participants from the Consultant will attend via conference call, webinar, and/or video conference to control meeting costs in a manner that maintains meeting effectiveness and efficiency. The Consultant will provide the means for conference calling, webinars, and or video conferencing. MPWMD will provide a meeting room, phone lines, and high speed internet connections.

The deliverable for Task 4-2 is a draft (for review) and final workshop agenda.

Task 4-3 Meeting #2 Summary

The Consultant will prepare a document summarizing the primary discussion topics and results of TRC Meeting No. 2. The document will clearly note meeting discussion topics, accomplishments, major decisions, next steps, milestone dates, and priority information needs. As part of the summary, updates and refinements to work products prepared in previous tasks will be incorporated as a result of the feedback obtained during the TRC Meeting No. 2. The HDR team will incorporate updated narratives, illustrations, and supporting documentation of draft fish passage alternatives. This summary document will be distributed within three weeks of the meeting date to the TRC.

The deliverable for Task 4-3 will be a meeting summary with the following:

- *Status update on the biological performance tool and any further development recommended by the TRC and/or Group.*
- *Final evaluation spreadsheet.*
- *List of fish passage alternatives identified in the session.*
- *List of additional information necessary to reduce uncertainty or risks associated with each alternative.*
- *A discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time.*
- *A recommendation of alternatives for further development.*

Task 4-4 Present Passage Alternatives (Consultant, TRC) – Meeting #3

The Consultant and TRC will meet to discuss the set of passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1, with the exception that the meeting will be held as a teleconference.

The facilitation experts provided by the Consultant will coordinate and facilitate a third meeting with the TRC for the purposes of reviewing the most up-to-date alternative descriptions, performance data, and to review feedback on the revised work products distributed in Task 4-3. The agenda will also include a discussion topic focused on the elimination of any alternatives that appear to be less favorable from a performance or feasibility level. During the meeting, the TRC and the Consultant will work collaboratively to perform a final determination of volitional passage, adjust prioritized or ranked alternatives based upon their scoring and relative level of performance with respect to project evaluation criteria, and to agree on recommendations for the final documentation. If, at the conclusion of this meeting, the consensus is that upstream volitional passage is not feasible, the reasoning and justification for this conclusion will be documented for the project record.

The Consultant Team will record results and feedback obtained during Meeting No. 3 and will incorporate updated narratives, illustration, and supporting documentation of the final fish passage alternatives into the Draft Fish Passage Feasibility Report prepared as part of Task 6.

It is assumed that attendance will be via conference call, webinar, and/or video conference to control meeting costs in a manner that maintains meeting effectiveness and efficiency. The Consultant Team will provide the means for conference calling, webinars, and or video conferencing for participants that have access to high speed internet.

Deliverables: meeting coordination, agenda, and attendance, documentation of the meeting and revisions to alternatives will be incorporated into the Draft Fish Passage Feasibility Report.

(Optional) Task 5 Discuss Final Set of Passage Alternatives (Consultant, TRC)

If necessary, the Consultant and TRC will meet to discuss and finalize the fish passage alternatives.

Task 5-1 Prepare Final Set of Passage Alternatives (Consultant, TRC) – Meeting #4

The Consultant Team will coordinate and facilitate a teleconference meeting with the TRC to discuss the refined set of passage alternatives developed and updated as part of Task 5 activities.

Deliverable: meeting summary that includes comments from the TRC; a copy of any written materials submitted by the TRC; and any follow-up response from the Consultant or TRC.

Task 6: Reporting and Fish Passage Recommendations (Consultant and TRC)

Task 6 is structured to organize and report on the full development of the final fish passage alternatives. A draft and final feasibility report will be developed that will document the process followed, development of fish passage alternatives, evaluation criteria, summary of alternatives eliminated with justification for the eliminations, a final feasibility evaluation and the final recommended alternative(s). Each alternative selected will be described with text and conceptual level design drawings, an OPCC, estimate of operating and maintenance costs, an implementation schedule and description of construction issues, listing of pros and cons, and a summary and details of the final evaluation.

At least one volitional alternative for upstream passage will be described, regardless of its feasibility; however, if all volitional alternatives are determined to have one or more fatal flaws, the additional work described in this task may not be carried out.

The final feasibility report will include the TRC recommendation regarding the technical and biological feasibility of providing volitional steelhead passage at LPD and other recommended alternatives. If a volitional passage facility cannot be recommended due to site constraints, uncertainties, or other factors the final report will document the rationale. Recommendations for next steps will be developed, which might include: fish passage alternatives to be pursued; further studies, if needed to address uncertainties or risk; or additional analysis to determine

economic feasibility. The draft report will be presented to the TRC for input.

Depending on the nature of comments, the draft report may be finalized or, if additional issues are raised, the report may be amended and recirculated for final review.

Task 6-1 Prepare Draft Fish Passage Feasibility Report (Consultant, TRC)

The Consultant and TRC will review the final set of alternatives and recommendations made by the TRC and will make a final recommendation. A Draft Fish Passage Feasibility Report will be developed in this task to document the scope of the study, background information used, design criteria, the process utilized to conduct the feasibility analyses, the results of the analyses and the TRC recommendation. It is anticipated that the report will include the following contents but that the final outline will be based upon comments received from the TRC and Advisory Group as part of Task 5:

- Introduction
 - Problem statement
 - Purpose, objective
 - Fish passage goal statement
 - Relevance to Steelhead Recovery Plan
 - Overview of the study process
 - Summary of meetings, coordination, and progress reports
- Overview of the BPT
 - Overview of the spreadsheet based fish passage model
- Descriptions of alternatives
 - Short descriptions of all initial brainstorm concepts (functional assessment of fish passage technologies)
 - Documentation of concepts that were dropped for fatal flaws or low ranking
 - Preferred concepts
 - Detailed physical, functional, and operational descriptions
 - Summary of disadvantages and advantages
 - Implementation challenges and uncertainties
 - Constructability considerations

- Expected performance for upstream and downstream fish passage (based on the biological performance tool)
- Opinions of probable construction and operating costs
- Two to five scale drawings will be provided for each alternative, with applicable site overviews, site plans, sections, elevations, and hydraulic design parameters clearly defined.
- Evaluation of Alternatives
 - Description of evaluation process
 - Description of evaluation matrix and criteria
 - Weighting and scoring
 - Criteria that could lead to fatal flaws
 - Graphics and summaries of evaluation
 - Ranking of alternatives based on evaluation matrix
 - Ranking of alternatives based just on fish passage criteria
 - Relative fish passage ranking compared to cost and operations criteria
- Conclusions and Recommendations
- References cited

The Consultant will provide a draft report to the TRC for review. After a 30-calendar day review period, the Consultant will proceed to incorporate comments provided by the TRC to date and finalize the document. If no substantive issues are raised during the review, the Consultant will move on to production of the Final Report; however, if substantive issues are raised, the Consultant, Cal-Am, and the District may elect to work directly with the commenter(s) to address any issues, or hold a meeting to address issues.

Task 7 Project Management

The Project Manager for the Consultant team will implement effective project management procedures and communication with the District throughout the duration of the project. Activities anticipated for this task include the following:

- Management and oversight of all “Consultant in-house” project personnel and sub consultants. This shall include monitoring budgets, schedule, financial reporting

timelines, personnel assignments, and ensuring that work not expressly contained within the scope of work is not performed without prior written authorization from the District.

- Preparation and update of a project schedule: A project schedule shall be prepared and regularly updated to reflect work progress, spending progress, changes in scope, or other activities that may impact the project schedule and costs.
- Monthly project progress status and expenditure reports shall be prepared and delivered to the District's project manager. The expenditure report shall include a summary of expenditures for the preceding month, monthly and project lifecycle spending projection tracking, project-to-date for each task and the total project, along with estimates on percentage completion of the scope of services and earned value analysis.
- Project progress meetings will be held to update all members of the team on the status of the project, to identify uncertainties or impacts to schedule, and to discuss course corrections when necessary to keep the project moving forward.
- Coordination and facilitation of other project related meetings such as: 1) kick-off meeting with MPWMD and Cal-Am; 2) review of existing and proposed operations in the field w/MPWMD and Cal-Am; 3) meetings with regulatory agencies as required to determine constraints.

Deliverables: Invoices; progress reports; copies of communications among agencies and consultants (if appropriate); meeting minutes.

EXHIBIT B – FEE SCHEDULE

Task Description	Hours	Cost
1 Feasibility Study Preparation (Consultant)		
1-1 Compile Background Information	60	\$9,751
1-2 Obtain Bathymetric and Topographic Data for Los Padres Reservoir	160	\$27,562
1-3 Prepare Evaluation Criteria	18	\$3,431
1-4 Identify Critical Data Gaps	38	\$7,423
2 Prepare Biological Performance Tool (Consultant and TRC)		
2-1 Compile Background Information on Migratory Pathways (Consultant)	24	\$4,893
2-2 Review and Identify Critical Biological Data Gaps (Consultant and TRC)		
2-3 Develop and Populate Fish Passage Model with Available Information	132	\$21,682
3 Identify Fish Passage Concepts (Consultant, TRC)		
3-1 TRC Meeting #1 – Concept Workshop	78	\$15,359
3-2 Meeting #1 Summary	86	\$18,967
4 Alternative Development and Refinement (Consultant, TRC)		
4-1 Develop Initial Concepts into Alternatives (Consultant)	394	\$48,656
4-2 Meeting #2 – Review and Refine Alternatives (Consultant, TRC)	60	\$12,368
4-3 Meeting #2 Summary	58	\$11,651
4-4 Teleconference Meeting #3 - Determination of Feasibility and Selection of Alternative(s) (Consultant and TRC)	32	\$6,265
Optional Task - Hold Additional Consultant and TRC Meeting		
5 Discuss Final Set of Passage Alternatives (Consultant, TRC)		
5-1 Discuss Final Set of Passage Alternatives (Consultant, TRC)	24	\$6,265
6 Reporting and Fish Passage Recommendations (Consultant and TRC)		
6-1 Prepare Draft Fish Passage Feasibility Report (Consultant, TRC)	254	\$41,526
7		
Project Management		
7 Project Management		
7-1 General Project Management, Team and Client Coordination, Scheduling and Reporting	160	\$24,602
7-2 Kickoff Meeting with MPWMD and Cal-Am including Site Visits	48	\$6,705
7-3 QA/QC including Independent Technical Reviews Senior Technical Advisors Oversight	92	\$14,837
Total	1,718	\$282,034

EXHIBIT C – SCHEDULE

To be submitted within 30 days of execution of agreement. All tasks to be completed within 18 months of execution data of agreement.

Interim Project Schedule

Los Padres Dam Fish Passage Feasibility Assessment Study Plan																							
Schedule	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	
Task Notice to Proceed																							
Task 1 - Feasibility Study Preparation																							
1-1 Compile Background Information																							
1-2 Obtain Bathymetric and Topographic Data for Los Padres Reservoir																							
1-3 Prepare Evaluation Criteria																							
1-4 Identify Critical Data Gaps																							
Task 2 - Prepare Biological Performance Tool																							
2-1 Compile Background Information on Migratory Pathways																							
2-2 Review and Identify Critical Biological Data Gaps																							
2-3 Develop and Populate Fish Passage Model with Available Information																							
Task 3 - Identify Fish Passage Concepts																							
3-1 TRC Meeting #1 - Concept Workshop																							
3-2 Meeting #1 Summary																							
Task 4 - Alternatives Development																							
4-1 Develop Initial Concepts																							
4-2 TRC Meeting #2 - Review Alternatives																							
4-3 Meeting #2 Summary																							
4-4 Present Initial Set of Alternatives																							
Task 5 - Fish Passage Alternatives Refinement and Determination of Feasibility																							
5-1 Fish Passage Alternatives Refinement																							
5-2 TRC Meeting #3 - Determination of Feasibility and Selection of Alternative																							
5-3 Meeting Summary																							
5-4 Present Final Set of Alternatives																							
Task 6 - Reporting and Fish Passage Recommendation																							
6-1 Prepare Draft Fish Passage Feasibility Report																							