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February 28, 2020

VIA ELECTRONIC FILING

David E. Capka, P.E.
Office of Energy Projects
Director, Division of Dam Safety & Inspections
Federal Energy Regulatory Commission
888 First Street, N.E., Routing Code: PJ-13
Washington, D.C. 20426

Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Supplemental Response to Independent Board of Consultants' Recommendations; FERC Nos. P-2082-062; P-14803-000; NATDAM-OR00559, CA00323, CA00234, CA00325

Dear Director Capka and Secretary Bose:

The Klamath River Renewal Corporation respectfully submits further information regarding its fiscal capacity for the purpose of license transfer.[1] This supplements its July 29, 2019 filing[2] and is responsive to the Board of Consultants' recommendations as well as the Commission's February 4, 2020 guidance.[3] This augments an extensive record that establishes that the Renewal Corporation has the legal, technical, and fiscal capacity to become the licensee for the Lower Klamath Project, and that this license transfer is in the public interest. The Renewal Corporation respectfully requests that the

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1 This information is filed in support of the "Joint Application for Approval of License Amendment and License Transfer," FERC Accession no. 20160923-5367.

2 In the July 29, 2019 filing, the Renewal Corporation fully responded to the BOC's "Letter Report: Board of Consultants Mtg. No. 1" (November 28, 2018) and its "Letter Report: Supplement to Board of Consultants Mtg. No. 1" ("Supplemental Report") (July 29, 2019).

3 Letter to Mark Sturtevant, PacifiCorp, and Michael Carrier, Renewal Corporation (February 4, 2020), "Supplement to Independent Board of Consultants Meeting Report No. 1 for the Klamath Project No. 2082 and the Lower Klamath Project No. 14803," FERC Accession no. 20200204-3001.

Commission approve the license transfer as soon as possible and start the license surrender proceeding.[4]

The Renewal Corporation has the capacity to complete the Project proposed by the Klamath Hydroelectric Settlement Agreement ("KHSA"). As reported in the July 29, 2019 filing, it has a progressive-design-build contract with Kiewit, which will perform the dam removal work. It has developed a contract with Resource Environmental Solutions LLC ("RES") for habitat restoration and mitigation measures. It has a Guaranteed Maximum Price ("GMP") for all such work, based on 60% design specifications from Kiewit and RES. Its contingency and operating reserves are robust and have been updated to reflect the GMP. It has updated its comprehensive insurance program, and its contractors will secure performance and surety bonds and provide parent company guarantees. The Renewal Corporation has developed a Local Impact Mitigation Fund to address potential property damages not otherwise covered by the insurance program and related measures. Held to heightened scrutiny, the Renewal Corporation has fully established that it has the capacity, including resiliency, to assume and discharge its obligations as licensee of the Lower Klamath Project.

On February 13 and 25, 2020, the Renewal Corporation held informal meetings with the Board of Consultants ("BOC") to review the information attached to this filing. The BOC will hold a formal meeting on March 4, 2020 pursuant to the Commission's February 4, 2020 guidance.

As stated in its July 29, 2019 filing, the Renewal Corporation accepted the recommendations in the BOC's Supplemental Report. It now reports on its implementation of these recommendations. It will respond to the BOC's further report following the March 4 formal meeting.

Recommendation 1: The BOC recommends that the contingency be re-assessed once the final GMP is identified, LTC terms, conditions and costs are established, and assignment/mitigation strategies for the remaining risks are addressed.

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4 "Application for Surrender of License for Major Project and Removal of Project Works" (Sept. 23, 2016), FERC Accession no. 20160923-5370

The BOC previously found that the Renewal Corporation's updated cost estimate[5] for the Project[6] was "consistent with industry standards" and that the "[c]osts and contingencies appear to be reasonable and have a high likelihood of being adequate given the PDB [progressive-design-build] contracting model, the choice of a proven, competent contractor and proposed Risk Management Plan."[7] It recommended re-assessment of the contingency reserve in February 2020, on the basis of the GMP and other commercial instruments that the Renewal Corporation intended to develop by this month.

The Renewal Corporation has completed the following work products responsive to this recommendation.

Attachment	Author	Title
A	Kiewit[8]	60% Design [9]
B	Kiewit	GMP Report
C	RES[10]	GMP Report
D	KRRC	Project Funding Summary
E	McMillen Jacobs[11]	Assurance regarding GMP, including qualifications as Owner's Technical Representative
F	Kiewit	Assurance regarding GMP; Amendment to Project Agreement
G	RES	Assurance regarding GMP

5 As stated in Appendix K of the July 29, 2019 filing.

6 This filing uses the term "Project" to refer to "Facilities Removal" pursuant to the KHSA.

7 Supplemental Report at 5.

8 Kiewit Infrastructure West Co. is the progressive-design-build (PDB) contractor for construction work. Its qualifications are stated in Attachment C to the July 29, 2019 filing.

9 The 60% Design is Critical Energy Infrastructure Information and was included in the data package provided to the BOC and FERC in advance of the BOC's March 4, 2020 meeting. An index to the 60% Design is provided at Attachment A.

10 RES, d.b.a. HGS LLC in California, is the Renewal Corporation's contractor for habitat mitigation and restoration work. Its qualifications are stated in Attachment I to the July 29, 2019 filing. Since that filing, the Renewal Corporation, Kiewit and RES have decided to move the habitat work from Kiewit's contract, into a separate contract attached hereto as Appendix H.

11 McMillen Jacobs LLC is the Owner's Technical Representative as of December 2019. Its qualifications are included in Attachment E to this filing.

H	KRRC and RES	Habitat Restoration, Maintenance, and Liability Transfer Agreement ("RES Contract")
I	RES	Local Impact Mitigation Fund[12]
J	AECOM	Updated Risk Register (Retired)
K	AECOM	Updated Risk Register (KRRC-Owned)

The Renewal Corporation now has a GMP for the work to implement the KHSA. Kiewit and RES developed the GMP for construction and habitat restoration work, respectively. The combined GMP is $276,869,497.

The GMP is based on 60% design specifications for engineered work and is based on the cost-estimation procedures that these contractors use for complex projects. The GMP reflects market validation via bids from materials suppliers and nearly 100 potential subcontractors, including many local and tribal businesses. The GMP is consistent with AECOM's prior cost-estimation rounds in the record. Further, Kiewit, RES, and McMillen Jacobs have provided assurances that the GMP is implementable and covers contingencies that may arise in the course of finalizing technical specifications and implementation thereafter.

The RES Contract covers all habitat mitigation and restoration measures expected in the license surrender and other permit terms for the Project. The contract specifies the all-in cost for RES (as the Renewal Corporation's assignee) to design, implement, and maintain such measures in compliance with such terms, including any reopeners. The cost includes indemnification of PacifiCorp and the States with respect to such measures. The Renewal Corporation and RES have substantially completed negotiation of the contract, in consultation with PacifiCorp and the States.

Renewal Corporation has developed a Local Impact Mitigation Fund ("LIMF") to ensure its capacity to physically mitigate property damages and otherwise address claims filed under state laws reserved by Federal Power Act section 10(c). Such potential damages may include reduction in well production adjacent to reservoir sites, slope instability adjacent to Copco Reservoir, and increase in downstream flooding stage on private

[12] A non-redacted version of Attachment I is being concurrently filed as Privileged Information pursuant to 18 C.F.R. § 388.112 because the document contains proprietary business information.

properties. The LIMF is based on exhaustive technical analysis of potential physical impacts to such properties. Its capitalization is conservative, reflecting Project-specific conditions as well as a survey of experiences (claims made, adjudicated, and settled) at other large dam removals.

The Renewal Corporation has updated the Risk Register that was included in the Risk Management Plan (July 2019).[13] Many risks, which could have arisen before development of the 60% design specifications, have been eliminated or otherwise retired consistent with industry practice. These "retired risks" are identified in Attachment J. The evaluation of individual remaining risks has been updated to reflect the development of those design specifications, RES Contract including LTC terms, and LIMF.

The Renewal Corporation has updated the Project budget on the basis of these developments. The updated budget is $450,750,000, including the GMP, permitting fees, insurance, contingency and operating reserves, and all other administrative items. This compares with the budget of $449,500,000 included in the July 29, 2019 filing. The updated budget now includes accrued interest on funds held by the Renewal Corporation.

The contingency reserve for Project implementation totals more than $50 million. It consists of amounts that Kiewit and RES included in the GMP, as well as $35.1 million retained by the Renewal Corporation as owner.[14] Kiewit and McMillen Jacobs (among the largest companies involved in water resources construction) and RES (an industry leader for environmental restoration) have provided assurances that this contingency reserve is conservative to address uncontrollable circumstances that may arise in implementation. These assurances and the underlying contracts help confirm the Renewal Corporation's fiscal capacity to discharge its obligations as licensee of the Lower Klamath Project.

Recommendation 2: The BOC recommends that the BOC reviews future iterations of the Project Insurance Program and PDB contract insurance requirements.

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13 This plan is Appendix B in July 29, 2019 filing.

14 The owner-retained contingency for post-GMP events is equal to the recommendation in Appendix E of the July 29, 2019 filing.

The BOC previously found that "...the types of insurance policies and bonds identified in the Risk Management Plan and the anticipated insured limits of liability are appropriate for a project of this type, size, and duration."[15] Aon has updated the Risk and Insurance Due Diligence Report (July 2019)[16] based on developments in the insurance market. Specifically, it recommends that Kiewit and RES, respectively, use their corporate insurance programs, with dedicated policy limits for this project. It further recommends that the Renewal Corporation obtain an Owner's Interest Policy to address any events following license transfer and before the commencement of project work. The Consolidated Insurance Program will continue to cover insurable events with 99.5% confidence, including PacifiCorp and the States of California and Oregon ("States") as Additional Insureds. The costs of this insurance program are included in the Project budget which is Attachment D hereto.

In July 2019, the Renewal Corporation updated the Risk Management Plan in conjunction with the amended Estimate of Project Costs. It used a Monte Carlo analysis involving 50,000 scenarios to estimate risk significance and exposure.[17]

There is heightened regional concern about wildfire risks, following the 2018-9 wildfires in Northern California. The Renewal Corporation engaged REAX Engineering to perform supplemental modeling of such risks related to this Project, including the impacts of removing reservoirs and establishing riverine access for fire-control helicopters and trucks. REAX has extensive experience in modeling such risks throughout the west. It advises PacifiCorp, as well as other utilities and large landowners, with respect to such risks. In its preliminary report, REAX finds that the Project will not increase existing wildfire risks relative to the status quo, based on probabilistic modeling that incorporates a robust data set on local conditions.

The Renewal Corporation provides the following work products responsive to this recommendation.

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15 Supplemental Report at 6.

16 Attachment B, Sub-attachment B, to the July 29, 2019 filing.

17 Attachment B, Chapter 1 "Plan Objectives and Background," to July 29, 2019 filing.

Attachment	Author	Title
L	Aon[18]	Revised Risk and Insurance Due Diligence Report
M	REAX	Quantitative Wildfire Risk Analysis of the Klamath River Renewal Project – Preliminary Assessment

Recommendation 3: The BOC recommends that the Risk Register be updated monthly.

As stated above, the Renewal Corporation has updated the Risk Register to reflect 60% design specifications and the GMP. It will continue to review and update the register on a monthly basis, copying the BOC as changes are made.

The BOC previously found that LTC structure and LIMF were "in early stages,"[19] and that further development of these liability protection mechanisms will affect the Risk Register. Consistent with that finding, the Renewal Corporation has now updated the Risk Register to reflect the maturation of the LTC structure (as reflected in the RES Contract) and the LIMF (including detailed technical and legal analysis of risk exposure associated with property damages).

The BOC previously found that the Renewal Corporation will retain risks associated with Uncontrollable Circumstances, work scope changes, and inaccuracies in reliance documents.[20] The GMP, Updated Risk Register, and RES Contract address each of these factors, strengthening the approach to retained risks in the July 29, 2019 filing. For example, the RES Contract defines Uncontrollable Circumstances very narrowly, so that the price for habitat mitigation and restoration will not change as a result of permit reopener (which is otherwise typically treated as an Uncontrollable Circumstance).

Recommendation 4: The BOC recommends that the Renewal Corporation continue to work with PacifiCorp and the States to define the scope, level and term of indemnification that is currently set forth in the KHSA Appendix L.

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18 Aon Risk Insurance Services West, Inc. is the Renewal Corporation's insurance advisor. Its qualifications are stated in Attachment H to the July 29, 2019 filing.

19 Supplemental Report at 7.

20 Supplemental Report at 7.

The Renewal Corporation has worked extensively with PacifiCorp and the States to develop the RES Contract and LIMF which implement KHSA Appendix L Part IV. The contract is included in this submission at Attachment H.

Recommendation 5: The BOC recommends that further refining of "Plan B" continue.

The BOC uses the term, Plan B, to describe the actions to be taken by the Renewal Corporation in the event of a cost overrun relative to the $450 million in committed funds for Project implementation. As noted above, the Renewal Corporation has focused on ensuring the sufficiency of its Plan A to complete license surrender.

As stated in its July 29, 2019 filing, Plan A consists of an integrated package. The elements are: (1) $450 million in committed funding; (2) use of PDB contract form to assure accountability in construction and related work; (3) engagement of best-in-industry Project team; (4) requirement of GMP before the Renewal Corporation's acceptance of license transfer; (5) insurance, bond, and indemnity program that provides many hundreds of millions of dollars of risk protection; (6) a Project cost estimate at the industry standard P(80) level; and (7) cash and contingency reserves that exceed the industry standard P(80) level. These measures, which were in place in July 2019, remain in place today. The risk of cost overrun is substantially less today, relative to July 29, 2019, as a result of the GMP and 60% design specifications.

Plan B also consists of an integrated package. The elements are: (1) value engineering to address any cost overrun that may occur during Project implementation; (2) consideration of scope reduction as supported by the signatory parties pursuant to KHSA sections 7.2.1.A(5) and 8.7; and (3) joint effort by KHSA parties to secure third-party funding as appropriate to supplement that capacity.[21] The Renewal Corporation reasonably expects to secure additional funds if necessary, taking into consideration the strength of the Project team and the active support of the States and other KHSA parties for completion of the Project. Before the Renewal Corporation accepts license transfer, PacifiCorp and the States will confirm their satisfaction that Plan A and Plan B sufficiently mitigate risks related to fiscal capacity.

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[21] KHSA section 7.3.8.B; see June 24, 2017 AIR Response, item 10; December 4, 2017 AIR Response, item 3; June 28, 2018 AIR Response, Item 3(c).

Conclusion

This filing augments an already extensive record on the Renewal Corporation's financial, legal, and technical capacity. That record includes the Renewal Corporation's initial application, responses to Additional Information Requests from Commission Staff,[22] responses to information requested in the License Amendment Order,[23] responses to BOC Report No.1,[24] and the July 29, 2019 filing responsive to the BOC's Supplemental Report.

The Commission is applying "heightened scrutiny" to this license transfer application, as the purpose is license surrender[25] involving complex deconstruction, mitigation, and restoration work. The Renewal Corporation embraces that heightened scrutiny.

The Commission uses a structured approach to manage risks for the purpose of dam safety and related license operations.[26] Similarly, a license transfer is not risk-free. Here, the Renewal Corporation has demonstrated its capacity to manage all material risks associated with Project implementation, through insurance, bonds, indemnification, and other mechanisms. These mechanisms aggregate to a structured approach that is significantly more robust than any previously considered in a license transfer proceeding. PacifiCorp and the States have asked that the Commission approve the license transfer application, as current licensee and future regulators and landowners, respectively.[27]

In its February 4, 2020 letter, the Commission called upon the BOC to evaluate this supplemental information and provide "any further recommendations to the Commission in order to fully inform the Commission's decision on the Renewal Corporation's transfer application." The BOC will meet on March 4, 2020 and will prepare a report by mid-March. The Renewal Corporation will respond to any further recommendations at that time.

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22 FERC Accession nos. 20170623-5103 and 20171204-5131. In addition, the Renewal Corporation filed information on March 1, 2017. FERC accession no. 20170301-5273

23 FERC Accession nos. 20180629-5017and 20180629-5018.

24 FERC Accession no. 20181213-5050.

25 162 FERC ¶ 61,236 at para 51.

26 "Risk Informed Decision Making," https://www.ferc.gov/industries/hydropower/safety/guidelines/ridm.asp.

27 FERC accession nos. 20190801-5026, 20190805-5097,

The Renewal Corporation respectfully requests that the Commission take final action and approve the license transfer application by April 2020. Thank you for your consideration.

Respectfully submitted,

Markham A. Quehrn
Laura G. Zagar
Perkins Coie LLP

Attorneys for Klamath River
Renewal Corporation

cc: Lower Klamath Project Independent Board of Consultants
Douglas Johnson, (D2SI) Portland Regional Engineer
Service Lists (FERC Nos. 2082-062 and 14803-000)

Attachments

A. Kiewit, 60% Design
B. Kiewit, GMP Report
C. RES, GMP Report
D. KRRC, Project Funding Summary
E. McMillen Jacobs, Assurance regarding GMP, including qualifications as Owner's Technical Representative
F. Kiewit, Assurance regarding GMP and Amendment to Project Agreement
G. RES, Assurance regarding GMP
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I. RES, Local Impact Mitigation Fund
J. AECOM, Updated Risk Register (Retired)
K. AECOM and Aon, Updated Risk Register (KRRC-Owned)
L. Aon, Revised Risk and Insurance Due Diligence Report
M. REAX, Quantitative Wildfire Risk Analysis of the Klamath River Renewal Project – Preliminary Assessment

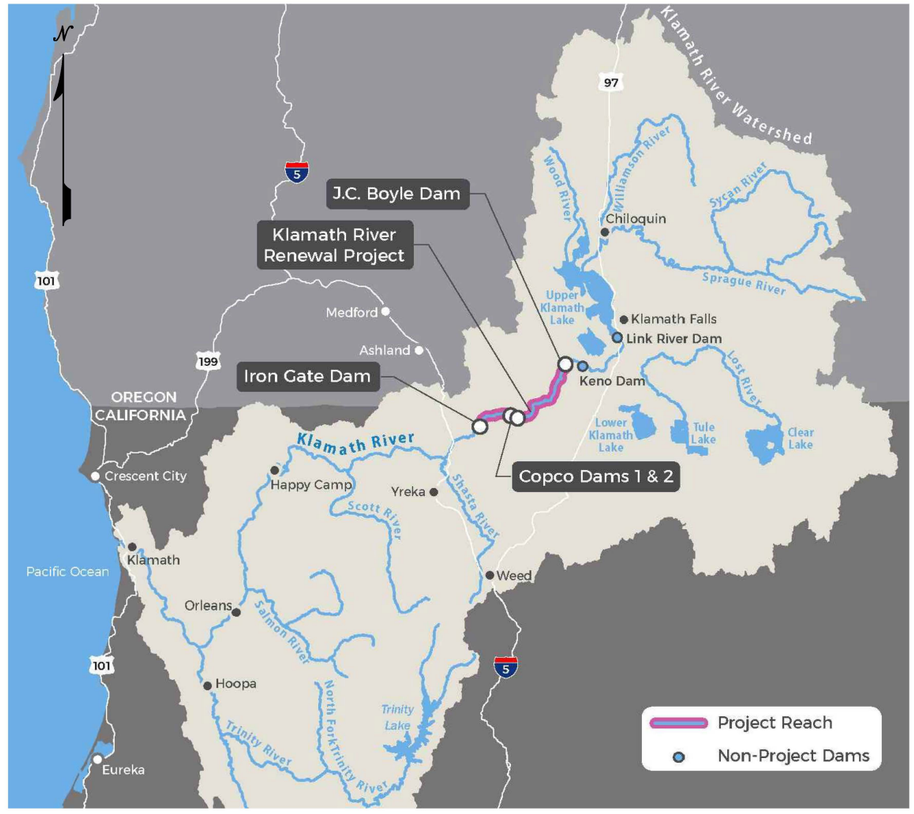
ATTACHMENT A

KLAMATH RIVER RENEWAL PROJECT

KIEWIT CONTRACT #104168

60% DESIGN COMPLETION DRAWINGS

JACKSON COUNTY, OREGON
KLAMATH COUNTY, OREGON
SISKIYOU COUNTY, CALIFORNIA



LOCATION MAP

NOT TO SCALE

FOR INFORMATION ONLY

PRELIMINARY DESIGN (NOT FOR CONSTRUCTION)

REV	DESCRIPTION	BY	CHK	APP	DATE
D	ISSUED WITH 60% DESIGN REPORT	CBN	NB	SRM	02/07/20
C	ISSUED WITH DRAFT 60% DESIGN REPORT	CBN	NB	SRM	12/17/19
B	UPDATED FOR 30% DESIGN REPORT	CBN	NB	SRM	10/17/19
A	ISSUED WITH DRAFT 30% DESIGN REPORT	CBN	NB	SRM	08/27/19

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

PREPARED BY: Knight Piésold CONSULTING / Kiewit

DESIGNED	C. NIAMIR
DRAWN	W. LAHODA
REVIEWED	N. BISHOP
IN CHARGE	S. YONG
APPROVED	S. MOTTRAM

PREPARED FOR: KLAMATH RIVER RENEWAL CORPORATION

PROJECT	KLAMATH RIVER RENEWAL PROJECT
PROJ #	VA103-640/1
DATE	02/07/2020
SHEET TITLE	TITLE SHEET
DWG	G0001

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SHEET NO.	GENERAL
G0001	TITLE SHEET
G0002	INDEX OF DRAWINGS SHEET 1 OF 2
G0003	INDEX OF DRAWINGS SHEET 2 OF 2
G0005	LEGEND, SYMBOLS, AND ABBREVIATIONS
G0006	GENERAL NOTES
G0020	PROJECT LOCATION, VICINITY AND ACCESS
G0030	GENERAL ARRANGEMENT PLAN – KEY MAP
G0031	J.C. BOYLE FACILITY – GENERAL ARRANGEMENT PLAN – 1 OF 6
G0032	J.C. BOYLE FACILITY – GENERAL ARRANGEMENT PLAN – 2 OF 6
G0033	COPCO FACILITIES – GENERAL ARRANGEMENT PLAN – 3 OF 6
G0034	COPCO FACILITIES – GENERAL ARRANGEMENT PLAN – 4 OF 6
G0035	IRON GATE FACILITY – GENERAL ARRANGEMENT PLAN – 5 OF 6
G0036	IRON GATE FACILITY – GENERAL ARRANGEMENT PLAN – 6 OF 6
G0050	EARTHWORKS AND DEMOLITION – MATERIAL SPECIFICATIONS
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C1000	PROJECT OVERVIEW AND LIMITS OF WORK – KEY MAP
C1001	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 1 OF 5
C1002	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 2 OF 5
C1003	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 3 OF 5
C1004	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 4 OF 5
C1005	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 5 OF 5
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C1051	RESERVOIR DRAWDOWN STAGES – WET YEAR INFLOW – PLAN AND SECTION
C1060	RESERVOIR OPERATIONS – WATER SURFACE ELEVATIONS – PROFILE AND SECTION
C1061	RESERVOIR OPERATIONS – POST–DRAWDOWN HYDRAULIC INFORMATION
C1220	SPILLWAY AND INTAKE – DEMOLITION PLAN AND PROFILE
C1221	SPILLWAY AND INTAKE – DEMOLITION SECTIONS
C1222	SPILLWAY AND INTAKE – DEMOLITION DETAILS
C1230	EMBANKMENT – EXCAVATION PLAN
C1231	EMBANKMENT – REMOVAL AND EXCAVATION PROFILE
C1232	EMBANKMENT – EXCAVATION SECTIONS
C1240	DISPOSAL AREAS – FINAL GRADING PLAN
C1241	DISPOAL AREAS – FINAL GRADING SECTIONS
C1300	14' LOW PRESSURE PIPELINE – DEMOLITION PLAN AND PROFILE
C1301	14' LOW PRESSURE PIPELINE – DEMOLITION SECTIONS AND DETAILS
C1310	POWER CANAL HEADGATE – PLAN AND SECTIONS

C1320	POWER CANAL – CONCRETE REMOVAL PLAN
C1321	POWER CANAL – OPTION 1 REMOVAL SECTIONS
C1322	POWER CANAL – OPTION 2 REMOVAL SECTIONS
C1323	POWER CANAL – TYPICAL ANIMAL CROSSING SECTIONS
C1330	POWER CANAL FOREBAY – DEMOLITION AND GRADING PLAN
C1331	FOREBAY – PROFILE, SECTIONS AND DETAILS
C1332	FOREBAY – FINAL GRADING PLAN
C1333	FOREBAY – FINAL GRADING SECTIONS
C1340	SPILLWAY SCOUR HOLE – OPTION 1 REGRADING PLAN
C1341	SPILLWAY SCOUR HOLE – OPTION 1 REGRADING PROFILE AND SECTIONS
C1342	SPILLWAY SCOUR HOLE – OPTION 2 REGRADING PLAN
C1343	SPILLWAY SCOUR HOLE – OPTION 2 REGRADING PROFILE AND SECTIONS
C1350	PENSTOCK – DEMOLITION PLAN, PROFILE AND SECTIONS
C1351	PENSTOCK – DEMOLITION SECTIONS AND DETAILS
C1352	PENSTOCK – TUNNEL OUTLET PORTAL BARRIER SECTION AND DETAILS
C1400	POWERHOUSE AND TAILRACE – DEMOLITION PLAN
C1402	POWERHOUSE AND TAILRACE – PLAN AND SECTIONS
C1410	POWERHOUSE AND TAILRACE – FINAL GRADING PLAN
C1411	POWERHOUSE AND TAILRACE – GRADING SECTIONS
C1500	CONSTRUCTION ACCESS IMPROVEMENTS – KEY MAP
C1501	CONSTRUCTION ACCESS IMPROVEMENTS – RESERVOIR ROADS
C1510	CONSTRUCTION ACCESS IMPROVEMENTS – LEFT BANK ACCESS ROAD
C1511	CONSTRUCTION ACCESS IMPROVEMENTS – POWERHOUSE ROAD REALIGNMENT
C1512	CONSTRUCTION ACCESS IMPROVEMENTS – PENSTOCK ACCESS ROADS
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C2000	PROJECT OVERVIEW AND LIMITS OF WORK – KEY MAP
C2001	PROJECT OVERVIEW AND LIMITS OF WORK – PLAN
C2010	KLAMATH RIVER CHANNEL – PLAN AND PROFILE
C2050	RESERVOIR OPERATIONS – WATER SURFACE ELEVATIONS – SECTIONS
C2060	RESERVOIR OPERATIONS – HYDROLOGY – FIGURES
C2061	RESERVOIR OPERATIONS – HYDROLOGY – TABLE
C2100	DIVERSION TUNNEL MODIFICATION – PLAN AND PROFILE
C2101	DIVERSION TUNNEL INTAKE STRUCTURE REMOVAL – ELEVATION AND PROFILE
C2160	DIVERSION TUNNEL APPROACH CHANNEL EXCAVATION – PLAN, PROFILE AND SECTION
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C2200	PRE–DRAWDOWN DAM MODIFICATIONS – GENERAL ARRANGEMENT – PLAN
C2201	DRAWDOWN – DAM MODIFICATIONS – PLAN AND SECTION
C2205	PRE–DRAWDOWN DAM MODIFICATIONS – GENERAL ARRANGEMENT – PROFILES AND SECTION
C2210	FINAL RIVER CHANNEL GRADING – PLAN, PROFILE AND TYPICAL SECTION
C2211	FINAL RIVER CHANNEL GRADING – CROSS SECTIONS
C2215	PRE–DRAWDOWN APPROACH CHANNEL EXCAVATION – PLAN ANS SECTIONS

C2225	PRE–DRAWDOWN DAM MODIFICATIONS – OUTLET TUNNEL #1 – PLAN AND SECTIONS
C2226	PRE–DRAWDOWN DAM MODIFICATIONS – OUTLET TUNNEL #2 – PLAN AND SECTIONS
C2230	PRE–DRAWDOWN DAM MODIFICATIONS – STEEL OUTLET PIPE – SECTIONS AND DETAIL
C2250	POST–DRAWDOWN DAM REMOVAL – GENERAL ARRANGEMENT – PLAN
C2255	POST–DRAWDOWN DAM REMOVAL – SPILLWAY CREST – PLAN, DETAIL, AND SECTION
C2256	POST–DRAWDOWN DAM REMOVAL – PROFILE AND SECTION
C2257	POST–DRAWDOWN DAM REMOVAL – INTAKE – PLAN AND SECTIONS
C2258	DAM REMOVAL – FINAL GRADE – PLAN AND SECTIONS
C2270	DISPOSAL SITE – PLAN AND PROFILE
C2271	DISPOSAL SITE – OPEN WATER – PLAN
C2275	DISPOSAL SITE – SECTIONS
C2280	BORROW SITE – PLAN
C2300	POST–DRAWDOWN PENSTOCK REMOVAL – GENERAL ARRANGEMENT – PLAN
C2305	POST–DRAWDOWN PENSTOCK REMOVAL – GENERAL ARRANGEMENT – SECTIONS
C2350	PENSTOCK NO. 3 TUNNEL PORTAL BARRIER – SECTIONS AND ELEVATION
C2400	POST–DRAWDOWN POWERHOUSE REMOVAL – GENERAL ARRANGEMENT – PLAN
C2405	POST–DRAWDOWN POWERHOUSE REMOVAL – GENERAL ARRANGEMENT – SECTIONS
C2410	POWERHOUSE REMOVAL – FINAL GRADE – PLAN
C2411	POWERHOUSE REMOVAL – FINAL GRADE – SECTIONS
C2500	CONSTRUCTION ACCESS – KEY PLAN
C2501	PHASE 1 – LEFT BANK ACCESS TRACK – PLAN, PROFILE AND TYPICAL SECTION
C2502	PHASE 2 – SPILLWAY WORK PLATFORM – PLAN AND TYPICAL SECTION
C2503	PHASE 3 – RIGHT BANK ACCESS TRACK – PLAN, PROFILE AND TYPICAL SECTION
C2505	PHASE 1 TO PHASE 3 ACCESS TRACKS – CROSS SECTIONS
C2510	RIGHT BANK ACCESS ROADS – PLAN
C2511	RIGHT BANK ACCESS ROADS – PROFILES AND TYPICAL SECTIONS
C2550	POWERHOUSE BRIDGE – PLAN, PROFILE AND CROSS SECTIONS
C2551	POWERHOUSE BRIDGE – PLAN AND SECTION
	CIVIL – COPCO NO. 2 FACILITY
C3000	PROJECT OVERVIEW AND LIMITS OF WORK – KEY MAP
C3001	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 1 OF 4
C3002	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 2 OF 4
C3003	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 3 OF 4
C3004	PROJECT OVERVIEW AND LIMITS OF WORK – SHEET 4 OF 4
C3060	RESERVOIR OPERATIONS – WATER SURFACE ELEVATIONS – SECTIONS
C3061	RESERVOIR OPERATIONS – POST DRAWDOWN – HYDRAULIC INFORMATION – FIGURES AND TABLE
C3200	DIVERSION DAM AND INTAKE GENERAL REMOVAL ARRANGEMENT – PLAN AND PROFILE
C3201	DIVERSION DAM AND INTAKE GENERAL REMOVAL ARRANGEMENT – SECTIONS
C3202	DIVERSION DAM EARTH EMBANKMENT REMOVAL – PLAN AND SECTIONS
C3210	DIVERSION DAM PRE–DRAWDOWN REMOVAL – PLAN
C3211	DIVERSION DAM PRE–DRAWDOWN REMOVAL – SECTIONS
C3216	DIVERSION DAM DRAWDOWN REMOVAL – PLAN

C3217	DIVERSION DAM DRAWDOWN REMOVAL – SECTIONS
C3220	DIVERSION DAM POST–DRAWDOWN REMOVAL – PLAN
C3221	DIVERSION DAM POST–DRAWDOWN REMOVAL – EXCAVATION PLAN
C3232	INTAKE CONCRETE POST–DRAWDOWN REMOVAL AND BACKFILL LIMITS – PLAN AND SECTIONS
C3234	DIVERSION DAM POST–DRAWDOWN REMOVAL – FINAL CHANNEL GRADING PLAN AND PROFILE
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FOR INFORMATION ONLY

PRELIMINARY DESIGN (NOT FOR CONSTRUCTION)

REV	DESCRIPTION	BY	CHK	APP	DATE
D	ISSUED WITH 60% DESIGN REPORT	CBN	NB	SRM	02/07/20
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B	UPDATED FOR 30% DESIGN REPORT	CBN	NB	SRM	10/17/19
A	ISSUED WITH DRAFT 30% DESIGN REPORT	CBN	NB	SRM	08/27/19

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PREPARED BY
Knight Piésold CONSULTING
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DESIGNED	C. NIAMIR
DRAWN	W. LAHODA
REVIEWED	N. BISHOP
IN CHARGE	S. YONG
APPROVED	S. MOTTRAM

PREPARED FOR
KLAMATH RIVER RENEWAL CORPORATION

PROJECT
KLAMATH RIVER RENEWAL PROJECT

SHEET TITLE
INDEX OF DRAWINGS
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PROJ #	VA103-640/1
DATE	02/07/2020
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PREPARED BY
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Kiewit

DESIGNED	C. NIAMIR
DRAWN	W. LAHODA
REVIEWED	N. BISHOP
IN CHARGE	S. YONG
APPROVED	S. MOTTRAM

PREPARED FOR
KLAMATH RIVER RENEWAL CORPORATION

PROJECT
KLAMATH RIVER RENEWAL PROJECT

SHEET TITLE
INDEX OF DRAWINGS
SHEET 2 OF 2

PROJ #	VA103-640/1
DATE	02/07/2020
DWG	G0003

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ATTACHMENT B

Guaranteed Maximum Price Report

GMP - SUMMARY

DESCRIPTION	TOTAL
Klamath River Renewal Project (GMP) - COST ESTIMATE	$173,343,343
PROJECT COMPANY FEE (10% OF ALL NON-GENERAL CONDITION COSTS)	$16,139,301
TOTAL GMP ESTIMATE - INCLUDING FEE	$189,482,645
PROJECT COMPANY CONTINGENCY (5% OF TOTAL ESTIMATE)	$9,474,132
TOTAL GMP ESTIMATE - INCLUDING FEE & CONTINGENCY	$198,956,777

Within this cost estimate, Kiewit has included all materials, labor, equipment, subcontractors, management, overhead, insurance, and fee to complete civil, infrastructure, and dam removal aspects of the project scope. This estimate is complied consistent with the Project Agreement and Kiewit's standard industry practice.

Kiewit's GMP estimate was compiled within InEight HardDollar Estimating software with an accompanying CPM schedule developed in Primavera P6. The estimate and corresponding schedule were structured to logically group similarly scoped items together for ease of review and convey construction sequence, logic, and approach.

The graphic below describes how to read our estimate format.

Our HardDollar Estimating System provides an estimate including parent (summary) and subordinate cost lines that sum upward. As an example, in the graphic below, line items 1.1.1 through 1.1.7 sum upward to line 1.1. Line items 1.1 through 1.4 (only 1.1 shown below), sum upward to line 1.

	DAM REMOVAL	4.00	PLS	$107,180,642.74	4.00	PLS	$68,321,220.58
.1	JC BOYLE DAM REMOVAL	1.00	PLS	$32,325,054.60	1.00	PLS	$11,186,839.70
.1.1	ACCESS / SITE WORK	1.00	PLS	$12,333,516.73	1.00	PLS	$6,303,795.55
.1.1.1	SITE PREP / SITE SET UP	1.00	PLS	$2,862,807.85	1.00	PLS	$1,532,606.87
.1.1.2	ACCESS ROADS	1.00	PLS	$3,971,370.59	1.00	PLS	$856,107.35
.1.1.3	TEMP DAMS	1.00	PLS	$3,302,863.50	1.00	PLS	$3,197,863.56
.1.1.4	EROSION CONTROL	1.00	PLS	$865,904.37	1.00	PLS	$136,646.35
.1.1.5	DEWATERING	35.00	Wk	$530,471.95	35.00	Wk	$530,471.95
.1.1.6	MISC. SUBCONTRACTOR SUPPORT (16 MONTHS)(4 MH/WK)	70.00	Wk	$50,098.48	70.00	Wk	$50,098.48
.1.1.7	WATER TREATMENT SYSTEM - TREAT PROCESS WATER	1.00	PLS	$750,000.00	1.00	PLS	$1.00

Addressing Board of Consultant Questions/Comments

In the paragraphs below, Kiewit addresses the five (5) BOC questions and comments as drafted relating to KRRC's 7/29/19 FERC filing. The comments below provide information related specifically to Kiewit's estimate or scope of work on the project, but may not address all project aspects as separately managed by KRRC. It is Kiewit's intent that this information be added or used to supplement any broader response KRRC provides to each of the BOC's inquiries.

QUESTION 1 – "The updated maximum and probable cost estimate, and the probability that each will occur"

Estimate

Kiewit has provided a cost estimate in support of all civil, infrastructure, and dam removal operations required by the project.

This estimate is based upon a 60% design deliverable produced by Knight Piesold, Kiewit's Engineer of Record. Kiewit produced this estimate consistent with its standard practices of estimating similar large and complex dam and infrastructure projects. This process includes breaking down the project into many small scopes, deriving quantities of work for each scope, then assigning labor, equipment, and material resources as appropriate to complete each scope. Constructibility, development of safe access, and addressing a preferred work sequence were also addressed as part of the estimating process. Lastly, Kiewit solicited and received material and subcontract quotes for particular scopes of work. Applicable quotes were incorporated into the estimate. The project price also includes onsite supervision and management necessary to complete the work and includes anticipated cost escalation corresponding to our CPM schedule.

We are confident in the cost as detailed and that we will achieve completion of all civil, infrastructure, and dam removal scopes included in our estimate.

Schedule

Kiewit has developed a CPM schedule concurrent with its estimating effort. This schedule takes into account anticipated permitting timelines, and details activities for pre-drawdown, drawdown, and dam removal. The schedule is compiled using Kiewit's standard scheduling processes and achieves a level of detail consistent with projects we undertake of this magnitude and complexity.

Schedule generally:

2021

- Infrastructure improvements and required pre-drawdown modifications, access roads, office/facilities setup, and mobilization.
- Work Period: May through December

2022

- Reservoir Drawdown
- Removal of dams and features at JC Boyle, Copco 1, Copco 1, and Irongate sites
- Work Period: January through December

QUESTION 2 – "The updated project contingency reserve based on updated project costs"

In coordination with the Klamath River Renewal Corporation, Kiewit has included a 5% contingency within our GMP estimate. This contingency covers risks that Kiewit anticipates will be carried by the Project Company contractually. This contingency covers common issues we face in similarly complex construction project, including but not limited to above normal escalation of sub and material prices, material and labor availability, labor productivity, fuel escalation, certain scope growth, construction permitting, and etc.

QUESTION 3 – "The types and amounts of insurance policies and surety arrangements anticipated to be secured by the Renewal Corporation"

Insurance

Kiewit will be providing all required insurances to limits consistent with Appendix 9 of our Project Agreement. At this time, a consolidated insurance approach utilizing Kiewit's corporate program is priced within our estimate. We conclude this offers the most comprehensive and cost competitive insurance approach for the project. A Contractor Controlled Insurance Program (CCIP) has not been included in our pricing at this time, but coverage limits equal to those specified within the CCIP language in Appendix 9 are included as part of Kiewit's corporate program. Kiewit has consulted with Aon, KRRC's insurance advisor, who concurs in this approach. We understand that Aon will be updating it's own documentation in an Updated Insurance Plan.

Surety

Kiewit will be providing 100% Payment and Performance bonds covering all our project work.

QUESTION 4 – "The risk register and risk management plan"

For the duration of design, estimating, and permitting support to date, Kiewit has collaboratively taken part in risk planning and mitigation with KRRC. A project risk register has been created and used as a tool to focus on mitigating risk through design and planning. Risks remaining have been assigned and are anticipated to be carried contractually by the project entity (KRRC, Kiewit, or RES) which is most able to manage and mitigate those risks. The GMP covers all risks that are anticipated to be assigned contractually to Kiewit.

QUESTION 5 – "The adequacy of funds and the funding mechanism described in the data package"

Kiewit not addressing funding in this report as funding is a KRRC responsibility.

Explanation of Estimate

This section of the report describes the summary cost estimate inclusions in greater detail, providing a brief narrative on estimate scope carried within summary (or rollup) line items.

	Description	TOTAL COST
1	**DAM REMOVAL**	$76,505,075.17
1.1	JC BOYLE DAM REMOVAL	$20,370,922.23
1.2	COPCO 1 DAM REMOVAL	$24,994,785.39
1.3	COPCO 2 DAM REMOVAL	$7,841,958.99
1.4	IRON GATE DAM REMOVAL	$23,297,408.55
2	**RESTORATION WORK**	$0.00
3	**TRANSPORTATION**	$23,905,217.95
3.1	BRIDGES	$9,820,120.74
3.2	CIVIL IMPROVEMENTS	$9,856,097.19
3.3	RECREATION IMPROVEMENTS	$0.02
3.4	YREKA WATERLINE REPLACEMENT	$4,229,000.00
4	**FIRE MANAGEMENT**	$1,385,000.00
5	**DESIGN & CONSULTING**	$3,000,000.06
6	**PROJECT SPECIFIC INSURANCE & TAX**	$3,813,960.00
7	**QUALITY CONTROL, ENVIRONMENTAL, SURVEY**	$8,356,776.37
8	**MOBILIZATION / DEMOBILIZATION**	$4,307,277.58
9	**SITE SECURITY**	$2,820,000.00
10	**SHOP & MAINTENANCE EQUIPMENT**	$3,960,280.29
11	**CAMP FACILITY**	$8,235,027.04
12	**SITE SERVICES / SUPPORT**	$6,167,204.60
13	**INDIRECT**	$28,367,705.78
13.2	Job Related Overhead	$19,466,936.37
13.3	Operational Support	$8,900,763.41

ITEM 1 – DAM REMOVAL

This item includes costs for all four dam locations: JC Boyle, Copco 1, Copco 2, and Irongate.

Access and Sitework – Includes development/improvement of access roads needed to facilitate safe removal of site features, provide for haul roads, construct and maintain temporary cofferdams for water management, temporary and permanent erosion control and dewatering of construction areas.

Dam Modification – Includes preparing the dams for safe drawdown and plugging/abandoning features once drawdown is complete. Scope at JC Boyle will consist of blasting out existing stop logs below the concrete spillway and plugging the ends of the existing penstock tunnel. Scope at Copco 1 includes

excavating adit(s) through the dam and blasting the remaining plug at the upstream end of the adit to allow low level water to drain from the reservoir and for passage of sediment. Once drawdown in complete, the existing water diversion tunnel and penstock tunnels will be plugged and abandoned. Scope at Copco 2 consists of removal of one of the five existing bays of the concrete spillway monolith to allow for drawdown. Once the dam is removed, concrete or steel plugs will be used to close off and abandon (with the exception of bat access as required), existing penstock tunnels. Lastly, work at Irongate will include necessary modifications to ensure safe drawdown through the existing low-level outlet diversion tunnel. Once drawdown and river diversion are complete, plugs will be placed to close off and abandon the existing tunnel.

Dam Removal – Includes removing concrete and earthen embankments at all sites, powerhouse features, mechanical and electrical equipment, structural steel, and hazardous materials. Line also includes removal of miscellaneous site features such as asphalt, fencing, residential and commercial buildings, and tanks. Sites will be re-seeded and stabilized upon completion of the removal scopes listed.

ITEM 2 – RESTORATION

Restoration – No costs included – Kiewit understands Resource Environmental Solutions (RES) will complete all project restoration required through a separate contract with KRRC.

ITEM 3 – TRANSPORTATION

Bridges / Roads / Culverts – Includes temporary bridges and infrastructure improvements to Copco Road and project access road so that heavy loads may be transported to and from the project site. Also, in coordination with Siskiyou County to date, Kiewit has included costs to maintain portions of Copco Road due to the poor existing condition and potential of additional asphalt surfacing degradation from the numerous loads the road will see during construction.

City of Yreka, CA waterline upgrade – Includes allowance to realign the Yreka waterline as needed to protect the utility post drawdown and in the final Klamath River condition.

ITEM 4 – FIRE MANAGEMENT

Fire Management – Includes an allowance amount as coordinated with KRRC to cover anticipated and potential costs in providing additional fire management capability the area including building riverine pools and installing detection and monitoring equipment.

ITEM 5 – DESIGN & CONSULTING

Design – Includes engineering services for temporary construction needs such as maintenance of traffic, work platforms, support of excavation, and etc. Also includes maintaining a presence during construction of Kiewit's Engineer of Record Knight Piesold to support the project.

Consulting – Includes services from outside consultants for California QSD/QSD certifications and inspections, legal reviews, blasting, and etc.

ITEM 6 – PROJECT SPECIFIC INSURANCE & TAX

Insurance – Includes estimated cost to implement Builders Risk insurance coverage to a Probable Maximum Loss (PML) utilizing Kiewit's corporate program. Also includes purchase of a project specific professional liability policy as a supplement to Kiewit's practice policy

Tax – Includes 0.57% Oregon Corporate Activity Tax for any revenues for work at the JC Boyle site.

ITEM 7 – QUALITY CONTROL / ENVIRONMENTAL / SURVEY

Quality Control – Includes setting up and managing an onsite quality control program to assure compliance with project specifications and standards. Quality management programs and processes will be established, and estimate includes numerous QC technicians at each site to facilitate and complete necessary inspections and documentation.

Environmental – Includes project staff to manage and document inspections and ensure environmental compliance. Best Management Practices (BMP's) for erosion control and monitoring are completed within this item.

Survey – Includes onsite survey, creating of three-dimensional models, utilization of automatic machine control, and setting of hard survey stakes/limits to assure project is completed within limits specified and to lines and grades established in the design plans.

ITEM 8 – MOBILIZATION / DEMOBILIZATION

Mobilization and Demobilization – Includes bringing, setting up, dismantling and removing large equipment fleet that will be required to complete the project. Equipment will be brought to several individual construction sites, moved between sites as work progresses, and removed once no longer necessary to complete the work.

ITEM 9 – SITE SECURITY

Site Security – Includes multiple posted guards at each project site, installation of gates to control traffic and jobsite personnel, and to provide protection against non-authorized entry into the project site. Security is provided at each site for both the 2021 and 2022 construction seasons.

ITEM 10 – SHOP AND MAINTENANCE EQUIPMENT

Maintenance Shop and Facilities – Includes setup of temporary enclosure/covering, connexes, and tooling to provide onsite maintenance shops at multiple project sites. Maintenance shops will be able to support the equipment fleet needed for the project and ensure productive operations.

ITEM 11 – CAMP FACILITY

Camp Facility – Includes setting up and maintaining a worker camp facility at the Copco work site to house and feed personnel working at the remote Copco location.

ITEM 12 – SITE SERVICES / SUPPORT

Support Services – Includes many ancillary operations and cost that will be incurred by the project that do not fall within a particular demolition or construction effort. For example, snow removal, temporary lighting for night shift operations, providing heaters for work in winter months, and specialty equipment modifications.

Craft Labor Support – Includes subsistence needed to mobilize key craftsmen to the area to manage crews and field operations. Also carries craft incentive costs and anticipated pay over area wage scale to assure adequate labor can be supplied to the project.

ITEM 13 – INDIRECT

Onsite Project Management - Includes onsite staff supervision and costs associated with mobilizing a management team to the project and staffing for the duration of the project schedule. This includes coordination with RES and KRRC to assure related works and the project as a whole, are aligned.

Onsite Construction Offices – Includes setting up and providing equipment to maintain onsite project offices at multiple dam locations for the duration of the project schedule.

Escalation – Includes anticipated escalations to Labor, Equipment, Fuel, and Materials purchases commensurate with developing an estimate in 2020 for work in 2021/2022.

ATTACHMENT C

1210 G Street
Sacramento, CA 95814

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

February 28, 2020

Laura Hazlett
Klamath River Renewal Corporation
2001 Addison Street, Suite 317
Berkeley, CA 94704

RE: GMP Report

Resource Environmental Solutions, LLC (RES), has provided for Klamath River Renewal Corporation (KRRC)'s consideration the following GMP Report and cost proposal. This GMP is based on the 60%-level design completed by RES, input from the relevant governmental authorities regarding the anticipated permitting terms and conditions, and other governmental approvals discussions with KRRC and its advisors.

GMP Summary

Description	TOTAL
Restoration	**$48,097,244**
Vegetative Restoration	$7,371,163
Stream Restoration	$36,956,166
Engineering Services	$3,769,915
Local Impact Mitigation Fund (LIMF)	**$29,861,270**
Monitoring	$16,009,568
Maintenance	$13,851,702
Total GMP	**$77,958,514**

Within this GMP, RES has included all materials, labor, equipment, subcontractors, management, and overhead. The GMP includes an appropriate level of contingency to complete the restoration aspects of the project scope. This estimate is compiled consistently with RES' standard industry practice.

GMP Components

RESTORATION

- **Vegetative Restoration**
  This component includes revegetation of all lands currently inundated by the JC Boyle Reservoir, Copco Lake, and Iron Gate Reservoirs. No revegetation is included for Copco 2 explicitly because it is essentially a run-of-river dam with no accumulated sediment. The purpose of the revegetation work is to promote landscape succession by promoting soil formation and reducing runoff generated erosion.

Revegetation is further broken down by vegetative cover types, or planting zones. These include zones for upland, riparian, and wetland planting. Final planting zones will be delineated following drawdown. Immediately following drawdown, all exposed reservoir sediment will be seeded with a pioneer seed mix that has been formulated for success on the clay and silt rich sediment.

Included in the revegetation component is the cost for collecting and propagating native seed to ensure adequate supply for restoration and adaptive management activities.

- **Invasive Exotic Vegetation (IEV) Management**
  This component includes management of invasive exotic vegetation (IEV) in and around the reservoirs during the pre-drawdown, implementation, and maintenance & monitoring phases of the project.

- **Supplemental Sediment Evacuation**
  This component includes activities to promote sediment evacuation during the current drawdown window. Activities may include sediment-water jetting using airboats outfitted with water cannons or ATVs outfitted with high volume pumps and fire hoses, boat prop and wake wash, and hand clearing of sediment blockages in tributaries within the reservoirs and between Iron Gate dam and Cottonwood Creek.

- **Grading**
  This component includes both general and fine grading to support stabilization of the proposed restoration areas that include Spencer Creek, Beaver Creek, Jenny Creek, Scotch Creek, and Camp Creek. General grading is focused on reworking and removing reservoir sediments that remain on the floodplains of the target stream restoration areas. Fine grading includes reconfiguring the tributary channels to promote a stable planform, profile, and section that will promote volitional fish passage.

- **Habitat Features**
  This component includes the acquisition of materials, preparation, and installation of habitat enhancement features in the targeted restoration areas. Habitat enhancement features include large wood (both helicopter and ground placed), boulder clusters, and willow baffles.

- **Engineering Services**
  This component includes engineering and consulting services for drawdown and post drawdown activities which include primarily post-drawdown topographic surveying and surface model generation, and final restoration design and plan set preparation. Services also include Engineer of Record presence (Stantec) during RES' construction activities.

LIMF

- **Monitoring**
  This component includes pre-drawdown, drawdown, and post-drawdown monitoring activities associated with water quality and various terrestrial and aquatic resource measures required by federal and state governmental approvals (permits, MOUs, agreements, etc.).

- **Maintenance**
  This component includes maintenance activities for the following project components through the duration of the LIMF: fish barrier removal, temporary access roads, floodplain and stream habitat enhancement (grading and habitat features), IEV, irrigation, fencing, and vegetation (riparian, wetland and upland).

Explanation of Restoration Obligations

Because the areas that will be restored cannot be fully investigated until reservoir drawdown, RES has used an adaptive approach to restoration design. This is consistent with industry and regulatory practices. Upon drawdown, RES will apply or update current designs, as appropriate, to include site-appropriate stream restoration for historically fish-bearing tributaries within the current reservoir footprint (Camp Creek, Scotch Creek, Jenny Creek, Beaver Creek, and Spencer Creek).

Based on conversations with governmental authorities regarding the restoration objectives and conditions that will be included in the applicable permits and governmental approvals for the project, RES' GMP accounts for the level of effort required to restore formerly inundated lands and establish free-flowing conditions on the Klamath River and in key fish-bearing tributaries. The assumptions used to create the GMP are based on several months of conversations with governmental authorities regarding the restoration objectives and conditions that will be included in the applicable permits and governmental approvals for the project.

ATTACHMENT D

KRRC Project Funding Summary

Updated Project Budget Based on February 24, 2020 GMP Submissions
Prepared for February 28, 2020 FERC Submission

	7/29/19 Budget	Budget based on 2/24/20 GMP	Spent as of 12/31/19	Amount Remaining
Project Oversight/Administration	$ 32,931,000	$ 26,978,000	$ 11,039,000	$ 15,939,000
Permitting Fees & Support	$ 8,097,000	$ 11,833,000	$ 6,947,000	$ 4,886,000
Technical Support	$ 40,435,000	$ 32,845,000	$ 23,810,000	$ 9,035,000
Owner's Representative	$ 13,167,000	$ 9,510,000	$ 28,000	$ 9,482,000
Progressive Design Build Contractor	$ 187,612,000	$ 228,932,000	$ 12,609,000	$ 216,323,000
Restoration Contractor	$ 50,000,000	$ 54,136,000	$ -	$ 54,136,000
Insurance	$ 3,119,000	$ 5,705,000	$ 222,000	$ 5,483,000
LTC	$ 35,530,000	$ 40,561,000	$ -	$ 40,561,000
Sub Total	$ 370,891,000	$ 410,500,000	$ 54,655,000	$ 355,845,000
Estimate Contingency	$ 9,474,000	$ -	$ -	$ -
Design Contingency	$ 18,208,000	$ -	$ -	$ -
Post GMP Contingency	$ 35,075,000	$ 35,075,000	$ -	$ 35,075,000
Sub Total - Contingency	$ 62,757,000	$ 35,075,000	$ -	$ 35,075,000
Total Project Costs	$ 433,648,000	$ 445,575,000	$ 54,655,000	$ 390,920,000
Operating Reserve	$ 15,852,000	$ 5,175,000	$ -	$ 5,175,000
Total Budget	**$ 449,500,000**	**$ 450,750,000**	**$ 54,655,000**	**$ 396,095,000**

Notes

1. The project budget assumes that KRRC will continue to control interest on the CNRA grant funds that KRRC holds in an interest bearing account. Such interest is estimated at $1.25M, increasing the total project budget to $450,750,000.

2. Categorization of amounts was changed to better align with management tracking; however, totals shown in the July 29, 2019 submission were not changed. The comparable table is in Attachment E of the Definite Plan Amended Appendix P, submitted to FERC on July 29, 2019.

ATTACHMENT E

February 28, 2020

Mr. David E. Capka, P.E.
Director, Division of Dam Safety and Inspection
Federal Energy Regulatory Commission
Office of Energy Projects
Division of Dam Safety and Inspections – Headquarters Office
888 First Street, N.E.
Washington, D.C. 20426

Subject: Klamath Project No. 2082 and the Lower Klamath Project No. 14803
Owner's Representative Letter of Assurance regarding Fiscal Capacity

Dear Mr. Capka:

McMillen Jacobs Associates (McMillen Jacobs) was retained by the Klamath River Renewal Corporation (KRRC) to serve as Owner's Representative for the Klamath River Renewal Project (Project). In this role, McMillen Jacobs is responsible for oversight on the Preliminary Services work, which includes, but is not limited to preparation of final plans and specifications, design report, schedule, and cost. We are responsible for oversight during construction. The Project work will be executed through two contracts: (1) Kiewit Infrastructure West will be responsible for the flow bypass and dam removal; and (2) Resource Environmental Solutions (RES) will be responsible for construction of the Klamath River habitat restoration work, and operation and maintenance of the completed habitat work through a Liability Transfer Corporation (LTC).

McMillen Jacobs is a full-service engineering, construction management, environmental, and self-performing construction firm operating in the water resources, hydropower, fisheries, water conveyance, irrigation, transportation, heavy civil, and underground markets. McMillen Jacobs has extensive relevant experience with the elements required for the Project. Given our experience as a design engineer, Owner's Representative, design-builder, and general contractor, we have hands-on relevant experience that can be directly applied to the Project. Our experience ranges from initial flow bypass and dewatering to dam removal and fish passage restoration.

Since joining the KRRC team in December 2019, McMillen Jacobs has completed a thorough review of the Project documents prepared by the Kiewit, RES, and the KRRC Project team. In effect, our review represented a completely independent review since McMillen Jacobs was not involved in developing the Project Definite Plan or the work completed by Kiewit and RES. As a starting point, our team reviewed the Definite Plan and related appendices. We then reviewed the documents prepared as part of the 60% design report submittal by Kiewit and RES, which included the following:

- Construction Plans and Specifications in 60% Design Report
- Construction Schedule
- Updated Risk Register
- Guaranteed Maximum Price (GMP) for construction, habitat restoration, and LTC functions

- Local Impact Management Fund Budget
- Regulatory and Permitting Matrix and Planning Documents

We have worked closely with Kiewit and RES to complete a detailed review of each of these documents. Our review included an in-depth assessment of the Project Risk Register to ensure that the potential risks associated with Project implementation are clearly identified, the risk assigned to the appropriate party, and the mitigation measures incorporated into the Project design and execution to effectively eliminate the risk, where possible. For those risks that could not be fully mitigated within the Project design and execution, a contingency amount adequate to cover the potential financial impact of the risk, if it occurred, was allocated within the Project budget. Altogether, more than $50 million of contingency is included in the Project budget, consisting of amounts embedded in the GMP as well as an amount carried by the KRRC.

In our role as Owner's Representative, we also reviewed the KRRC-managed work activities, which included KRRC required regulatory and permitting activities, development of the Project Agreements, internal budgets for the KRRC staff, as well as the Technical Representative (AECOM) and Owner's Representative budget, required through final Project completion. The focus of this review was to ensure that the overall Project budget is representative of the level of effort required to implement the Project.

McMillen Jacobs has designed, built, maintained, and operated many projects licensed by the Federal Energy Regulatory Commission, as well as other complex water resources facilities. Our track record with GMPs is outstanding.

Based on our extensive review, including review of the 60% design report, we are confident in providing an assurance that Project implementation will be completed within KRRC's $450 million budget, and the contingency budget is adequate and even conservative to cover potential uncontrollable events that may occur during such implementation. We are confident that further development of the construction specifications will remain within the GMP as a result of value engineering that reduces cost or schedule for various tasks.

If you have any questions or need additional information, please do not hesitate to contact me at (208) 342-4214.

Sincerely,

Morton D. McMillen, P.E.
Executive Vice President

cc: Mark Bransom, CEO, KRRC
Laura Hazlett, COO and CFO, KRRC
File

PROPOSAL FOR:

Klamath River Dam Removal Project

OWNER'S REPRESENTATIVE

Submitted on December 5, 2019

FROM:

McMILLEN JACOBS ASSOCIATES

TO:

KLAMATH RIVER RENEWAL CORPORATION

TABLE OF CONTENTS

APPENDIX

ATTACHMENT B
PROPOSAL SUBMISSION COVER SHEET

McMillen LLC, dba McMillen Jacobs ("the Proposer") hereby submits its Proposal in response to the Request for Proposals for the Owner's Representative Services for the Klamath River Dam Removal Project ("RFP") issued by Klamath River Renewal Corporation ("KRRC") on November 12, 2019. As a duly authorized representative of the Proposer, I hereby certify, represent, and warrant, on behalf of the Proposer team, as follows in connection with the Proposal:

1. The Proposer acknowledges receipt of the RFP and the following addenda:

No.	Date
Q&R	11-21-19

2. The submittal of the Proposal has been duly authorized by, and in all respects is binding upon, the Proposer.

3. The name of the legal entity that will execute the Owner's Representative Services Agreement is McMillen LLC.

4. All information and statements contained in the Proposal are current, correct and complete, and are made with full knowledge that KRRC will rely on such information and statements in selecting the successful Proposer and executing the Owner's Representative Services Agreement.

5. The Proposer and its key personnel have all current and valid licenses, registrations and certificates required by applicable law to submit this Proposal and for provision of the services described in the RFP.

6. The principal contact person who will serve as the interface between KRRC and the Proposer for all communications is:

NAME:	Morton D. McMillen, PE (McMillen, LLC)
TITLE:	Executive Vice President
ADDRESS:	1471 Shoreline Drive
	Boise, ID 83702
PHONE	208-342-4214
FAX:	208-342-4216
E-MAIL:	mortmcmillen@mcmjac.com

7. The key technical and legal representatives available to provide timely response to written inquiries and to attend meetings requested by KRRC are:

The Technical Representative:

NAME:	Morton D. McMillen, PE (McMillen, LLC)
TITLE:	Executive Vice President / Project Manager
ADDRESS:	1471 Shoreline Drive
	Boise, ID 83702
PHONE	208-342-4214
FAX:	208-342-4216

E-MAIL: mortmcmillen@mcmjac.com

Legal Representative:

NAME: David K. Eckbert
TITLE: Director (McMillen Jacobs Board of Directors)
ADDRESS: 701 Pike Street, Suite 1400
Seattle, WA 98101-3927
PHONE 206-268-8658
FAX: 206-343-7053
E-MAIL: deckberg@bpmlaw.com

8. If selected, the Proposer agrees to negotiate in good faith to enter into an Owner's Representative Services Agreement that reflects the substantive terms and conditions of the RFP (including the Scope of Services) and the Proposal.

9. The Proposer has submitted all Proposal forms required to be submitted by the RFP and such Proposal forms are a part of this Proposal.

McMillen LLC
Name of Proposer
Mara McMillen, President
Name and Title of Designated Signatory
Mara McMillen
Signature
December 5, 2019
Date

1.2 Introductory Letter

December 5, 2019

Klamath River Renewal Corporation
Olivia Mahony
Via email to: olivia@klamathrenewal.org

Dear Ms. Mahony:

McMillen LLC, dba McMillen Jacobs Associates is pleased to submit our proposal for the Owner's Representative for the Klamath River Dam Removal Project. We are confident that the McMillen Jacobs' team represents the best firm to meet the needs of Klamath River Renewal Corporation (KRRC). Our team provides the following benefits to this Project:

- Because McMillen Jacobs has previously served as an Owner's Representative, progressive design-build lead, CM/GC, General Contractor with self-perform construction, and Engineer-of-Record, we are able to offer a unique perspective to KRRC.
- We are one of the few firms who have either designed and/or constructed ALL of the elements of this project including dam decommissioning, reservoir modifications, construction of fish hatcheries, water line replacements, and habitat restoration.
- McMillen Jacobs' capacity is large enough to provide the necessary resources for a project of this size, but small enough to provide nimble, cost efficient services to KRRC.
- Having completed over 150 projects at hydropower facilities, many FERC regulated, and well over 110 fisheries projects, we are experienced at agency coordination and permitting and negotiations with local Indian Tribes. We also have experience working at PacifiCorp facilities.
- Over 80% of our work is from repeat clients—a true testimony to our ability to manage complex projects and keep them on budget and schedule.
- Our Project Manager, Mort McMillen, has participated in over 50 Design-Build projects and has spent the last 30 years completing planning, design, or construction of water resources and hydropower projects including dam decommissioning, reservoir modifications, construction of fish hatcheries, water line replacements, and habitat restoration projects.
- Water resources, dam, and hydropower facilities are not just a significant business line—it is the foundation and passion of our business.
- With 33 years of relevant project experience, Mort McMillen brings the specific hands on engineering and construction expertise to truly provide KRRC guidance for overall project implementation and risk management.

The primary office that will be providing the Owner's Representative Services is our Boise, Idaho office located at 1471 Shoreline Drive. McMillen LLC will be the legal entity to contract with KRRC and Mara McMillen is authorized to submit this proposal and represent the firm in any correspondence and negotiations and execute all required documents. McMillen LLC is wholly owned by the parent company, McMillen Jacobs Associates, Inc. Contact information for Mara as well as our proposed Project Manager, Mort McMillen, is provided below.

We hereby confirm our understanding and acceptance of KRRC's policy that our team members will not be eligible to perform other work related to the Project implementation. Our team has reviewed the sample Services Agreement that was included with the RFP (Attachment C) and have no exceptions or suggested modifications.

To-date, McMillen LLC has no previous working relationship with Kiewit, Knight-Piesold Consulting, Resource Environmental Solutions ("RES"), Environmental Science Associates ("ESA"), AECOM, or CDM Smith. Our Underground Division, operating under the legal name of Jacobs Associates has had previous working relationships with

some of these entities, so due to this we have not included any of their staff members on this team. McMillen LLC is the managing partner for a JV agreement with Stantec Inc. for a contract with the USACE Portland District. To date we have executed no task orders jointly or have any under contract through this JV agreement. In 2018, we served as a subcontractor to Stantec to provide an inspection and assessment of a potential water and sewer line upgrade for a maintenance yard in Sacramento, CA for the California Department of Water Resources. Regarding all the entities listed above, we are neutral with no bias or adversary relationships.

We look forward to the opportunity to attend an in-person interview on December 9th. We are eager to combine our extensive relevant knowledge and experience in successfully managing projects to deliver a successful project for KRRC. We look forward to working with you on this challenging project. Please feel free to call or email us at maramcmillen@mcmjac.com or mortmcmillen@mcmjac.com, or call at (208) 342-4214 or cell at (208) 869-4007 (Mara) (208) 830-1394 (Mort)

Sincerely,

Mara McMillen
President of McMillen LLC,
dba McMillen Jacobs Associates

Morton D. McMillen, PE
Executive VP of McMillen LLC
and proposed Project Manager

Mort McMillen has been following the Klamath Dam Removal Project for many years. He is excited to have the opportunity to work on such a significant project which brings tremendous value to the public, fish, and wildlife resources. Mort has spent his entire career working on water resources projects with a primary focus on hydropower, dams, and fisheries. Your project brings all of these elements together into one challenging project providing him the opportunity to utilize all his past skills to serve KRRC in the implementation of this project. As illustrated in our staffing plan, Mort is committing to lead McMillen Jacobs' Owner's Representative team dedicating a significant time commitment to KRRC to deliver a successful project.

2. Approach

McMillen Jacobs is pleased to submit our proposal for Owner's Representative role for the Klamath River Dam Removal Project. We understand that the KRRC is seeking Owner's Representative services in connection with the decommissioning and removal of four hydroelectric dams on the Klamath River, and subsequent habitat restoration (the "Project"). The Owner's Representative services are to support KRRC with respect to the administration of the Project Agreement for the Design, Construction, Demolition, and Habitat Restoration Services in connection with the Removal of the Lower Klamath River Dams entered into between KRRC and Kiewit Infrastructure West Co. (the "Project Company") on April 24, 2019 (The "Project Agreement").

We have organized our proposal to meet the specific requirements outlined in the RFP instructions. We have been following the Project development over the past few years and are excited for the opportunity to submit a proposal for such a challenging project. We have reviewed the available background documents including the Definite Plan for the Lower Klamath Project, FERC submittal, and other relevant documents in preparing our proposal. Based on this information and previous discussions with KRRC staff, we have developed a project team which we believe is ideally suited and "right-sized" with the flexibility to expand and contract for the Owner's Representative role.

2.1 Goals and Objectives

We understand that the KRRC proposes to remove four hydroelectric developments: J.C. Boyle, Copco No. 1, Copco No. 2, Iron Gate, along with appurtenant facilities. We understand the purpose of the Project is to achieve a free-flowing condition and volitional fish passage in the Klamath River, in the reaches currently occupied by these developments (river miles 193.1 to 234.1). The Project consists of measures to remove the four developments; remediate and restore the reservoir sites; avoid or minimize adverse impacts downstream; assure completion of the Project with committed funds; and avoid damages and liabilities for PacifiCorp, the States, and third parties. In the Owner's Representative role, McMillen Jacobs will work closely with KRRC, the Project Company, and the project stakeholders to ensure the Project Goals and Objectives are fully achieved.

"...McMillen demonstrates a talent to combine an exceptional ability to propose efficient technical solutions, bring a large diverse group to focus on the task at hand, and obtain agreement on a single technical design that solves a complex problem." - Kim Lane, PSE Program Manager

2.2 Approach to the Work

We have reviewed the KRRC proposed scope of services as presented in Attachment A of the RFP. We believe the work scope and organization provides a suitable platform for the Owner's Representative position. As part of our review, we have provided comments on the draft scope of work which are included in Appendix B of our proposal. A more detailed description of our approach to the work is presented in the subsequent paragraphs.

Our general approach to the Owner's Representative starts with selection of our Project Manager, Mort McMillen. Mort has extensive experience with water resources and hydropower projects from all contracting facets and roles, including Owner's Representative, design engineer-of-record, general contractor, and design-build contractor. Mort understands the unique perspective each participant has related to the Project implementation. The unique nature of the Project focusing on major facility demolition and restoration, rather than construction of new dam and powerhouse facilities also adds another level of complexity. Through his career, Mort has touched on nearly every element of the Project which is illustrated in Table 2-1.

Table 2-1. Project Manager Demonstrated Ability to Lead the Project

Klamath River Dam Removal Project - Work Elements	Project Example	Contract Type	McMillen Jacobs' Role
Dam Removal	Elk Creek Dam Removal	Design-Build	EOR, Permitting
	Mill Pond Dam Removal (FERC)	Design-Bid-Build	Prelim Design, Contract Reviews
	Honk Dam	Design-Bid-Build	EOR, Program Manager
Powerhouse Demolition	Faraday Repower	CMGC	General Contractor

Klamath River Dam Removal Project - Work Elements	Project Example	Contract Type	McMillen Jacobs' Role
Water Pipeline	Gallup Water Pipeline	Lump Sum	General Contractor
	Allison Creek Penstock	Design-Build	Design Builder
	Sitka Water Supply Pipeline	Design-Bid-Build	Design Lead
	United Water (multiple projects)	Design-Bid-Build	Engineer
Fish Hatchery	Springfield Sockeye Hatchery	Design-Build	Design Builder
	MRS Coho Hatchery	Design-Build	Design Builder
	Walla Walla Chinook Hatchery	Design-Build	Design Builder
Stream / Estuary / Habitat Restoration	Elk Creek Dam Removal	Design-Build	EOR, Permitting
	Don Edwards Salt Marsh Restoration	Design-Build	Design Builder
FERC, Regulatory, Tribes	Lower Baker (hydro)	CM/GC	EOR, Design
	Avista Utilities (hydro)	Design-Build	Builder, Contractor, Consultant
	Grant Lake (hydro)	Design-Bid-Build	Design-Builder
	Leaburg-Walterville	T&M NTE	Engineer
	Clackamas River (hydro)	T&M NTE	Engineer
	MCWRA Interlake Project	T&M NTE	Engineer

Through these and other related projects, Mort has built a broad background of hands-on experience extending from early planning activities through design, construction, and startup. Mort has demonstrated the ability to work with project stakeholders including FERC, USFWS, NOAA Fisheries, ODFW, CDFW, local stakeholders, and tribal entities. Mort also has extensive project experience working in California and Oregon on similar projects. With this hands-on project experience, Mort developed McMillen Jacobs' team into four major work categories: 1)Project Controls and Administration; 2)Regulatory, Permitting, and FERC Support; 3)Field Construction Management/Inspection; and 4)Engineering Support.

Each of these categories will be led by a senior McMillen Jacobs' staff member *(Identified in Section 4)* with the technical and management skills required to effectively manage specific work assignments. Mort will work closely with each of these technical leads in finalizing the work plan and budget, executing each of the major work phases, and proactively manage the Project addressing issues which may arise to minimize scope and budget impacts. Mort will organize and guide the team working closely with each work category lead. The project staffing plan was then developed anticipating the range of expertise which could be required for the Project execution. Organized by work category, we assigned staff members to ensure full coverage of the technical, administrative, and specialty skills that may be required. A baseline staffing level for each work phase was assume in developing the Project staffing plan and budget. It is important to note that in developing our staffing plan, we wanted to ensure that we have provide the technical skills to fully support the Project implementation. All these staff members may not be used on the Project, but we wanted to demonstrate to KRRC that we have the in-house staff to support the full potential range of Owner's Representative roles and responsibilities. Additional details on our proposed staffing plan is presented in Section 3 of this proposal. Mort will serve as the main point of contact with KRRC, the Project Company, and the project stakeholders during the project implementation. An overview of the anticipated approach to each of the major work phases as outlined in the RFP is presented in the following paragraphs.

2.2.1 General Responsibilities

We understand that the Owner's Representative shall have responsibility for the direct oversight and facilitation of the Project ensuring the schedule and budget requirements are met while maintaining high quality work products. The Owner's Representative will serve as the primary point of contact between KRRC and the other Project team members. In this role, McMillen Jacobs will be responsible for establishing and maintaining effective communication protocol, document tracking systems, schedule monitoring and updates, and budget control. We understand that a progressive design-build contract has been executed with the Project Company and will be utilized throughout the Project Implementation. We believe it will be important to work closely with KRRC and the Project Company to identify potential areas of responsibility overlap between the Owner's Representative and the Project Company to eliminate redundancy in scope and budget, identify areas where efficiencies can be gained within the Project execution through the overall Project organizational structure. Examples of potential redundancy include the field Quality Control/Quality Assurance (QA/QC) Programs; specialty material testing services; design review and submittal assignments; document control and distribution systems; and staffing levels. These may be areas where we can verify there are no redundancies. If

there is at any point in time where additional resources are needed to support these areas, McMillen Jacobs has the staff to supplement or enhance in order to meet the overall objectives. As a first step following award, we propose a task-by-task review of the work assignments between McMillen Jacobs and the Project Company to ensure the roles and responsibilities are clearly defined, redundancies are eliminated, and the maximum efficiency is achieved. This analysis will include the role of other KRRC consultants such as AECOM Technical Services, as well. Throughout this analysis, it will be important to balance effective oversight of the Project Company throughout the implementation with efficient resource allocation and responsibilities between all parties.

2.2.2 Specific Scope of Work

Utilizing the proposed scope of work arrangement outlined in the RFP, we have provided a brief overview of our approach to each of the work phases in the following paragraphs *(Section 2.2.2.2 through 2.2.2.6)*. Within this part of our proposal, our objective was to outline our basic approach and where appropriate, specific experiences from previous projects that we would propose to incorporate into our work plan. In general, we plan to utilize standard document templates which we will provide to KRRC for review and comment prior to implementation. These templates include shop drawings review forms, submittal logs, daily inspection logs, specialty inspection logs, weekly construction progress reports, meeting agendas, contact lists, and wide range of other forms and templates commonly used by an Owner's Representative. It will be important to coordinate closely with the Project Company on some of these templates to eliminate redundancy and utilize the best template in the project execution. Many of our standard forms have also been tailored for a Design-Build contract execution providing efficiency in the initial Project setup and work management.

2.2.2.1 General Program Management

We agree with the general program management specific work elements as outlined in Attachment A of the RFP. As part of our review, we have included a list of subtasks which we would recommend be incorporated to support the Project budget development and tracking. These work subtasks comprise the project and contract administration, meetings, scheduling, and data management associated with the Owner's Representative role. It will be important in the first weeks of the project development to establish the data management system which will be used for the Project implementation. We are familiar with and have used many of the available systems such as SharePoint. We would propose to coordinate with the KRRC and Project Company to select the final operating platform and tailor the system to meet the specific Project needs. Compatibility between all parties will be important to ensure efficient and timely communication, consistent and complete project documents, and user support. Our Project Manager will lead this effort working with his management team to set up the program management tools and assign specific roles and responsibilities to the appropriate team members. We believe in effective delegation to the lowest possible level to ensure cost efficient work execution and eliminate potential bottle necks which can occur without effective delegation.

2.2.2.2 Guaranteed Maximum Price (GMP) Support and Negotiation

Our staff is intimately familiar with the development of GMP contracts as both an Owner's Representative as well as a Design-Builder. For the Blue Lake Project, the construction bids were all significantly over the Engineer's estimate. As a result, an extensive bid review and value engineering exercise was developed and implemented by McMillen Jacobs serving as the Owner's Representative. Through this process, design revisions were implemented which resulted in significant cost savings and schedule improvement. Serving in the Design-Build Contractor role, McMillen Jacobs has developed and negotiated GMP and contract provisions for numerous projects including the Long Lake Dam Spillway Improvements, Nine Mile Sediment Bypass System, Springfield Hatchery, and Allison Creek Hydroelectric Project. For your Project, we will utilize the experience gained on our previous projects, where we have served as the Owner's Representative and the General Contractor, to support the GMP support and negotiations. Our approach will include:

Utilization of our heavy construction business skills in the GMP cost estimate review. Their hands-on experience with developing GMP's for similar projects will allow a focused and efficient review of the cost estimate organization, staff and equipment makeup, production rates, and schedule sequencing. The focus of this review will be to confirm the approach and general components of the estimate, the proposed scheduled, and identify potential value engineering suggestions which could result in cost estimate and/or schedule savings. In our experience, the GMP review should focus on higher value items and suggestions rather than questioning every dollar in the estimate which expends significant budget with little benefit in terms of cost savings to the Project.

Our experienced team will review the in-progress design documents for completeness, feasibility, and constructability. We will use our specialized team experience to bear on each of the major Project elements providing a cost-effective review resulting in specific recommendations for potential value engineering design modifications. We will also identify any missing design features which are not included in the cost estimates and should be addressed to ensure a comprehensive GMP and control future contract change orders.

Based on the completeness of the design packages, evaluation of the risk associated with the work activity, and the Project schedule, we will provide recommendations for line item contingency to be carried for all phases of the Project. We will also provide recommendations for design document modifications and/or construction approaches which could lead to a reduction in risk and contingency.

Using the information developed above, we will support the KRRC in negotiating the GMP and GMP amendments. The pre-project Implementation Work amendments to the GMP will be reviewed for accuracy with recommended changes in pricing, scope, and schedule provided, as required.

2.2.2.3 Project Implementation Work

The project work breakdown for this work phase is consistent with our previous project experience. A brief summary of our approach associated with each major work task under this phase is presented in the following paragraphs.

Pre-Project Implementation Work Amendment: As part of the general program and administration setup process, we will work closely with AECOM Technical Services to obtain all relevant documents and contacts, status reports, and support documents. This work effort will require access to the project management information system and transfer to the selected management system, if different than what has historically been used. Within this effort, it will be important to obtain all root files which allow for editing and updating, or incorporation into subsequent work plans and documents which may be developed for the Project implementation. We anticipate a kickoff meeting with AECOM to discuss the transfer of relevant documents, preparation of a pre-project implementation document bibliography, process for document transfer, and schedule for work to be complete.

As part of this work effort, we will also organize and facilitate a Pre-Project Implementation Work meeting to establish the protocols and required coordination prior to commencing site work. We will prepare the meeting agenda, initial anticipated protocols, and required field pre-existing data collection which will be used to establish the baseline existing site conditions. Following the meeting, the final protocols and baseline document plan will be issued, and the field work completed.

Project Implementation Work Management: Within this work phase, the Owner's Representative will be responsible for the oversight on the Project Company's construction activities. We concur with the work subtasks outlined in the RFP scope of work which include submittal tracking and review, response to RFI's, change order management, quality control, pay request review, schedule compliance, weekly construction meetings, document control, and environmental compliance. These work activities will be managed from our field office led by our construction manager with support from our field team. Our minimum field team will consist of the construction manager, QA/QC manager, office engineer, administrative assistant, and inspectors, as required for the work oversight. We anticipate our field team staff will expand and contract with the construction activities and the addition of supplemental inspection and engineering support staff, as the Project requires. Project controls, engineering support, and regulatory/permitting support will be provided from our support office locations in the Pacific Northwest. Where required, we will mobilize additional office support to the field to address a specific project issue, provide supplemental inspection staff, and ensure efficient field work execution. Our office engineer and administrative staff will handle the document flow in the field with support of the project controls group.

Mort, serving as the overall project manager, will continue to manage the overall project execution through the implementation phase. We anticipate the site construction manager will handle the day-to-day field activities working with the Project Company. Mort will be onsite approximately 50% of the time during construction and will ensure the McMillen Jacobs resources, from the off-site offices, are fully available as required, provide direct support to the KRRC team, overall risk management, budget and schedule oversight, and address major project issues which may arise.

Inspections: As part of our proposal development, we estimated the anticipated level of inspection required for the Project implementation will vary through the construction schedule. The Project is unique in that it is comprised of major facility demolition and natural resource restoration activities. The majority of the initial work activities are related to removing existing dam and hydropower facilities. The inspection work associated with these work activities are primarily related to ensuring compliance with the construction documents, ensuring permit conditions are being followed, safe handling of materials and off-site disposal of materials, and general project safety. Support from an independent material testing firm and laboratory will be required where permanent fill material is being placed, or permanent new facilities such as the hatchery modifications, bridge rehabilitation or replacement, and permanent fill materials are required. We anticipate general civil inspector(s) with experience in the work activities associated with the demolition work will be provided during this period. We plan to utilize one lead inspector supplemented with additional inspection support to cover multiple work activities based on the Project Company's final schedule.

The reservoir restoration work involves more specialized environmental restoration expertise. We will utilize our field inspection staff to support these work activities in terms of general oversight but will bring in specialized expertise from our Boise office to perform periodic specialized inspections specific to the soil preparation and plantings. These inspections will be tied to milestone completion dates and associated completed field construction to maximize the staff efficiency and minimize cost.

When required, we will bring in our engineering support staff to provide support on a specific field construction work activity. In general, engineering support will be the responsibility of the Project Company as it relates to the design-build work activity. However, in the event that a design or construction scenario arises in the field that cannot be resolved at the field office level, our engineering support will be accessed to provide independent analysis and recommendations.

2.2.2.4 Post Project Implementation Work Completion/Closeout

We have found that the final Project closeout activities can drag out if not effectively managed and driven to completion. To ensure this does not happen on the Project, planning for the Post Project Implementation work phase will start while the Project is still in the implementation phase. The successful development and implementation of the data and document management system provides a solid foundation to move into the final project closeout and work completion. All documents related to the design and construction of the Project will be filed electronically within the data management system. McMillen Jacobs will track the document status on a weekly basis ensuring that any outstanding submittals, RFI's, design documents, contract changes, and related construction documents have been prepared and submitted in their final approved form. Any open items will be addressed weekly during the Project implementation. A Closeout Workplan will be developed presenting the required work activities, documents, inspections, and schedule for final inspection and approval. The specific contract requirements to be met will be reviewed with the Project Company to ensure that all parties have the same understanding of what constitutes final completion and acceptance of the work. With the workplan reviewed and complete, the final inspection of the work will be held with the Project Company to verify Substantial Completion and prepare the Project punch list and a schedule for addressing these items.

2.2.2.5 Potential Issues and Risk Mitigation Measures

As previously noted, we have reviewed the available documents related to the Project. One of these documents is the Amended Risk Management Plan contained within Appendix A of the Definite Plan, dated July 2019. In our opinion the management plan presents a logical approach to identifying the risk associated with the Project assessing the risk impact and outline the management strategy. We have used a similar approach and system for similar projects including the Avista Long Lake Dam Spillway Rehabilitation, Avista Nine Mile SBS Project, and the Faraday Repower CMGC Project. From our analysis of the Project and drawing from previous project experience we would view the following to be some of the highest risk to the Project implementation and cost (Table 2-2).

Table 2-2. Potential Issues and Risk Mitigation Measures

Project Feature	Potential Challenge/Risk	Impact	Mitigation
FERC Approval	Schedule and Approval Conditions	Schedule delay and cost increases	Focused communication with FERC for resolution / contingency for conditions.

Project Feature	Potential Challenge/Risk	Impact	Mitigation
Environmental / Permitting	Schedule and Approval Conditions	Schedule delay and cost increases	Focused communication with agencies / proactive response to comments / contingency for conditions.
Flow Bypass / Reservoir Drawdown	High flows or delay in schedule	Schedule delay and cost increase	Project Company develops comprehensive design / contingency plan for high flows
Unforeseen Conditions	Design Changes, Construction Work	Schedule delay and cost increase	During design, complete comprehensive review of field conditions / have contingency plan in Project Company workplans
Unknown Hazardous Materials at Powerhouse	Environmental Compliance, Schedule, Construction work plan modification	Schedule, regulatory input, cost	Complete due diligence during design / all materials on hand for potential hazardous material encounter / contingency plan in work plan.
Wildfires	Restricted access / stops work	Schedule delay and cost increase	Maintain alternative access routes / develop detailed wildfire protection plan
Weather	Cold, very wet, and high river flows	Schedule delay and cost increase	Focus high production work during good weather conditions / prepare for poor weather with site conditions improvement

McMillen Jacobs has dealt with each of these issues on our construction and Design-Build projects. Due to our pre-planning work efforts and contingency plan implementation, we were able to work through the issues, maintain schedule, and meet project budgets. As part of the Owner's Representative role, we will assume management of the risk register incorporating our site-specific knowledge and work closely with the team to develop and proactively implement effective risk management strategies.

Proven Performance
Open & Effective Communication

"After having finished two projects with McMillen I'm impressed with their consistent level of professionalism and quality of work. Both projects went well and we were able to easily navigate challenges as they came because of their open and effective level of communication." - Caleb Johnson, Idaho Power Field Engineer for Swan Falls and Upper Salmon

2.2.2.6 Controlling Changes in Scope, Schedule, Cost and Quality

McMillen Jacobs has well-established and proven project control systems and methods developed to efficiently plan, execute, and track the Project work. We utilize Spectrum cost accounting system which is a standard construction system. We also use HeavyBid construction cost estimating software which provides a full breakdown of a construction project budget. We use Primavera as our standard scheduling platform, which is an industry standard. Our experience with these systems and our project management systems allow us to establish a budget and scheduling system consistent with the Project Company providing efficient cost data interface and progress report preparation. We are currently using many of these systems on our Faraday Repower Project to ensure accurate schedule and budget controls.

Scope. Effective scope management starts with the design and GMP work phase. It is important to complete a thorough review of the design documents, identify risk items which could impact schedule and cost, develop and implement a strategy to mitigate the risk, then include these provisions in the GMP pricing. McMillen Jacobs will closely review the design documents for content and completeness with the goal of identifying all potential items which could lead to an increase in scope during construction. These would be covered with a contingency within the pricing structure. During the construction this process will mitigate scope creep.

Schedule. As part of the pre-implementation work phase, the detailed project schedule will be developed for the full project implementation. This schedule will identify all project tasks from permitting through final project transfer. Critical paths will be identified and strategies to address this developed and implemented. Working with the Project Company, the detailed construction schedule will be developed. The schedule float will also be defined. During the project implementation phase, it is important to proactively monitor the schedule with the goal of identifying potential schedule slippage early, allowing mitigation actions to be developed and implemented. Our experience is that individual work tasks will slip on specific items. The measure of success is in active schedule management and adaptive management to maintain schedule. McMillen Jacobs will lead this effort working with KRRC and the Project Company.

Cost Control. Prompt and equitable evaluation of change orders, whether they are change orders originating from KRRC or the Project Company, require an impartial evaluation of cost and schedule impacts. When evaluating a cost change, it is important to understand the production-type cost estimates that account for labor, equipment and construction methods typical of a contractor change request. We will utilize our cost estimating expertise to review the change order request for completeness, reasonable approach, and justifiable costs that match the scope. We will also ensure that the proposed scope truly falls outside the established GMP and is justified. Where possible, we will also identify alternate approaches which could eliminate the change requirement.

Quality Control. Our philosophy is that Quality Control (QC) is performed to provide evidence that contract requirements for the finished product are met, and to identify deficiencies requiring evaluation and/or correction. We provided in Section 3. Our approach to managing QC serving as the Owner's Representative.

3. Organizational/Management Structure

3.1 Organization Chart

McMillen Jacobs' team provides KRRC with the construction management expertise, tools, management procedures, and track record in delivering efficient and timely management of major civil works projects. As illustrated in Figure 3-1, our team organization was designed to provide the full range of technical services which could be required during the Project implementation, but also provides an efficient team structure ensuring effective communication, lines of responsibility, and work execution.

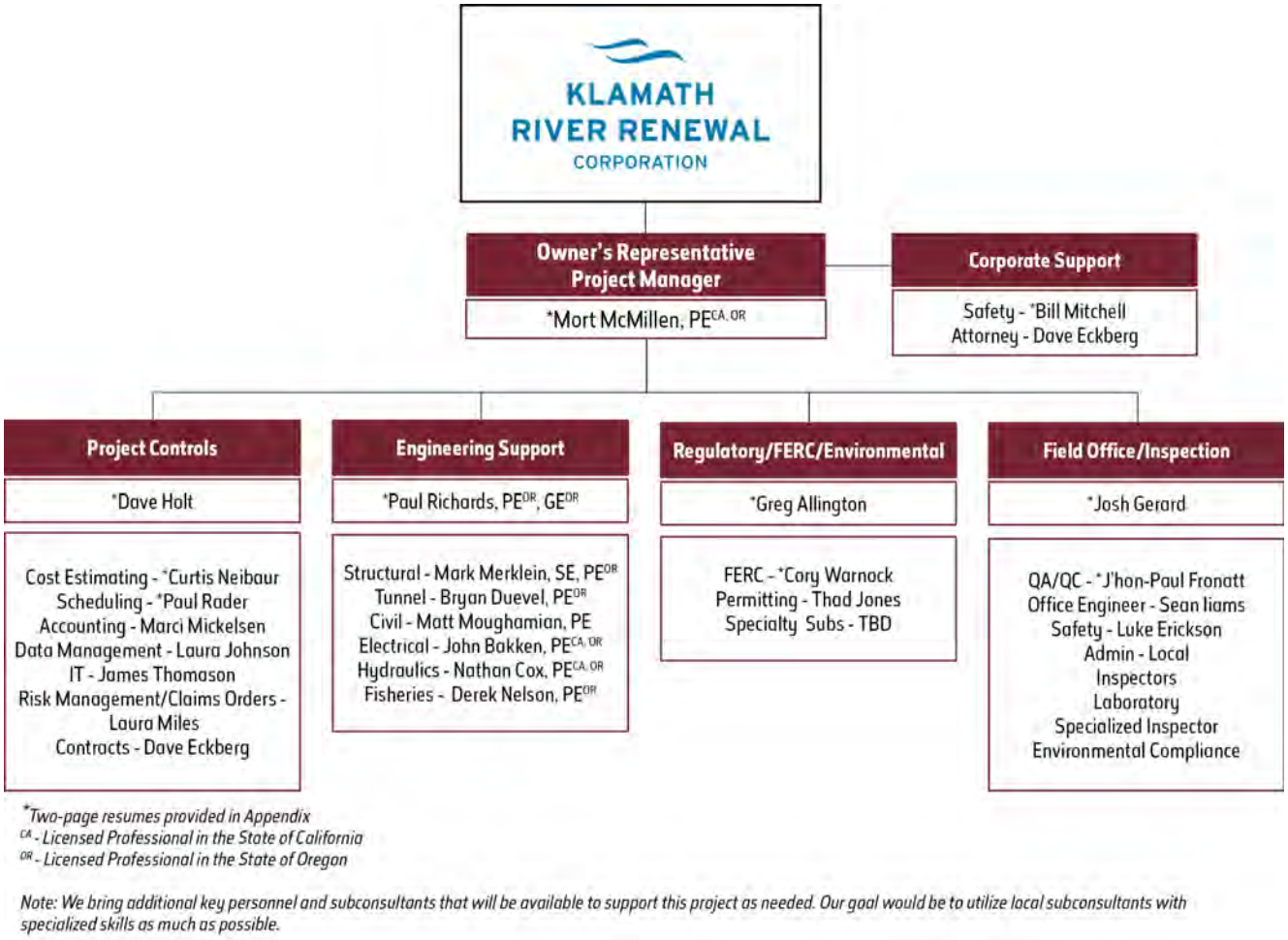

Figure 3-1. Organizational Chart

The team is organized into four major categories, as shown in Table 3-1 with the identified roles and responsibilities:

Table 3-1. McMillen Jacobs Organization Structure - Work Categories

Work Category	Roles and Responsibilities
Project Controls and Administration	Developing and implementing the project control measures required to oversee and manage the Project Company. Work tasks include cost estimating, scheduling, budget management, accounting, data and file management, IT, risk and change order management, subcontracts, internal and external reporting.
Engineering Support	Provide engineering support as requested by the Project Manager to support the Project implementation. Work tasks include submittal review, addressing field engineering issues, provide technical oversight of the Project Company, specialized field inspections, and general support the Project team.
Regulatory, Permitting and FERC Support	Provide regulatory, permitting, and FERC support to the Project team to support the Project implementation. Work tasks include assist in obtaining project permits, coordination with regulatory agencies, compliance monitoring, FERC strategy assistance and coordination.
Field Construction Management/Inspection	Provide direct construction management oversight of the Project Company. Work tasks include typical construction management activities including submittal review, response to RFI's, QA/QC, inspection, environmental monitoring, progress payment review, scheduling and budget oversight.

Each of these categories will be led by a senior staff member from McMillen Jacobs with technical and management skills required to effectively manage specific work assignments. These four individuals, along with Mort McMillen as overall Project Manager, will serve as the Owner's Representative management team. Mort will work closely with each of these technical leads in finalizing the work plan and budget, executing each of the major work phases, and proactively managing the Project addressing issues which may arise to minimize scope and budget impacts. We have provided a brief bio of the key personnel in the following paragraphs in Table 3-2.

Table 3-2. Management Team Qualifications Overview

Management Team Qualifications Overview	
Mort McMillen, PE *Project Manager*	Registered PE in California and Oregon with over 33 years of experience the water resources, heavy civil, infrastructure, fisheries, and hydropower markets. He has led over 50 design-build projects and has participated in over 150 projects at hydroelectric facilities. He has recent and relevant dam removal expertise including Elk Creek Dam in Oregon, Mill Pond Dam in Washington, and Honk Dam in New York. His depth of project knowledge from the planning through construction brings KRRC a project manager able to also address sediment management, reservoir drawdown, water pipelines, volitional fish passage, hatcheries, flood analysis, and habitat restoration. Mort has completed major modifications to existing dams and has developed new hydroelectric facilities from 4 MW to 140 MW bringing hands-on knowledge of the design and construction of these facilities which will be beneficial in reviewing proposed demolition plans. He brings hands on experience in managing highly visible multiple stakeholders as well as navigating the FERC and regulatory requirements for water resources projects. Mort understands the complexity of multidiscipline projects and is ideally suited to bring his 33 years of experience to serve as the Project manager for the Owner's Representative role on the Klamath River Dam Removal Project.
Dave Holt *Project Controls Lead*	Dave Holt has 18 years of heavy civil construction experience and more than 10 years of experience managing large-scale heavy civil construction operations up to $500M. He has also managed the construction of hydropower improvement projects, pumping plant retrofit, waste water systems, supporting infrastructure at national parks, transportation projects, a variety of flood control projects, and heavy civil construction projects. Dave has a demonstrated ability to develop and implement project control systems leading to effective project delivery on time and budget. Dave's background in construction is ideal to support the oversight of the Project Company from the initial GMP review through final project closeout.
Paul Richards, PE *Engineering Support Lead*	Paul Richards is a licensed Civil and Geotechnical engineer with 21 years of experience working on water resources, locks and dams, and hydroelectric projects. In addition to leading design teams, he has served as an onsite engineer, geotechnical lead, and site inspection lead on hydropower, water resource, and industrial development projects. He has extensive experience working as the Engineer-of-Record but also as the onsite

	Quality Assurance Manager, Resident Engineer, Field Manager, and Field Engineer during construction. Paul brings hands-on dam removal experience from his role as the lead geotechnical engineer for the San Clemente Dam Removal and Carmel River Re-route Project in California.
Greg Allington *Regulatory/Environmental Lead*	Greg Allington has over 14 years of experience as a biologist and specializes in natural resource permitting with local, state, and federal agencies. Mr. Allington has a unique expertise in offering support during the design phase but also in monitoring compliance during construction. He has managed and coordinated complex issues involving complicated engineering components in sensitive areas, preparing technical permit documents, and developing mitigation plans. Specifically, he specializes in agency coordination and negotiation during the permitting process, as well as implementation and oversight of permit regulations during construction. He has hands direct project experience in dealing with California Fish and Game, Tribes, FERC, and PacifiCorp Energy. Greg led the regulatory and permitting activities for the SMUD South Fork Powerhouse and Don Edwards Salt March Restoration Project in California, as well as multiple projects in Oregon, bringing hands-on experience to the project.
Josh Gerard *Field Office / Inspection Lead*	Josh Gerard brings more than 23 years of international hydropower and dams' construction and design project knowledge. Josh has experience being the liaison with all the project participants; including EPC contractors, Owners, Lenders, Dam Safety Panel, DAB and engineering and construction staff. His background also consists of working and living in remote and difficult international environments. While with another firm he served as the senior Construction Engineer for the Olmsted Dam Project, a $830 M construction project, where he communicated daily with the owner to resolve operations, design, and contractual issues. He also monitored change orders, NCRs, and design revisions. On the Bujagali Hydroelectric Project on the Nile River in Uganda, East Africa, he served as the Resident Engineer for Owner of this $900M EPC Contract. He led the onsite constructability design review of contractors change orders and engineering designs when they conflicted with the EPC contractor and owner. Josh coordinated social and environmental programs, including compensation programs for project affected persons, social/environmental plan monitoring, and community status meetings and reports.
Additional Key Support Personnel Qualifications	
Curtis Neibaur *Cost Estimating*	Curtis Neibaur has a BS in Construction Management and brings more than 14 years of experience in estimating and scheduling of heavy civil construction work in the hydroelectric, dams, fisheries, and water resources markets. Due to the combined experience of his current role as McMillen Jacobs' lead construction Cost Estimator, as well as previously serving as an on-site Project Manager for various civil works projects he brings a unique understanding of construction costs, work sequencing, and realistic scheduling to the projects he works on. Curtis has provided independent review of other general contractors' construction pricing as an Owner's Representative to support development of GMP contracts. His hands-on experience will prove invaluable to review of the Project Company GMP development and cost change requests.
J'hon-Paul Fronatt *QA/QC*	J'hon-Paul (JP) Fronatt brings 26 years of experience and specializes in developing, implementing, and monitoring QA/QC programs on complex construction projects. He has served as the client's representative, resident project representative, QA/QC manager, construction manager, project manager, or superintendent for general contractors as well as directly for clients. Mr. Fronatt's experience includes the construction of power plants and environmental remediation. He is currently serving as the lead QA/QC on-site manager for the Faraday Repower CMGC project. He previously worked on the California Public Utilities Commission (CPUC) / Pacific Gas & Electric (PG&E) Utility Upgrade Program where provided project management, inspection, and contract administration for private utility locating, sub-contracted specialists and electrical/gas meter placement locations.

3.2 Communication Procedures

A key to the success of any project is effective communication throughout the project execution. To ensure effective communication between McMillen Jacobs, KRRC, and the Project Company, we anticipate a communication protocol that consists of meetings, calls, email, and project management systems that drive effective communication. McMillen Jacobs utilizes a wide range of tools and techniques, as presented in Table 3-3 to encourage and foster effective collaboration. We have found these tools to be very effective in establishing strong team communication and relationships at the project onset leading to full and open collaboration.

Table 3-3. Collaboration Tools/Techniques for Strong Communication

Tool/Technique	Description	Benefit
Established Executive Committee (EC)	The EC is comprised of members of the KRRC and McMillen Jacobs with authority to make contractual, staffing, and policy decisions.	Provides a path for resolution to issues that cannot be addressed within the project team.
McMillen Jacobs' Assigned Project Manager	Proven ability to foster collaboration with the project team and resolve issues as they arise.	Mort McMillen has a reputation for effectively fostering collaborative project teams and addressing and resolving issues in a positive, team oriented manner.
Weekly Coordination Meetings	Coordination meetings between KRRC and McMillen Jacobs to coordinate the project execution and monitor progress.	Frequent communication via a well-organized meeting promotes effective communication and collaboration.
Monthly Project Meetings	Meeting between KRRC and McMillen Jacobs' management team and Project Company to discuss the project status.	Provides an effective platform for the management team to discuss overall project execution, staff performance, issue resolution, and project status.
Action Item List	Clearly identifies specific project action items, responsible parties, schedule, and deliverable.	Provides clear identification of the responsibilities between McMillen Jacobs and Project Company is tracked to completion.
SharePoint *(Or other selected database)*	Provides ready access to all project documents for the entire team.	Provides efficient data management and acquisition for all team members.
Risk Register	Identifies all potential risks which could affect the project execution cost, schedule, and mitigation measures.	Promotes collaboration between McMillen Jacobs, KRRC, and Project Company in effectively implementing a risk management strategy.

As part of our coordination conference calls, a detailed meeting agenda will be developed and implemented to ensure the project work plan is clearly defined and implemented, issues are identified and resolved, clear distinction of roles between McMillen Jacobs, Project Company and KRRC are defined, and action items are assigned. McMillen Jacobs will maintain an action item list which will be updated for each coordination meeting. Our Project Manager, Mort McMillen, will ensure the action items are completed by the assigned team member by the identified date.

3.3 Quality Management

Our philosophy is that Quality Control (QC) is performed to provide evidence that contract requirements for the finished product are met, and to identify deficiencies requiring evaluation and/or correction. The Contractor's QC activities include: (1) field verification of work in progress and completed work; (2) verification of materials and equipment fabricated off site; (3) testing of materials performed by on-site and off-site organizations; (4) documentation of verifications and testing; and (5) evaluation of test or inspections; (6) identification of non-conforming conditions; and (7) tracking resolution or correction of non-conformance issues.

We see our Quality Assurance (QA) role as the process to evaluate the effectiveness of the QC activities to determine if they conform with the Project Quality Control (QC) Plan. As appropriate, we will enforce the approved construction QC plan where deficiencies are observed. QA activities include review and evaluation of the QC Plan, procedures, qualifications, and documentation, as well as independent inspections, audits and verification surveys.

Our Lead QA Inspectors, in conjunction with local material testing organizations and our Inspectors, will develop and implement a QA plan in accordance with KRRC requirements. This plan will be tailored from our previous design-build plans which will ensure effective balance between the Owner's Representative and Project Company roles and responsibilities. We will also perform independent identification of non-conforming conditions and take the lead in tracking resolution of non-conformance issues.

With the major facility demolition and natural resource restoration activities any delays to these critical path operations can lead to expensive, contentious contract disputes, claims, and litigation. The Owner's Representative must therefore have accurate records documenting details of the Contractor's work activities to rapidly evaluate and resolve construction issues as they arise. The daily reports will be prepared by each Inspector electronically. A daily log will then be generated

automatically allowing our McMillen Jacobs' Field Construction Management/Inspection Team real-time access to inspection details, material and labor quantities, and the complete daily ledger. Our goal is to work closely with KRRC and the Project Company to ensure the Plans and Specifications requirements are met during construction. Our approach to changes caused by unforeseen conditions or other circumstances will be reviewed with KRRC and the Project Company to ensure that the Project objectives are not just maintained but achieved.

Proven Performance –
Transparent Partnership with Owners

"At every stage of the project, McMillen Jacobs Associates have maintained…a level of transparency of operations to Avista that facilitated a true partnership. Additionally, they have been consistent in proactively examining project risks and mitigation strategies that minimize cost, schedule, and compliance risks to the project. They have consistently demonstrated performance in a very professional, efficient, and competent manner." - Meghan Lunney, Avista's Aquatic Resources Specialist re: Long Lake Dam

3.4 Financial Management Procedures

Effective project management serves as the "road map" for completing a project on time and within budget, and Project Controls and the tools used by project management to track schedule and budget. We will provide Project Controls including scheduling, cost and budget control, estimating, forecasting, and sub-consultant contract administration as needed to ensure an effective Owner's Representative role implementation. We will work with KRRC to establish reasonable resource schedules, budgets, and standardized procedures so that the project is planned and monitored during construction.

In response to this RFP, we have provided a detailed budget breakdown for the Project Owner's Representative scope of services as outlined in the KRRC RFP. In preparing our budget estimate, we have strived to utilize technical resources that are based in our home office as well as based on the project site. The proposed McMillen Jacobs staff members provide the senior technical expertise and leadership required to effectively manage a project of the scope and complexity of this Project. Our senior team will guide and mentor the local resources or specialty subconsultants to form an integrated, seamless team. We believe this approach will provide KRRC with a high-quality technical Owner's Representative team while maximizing the use of the local talent. Our approach will also provide a significant reduction in direct expenses such as housing, transportation, and per diem.

McMillen Jacobs will provide a Management Work Plan (MWP) which will form the foundation for managing this project and will be developed prior to initiating any work within four weeks following our Notice to Proceed. The MWP establishes the method and sequence for completing the work-specific project procedures, and represents a key aspect of assuring close coordination, clear lines of communication, and clear decision protocol. The detailed schedule will be revised to incorporate KRRC input, which will be updated on a regular basis. The schedule will be tracked, updated, and presented in the Monthly Progress Reports, which will also include the status of issues and problems with methods of resolution.

Since we track our labor hours with Spectrum software, our project managers can monitor costs at any time from their computer. Because electronic timesheets are submitted weekly, our project managers have careful control over costs and can supply KRRC with up-to-date reporting at any time.

3.5 Safety Oversight

McMillen Jacobs self-performs heavy civil construction for water resources and hydropower projects. This type of work requires knowledge of the site-specific safety risks and hazards associated with this type of work. Demolition of major facilities adds another dimension to safety risks in terms of potential unknown hazardous materials, stability issues which may arise during the demolition activities, crane and heavy equipment operation, removal of hydropower equipment, in-water work areas, and transportation requirements. From our experience, establishing a project specific safety culture on the project site is the most important step in achieving an effective comprehensive site safety program. We have found this requires the following:

- Preparation of a site-specific safety plan that clearly addresses the specific site conditions, working conditions, and hazards.
- Implementation and training for all Project Company employees and subcontractors. It is important that the training is comprehensive and required for all Project participants including KRRC and McMillen Jacobs staff.

- A top down commitment to the safety culture on the project site. This requires full commitment of the Project Company management team as well as subcontractor staff.
- Monitoring and enforcement of the safety plan.
- Updating the plan as required to reflect new work tasks, changes in approach, or unforeseen conditions.

As the Owner's Representative, we will provide a detailed review of the Project Company site specific safety plan. Our corporate safety manager, Bill Mitchell, will provide a detailed plan review. We will also have Luke Erickson, currently serving as the on-site safety manager for our Faraday Repower Project, review the plan. This will bring our direct and current experience on an existing powerhouse demolition, working around high voltage power lines, in-river construction, crane/heavy equipment operation, and major transportation requirements to this Project.

Once the plan is in place, we will actively work with the Project Company in their implementation and monitoring of the safety plan. We will proactively identify and inform the Project Company of potential safety issues, ensure the full aspect of the plan is being implemented such as job hazardous analysis, and complete site specific safety audits using our construction safety staff, where needed.

4. Personnel Qualifications

As outlined in the previous section, we have developed our team organization to provide a seamless communication and work execution. Our team will be led by Mort McMillen who will be responsible for the overall work execution, staffing, and performance through the Project implementation. Mort will serve as the primary contact with KRRC as well as the Project Company. Mort will be supported by his work category leads in the day-to-day work execution. A brief summary of our key personnel roles and qualifications is presented in Table 4-1.

Table 4-1. Key Personnel Roles / Time Commitment

Name/Title/Primary Location	Roles/Responsibilities	Time Commitment per Phase (%)
	Management Team	
Mort McMillen *Project Manager* Boise Office – 50% Field Office – 50%	▪ Represent KRRC's best interests ▪ Serve as the direct point of contact for KRRC and liaison with Project Company ▪ Ensure resources are available and committed to the Project ▪ Schedule and financial management including budget cash flow forecasting ▪ Stakeholder coordination/collaboration ▪ Ensure KRRC project goals and objectives are met	PH 1: 75% PH 2: 75% PH 3: 50%
Josh Garad *Field Office/Construction Management/Inspection* Boise, ID Office – 5% Field Office – 95%	▪ Manage the field construction management team with direct oversight of the Project Company. ▪ Oversee schedule, budget, and quality measure in the field. ▪ Organize and execute weekly construction meetings including documentation. ▪ Construction budget cash flow forecasting.	PH 1: 10% PH 2: 100% PH 3: 100%
Dave Holt *Project Controls and Administration Lead* Boise, ID Office – 80% Field Office – 20%	▪ Manage the project controls functions throughout the project execution. ▪ Develop and implement project controls templates and protocols. ▪ Participate in the GMP cost estimate and schedule revenue. ▪ Review change order requests during construction.	PH 1: 50% PH 2: 20% PH 3: 20%
Paul Richards *Engineering Support Lead* Portland, OR Office – 90% Field Office – 10%	▪ Manage the engineering support team to respond to management team requests. ▪ Assign and manage design review process. ▪ Assign staff and manage shop drawing review, response to RFI's, and other construction management team requests as required.	PH 1: 25% PH 2: 15% PH 3: 5%
Greg Allington *Regulatory/Enviro Lead* Boise, ID Office – 90% Field Office – 10%	▪ Manage the regulatory team to respond to management team requests. ▪ Lead permitting and regulatory support efforts as required. ▪ Provide staff to perform specialized field inspection as required.	PH 1: 25% PH 2: 25% PH 3: 25%

Name/Title/Primary Location	Roles/Responsibilities	Time Commitment per Phase (%)
	Additional Key Personnel	
Curtis Neibaur *Project Controls, Cost Estimating* Boise, ID Office – 90% Field Office – 10%	▪ Provide cost estimating support throughout the project execution. ▪ Review, comment and provide negotiation support on Project Company GMP. ▪ Review and comment on proposed project change orders. ▪ Support evaluation and documentation of the final project cost. ▪ Support development and monitoring of the project risk register.	PH 1: 75% PH 2: 25% PH 3: 5%
J'hon-Paul Fronatt *QA/QC* Boise, ID Office – 5% Field Office – 95%	▪ Develop and implement field independent field QA/QC plan to provide oversight on Project Company work efforts. ▪ Oversee the independent testing firm to schedule and conduct field testing. ▪ Manage full documentation of field QA/QC program including the shop drawing review process, inspection reports, and associated documents.	PH 1: 5% PH 2: 100% Ph 3: 100%
Paul Rader *Project Controls, Scheduling* Boise, ID Office – 90% Field Office – 10%	▪ Develop the master project P6 schedule which reflects all aspects of the Project execution. ▪ Review the Project Company master schedule for completeness and logic. ▪ Provide monthly project schedule updates.	PH 1: 50% PH 2: 10% PH 3: 5%
Cory Warnock *FERC Support* Bellingham, WA - 95% Field Office – 5%	▪ Provide support for FERC coordination and approval process. ▪ Prepare FERC submittals and documents, as requested, to support the project execution.	PH 1: 20% PH 2: 20% PH 3: 10%
Bill Mitchell *Corporate Safety* Boise, ID Office – 95% Field Office – 5%	▪ Provide detailed plan review of Project Company site specific safety plan.	PH 1: 2% PH 2: 2% PH 3: 2%
Sean Iams *Office Engineer* Field Office – 100%	▪ Provide office engineering support in the field office including shop drawing review, preparation of weekly jobsite reports, documentation of field activities, and general project administration.	PH 1: 5% PH 2: 100% PH 3: 100%

Full Resumes are provided in Appendix A for key personnel shown in burgundy above.

4.1 Staffing Plan

Our workplan and team organization was set up to allow "right sizing" the project team based on the work phase, specific tasks, and coordination with the Project Company. We anticipate the staffing requirements to grow as the Project moves into the full implementation phase, then drop off as the field construction is completed and final inspection and warranty period is initiated. Throughout the work execution, we expect to see an ebb and flow of the staffing requirements depending on the field activities, engineering and permitting support required, and issues which may arise which require attention. Our management team will meet weekly to review the short-term and long-term staff requirements, ensure the staff resources are properly allocated and budgeted, then monitor the work execution to ensure the assignments are efficiently completed. In general, Table 4-2 outlines observations related to staffing through the project execution based on the staff categories.

Table 4-2. Staffing Plan

Work Category	Staffing Requirements
Project Controls and Administration	Full project controls team will be active throughout the Project work phases. Cost estimating, scheduling, and risk management staff will have heavy involvement through Pre-Project Implementation, then decrease to focus on budget review and cost changes in subsequent phases.
Engineering Support	Engineering support will focus on design review in pre-project implementation phase. Subsequent work will focus on shop drawing review, engineering support to the field construction management team, and specialized inspections during implementation phase. Staffing levels will be determined based on coordination with the Project Company and Owner's Representative.
Regulatory, Permitting and FERC Support	We anticipate the largest workload will occur during the pre-project phase to support obtaining permits

Work Category	Staffing Requirements
Field Construction Management/Inspection	Full time baseline staff including construction manager, QA/QC, office engineer, lead inspector, and administration support. Staff supplementation for engineering support, additional inspectors, and specialized inspection as required. Project controls support from the Boise office will be maintained throughout the field construction activities.

4.2 Resumes

In addition to the bios provided in Section 3, we have included 2-page resumes for our key personnel as outlined in Figure 3-1, Organizational Chart, in Appendix A. Resumes for the additional support staff can be provided upon request.

5. Firm Qualifications

McMillen LLC, dba McMillen Jacobs Associates (McMillen Jacobs), is a full-service engineering, construction management, environmental, and self-performing construction firm in the water resources, hydropower, fisheries, water conveyance, irrigation, transportation, heavy civil, and underground markets. We are fully qualified to contribute to a project at the planning stage with feasibility studies and alternatives analysis, navigate the regulatory and permitting requirements, develop detailed design, self-perform construction, and participate in startup, commissioning, and support of operations. Our multi-discipline engineering, regulatory and permitting, construction management, construction, and operations staff are able to provide technical expertise to a wide range of project types – often with accelerated schedules and complex facilities.

5.1 Relevant Project Experience

McMillen Jacobs has extensive relevant project experience with the elements required for the Project. As either a design engineer, Owner's Representative, design-builder, or a general contractor, we have hands on relevant experience which can be directly applied to the Project. We understand the Project features and the specific challenges associated with the planning, design, and construction of each element. With experience ranging from the initial flow bypass and dewatering to dam removal and habitat restoration, we believe we are uniquely qualified for the Owner's Representative role.

Figure 5-1, provided on the following page, illustrates some of our specific project experience as it relates to the major Project features. More detailed relevant Project examples are enclosed within this section as well.

McMillen Jacobs provides KRRC with the depth of resources, technical expertise, and demonstrated project experience in all aspects of the Klamath Dam Removal Project.

Demolition/Dam Removal/Hydro

USACE, Elk Creek Dam Removal and Restoration DB Project (OR) - First DB project executed by the Portland District on a challenging dam removal and fish passage project. We completed the construction plans/specs in 3 months including full USACE and agency approval. Removal of in-place RCC (55,000 cy) and structural concrete created the required fish passageway through the existing dam.

Additional:
- NYDEP, Honk Dam Removal (NY)
- Sonoma County Water Agency, Potter Valley Project (CA) (Scott Dam decommissioning)
- Seattle City Light, Mill Pond Dam Removal (WA) (prelim and regulatory lead)

Highly Visible; Multiple Stakeholders

USACE, Napa Dry Bypass Flood Protection Project (CA) – This highly visible flood protection project required us to manage more than 23 stakeholders comprised of local, state, and federal interties. *"McMillen never faltered in their constant coordination in order to attempt to satisfy all stakeholders, and to provide a design that could be constructed,"* USACE Sacramento District Contracting Officer

Additional:
- City of Boise, Esther Simplot Park and Whitewater Park DB Project (ID)
- PGE, Faraday Repower Project CMGC (OR)
- USFWS, Don Edwards NWR Restoration D-B Project (CA)

Sediment/Material Disposal

City of Boise, Esther Simplot Park DB Project (ID) - Required over 400,000 cy of excavation, extensive dewatering and flow bypass system, and over $1M in plantings. Challenges included the removal of 100,000 cy of contaminated soil, construction in an urban area with nearby neighborhoods and pedestrians, and coordination with several agencies and stakeholders.

Additional:
- Avista Utilities, Nine Mile Dam Sediment Bypass DB (WA)
- USACE, John Martin Reservoir, Sediment Removal and Dewatering Project (CO)
- USFWS, Napa Salt Marsh Ponds Construction Project (CA)

Construction Management Services

City of Sika, Blue Lake Dam Hydroelectric Expansion CM Project (AK) - McMillen Jacobs served as the Construction Manager which included a powerhouse, raising the dam, a 300-foot deep surge shaft, and three 5.3 MW turbine/generators. We provided direct oversight for the contractors and despite several challenges, the team was able to deliver this project 3 months ahead of schedule with change orders under 5% of the total cost.

Additional:
- SFMTA, Central Subway in San Francisco (CA)
- NYDEP, Gilboa Dam Reconstruction (NY)
- Since the 1970s when we provided CM services on the Melbourne Metro

FERC/Regulatory/Permitting

Seattle City Light, Mill Pond Dam Removal (WA) - McMillen Jacobs completed a preliminary environmental assessment of the recommended alternative for dam removal and stream restoration to comply with NEPA requirements during SCL's FERC relicensing process. The preliminary design and environmental assessment were submitted to FERC and approved with no conditions.

Additional:
- PacifiCorp Energy, Yale Dam Intake and Spillway Entrainment Nets (OR)
- PacifiCorp Energy, Prospect PRV Flow Deflector (OR)
- Pend Oreille PUD, Box Canyon Hydroelectric Project (WA)

Dewatering/Reservoir Drawdown

Avista Utilities, Long Lake Spillway Improvements (WA) - Scope included dewatering for spillway toe repair, construction of platform/plunge pool backfill, removal of temporary road from the riverbed and shoreline, reshaping of the former construction disturbance area with excess fill materials to create a more natural streambank, and revegetation of the construction site and impacted areas.

Additional:
- PGE, Faraday Repower Project CMGC (OR)
- Northwestern Energy, Hegben Dam Spillway Construction (MT)
- SMUD, South Fork Powerhouse and Boating Flow Release Facility (CA)

Bridges/Roads/Infrastructure

CVEA, Allison Creek Hydroelectric DB Project (AK) - New concrete gravity dam with a conventional intake and buried/surface penstock, to a run-of-river project with a diversion structure further downstream and a powerhouse with more than 2 miles of access roads in steep and remote terrain. McMillen Jacobs self-performed 90% of the design and construction.

Additional Road/Infrastructure:
- USFWS, Don Edwards NWR Habitat Restoration DB (CA)
- USFWS, Minidoka NWR, Road Reconstruction 17 Miles (SD)
- Avista Utilities, Long Lake Dam Spillway Improvements (WA)

Additional Bridges:
- USACE, Paradise Creek Restoration DB (ID) (pedestrian/traffic/utility bridges)
- IDPC, Thousand Springs Dam Snowbank Bridge Construction (ID)
- USACE, Permanent Repairs to Garrison Dam Bridge Pier DB Project (NB)

Waterline Jobs

PacifiCorp Energy, JC Boyle Dam Hydroelectric Facility (OR) - McMillen Jacobs designed, fabricated and installed new 24-inch steel piping that traversed from the 14-foot existing penstock to the required discharge point in the river for the PacifiCorp JC Boyle Dam Hydroelectric Facility.

Additional:
- BUREC, Navajo Gallup Water Supply Construction Project (NM) (4.25 miles of 42-inch pipeline)
- Pend Oreille PUD, Sullivan Dam CWR Pipeline (WA) (intake submerged 130-ft of 54-inch pipeline)
- Silicon Valley Clean Water, Bair Island Force Main (CA) (trenchless pipeline)

Flood Analysis

USACE, Warm Springs Dam Inundation Study (CA) - Evaluated the adequacy of the Warm Spring Dam Spillway. Analysis determined the downstream inundation caused by both with and without failure analysis of the dam for the Probably Maximum Flood, as well as the 50-, 100-, 200-, and 500-year frequency based storms. The study also included mapping of the various failure analyses.

Additional:
- USFWS, Don Edwards NWR Habitat Restoration DB (CA)
- USACE, American River Common Features (CA)
- 20+ Flood Analysis Task Orders for the USACE (Nationwide)

Fish Passage Repair

Pend Oreille PUD, Box Canyon Trout Habitat Restoration Program (THRP) (WA) - Encompasses active instream volitional fish passage enhancement for 164 miles of tributaries of the Pend Oreille River spanning over a 20-year period. We provided design and served as Owners Representative during construction, assisting to develop a process to evaluate streams, provide recommendations, and manage construction.

Additional:
- USACE, Sacramento River GCID Fish Passage and Hydraulic Analysis/Design (CA)
- USACE, Elk Creek Dam Removal and Restoration DB Project (OR)
- Sonoma County Water Agency, Potter Valley Project (CA)

Fish Hatchery

Yakama Nation, Melvin R. Sampson Coho Hatchery EPC Project (WA) - Implemented hatchery strategies to increase harvest levels, natural spawning abundance, and spatial/temporal distribution of coho and Chinook salmon in the Yakima Subbasin. McMillen Jacobs was responsible for early concept design, final design, and is currently self-performing the construction. Primary project components include development of new groundwater and surface water supply and treatment systems along with new hatchery facility.

Additional:
- PacificCorp Energy, Speelyai Hatchery Modifications (WA)
- USFWS, Coleman Hatchery Project (CA)
- BPA, Walla Walla Hatchery EPC (OR)

Stream, Estuary and Habitat Restoration

USACE, Elk Creek Dam Removal and Restoration DB Project (OR) – The channel was designed to become more protected in the future as the vegetation slows the flood velocity and anchors the bank materials with roots. The thick cobble blankets provide a rougher fish passable surface while resisting significant erosion over time. The channel provides volitional passage function and adjust to changes in runoff and flow conditions by providing mobile coarse sediment.

Additional:
- Pend Oreille PUD, Box Canyon Trout Habitat Restoration Program (WA)
- USFWS, Napa Salt Marsh Ponds Construction Project (CA)
- USFWS, Don Edwards NWR Restoration D-B Project (CA)

McMillen Jacobs' Role:
- Planning/Engineering Services
- Design Development
- Construction
- Management (CM/GC, CM, Owner's Rep)
- Permitting/Regulatory/Environmental

5.2 Subconsultants/Subcontractors

At this time, McMillen Jacobs is not proposing to include any specific subconsultants to our team. We believe we can cover the Owner's Representatives roles and responsibilities with in-house staff. As we work with KRRC and become more familiar with the Project Company's proposal, staffing, and organization, additional resources may be recommended to KRRC for inclusion on our team. We believe these would be specialty subconsultants that would provide a specific technical support function. One example is a third-party material testing firm which could conduct independent QA/QC confirmation testing of the Project Company's field work. If we believe the addition of a subcontractor would be beneficial to the team, we would provide a written proposal to KRRC outlining the technical skills, key personnel, benefit, and cost for approval. Where possible, we would propose to utilize local subconsultants/subcontractors to supplement our team capabilities.

5.3 Disciplines, Offices, and Capacity to Perform Work

Our technical skills include all areas of specific disciplines required for the Owner's Representative role on the Project. We employ civil, structural, mechanical, fisheries, electrical, dam, and geotechnical engineers; specialists in hydraulics and hydrology; tunnel/underground engineers; permitting, regulatory, and environmental specialists; and construction managers, inspectors and risk management experts. Currently, McMillen Jacobs employs Professional Registered Engineers (PE) in every state. We currently serve clients from 20 offices located throughout the United States, Canada, New Zealand, and Australia with over 500 staff members worldwide. For the Project, we plan to utilize our staff in our Pacific Northwest and California offices to supplement our field-based construction management staff. We believe we have the depth and breadth of resources to fully meet the Owner's Representative roles and responsibilities. Our capacity allows us to provide the resources for a project of this size, yet we are small enough to provide flexibility and cost-efficient services.

5.4 Insurance Requirements

McMillen Jacobs maintains the basic insurance coverages as outlined below. We have also provided additional project specific insurance coverage, as required, to meet specific client/project requirements for both our professional engineering as well as construction contracts. Table 5-1 provides our insurance coverage.

Table 5-1. Insurance Coverage

Insurance Coverage Type	Policy Value	Deductible
General Liability/Prod Comp Ops	1/2/2 Mil	$0 Employee Benefits Liability $1,000
Auto Liability	1 Mil each accident/CSL	$250/$500 Comp/Collision
Workers' Compensation / Employers Liability	Statutory / 1 Mil-1 Mil-1 Mil	None
Umbrella Liability	25/25 Mil each occ/aggregate	None
Professional/Pollution Liability	15/15 Mil per claim/aggregate	$200,000 Each Claim SIR
Property/Inland Marine		
Real Property	$320,000	$2,500
Blanket Business Personal Property	$3,307,500	$2,500
Blanket Business Income	$5,530,000	$0
Owned Equipment	$3,637,500	$2,500
Leased/Rented Equipment	$750,000	% min of $5,000
Catastrophe Limit	$9,157,500	$2,500
Management Liability		
Directors & Officers Liability	3 Mil	$25,000
Employment Practices Liability	3 Mil	$50,000
Fiduciary Liability	3 Mil	$0
Crime	1 Mil	$10,000
Hull & Machinery	Agreed Value	
Protection & Indemnity	1 Mil	$5,000

5.5 Financial Stability

McMillen, LLC, dba McMillen Jacobs Associates (McMillen Jacobs), is an employee-owned company, with our corporate headquarters located in Seattle, Washington. With over 500 employees located in 2 offices within the United States,

Canada, New Zealand, and Australia, our annual revenue exceeds $100 million. McMillen Jacobs Associates represents the merging of McMillen LLC and Jacobs Associates that was completed in 2014. Our combined company has an operating history of over 60 years. Bank references or additional financial information are available upon request.

5.6 Litigation

October 25, 2019, our legal entity, McMillen LLC submitted a request for arbitration with Sacramento Municipal Utility District on the Slab Creek Powerhouse and Boating Flow Release Facility. We encountered a differing site condition (DSC) that arose related to bedrock elevation from what we encountered versus what was stated in the request for bid. We have not received a response back to this request so this could be settled without going to arbitration, however, since it is a possibility, we wanted to include this.

6. Proposer Fees

McMillen Jacobs prefers a time-and-material contract. We have prepared a detailed budget breakdown for the Project Owner's Representative scope of services as outlined in the KRRC RFP and our proposal. Our proposed hourly rates are all inclusive covering all salary costs, fringe benefits, payroll taxes, general and administrative expenses, and profit. The estimated total range of hours for each calendar year, along with the associated assumptions and qualifications, are provided. **Our assumptions related to the budget are presented on our budget worksheets in Appendix C.**

6.1 Potential Savings by Choosing McMillen Jacobs

Our approach to managing this project will provide an opportunity for savings that other firms may not be able to provide. Elements of our approach include:

a) High time commitment of an experienced project manager who can effectively direct the work ensuring efficient and cost-effective work execution.
b) Efficient team organization that will ensure the right staff is allocated at the appropriate time with an efficient budget.
c) Smaller field construction team supported by a bench of experienced staff that can be accessed for specific needs.
d) Control of field expenses by maintaining a smaller base team with major Project Controls from our Boise office.
e) Utilize local subcontractors as much as possible to minimize subsistence cost and maximize local knowledge and business, where appropriate.

7. References

We have included five client references from projects with similar components to the Project. Per RFP requirements, we have included the name of the project and the name of the individual with their role on the project, email, and phone number. Additional references are available upon request.

Table 7-1. References

Project / Client	Point of Contact
Copper Valley Electric Association *Allision Creek Hydroelectric DB Project*	John Duhamel, CEO (907) 882-8301 duhamel@cvea.org
Homer Electric Association *Grant Lake Hydroelectric Project*	Mike Salzetti, Manager of Fuel Supply & Renewable Energy Development (907) 283-2375 msalzetti@HomerElectric.com
Avista Utilities Corporation *Nine Mile Dam SB DB Project*	Andy Vickers, Director Generation Production & Substation Support (509) 489-0500 (main) (509) 495-4616 (direct) andy.vickers@avistacorp.com
Monterey County Water Resources Agency *Interlake Hydro Project*	Ron Drake, VP; COWI North America, Inc. (Owner's Representative) (805) 440-5777 (cell) or (510) 839-8972 rndk@cowi.com
Pend Oreille PUD *Box Canyon Hydroelectric Dam Improvement Projects*	Tim McMaster, Power Production Manager (509) 615-9900 (cell) (509) 447-3137 (office) mcmaster@popud.org

BLUE LAKE DAM HYDROELECTRIC EXPANSION CM PROJECT (AK)

City of Sika

McMillen Jacobs served as the Construction Manager, providing direct oversight for the contractors and despite several challenges, the team was able to deliver this project 3 months ahead of schedule with change orders under 5% of the total cost.

Mort McMillen, PE, P.Eng.

Owner's Engineer – Project Manager

Mort McMillen understands the complexity of multi-disciplined projects and is ideally suited to serve as the Project Manager for the Owners Representative role on the Klamath River Dam Removal Project. Mr. McMillen is the founder of McMillen LLC and is a Registered Professional Engineer in Oregon and California with over 33 years of experience. He brings extensive **experience in all aspects of this project** including dam removal/demolition; volitional fish passage; hatcheries; habitat restoration; flood analysis; heavy civil works including dewatering, roads, and sediment/material disposal, and challenging water conveyance. He also has extensive experience in fostering collaborative relationships with stakeholders, coordinating with FERC and permitting agencies, and mitigating environmental impacts. He has worked with PacifiCorp—specifically on the JC Boyle Dam Project and most of the stakeholders interested in this project and he has contributed to or led the design and/or construction of projects containing dams (50), fish passage (50), and fish hatcheries (60). His highly technical engineering expertise has enabled him to assist in the planning stages and feasibility with accurately assessing cost (capital and O&M) and understanding the impact on local Indian Tribes or neighboring properties and managing the complex nuances of dam removal.

Education

- MS, Civil Engineering
  Stanford University

Years of Experience

- 33 years

Registrations/Licenses/Certs

- PE, California (#79290)
- PE, Oregon (#16047)
- PE: AK, AZ, CO, HI, ID, IN, MD, NE, NV, OH, PA, SD, WA, WY

Areas of Specialty

- Participation in over 50 projects at dams and 110 fisheries projects (volitional fish passage & fish hatcheries)
- Extensive experience and outstanding reputation as client liaison for high-profile projects
- Led efforts for dam removal and managed mitigation of impacts
- Habitat restoration
- Working relationship with PacifiCorp and other relevant stakeholders
- Technical and management skills from planning through start-up
- Development of and adherence to contract terms and GMP
- History of delivering complex projects on time and within budget
- Dewatering, sediment management, and civil works

Management of Large and Complex Projects & FERC/Multiple Stakeholders- Because of his vast technical experience and his effective management, he has successfully served as Project Manager and Owner's Rep on several large and complex projects where he managed multiple groups, contractors, and stakeholders and delivered projects on schedule and within budget.

Examples: On the $53M *Allison Creek Hydro Project*, he was responsible for all aspects of design, FERC coordination, collaboration with interest groups, self-perform construction, and startup. Despite short construction work windows, extreme Alaskan weather, technically challenging elements, and remote location, his team met all milestones throughout the project and delivered a fully operating facility in November 2016 as scheduled and $10M under the original budget. In 2019, this project received an Engineering Excellence ACEC Award. Additional examples where he has worked closely with clients as a strategic advisor, represented client objectives, and coordinated with FERC and permitting agencies include his collaboration with *Pend Oreille PUD for $106M of FERC-mandated improvements*; *Wallowa Lake Irrigation District* for dam and reservoir rehabilitation where he represented the client to congress for funding; and *Kauai Island Utility Cooperative* for a new pumped storage project that spans across property owned by 3 different organizations, a State Reserve, a State Park, and local highways/roads. He also led the preliminary design and EA for the *Mill Pond Dam Removal* for FERC licensing. Additional examples include managing simultaneous projects for *SEAPA*, *Absaroka Energy*, and the *Monterey County Water Resources Agency*. He also served as the owner's representative for the *Blue Lake Dam Raise* and Reservoir Expansion Project where he provided oversight of the General Contractor. Another example is his *Napa Dry Bypass Project* where he managed more than 23 stakeholders.

Dam Removal/Demolition – Mr. McMillen has worked on several projects that required demolition of large structures (including dams) requiring blasting, massive earthwork, and analysis of sediment impacts. Challenges have included removal of contaminated soils, mitigating the impact to fish, and extraordinary safety precautions, while accommodating the unique issues of demolishing structures dating back to the early 1900s.

Mort McMillen, PE, P.Eng.

Examples: Mr. McMillen is serving as Engineer-of-Record for the removal of the top 12 feet of *Honk Dam* in New York which will require refacing after demolition. As a design-build partner for the removal of the *Elk Creek Dam*, his team finished in 6 months, meeting the in-stream work window requirements to enable fish passage. He provided preliminary design for the removal of the *Mill Pond Dam* with 6 alternatives and options to relocate accumulated sediment, create a stream channel, and restore newly exposed areas. As technical advisor, he assessed sediment impacts of the decommissioning of *Scott & Cape Horne Dams* for the Sonoma County Water Agency. At the *Faraday Repower CM/GC Project*, Mr. McMillen's team completed the demolition of a high-profile powerhouse built in 1919 that is located directly on the river.

Fish Hatchery Projects – Mr. McMillen has participated in over 60 fish hatchery projects and led the feasibility studies, master planning, design development, presentation submittals and coordination with agencies and FERC, and overall execution. Mr. McMillen has been instrumental in the development of new or renovations of fish hatchery facilities which have included adult trapping, holding, spawning, and rearing facilities. Elements have included raceways, circular tanks, access roads, water treatment/re-use (PRAS) systems, incubators, site civil preparations, housing, and administrative buildings. He has worked extensively with Indian Tribes, BPA, USFWS, local stakeholders, and agencies to navigate the complex issues involved with fish hatcheries.

Examples: Yakama Nation and BPA-*Melvin R. Sampson Coho Hatchery D-B Project*, CTUIR & BPA-*Walla Walla Hatchery* D-B, *Spokane Tribal Hatchery*, IDFG-*Springfield Hatchery* D-B, Puget Sound Energy-*Baker Fish Hatchery*, USFWS-*Carson, Hotchkiss, Leavenworth, Quinault, Lyons Ferry Tanks, & Magic Valley Raceway Mods* Fish Hatcheries, Shoshone Bannock Tribe-*Crystal Springs Fish Hatchery*, PacifiCorp-*Speelyai* modifications, and WDFW-*Naselle* Renovations.

Habitat Restoration / Volitional Fish Passage - Due to his focus providing analysis, design, and/or construction on rivers, streams, lakes, and reservoirs, Mr. McMillen fully understands the requirements for integrating the environmental aspects with the design, construction, and operations and has been involved with multiple restoration projects. He has participated in the removal of dams with considerations for impacts to the fish.

Examples: Every civil project has included a measure of environmental controls. In addition, examples where the primary objective of the project was restoration include the *Box Canyon Stream and Habitat Restoration Projects* which encompassed active instream volitional fish passage enhancements for 164 miles of tributaries, *Paradise Creek Restoration Project, Napa Salt Marsh Restoration, Don Edwards National Wildlife Refuge, Kilauea National Wildlife Refuge, Elk Creek Channel rehab, and Swan Cove Restoration Project*. His *Elk Creek Dam* removal created fish passage and he developed alternatives for volitional fish passage on the *Skagit River* near Baker Dam.

Flood Control/Hydraulics/Hydrology - Mr. McMillen started his career with the USACE working as a hydraulic engineer responsible for detailed hydraulic analysis and design of hydraulic structures including river modeling and gravity and pressure flow conduits. Since the establishment of his own firm, he has continued to provide expertise in hydraulics and hydrology for rivers, reservoirs, streams, with a variety of hydraulic structures.

Examples: *Warm Springs Dam Inundation Study, Don Edwards National Wildlife Refuge D-B, American River Flood Study, and 20+ Flood Analysis task orders* for USACE in California, Oregon, Idaho, and Washington.

Heavy Civil (Dewatering, Material Disposal, Roads/Bridges, & Pipelines) – Due to the focus on water resources and dam projects, every project contained some type of civil element—especially roads in remote areas with difficult terrain and earthwork, excavation, and material disposal. Dewatering has included diversion of rivers and streams—both temporary and permanent, control of ground water in construction, and the development of sophisticated cofferdams, piping, and pumping systems. Due to the location, the pipes have been installed using trenchless technology.

Examples: At times, projects have required the diversion on an entire river. That was the case on the *Boise Whitewater Park* where crews diverted the Boise River to enable construction of structures on the riverbed. At the *Long Lake Dam Project,* the scope included dewatering for spillway toe repair and his *Faraday Repower Project* required extensive dewatering of portions of the river via a cofferdam. At his *Esther Simplot Park Project*, crews moved over 400,000 cy of material and discovered contaminated material (~100,000 cy) at depths 30 feet below groundwater. Mr. McMillen's team coordinated with EPA, IDEQ, City of Boise, Ada County, and other agencies very closely during the discovery period and inspection/testing of this material. The property had previously served as a gravel pit and asphalt plant where the pits had been filled with construction debris. Examples of pipeline projects include the *Navajo Gallop Water Pipeline, JC Boyle elevated piping, Sullivan Dam Cold Water Release System, Solomon Gulch Water Supply Upgrade*, and two projects that required trenchless technology (*Post Falls Outlet and Pasco/Columbia River Outlet*).

Josh Gerard

Field Construction Manager/Inspector

Josh Gerard brings more than 23 years of international hydropower and dams' construction and design project knowledge. Josh has experience being the liaise with all the project participants; including EPC contractors, Owners, Lenders, Dam Safety Panel, DAB and engineering and construction staff. His background also consists of working and living in remote and difficult international environments.

He has served as the senior Construction Engineer for the Olmsted Dam Project, a $830 Million construction project, where he communicated daily with the owner to resolve operations, design, and contractual issues. He also monitored change orders, NCRs, and design revisions. On the Bujagali Hydroelectric Project on the Nile River in Uganda, East Africa, he served as the Resident Engineer for Owner of this $900 Million EPC Contract. He led the onsite constructability design review of contractors change orders and engineering designs when they conflicted with the EPC contractor and owner. Josh coordinated social and environmental programs, including compensation programs for project affected persons, social/environmental plan monitoring, and community status meetings and reports.

Josh brings a strong work ethic with a proven track record of completed projects. His field construction experience coupled with his engineering background allow him to provide valuable input at all stages of a project.

Education

- MS, Construction Management, Ira Fulton School of Engineering, Arizona State University (2004)
- BS, Business Management, Miami University, Oxford, OH (1996)

Years of Experience

- 23 years

Affiliations & Organizations

- American Society of Civil Engineers (ASCE)
  United States Society on Dams (USSD)

Areas of Specialty

- Hydropower, dams and heavy civil design and construction projects
- Construction Management
- Project Management
- Construction administration services
- Expertise on EPC, Owners Representative, Construction Management, Engineer of Record
- Environmental Programs

Registrations/Licenses/Certs

OSHA 8 and 10 Hour
Safety Trained Supervisor Certificate 2005
USCG Boasters License
CPR/First Aid Certified
Competent Person-Excavation Certificate

Josh Gerard

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Technical Management	Site Management	Environmental/Permitting	Design/Design Review	Program Coordination	Dams/Hydropower	Complex/Multifaced
Volobe Hydroelectric Project, Madagascar - Technical Director/Construction Manager*. ($500M; 2019)	●	●	●	●	●	●	●
Adjaristsqali Hydroelectric Project, Republic of Georgia, Eastern Europe - Project Director*. ($500M; 2014-2018)	●	●	●	●	●	●	●
Amaila Falls Hydroelectric Project, Guyana, South America - Deputy Construction Manager for Owner*. ($680M EPC contract; 2013-2014)	●	●	●	●	●	●	●
Bujagali Hydroelectric Project, Nile River, Uganda, East Africa - Resident Engineer for Owner. ($900M EPC contract; 2008-2012)	●		●	●	●	●	●
Olmsted Dam Project, Ohio River, OH - Senior Construction Engineer for Contractor*.	●	●		●	●	●	●
San Roque Hydroelectric Project, Philippines - Assistant Business Manager for Contractor ($750M EPC contract; 2000-2002)	●	●			●	●	●
Virgin Island Department of Education-Hurricane Recovery Project, St. Croix, US Virgin Islands – Construction/Project Manager($125M; 2018-2019)	●	●			●		●

Education

- BS, Construction Management, University of Nebraska, Lincoln, (2005)

Years of Experience

- 19 years in Heavy Civil Construction
- 11 years Managing Construction

Registrations/Licenses/Certs

- OSHA 30, 10
- Fall protection
- Rigging
- First aid & CPR

Areas of Specialty

- Hydro improvement projects
- Design-Build & CM/GC Contracts
- Heavy civil projects
- Working near and over water
- Working in tight workspaces
- Performing construction during existing operations
- Managing multiple types of crew members and subcontractors
- Installing mechanical equipment
- Demolition
- Flood control projects
- Transportation projects
- Marine projects
- Work in restricted areas requiring a high level of security
- Massive concrete placement (over 540k cy)

Dave Holt

Project Controls and Administrative Lead

Dave Holt has 19 years of heavy civil construction experience and more than 11 years' experience managing large-scale heavy civil construction operations from $10M to $1.4B. Currently, he serves as McMillen Jacobs' Construction Operations Manager responsible for the management of day-to-day Construction Operations and oversees the Project Management team. He works closely with our on-site construction personnel to ensure the delivery of our core objectives of safety, quality, schedule, and equipment utilization.

When serving as a Project Manager or Construction Manager, he has earned a strong reputation for delivering projects safely, within budget and on time. Responsibilities include managing and updating daily and weekly schedules, tracking cost, and effectively resolving and communicating any field-related issues to project owners.

He has managed work on some of the most prestigious projects constructed in North America, including the Gulf Intracoastal Waterway West (GIWW) Closure Complex for the U.S. Army Corps of Engineers (USACE) in Louisiana after Hurricane Katrina. He has also managed the construction of hydropower improvement projects, a pumping plant retrofit, waste water systems, supporting infrastructure at national parks, transportation projects, a variety of flood control projects, and heavy civil construction projects. Mr. Holt has also worked on projects requiring a security clearance for such clients as DOD, DOE, and the Port Allen Authority.

Work History

McMillen Jacobs, Various Locations (2018-Current)
Kiewit, Various Locations (2005-2017)
Kueger Development, Civil and Heavy Construction (2000-2005)

Awards

Award and certification of appreciation, September 2011, USACE, for milestone achievement on the Gulf Intracoastal Waterway West Closure Complex, Belle Chasse, LA

Dave Holt

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Project Controls	GMP	Change Orders	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Sacramento Municipal Utility District (SMUD); South Fork Powerhouse and Boating Flow Release Facility (BFRF), aka Slab Creek Design-Build Project, Sacramento, CA – Construction Manager. ($14.2M; 06/2016 – 10/2019)	●	●	●	●		●	●	
ENEL Green Power; Dietrich Drop Hydro Power Facility (Intake Gate Replacement and Miscellaneous Repairs), ID – Onsite Construction Manager. (Intake Gate: $135k; Miscellaneous Repairs $55k; 10/2018 – Ongoing)	●	●	●	●		●		
ENEL Green Power; Dietrich Drop Emergency Bypass Tainter Gate Replacement, Dietrich, ID – Construction Manager. ($414k; 08/2017 — 09/2017)	●	●	●	●				
USACE; John Martin Reservoir (Stilling Basin Sediment Removal and Dewatering Project), CO – Construction Manager. ($4.8M; 10/2018 – 05/2019)	●	●	●	●		●	●	●
Avista Utilities; Nine Mile Dam Cooling Water System Design Build, Spokane County, WA – Construction Manager. ($1.1M; 2018)	●	●	●	●		●	●	
Metropolitan Water District of Southern California; Colorado River Aqueduct Pumping Plants Seismic Retrofit Project, CA – Project Manager. ($9M; 01/2018 – 08/2018)	●	●	●	●		●	●	
Yakama Nation and BPA; Melvin R. Sampson Coho Hatchery EPC Project, Ellensburg, WA – Construction Manager. ($1.6M Design/$16.7M Construction; 09/2018-est. 06/2020)	●	●	●	●	●	●	●	●
USACE; Gulf Intracoastal Waterway West Closure Complex, Belle Chasse, LA, - Superintendent. ($1.07B; ECI contract 06/2009 – 12/2010)	●	●	●	●		●	●	
USACE; Empire Flood Gate, Empire, LA - Project Manager. (11/2013 and 08/2014 – 09/2015)	●	●	●	●		●	●	

Paul Richards, PE, GE

Engineering Support Lead

Licensed Civil and Geotechnical engineer with 21 years of experience working on water resources, locks and dams, and hydroelectric projects. Leads designs during the design phase, serving as the lead geotechnical engineer, and delivering a variety of engineering services on site during construction and startup and commissioning. Supports bid packages for contractors, permitting, and instrumentation. Additional responsibilities include site exploration, computer modeling, project scoping, and cost estimates, review and preparation of plans and specifications, and project management.

Provided evaluations ranging from emergency repairs of critical structures, geologic hazards, seismic and liquefaction remediation, soil and rock slope stability, seepage, grouting, deep and shallow foundations, permitting, and instrumentation. Extensive experience with foundation evaluation of wet infrastructure projects including work on the Big Tujunga Dam, Asana Barrier, Susitna-Watana Hydroelectric Project, Panama Canal, and Stetson Creek Diversion Dam.

Considerable experience with cofferdams including review of structures used on the Panama Canal Third Set of Locks, Cooper Lake Outlet and Stetson Creek Diversion, and Big Tujunga dam, as well as work on the preliminary cofferdam design the Susitna-Watana Hydroelectric Project.

Education

- MS, Geological
  University of Idaho (2001)
- BS, Geology
  Washington State University (1998)

Years of Experience

- 21 years

Registrations/Licenses/Certs

- GE: OR
- PE: AK, OR, WA

Areas of Specialty

- Geotechnical Engineering
- Geological Engineering
- Led multi-discipline design teams as Project Manager
- Provided engineering support during construction
- Slope stability analysis
- Mining projects
- Lock and dam projects
- Emergency repairs with accelerated schedule
- Tunnels
- Geological analysis on the feasibility of dams up to 700 feet high; and geotechnical assessment for embankment dams up to 350 feet high
- Concrete dams and earthen embankments
- FERC requirements

Work History

McMillen Jacobs, Geotechnical Engineer (11/2018- Current)
MWH (Now Stantec), Associate Geotechnical Engineer (2007-2018)
AMEC Earth & Environmental, Geotechnical Engineer (2005-2007)
GeoDesign, Geotechnical Engineering Staff (2001-2005)
Kleinfelder, Temporary Field Engineer (1999-2000)
University of Idaho, Research Assistant (1998-2001)

Registrations/Licenses/Certifications

GE, Oregon (#77336)
PE, Alaska (#13635)
PE, Oregon (#77336)
PE, Washington (#46738)

Paul D. Richards, PE, GE

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Engineering Support Lead	Design Lead	Construction Liaison	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Gridflex; Badger Pumped Storage Project, WA – Geotechnical Engineering Lead. ($600M total installed cost; (08/ 2019 – Ongoing)	●	●	●	●		●	●	●
USFWS Lyons Ferry Fish Hatchery, New Rearing Ponds, Architect-Engineer (A-E) Design and Construction Management Services, WA- Geotechnical Engineer. ($249k; 08/2018-09/2019)	●	●	●	●	●	●		●
Farmers Conservation Alliance (FCA) (owned by BUREC); Derby Dam Horizontal Fish Screen Design and Construction Support, NV – Geotechnical Lead. ($435k; 2019-Ongoing)	●	●	●	●	●		●	●
Northern Colorado Water Conservation District; Chimney Hollow Reservoir, Loveland, CO - Geotechnical Engineer and Portal Technical Lead. ($570M; 2018)	●	●	●	●		●	●	●
BC Hydro; Ruskin Dam Left Abutment Slope Stability, Mission, BC – Civil Engineer. ($748M; 2009 – 2016)	●	●	●	●		●	●	●
Chugach Electric; Stetson Creek Diversion and Cooper Lake Dam Bypass Project Alternatives Analysis and Design, Cooper Landing, AK - Geotechnical Engineer-of-Record, Design/Technical Lead. ($22.2M; 2010 - 2015)	●	●	●	●	●	●	●	●
Grant County PUD; Wanapum Dam Monolith No. 4 Repair, Vantage, WA – Geotechnical Engineer and Resident Field Engineer, and Design Lead During Construction. ($61M; 2015)	●	●	●	●		●	●	●
LA County Department of Public Works; Big Tujunga Dam Seismic Rehabilitation and Spillway Improvement Project, Tujunga, CA – Lead Geotechnical Engineer and On-Site Managing. ($80M; 2008 - 2011)	●	●	●	●		●	●	●
CA Coastal Conservancy; San Clemente Dam Removal and Carmel River Re-route Project, Carmel, CA - Geotechnical Engineer. ($30M; 2008)	●	●	●	●		●	●	●

Greg Allington

Regulatory, FERC, & Environmental Lead

Over 14 years of experience as a biologist specializing in natural resource permitting with local, state, and federal agencies. Unique expertise in offering support during the design phase but also in monitoring compliance during construction. Manages complex issues involving complicated engineering components in sensitive areas, preparing technical permit documents, and developing mitigation plans. Specializes in agency coordination and negotiation during the permitting process, as well as implementation and oversight of permit regulations during construction.

The Natural Resources Conservation Service (NRCS) contracted McMillen Jacobs to complete NEPA analysis for various projects located throughout Utah. Mr. Allington has worked on NRCS projects which focused on modifying dams to meet current NRCS and Utah State Dam Safety regulations and engineering standards as well as fixing damage to structures from extreme flood events. McMillen Jacobs has or is currently leading the preparation of Environmental Assessments (EAs) and an Environmental Impact Statement (EIS) for NRCS to address and analyze environmental impacts from the projects. The NEPA process includes public involvement, public meetings, environmental analysis, and the documentation of alternatives development. Endangered Species Act (ESA) listed species were documented to occur within many of the project areas and McMillen Jacobs is assisting NRCS consultation with the USFWS for potential impacts. McMillen Jacobs is the project lead with assistance from NRCS and the local project sponsors.

Education

BS, Wildlife Ecology, Washington State University (2004)

Years of Experience

14 years

Areas of Specialty

- National Environmental Policy Act
- Aquatic Resource Permitting
- Compliance with regulations and environmental standards during construction
- Development and implementation of environmental plans
- USACE Section 10 and 404 permitting
- NOAA/USFWS Section 7 Endangered Species Act (ESA) consultation-BA/BE and BO preparation
- Habitat assessments and management plans
- Wildlife surveys
- Preparation and implementation of monitoring plans
- Erosion control and stormwater management
- Construction environmental compliance
- Monitoring plans during construction for environmental compliance and permits

Work History

McMillen Jacobs Associates, Environmental Permitting (2008-now)
GeoEngineers, Staff Biologist (2005-2008)

Registrations/Licenses/Certifications

38-Hour USACE Wetland Delineation and Management Training Program

USACE Wetland Delineation Arid West Supplement Training

Western WA Wetland Rating System Training

40-Hour OSHA Health & Safety Certification (29 CFR 1910.120)

Washington State Certified Erosion & Sediment Control Lead

Greg Allington

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Regulatory Team Lead	Permitting Lead	Field Inspection Lead	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Kauai Island Utility Cooperative (KIUC); Pu'u Opae Energy Pumped Storage EPC Project (25 MW), Kauai, HI – Environmental/Permitting Lead. ($125M; 10/2018 - 02/2020)	●	●	●	●		●		
Yakama Nation and BPA; Melvin R. Sampson Coho Hatchery EPC Project, Ellensburg, WA – Permitting Lead. ($15.8M; 02/2016 - 10/2019)	●	●	●	●	●	●		●
Shoshone-Bannock Tribes; Crystal Springs Hatchery, Springfield, ID – Environmental. (2012-2014)	●	●	●	●	●	●		
Idaho Department of Fish & Game (IDFG); Redfish Lake Creek Collection Facility Design-Build, Stanley, ID – Permitting Support ($2M; 12/2016 – 10/2017)	●	●	●	●	●	●		
Idaho Department of Fish and Game (IDFG); Springfield Fish Hatchery, Springfield, ID – Permitting Support. ($14.6M; 2011 – 2013)	●	●	●	●	●	●		
PacifiCorp; Yale Dam Powerhouse Intake Bull Trout Entrainment Reduction Net, Clark County, WA – Environmental Permitting. (2011)	●	●	●	●	●	●	●	
Avista Utilities; Nine Mile Dam Sediment Bypass System, Spokane County, WA – Environmental Permitting Compliance. ($8.3M; 12/2016 – 2017)	●	●	●	●		●	●	
USACE; Napa Salt Pond Restoration Ponds 6, 6A, 7, and 7A, Napa County, CA – Environmental Permitting. (2014-2015)	●	●	●	●		●	●	●

Curtis Neibaur, LEED AP

Project Controls / Cost Estimating

14 years of construction experience including nine years of estimating and scheduling of heavy civil construction work in the hydroelectric, dams, fisheries, and water resources markets.

Due to the combined experience of his current role as McMillen Jacobs' lead construction Cost Estimator, as well as previously serving as an on-site Project Manager for various civil works projects, he brings a unique understanding of construction costs, work sequencing, and realistic scheduling to projects. This has resulted in accurate cost estimates that are well thought out, reliable, and constructible. An outstanding example of his accuracy in estimating is the Springfield Fish Hatchery where it was constructed for $13.7M—within the GMP budget that was established over 2 years prior.

Responsible for all aspects of preconstruction services and construction cost estimating for McMillen Jacobs and manages our estimating team during competitive bidding for proposals using a variety of contract methods such as construction only contracts, design-build, EPC, and CMGC delivery methods. Performs comparisons of scope to past projects, quantities and cost data between historical and active projects, which further refine McMillen Jacobs' historical cost libraries to help produce future estimates with greater accuracy. Maintains long-standing relationships with subcontractors and negotiates with suppliers to provide the best value to our clients.

Supports our design teams by providing construction cost estimates of our design packages. Helpful with collaborative efforts in value engineering studies and analyzing the cost/benefit of design alternatives. He provides suggestions related to cost effectiveness, constructability, operability, and alternative materials and approaches to determine the overall best value for clients.

Education

- BS, Construction Management, Boise State University (2008)

Years of Experience

- 14 years in construction
- 9 years as cost estimator

Registrations/Licenses/Certs

- LEED Accredited Professional (Legacy)
- AIC Associated Constructor – Level 1 Certification

Areas of Specialty

- Design-Build, EPC, and CM/GC delivery method
- GMP approach
- Construction Management
- Site access and layout logistics
- Major earthwork operations
- Structural concrete construction
- Heavy equipment selection
- Drilling and blasting
- Piling and Foundation Support
- Estimates for complex hydro projects over $125M in value
- Drainage systems
- Flood prevention
- Storm water systems
- Gate structures

Work History

McMillen Jacobs Associates, Cost Estimator (2010 – Current)
M.A. Mortenson Construction, Field Engineer (2008-2010)
Washington Group, Project Management Intern (2007-2008)
DRP Construction, Project Engineer Intern (2007)
Dilgard Construction, Residential Framer (2005-2006)

Curtis Neibaur, LEED AP

Relevant Experience

PROJECT INFORMATION **(Client, Project Title and Location, Role, Value, Contract Period)**	Project Controls	Cost Estimating	GMP Negotiation Support	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Yakama Nation and BPA; Melvin R. Sampson Coho Hatchery EPC Project, Ellensburg, WA – Cost Estimating Lead. ($15.8M; 02/2016 - 10/2019)	●	●	●	●	●	●		●
Avista Utilities; Nine Mile Dam Sediment Bypass System, Spokane County, WA – Cost Estimating Lead. ($8.3M; 12/2016 – 2017)	●	●	●	●		●	●	
Idaho Department of Fish & Game (IDFG); Redfish Lake Creek Collection Facility Design-Build, Stanley, ID – Cost Estimating Lead ($2M; 12/2016 – 10/2017)	●	●	●	●	●	●		
Idaho Department of Fish and Game (IDFG); Springfield Fish Hatchery, Springfield, ID – Cost Estimating Lead. ($14.6M; 2011 – 2013)	●	●	●	●	●	●		
Sacramento Municipal Utility District (SMUD); South Fork Powerhouse and Boating Flow Release Facility (BFRF), aka Slab Creek Design-Build Project, Sacramento, CA – Cost Estimating Lead. ($14.2M; 06/2016 – 10/2019)	●	●	●	●		●	●	
Avista Utilities; Nine Mile Dam Cooling Water System Design Build, Spokane County, WA – Cost Estimating Lead. ($1.1M; 2018)	●	●	●	●		●	●	
USACE; Napa Salt Pond Restoration Ponds 6, 6A, 7, and 7A, Napa County, CA – Cost Estimating Lead. ($16.8M; 2014-2015)	●	●	●	●		●	●	●
BC Hydro; Site C Clean Energy Project, Upstream Trap and Haul Fish Passage Design, BC, Canada – Cost Estimating Lead. ($20M CAD est.; 2013 - 2019)	●	●	●	●	●	●		

Years of Experience

- 26 years

Areas of Specialty

- Development, Implementation, and Monitoring of QA/QC Programs
- Constructability Reviews and Value Engineering
- CM/GC, D-B, & DB&O Contracts
- Demolition & Dewatering
- Civil, Structural, Architectural and Earthworks
- Mechanical, Electrical and Process
- Utility Relocation
- Systems Controls
- Piping
- Startup and Commissioning and FAT

J'hon-Paul Fronatt

Quality Assurance/Quality Control (QA/QC)

26 years of experience and specializing in developing, implementing, and monitoring QA/QC programs on complex construction projects. Serves as the client's representative, resident project representative, QA/QC manager, construction manager, project manager, and superintendent for general contractors as well as directly for clients. Experience includes construction of power plants and environmental remediation. Challenges on construction projects have included constructing at facilities during active operations while maintaining regulatory compliances and structural integrities of adjacent facilities; working with underground utilities including water, sewer, sludge, gas, electric, communications, crude oils and jet fuels; demolition in tight workspaces; and extensive dewatering.

Work History

McMillen Jacobs Associates, QC/Project Manager (2018-now)
Kennedy Jenks, Sr. Construction Manager (2015-2018)
West Valley Construction, Project Manager (2014-2015)
CH2M Hill Inc, Construction Manager (2002-2014)

Registrations/Licenses/Certs

40-Hour Hazardous Waste Certification
Asbestos Awareness and Waste Management
Behavior Based Loss Prevention Systems (BBLPS) Safety
Certified Fork Truck Operator
Certified Forklift Operator
Confined Space Supervisor Certification
CPR and First Aid /AED Training
Liability IQ for Architects and Engineering
National Association of Corrosion Engineers Certification (CP-1)
NFPA 70E Risk Cat 2 Qualified Person (electrical safety)
Safety Coordinator Construction and Hazardous Waste
Site Safety Trainer Supervisor

J'hon-Paul Fronatt

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	QA/QC Plans	Independent/Field Testing	QA/QC Program Lead	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
County of Hawaii, Department of Environmental Management Wastewater Division, Hilo WWTP Outfall Repair, Hilo, HI - Senior Construction Manager. (11/2015-05/2016)	●	●	●	●		●		●
City of Oklahoma City; (PAST05) Lake Hefner Water Treatment Plant Expansion, Oklahoma City, OK – QA/QC Lead / Resident Client Representative / Construction Manager. (02/2011 – 10/2012)	●	●	●	●		●		
Alderwood Water and Wastewater District; Picnic Point Wastewater Treatment Facility, Edmonds, WA - Project Consultant. (10/2009 - 05/2010)	●	●	●	●		●		
City of Fort Wayne; Wastewater Pollution Control Plant Dechlorination Facilities Improvements, Fort Wayne, IN - Construction Manager/Project Representative. (02/2006 - 08/2007)	●	●	●	●		●		
Buncombe County Soil and Water Department; Site Remediation and Restoration Project, North Western Buncombe County, NC - Project Consultant*. ($2.3M; 08/2005 - 12/2005)	●	●	●	●		●	●	●

Cory Warnock

FERC Support

Education

- BS, Biological Studies, University of Idaho, Moscow

Years of Experience

- 19 years

Registrations/Licenses/Certs

- Certified Instream Flow Assessment Training
- Certified Hydroacoustic Sampling and Analysis Training
- Certified Electrofishing Training

Affiliations & Organizations

- American Fisheries Society

Areas of Specialty

- Licensing and Natural Resource Project Management
- Licensing/Relicensing and Compliance
- FERC Regulatory Process and Permitting
- Meeting Facilitation
- Natural Resource Study Program Development and Implementation
- Fisheries Resource Consultant

Over 19 years of experience and leads the Regulatory, Licensing, and Environmental Services Group at McMillen Jacobs. He specializes in FERC licensing, relicensing, and natural resource study program development and implementation. Provides clients with strategic and technical support related to all aspects of hydro licensing and compliance and has extensive experience collaborating with and presenting to federal and state agencies.

Provides clients with strategic and technical support in licensing and permitting and has extensive experience collaborating with and presenting to federal and state agencies. Extensive experience developing comprehensive study programs for hydroelectric licensing's and relicensing's designed to define existing conditions and potential impacts associated with fish/aquatics, water resources, terrestrial, cultural and recreation and visual resources. Regularly coordinates and collaboratively manages the technical leads associated with the resource areas from initial strategic and study planning phases through logistical preparation, in-field data collection, analysis, report development and incorporation into the fundamental licensing documents.

His fisheries background lends itself to firm understanding of the aquatic assessments that typically come to the forefront when dealing with hydroelectric study programs. Experience with fish behavior impacts related to hydroelectric facilities and possesses experience in native salmonid habitat suitability evaluations and preference curve development, instream flow studies, anadromous and resident salmonid presence and abundance evaluations.

Work History

McMillen Jacobs Associates, Senior Licensing/Regulatory Consultant (01/2013 - Current)
Devine Tarbell & Associates, Fisheries/Instream Flow Biologist (2005 - 2013)
Chelan County's Wenatchee, Fisheries Resources Consultant (2005 - 2007)
Douglas County Public Utility District, Aquatic Resource Consultant (2005-2007)

Cory Warnock

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	FERC Coordination	FERC Approvals	FERC Submittals	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Borough of Petersburg; Blind Slough Hydro Project Upgrades, Petersburg, AK – FERC Support. ($159k (study) and $547k (design) 2017 – Ongoing; est. completion 06/2020)	●	●	●	●		●	●	
Kenai Hydro; Grant Lake Project, Kenai Peninsula, AK – Licensing and Natural Resources Project Manager. ($4.5M; 04/2013 – Ongoing)	●	●	●	●	●			●
Energy Northwest; Packwood Hydroelectric Project Relicensing Compliance and Implementation, WA – Project Manager, Natural Resources Study Lead, and Fisheries Resource Technician. ($7M; 04/2013 – Ongoing)	●	●	●	●		●		●
Nushagak Cooperative; Nuyakuk Falls Project, Dillingham, AK – Licensing and Natural Resources Project Manager ($300k; 06/2018 – Ongoing)	●	●	●	●	●	●		●
Alaska Electric Light and Power; Salmon Creek and Annex Creek Project (Relicensing Study Development and Coordination), Juneau, AK – Natural Resources Study Program Lead. ($477k; 01/2013 – 02/2016)	●	●	●	●	●	●	●	
Southeast Alaska Power Agency; Swan Lake Pool Raise, FERC License Amendment and Associated Natural Resource Studies, Ketchikan, AK – Natural Resource Studies Lead. ($375k; 11/2013 – Ongoing)	●	●	●	●		●		●
Avista Utilities; Spokane River Project (Implementation Team), Spokane, WA – Aquatic Resource Consultant. ($75k; 03/2010 – 05/2010)	●	●	●	●		●		●
Pend Oreille Public Utility District; Box Canyon Hydroelectric Project, Compliance Study Development and Implementation, Newport, WA – Fisheries Resource Technician. ($2M; 2013 –Ongoing).	●	●	●	●	●	●		

Paul Rader, PE

Project Controls / Scheduler

Professional Engineer and Construction Scheduler with more than 14 years of construction experience, having noted successes in Critical Path Method Scheduling for design-build, EPC, and Design-Bid-Build contracts. Broad base of experience in project management (CPM scheduling, forecasting costs, quantity tracking, estimating, progress reporting), engineering (plan review, conceptual design, consultant management), and agency coordination (USACE, FHWA, DOT, various state, local, municipal and metro agencies). Participates in collaborative efforts during planning phases to identify impacts to the schedule and provides updates during construction and startup. Scheduling tasks include very complex construction projects up to three years in length with over 2,700 activities. Cost estimator for heavy-civil, hydropower, navigable dam, structural steel, and bridge projects.

Education

- BSE, Construction Engineering
- Western Michigan University (2006)

Years of Experience

- 12 years

Registrations/Licenses/Certs

- PE: WA
- Safety Trained Supervisor (STS-C)
- OSHA 10 Hour Construction
- Certified Erosion Prevention and Sediment Control Inspector (CEPSCI), South Carolina

Areas of Specialty

- Heavy civil
- Scheduling of complex construction projects with up to 2700 activities and 3-year duration
- Unique skillset due to work in engineering and construction
- Participated in pre-construction phase
- Project Management
- Design-Build cost plus reimbursable, hard bid/fixed price, unit price

Work History

McMillen Jacobs, Construction Estimator
(2017-Current)
PCL Civil Constructors, Project Engineer / Design Build Coordinator
(2012-2017)
URS Energy and Construction, Construction Engineer
(2007-2012)
Administrative Controls Management, Scheduler / Estimator
(2006-2007)
Michigan Department of Transportation, Construction Technician
(2004-2005)

Awards

2015 Alliant Build America Merit Award (AGC) - SR520 Project Team
Top 10 Roads for 2015 - #7 - Roads and Bridges Magazine - SR520 Project Team

Paul Rader, PE

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Develop Project Schedule	Review Project Schedule	Update Project Schedule	Permitting	Hatcheries	Water Lines	Dams	Habitat Restoration
Gridflex; Badger Pumped Storage Project, WA – Cost Estimator and Project Scheduler. ($600M total installed cost; (08/ 2019 – Ongoing)	●	●	●	●		●	●	●
USFWS Lyons Ferry Fish Hatchery, New Rearing Ponds, Architect-Engineer (A-E) Design and Construction Management Services, WA- Cost Estimator and Project Scheduler. ($249k; 08/2018-09/2019)	●	●	●	●	●	●		●
Portland General Electric; Faraday Repower Project, Estacada, OR Cost Estimator and Project Scheduler. ($60M; 12/2018 – Ongoing)	●	●	●	●		●		
Kauai Island Utility Cooperative (KIUC); Pu'u Opae Energy Pumped Storage EPC Project (25 MW), Kauai, HI – Cost Estimator and Project Scheduler. ($125M; 10/2018 - 02/2020)	●	●	●	●		●		
Sacramento Municipal Utility District (SMUD); South Fork Powerhouse and Boating Flow Release Facility (BFRF), aka Slab Creek Design-Build Project, Sacramento, CA – Cost Estimator and Project Scheduler. ($14.2M; 06/2016 – 10/2019)	●	●	●	●		●	●	
ENEL Green Power; Dietrich Drop Emergency Bypass Tainter Gate Replacement, Dietrich, ID – Cost Estimator and Project Scheduler. ($414k; 08/2017 — 09/2017)	●	●	●	●				
Avista Utilities; Nine Mile Dam Cooling Water System Design Build, Spokane County, WA – Cost Estimator and Project Scheduler. ($1.1M; 2018)	●	●	●	●		●	●	
Yakama Nation and BPA; Melvin R. Sampson Coho Hatchery EPC Project, Ellensburg, WA – Cost Estimator and Project Scheduler. ($1.6M Design/$16.7M Construction; 09/2018- est. 06/2020)	●	●	●	●	●	●	●	●

William (Bill) Mitchell

Corporate Health & Safety Director

Bill Mitchell is a hands-on safety professional with 12 years of experience in the safety and health management, emergency management services, and safety prevention programs on construction projects. With a record of success overseeing and managing the safety of crews of up to 500 at one time, he brings experience in dam, water resources, highway/bridge and rail improvements, hazardous waste abatements, and a variety of other heavy civil construction /demolition projects. Much of his experience has included large and complex bridge construction—many of which were across water and in densely populated urban areas such as San Diego. His safety plans have included precautions and proactive tasks to protect workers while working over water or at heights, in confined spaces (tunnels, excavated areas, or large-diameter pipe), and at an operating facility.

He has the proven ability to design, direct, and implement effective safety programs resulting in a consistently low EMR rate for his projects. He has the demonstrated experience in monitoring facilities and processes for adherence to OSHA and CAL OSHA, and EM 385 guidelines by overseeing compliance, inspections, and recommending corrective measures.

Education

- MA, Business and Human Resource Management, National University, San Diego, CA
- BA, Business Administration

Years of Experience

12 years

Registrations/Licenses/Certs

- OSHA Trainer
- OSHA 500, 502, 510, and OSHA 29 CFR 1910 General Industry
- CPR Instructor and Certified
- EM 385 Certified
- Hazardous Materials GHS
- HAZWOPER 40
- Construction Safety Management
- Crane Safety
- OSHA Scaffold Training
- Trench and Excavation Safety
- Fall Prevention and Protection
- Rigging Principles and Load Control
- Forklift Training
- Confined Spaces
- Mining and Tunneling
- MUTCD Traffic Control
- NFPA 70E

Work History

McMillen Jacobs Associates, Intern (06/2018-Current)
Geo Tek, LLC, Field Technician (Summer 2015/2016/2017)
BCR Land Service, Laborer (06/2014-09/2014)

William (Bill) Mitchell

Relevant Experience

PROJECT INFORMATION (Client, Project Title and Location, Role, Value, Contract Period)	Health & Safety Implementation	Review Safety Programs / Job Specific Plans	Hatcheries	Water Lines / Pipelines	Dams / Heavy Civil	Habitat Restoration
Portland General Electric; Faraday Repower Project, Clackamas River, OR – Health and Safety (12/2018 – Ongoing)	●	●		●	●	●
USACE Albuquerque District; John Martin Reservoir (Stilling Basin Sediment Removal and Dewatering Project), CO –Health & Safety (10/2018 – 05/2019)	●	●		●	●	●
Yakama Nation and BPA; Melvin R. Sampson Coho Hatchery EPC/Design-Build Project, Ellensburg, WA – Safety Director (09/2018 – Ongoing)	●	●	●	●		●
Metropolitan Water District of Southern California (MWD); Colorado River Aqueduct Pumping Plants Seismic Retrofit Project, San Bernardino, CA – Safety Director (12/2016 – 08/2018)	●	●		●	●	
California Department of Transportation; I-15 Corridor Managed Lanes Projects, San Diego, CA – Safety Manager ($200M; 2006-2012)	●	●		●	●	●
San Francisco Public Utilities Commission; Mountain Tunnel Inspection and Rehabilitation, CA – Corporate Safety (2016 - 2017)	●	●		●	●	

ATTACHMENT F

February 24, 2020

Mr. David E. Capka, P.E.
Director
Division of Dam Safety and Inspection
Federal Energy Regulatory Commission
Office of Energy Projects
Division of Dam Safety and Inspections – Headquarters Office
888 First St, N.E.
Washington, D.C. 20426

Subject: **Klamath Project No. 2082 and the Lower Klamath Project No. 14803**
Progressive Design Builder Letter of Assurance

Dear Mr. Capka:

Kiewit Infrastructure West Co. (Kiewit) was retained by the Klamath River Renewal Corporation (KRRC) to serve as Progressive Design Builder for the Klamath River Renewal Project (Project). In this role, Kiewit is responsible for designing and constructing all dam removal and infrastructure related aspects of the project.

Since joining the KRRC team in April 2019, Kiewit and our Engineer of Record, Knight Piesold, have conducted site investigations, advanced design criteria, completed a 60% level design package, and provided a Guaranteed Maximum Price (GMP) proposal to KRRC. Our covered project work within this GMP includes infrastructure improvements, project access, decommissioning the dams, managing of river flow through the project site, and providing for a volitional fish channel through the dam footprints.

Based on the preconstruction planning, design, constructability reviews, regulatory agency coordination, and field investigations completed to date, we have established a GMP that is complete and consistent with industry standard practices and matching of Kiewit's estimating and approach to other similarly complex projects. As such, we believe the GMP is sufficient to complete the scope above from both a cost and schedule standpoint.

This Klamath River Renewal Project is very similar to many other complex, resource intensive, water projects Kiewit has successfully undertaken, including:

- Oroville Dam Spillway Emergency Repair Project, Department of Water Resources, $675 Million
- Crane Valley Dam, Pacific Gas and Electric Company, $63 Million
- Folsom Dam Spillway and Gates, Phases II/IV, U.S.Bureau of Reclamation / U.S. Army Corps of Engineers, $354 Million

Additionally, Kiewit is well versed and confident of our performance under the GMP contracting model, reflected in the many successful projects Kiewit has completed, including:

- SR 58 Kramer Junction, Caltrans, $165 Million
- Northern Rail Extension, Alaska Railroad Corporation, $153 Million
- San Diego Airport Landside Improvements, San Diego Airport Authority, $227 Million
- US 34 Big Thompson, Colorado Department of Transportation, $196 Million

Based on our successful preconstruction and design period to date, Kiewit's history and expertise in completing complex dam related projects and our experience and positive results utilizing the GMP contracting model, we are confident that the GMP we've provided can achieve the project goals and be completed within budget and on time.

If you have any questions or need additional information, please do not hesitate to contact me at (360) 693-1478.

Sincerely,

Jamie D. Wisenbaker.
Senior Vice-President

cc: Mark Bransom, CEO KRRC
Laura Hazlett, COO and CFO KRRC

Execution Version

CONTRACT AMENDMENT NO. 3
TO THE
PROJECT AGREEMENT
FOR
DESIGN, CONSTRUCTION, DEMOLITION AND HABITAT RESTORATION SERVICES
IN CONNECTION WITH
THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS

THIS CONTRACT AMENDMENT NO. 3 TO THE PROJECT AGREEMENT FOR DESIGN, CONSTRUCTION, DEMOLITION AND HABITAT RESTORATION SERVICES IN CONNECTION WITH THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS ("**Contract Amendment No. 3**") is entered into as of February 24, 2020, between the Klamath River Renewal Corporation (the "**KRRC**"), and Kiewit Infrastructure West Co., a corporation organized and existing under the laws of the State of Delaware and authorized to do business in the State of California and the State of Oregon (the "**Project Company**").

RECITALS

WHEREAS, the KRRC and the Project Company executed the Project Agreement for Design, Construction, Demolition and Habitat Restoration Services in Connection with the Removal of the Lower Klamath River Dams, on April 24, 2019 (the "**Project Agreement**");

WHEREAS, the KRRC and the Project Company executed Contract Amendment No. 1 to the Project Agreement on September 18, 2019, and Contract Amendment No. 2 to the Project Agreement on January 13, 2020, to account for certain changes to the Preliminary Services work scope and Preliminary Services Fee;

WHEREAS, following the receipt of a notice to proceed from the KRRC on each respective date, the Project Company began work on the 30% design immediately following the Contract Date on April 24, 2019 and the Project Company began work on the 60% design on June 24, 2019;

WHEREAS, the Project Company and the KRRC have worked together to refine the draft terms and conditions of KRRC-Managed Governmental Approvals, complete the 60% design and resolve issues relating to the liability transfer, price certainty and long term habitat monitoring and maintenance concerns of the KRRC;

WHEREAS, in connection with the review by FERC of the application to transfer the FERC license from PacifiCorp to the KRRC, the KRRC is required to provide updated information and further assurances to FERC that that the KRRC will be able to comply with the terms and conditions of the license;

WHEREAS, Section 4.1(E) (Estimated Guaranteed Maximum Price) of the Project Agreement sets forth the estimated Guaranteed Maximum, as of April 24, 2019 (the Contract Date), based on information then available to the parties;

WHEREAS, subsequent to the Contract Date, the Project Company has performed Preliminary Services Tasks #1 through #8 of the Preliminary Services, which include developing the Project to the 60% design level and assisting the KRRC and its advisory team in advancing the process of applying for and obtaining the Governmental Approvals required for the Project;

WHEREAS, based on the performance of such Preliminary Services the Project Company made submittals to the KRRC in February providing its 60% complete design for the Project and the Base Guaranteed Maximum Price;

WHEREAS, Resource Environmental Services, LLC ("RES"), as a Subcontractor to Project Company, has developed a 60% design for the habitat restoration and maintenance work for the Project;

WHEREAS KRRC and RES have drafted and intend to execute a separate agreement under which RES will perform all further habitat restoration, including design, implementation, and maintenance, amending the scope of the Project Agreement accordingly; and

WHEREAS, both the KRRC and the Project Company agree that it is in their mutual interests to further amend the Project Agreement to establish the Base Guaranteed Maximum Price on or prior to February 28, 2020, the date on which the KRRC has committed to delivering a fully detailed Project update to FERC.

NOW THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto, intending to be legally bound, agree as follows:

SECTION 1. DEFINITIONS. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in the Project Agreement.

SECTION 2. INTERPRETATION. The interpretation provisions set forth in Section 1.2 (Interpretation) of the Project Agreement, will apply to any interpretation of this Contract Amendment No. 3.

SECTION 3. BASE GUARANTEED MAXIMUM PRICE ESTABLISHED IN CONNECTION WITH THE FEBRUARY 28, 2020 FERC SUBMITTAL. The parties acknowledge and agree that the Base Guaranteed Maximum Price established for the purpose of making the required February 28, 2020 submittal to FERC with respect to the license transfer application is $198,956,777. The Project Company has developed the Base Guaranteed Maximum Price based on completion of Preliminary Services Tasks #1 through #8, including the completion of the 60% design for the Project and the submittal to the KRRC of the GMP Project Submittal. Any subsequent negotiations between the parties that are provided for in the Project Agreement, including those conducted pursuant to Article 5 of the Project Agreement regarding Early Work Packages and the GMP and Project Implementation Contract Amendments, shall be conducted on the basis of such Base Guaranteed Maximum Price.

SECTION 4. ADDITIONAL CONTEMPLATED REVISIONS TO THE PROJECT AGREEMENT. The parties acknowledge and agree that the Project Agreement will require further changes prior to the Project Implementation Contract Amendment Date to account for (A) the removal of all habitat restoration work from the Project Agreement, and as a result, the removal of RES as a Subcontractor of the Project Company; (B) the coordination of work and Governmental Approvals compliance responsibilities between the Project Company and RES as a Separate Contractor to the KRRC performing the habitat restoration, maintenance and liability transfer work; (C) the potential change from a guaranteed maximum price compensation structure to a fixed-price compensation structure; (D) incorporation of assumptions used to establish the Base Guaranteed Maximum Price; and (E) other necessary conforming changes, as approved by the parties acting in good faith, based on the negotiations pursuant to the terms of the Project Agreement relating to the establishment of the GMP Contract Amendment Date and the Project Implementation Contract Amendment Date.

SECTION 5. CONTRACT ADMINISTRATION MEMORANDUM. In order to maintain a complete file of all agreements made with respect to the administration of this Project Agreement, a Contract Administration Memorandum shall be prepared attaching and acknowledging this Contract Amendment No. 3.

SECTION 6. ENTIRE AGREEMENT. This Contract Amendment No. 3 contains the entire agreement between the parties with respect to the specific changes noted above and supersedes all oral negotiations and prior writings with respect thereto.

SECTION 7. INCONSISTENCIES AND CONFLICTS. Subject to Section 1.2(U) (Applicability, Stringency and Consistency of Contract Standards) of the Project Agreement, the changes made by this Contract Amendment No. 3 are incorporated into the Project Agreement and to the extent provisions of this Contract Amendment No. 3 are inconsistent with the provisions of the Project Agreement, the provisions of this Contract Amendment No. 3 shall control.

SECTION 8. OTHER TERMS OF THE PROJECT AGREEMENT REMAIN IN EFFECT. All terms and conditions of the Project Agreement which are not expressly modified or deleted by the terms of this Contract Amendment No. 3 shall remain in effect.

SECTION 9. BINDING EFFECT. This Contract Amendment No. 3 shall inure to the benefit of, and shall be binding upon, the respective successors and assigns of the parties.

SECTION 10. NO REFERENCE REQUIRED. All notices, communications, agreements, certificates, documents or other instruments executed and delivered after the execution and delivery of this Contract Amendment No. 3 may refer to the Project Agreement without making specific reference to this Contract Amendment No. 3, but nevertheless all such references shall include this Contract Amendment No. 3 unless the context requires otherwise.

SECTION 11. COUNTERPARTS AND DELIVERY BY ELECTRONIC MAIL. This Contract Amendment No. 3 may be executed in counterparts, which together shall constitute one and the same instrument. Any party may deliver an executed copy of this Contract Amendment No. 3 by electronic mail and such counterpart shall be deemed effective upon receipt.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this Contract Amendment No. 3 as of the date first above written.

KLAMATH RIVER RENEWAL CORPORATION

By: _____

Printed Name: Laura Hazlett

Title: Chief Financial Officer

KIEWIT INFRASTRUCTURE WEST CO.

By: _____

Printed Name: Jamie D. Wisenbaker

Title: Senior Vice President

ATTACHMENT G

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401

February 28, 2020

Mr. David E. Capka, P.E.
Director
Division of Dam Safety and Inspection
Federal Energy Regulatory Commission
Office of Energy Projects
Division of Dam Safety and Inspections – Headquarters Office
888 First Street, N.E.
Washington, D.C. 20426

Subject: Klamath Project No. 2082 and the Lower Klamath Project No. 14803
Restoration Company Letter of Assurance

Dear Mr. Capka:

Resource Environmental Solutions, LLC (RES) was retained by the Klamath River Renewal Corporation (KRRC) to serve as the Restoration Company for the Klamath River Renewal Project (Project). In this role, RES is responsible for designing, constructing, and maintaining the restoration aspects of the Project, including complying with the restoration obligations in all applicable permits and governmental approvals.

Since joining the KRRC team in April 2019, RES and its subcontractors—including the Yurok Tribe, Camas, Stantec, and ESA—have completed a thorough review of existing reports and data and performed fieldwork to inform our restoration design.

In completing our 60%-level design package and design criteria report, the RES team and Camas have worked alongside state and federal regulators to establish a common expectation for successful river restoration. These efforts included in-person regulatory workshops, conference calls, and field site visits to review RES' 30%-level design and draft the 60%-level design. This resulted in a common collaborative understanding regarding RES' (1) design and regulatory approach and (2) anticipated post-construction adaptive management measures. The RES team expects to continue to work collaboratively with state, federal and other stakeholders to ensure the key elements of restoration are captured in all applicable permits and other governmental approvals.

Based on the above, and following extensive negotiations with the KRRC, we have developed a Guaranteed Maximum Price (GMP) proposal to the KRRC. Our covered work within this GMP includes all restoration and monitoring actions following removal of the dams, as well as the long-term maintenance of that restoration, all in accordance with and as expected to be required by the applicable permits and other governmental approvals. This includes, without limitation, responsibility for responding to changing conditions after the dams are removed, including revegetation, as needed, and the removal of barriers to fish-passage in a manner that is consistent with the anticipated permit conditions and other governmental approvals and provides for a transfer of liability of natural resource impacts resulting from dam removal from the KRRC to RES.

RES has experience working on complex restoration projects requiring stream restoration, revegetation, and long-term stewardship. As such, the restoration components of the Project are similar to other complex projects that RES has undertaken, including:

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401

- **Bois d'Arc Lake Project, Fannin County, TX.** This is a $132 million restoration project covering 15,000 acres of habitat restoration including 70 miles of streams with 20+ years of maintenance and adaptive management.
- **Lake Maurepas Watershed Projects, Livingston, Ascension, Tangipahoa, and St. John the Baptist Parishes, LA.** These are two simultaneous rehabilitation, enhancement, and preservation projects covering over 9,000 acres with 15 years of federal long-term maintenance and adaptive management and 50 years of state long-term maintenance and adaptive management responsibilities.
- **Robinson Fork Mitigation Bank - Phase 1 Project, Washington County, PA.** This project involved over 20 miles of stream restoration with up to 10 years of maintenance and adaptive management.

Based on our successful preconstruction and design work to date, RES' history and our extensive expertise in completing complex restoration projects, along with our interactions with state and federal regulators, we are confident that we will achieve the habitat restoration requirements for the Project based on the GMP we have provided.

Our good faith and extensive negotiations have also yielded an advanced draft of a Habitat Restoration, Maintenance and Liability Transfer Agreement (HRM&LTA). The HRM&LTA version, submitted to the FERC on February 28, 2020, is substantially complete. The HRM&LTA reflects multiple telephonic meetings with the KRRC and its representatives, an exchange of multiple drafts among the parties, a two-day in-person negotiation among the parties, and the involvement of key stakeholders such as PacifiCorp, California, and Oregon. RES expects that continued good faith negotiations will lead to a fully executable version in a matter of a few additional weeks. RES is committed to continuing to work with the KRRC and the other stakeholders in good faith and expects that a final version can be reached on or before April 1, 2020.

If you have any questions or need additional information, please do not hesitate to contact me at (713) 986-9220.

Sincerely,

Elliott M. Bouillion

President & Chief Executive Officer

RES

cc: Mark Bransom, CEO KRRC

Laura Hazlett, COO and CFO KRRC

ATTACHMENT H

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401

February 28, 2020

Klamath River Renewal Corporation
2001 Addison Street
Suite 300, Office 317
Berkeley, CA 94704
Attn: Laura Hazlett
Telephone No.: (510) 679-6928
Email Address: lhazlett@klamathrenewal.org

Re: Draft Form of Habitat Restoration, Maintenance and Liability Transfer Agreement

Dear Ms. Hazlett:

Resource Environmental Solutions, LLC ("**RES**") is pleased to furnish this letter to you in connection with the planned submittal by the Klamath River Renewal Corporation (the "**KRRC**") to FERC in connection with the KRRC's License Transfer Application. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in the draft Habitat Restoration, Maintenance and Liability Transfer Agreement (the "**Draft RES Agreement**"), attached hereto in Attachment A (Draft Form of Habitat Restoration, Maintenance and Liability Transfer Agreement).

Since April 2019, RES, working with the KRRC, has advanced the design of the habitat restoration and maintenance work to the 60% level. As a result of this work, the KRRC and RES have agreed that it would be in both parties' interest to have RES enter into a direct agreement with the KRRC. The Draft RES Agreement sets forth the detailed terms of the anticipated direct agreement. In the Draft RES Agreement, RES assumes responsibility for compliance with the Contractor Regulatory Compliance Terms and the adaptive management obligations that are expected to apply to the KRRC as the named permittee thereunder.

As part of the development of the 60% design, the KRRC and RES have negotiated the compensation to be paid to RES for the performance of the Habitat Project Work. Based on such negotiations, the KRRC and RES acknowledge and agree that the guaranteed maximum price ("**GMP**") for the Habitat Project Work is $77,958,514 (composed of $48,097,244 for the Habitat Restoration Work and $29,861,270 for the Habitat Maintenance Services) and is established for the purpose of making the required February 28, 2020 submittal to FERC with respect to the license transfer application. Any subsequent negotiations between the KRRC and RES, including those conducted pursuant to Article 5 of the Draft RES Agreement regarding the Habitat Project Work Implementation Contract Amendment, shall be conducted on the basis of such GMP.

The KRRC and RES acknowledge and agree that while significant progress has been made in the negotiation of the Draft RES Agreement and the version submitted on February 28, 2020 is substantially complete, the Draft RES Agreement will not be ready for execution until the negotiations conclude and final terms are agreed upon. The KRRC and RES further acknowledge and agree that (1) the Draft RES Agreement reflects multiple telephonic meetings, an exchange of multiple drafts among the parties, a two-day in-person negotiation among the parties, and the involvement of key stakeholders such as PacifiCorp, California, and Oregon; and (2) the KRRC and RES are each committed to continuing to work with one another and the other stakeholders in good faith and expect that a final version will be executed on or before April 1, 2020. This letter is an expression of intent to continue to negotiate in good faith with respect to the Draft RES Agreement based on the GMP set forth above. This is not a contract and shall not be binding or enforceable, in any respect, on either RES or the KRRC. The parties shall be bound only once the Draft RES Agreement is executed in final form.

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401

If the foregoing understandings are agreeable to the KRRC, please indicate that fact by signing the acknowledgment below and returning the same to me by email to elliott@res.us.

Sincerely,

Elliott M. Bouillion
President & Chief Executive Officer
Resource Environmental Solutions, LLC

Acknowledged and Agreed:

Klamath River Renewal Corporation:

Name: Laura Hazlett

Title: Chief Operations Officer and Chief Financial Officer

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401

ATTACHMENT A

DRAFT FORM OF HABITAT RESTORATION, MAINTENANCE AND LIABILITY TRANSFER AGREEMENT

HABITAT RESTORATION, MAINTENANCE AND LIABILITY TRANSFER AGREEMENT

ENTERED INTO
IN CONNECTION WITH
THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS

between

THE KLAMATH RIVER RENEWAL CORPORATION

and

HGS, LLC

Dated

[_____], 2020

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4. Phase 1 Environmental Site Assessment
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7. [Cultural Resources document to be identified]
8. Property Boundary Survey
9. Existing Conditions Assessment Report
10. KRRC Native Seed Collection Summary

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HABITAT RESTORATION, MAINTENANCE AND LIABILITY TRANSFER AGREEMENT

ENTERED INTO
IN CONNECTION WITH
THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS

THIS HABITAT RESTORATION, MAINTENANCE AND LIABILITY TRANSFER AGREEMENT ("Agreement") is made and entered into as of [_____], 2020, between the Klamath River Renewal Corporation, a not-for-profit corporation organized under the laws of the State of California (the "KRRC"), and HGS, LLC, a limited liability company organized and existing under the laws of the Commonwealth of Virginia and authorized to do business in the State of California and the State of Oregon (the "Contractor").

RECITALS

WHEREAS, PacifiCorp owns four hydroelectric dams on the lower Klamath River each operating under Federal Energy Regulatory Commission regulatory jurisdiction;

WHEREAS, the dams have been the subject of lengthy and extensive negotiations by multiple parties, which culminated in the Klamath Hydroelectric Settlement Agreement dated February 18, 2010, as amended April 6, 2016 and November 30, 2016 (the "KHSA");

WHEREAS, in order to implement the terms of the KHSA, the KRRC was formed as a California non-profit corporation on February 29, 2016;

WHEREAS, the KHSA provides primarily for the removal of the four lower Klamath River hydroelectric dams, and related design, construction, demolition and habitat restoration and maintenance work;

WHEREAS, funding for the project will be provided from (1) $200 million in surcharges collected from PacifiCorp's Oregon and California utility customers, as authorized by the California Public Utilities Commission and the Oregon Public Utilities Commission, and (2) $250 million from the proceeds of bonds issued by the State of California;

WHEREAS, PacifiCorp, in conjunction with the KRRC, has applied to FERC for the transfer to the KRRC of the license under which the dams are operated;

WHEREAS, the KRRC has also applied to FERC for the surrender of the FERC license;

WHEREAS, the KRRC has entered into a project agreement with Kiewit Infrastructure West Co. dated April 24, 2019 for planning, design, construction, demolition and implementation services necessary to carry out and complete the dam removal;

WHEREAS, the governmental permits, licenses and approvals for the project will require habitat restoration and maintenance services following dam removal;

WHEREAS, the KRRC has developed an extensive liability protection package, composed of parent company guarantees, surety bonds, insurance, contractor indemnities, contractor performance guarantees, and litigation mitigation and defense funds, which as a whole are intended to mitigate risk to the maximum extent feasible;

WHEREAS, in connection with the KRRC's February 28, 2020 submittal to FERC with respect to its application for the FERC License Transfer Order and prior to the execution of

this Agreement, the KRRC and Contractor executed a letter agreement relating to the guaranteed maximum price for the habitat project work, reflecting extensive planning and design efforts and workscope and risk negotiations, in order to create significant price transparency and cost certainty assurances for the KRRC as of the date of the FERC submittal;

WHEREAS, this Agreement is being executed and delivered concurrently with the execution and delivery of a conditional guaranteed maximum price amendment to the project agreement between KRRC and Kiewit Infrastructure West Co.;

WHEREAS, neither the project implementation obligations of Kiewit Infrastructure West Co. under the project agreement nor the liability transfer and habitat restoration and maintenance obligations of the Contractor (other than certain preliminary services obligations) under this Agreement shall become effective until the project agreement and this Agreement each have been amended under the respective terms thereof to establish mutually acceptable definitive pricing and terms following the receipt of all governmental licenses, permits and approvals required for the project;

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto, intending to be legally bound, agree as follows:

ARTICLE 1

DEFINITIONS AND INTERPRETATION

SECTION 1.1. DEFINITIONS.

As used in this Agreement, the following terms shall have the meanings set forth below:

"**Additional Preliminary Services**" has the meaning set forth in subsection 5.2(B) (Additional Preliminary Services).

"**Adjacent and Related Lands**" means the parcels of real property on which ancillary Habitat Maintenance Services, including flood protection measures and downstream sediment removal, are to be performed, as more particularly described in Appendix 2 (KRRC Property Description), and as to which the KRRC will, by the Habitat Project Work Implementation Contract Amendment Date, have acquired easements or other interests in real property sufficient for the purposes of the Project.

"**Affiliate**" means, in respect of a person, any other person that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such first person, where "control" means, with respect to the relationship between or among two or more persons, the possession, directly or indirectly or as trustee, personal representative or executor, of the power to direct or cause the direction of the affairs or management of a person, whether through the ownership of voting securities, as trustee, personal representative or executor, by statute, contract, credit arrangement or otherwise, including the ownership, directly or indirectly, of securities having the power to elect a majority of the board of trustees or similar body governing the affairs of such person.

"**Agreement**" means this Habitat Restoration, Maintenance and Liability Transfer Agreement in connection with the Removal of the Lower Klamath River Dams between the Contractor and the KRRC, including the Appendices and all other Contract Documents.

"**Annual Report**" has the meaning set forth in subsection 8.3(C) (Annual Reports).

"**Appendix**" means each of the Appendices and, as applicable, any attachments thereto, that are appended to this Agreement and identified as such in the Table of Contents to this Agreement.

"**Applicable Law**" means (1) any applicable federal, state or local law, statute, code or regulation; (2) any formally adopted and generally applicable rule, requirement, determination, standard, policy, implementation schedule, or other order of any Governmental Body having appropriate jurisdiction; (3) any established interpretation of law or regulation utilized by an appropriate Governmental Body if such interpretation is publicly documented by such Governmental Body and generally applicable; (4) any Governmental Approval; and (5) any consent order or decree, settlement agreement or similar agreement between the KRRC and any Governmental Body; in each case having the force of law and applicable from time to time, over the Project, the Contract Obligations or any other transaction contemplated hereby.

"**Bankruptcy Law**" means the United States Bankruptcy Code, 11 U.S.C. 101 *et seq.*, as amended from time to time and any successor statute thereto. "Bankruptcy Law" shall also include any similar state law relating to bankruptcy, insolvency, the rights and remedies of creditors, the appointment of receivers or the liquidation of companies and estates that are unable to pay their debts when due.

"**Base Habitat Maintenance Services Fee**" has the meaning set forth in Section 9.3 (Base Habitat Maintenance Services Fee).

"**Base Habitat Restoration Work Price**" has the meaning set forth in subsection 7.1(B) (Base Habitat Restoration Work Price).

"**Base Habitat Restoration Work Price Adjustment**" has the meaning set forth in subsection 7.1(C) (Base Habitat Restoration Work Price Adjustments).

"**Base Preliminary Services**" means those services designated as Base Preliminary Services in Appendix 4 (Preliminary Services).

"**Baseline Date**" means the Contract Date, except that upon the execution and delivery of the Habitat Project Work Implementation Contract Amendment, the Baseline Date shall mean the Habitat Project Work Implementation Contract Amendment Date.

"**Billing Period**" means each month of a Contract Year except that:

(1) The first Billing Period of the first Contract Year shall begin on the Habitat Project Work Commencement Date and shall continue to the last day of the month, in which the Habitat Project Work Commencement Date occurs; and

(2) The last Billing Period of the last Contract Year shall end on the last day of the Term.

Any computation made on the basis of a Billing Period shall be adjusted on a pro rata basis to take into account any Billing Period of less than the actual number of days in the month to which such Billing Period relates.

"**Billing Statement**" means, for each Billing Period, the monthly invoice prepared by the Contractor and delivered to the KRRC in accordance with Article 9 (Compensation for Habitat Maintenance Services).

"**Board of Directors**" means the board of directors of the KRRC.

"**Books and Records**" has the meaning set forth in subsection 18.11(A) (Books and Records).

"**Business Day**" means a day other than a Saturday, Sunday or an official federal holiday.

"**California Proposition 1 Grant Funding Agreement**" means the Funding for Water Quality, Supply, Treatment, and Storage Projects of 2014 (Proposition 1) grant funding agreement effective as of July 1, 2016 between the KRRC and the State of California, acting through the California Natural Resources Agency (Agreement Number P11601-0), as amended.

"**CEQA**" refers to the California Environmental Quality Act (Cal. Pub. Res. Code § 21000 *et seq.*).

"**CERCLA**" means the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601 *et seq.*, and applicable regulations promulgated thereunder, each as amended from time to time.

"**Contract Administration Memorandum**" has the meaning set forth in subsection 18.4(B) (Contract Administration Memoranda).

"**Contract Amendment**" has the meaning set forth in subsection 18.5(A) (Amendments Generally).

"**Contract Compensation**" means the Habitat Restoration Work Price and the Habitat Maintenance Services Fee.

"**Contract Date**" means the date on which this Agreement is executed and delivered by the Parties hereto.

"**Contract Documents**" means:

(1) This Agreement and all Appendices;

(2) The Habitat Project Work Implementation Contract Amendment;

(3) Any other Contract Amendment;

(4) Any notice to proceed; and

(5) Any Contract Administration Memorandum.

It is specifically understood, however, that neither the KHSA, nor the Funding Agreements, nor the Definite Plan (except to the extent any work or services described therein constitute terms and conditions contained in any Contractor Regulatory Compliance Term) shall constitute "Contract Documents".

"**Contract Obligations**" means the obligations of the Contractor to perform the Habitat Restoration Work, the Habitat Maintenance Services, the Contractor Regulatory Compliance Obligations, and other express obligations of the Contractor under this Agreement.

"**Contract Representative**" means, in the case of the Contractor, the Contractor Representative and, in the case of the KRRC, the KRRC Representative.

"**Contract Standards**" means the standards, terms, conditions, methods, techniques and practices imposed or required by:

(1) Applicable Law;

(2) The Contractor Regulatory Compliance Terms;

(3) The Insurance Requirements; and

(4) Any other standard, term, condition, obligation or requirement specifically provided in the Contract Documents to be performed by the Contractor.

"**Contract Year**" means each of:

(1) The period from the Contract Date to the next June 30th;

(2) Each subsequent period of 12 calendar months commencing on July 1st; and

(3) The period from July 1st in the year in which this Agreement expires or is terminated (for whatever reason) to and including the Termination Date.

"**Contractor**" means HGS, LLC, a limited liability company organized and existing under the laws of the Commonwealth of Virginia.

"**Contractor-Allocated KRRC Regulatory Terms**" means the KRRC Regulatory Terms allocated to the Contractor pursuant to Appendix 6 (Allocation of Responsibility between the Contractor and the Project Company with respect to the KRRC Governmental Approvals).

"**Contractor Fault**" means:

(1) A breach by the Contractor of any of its obligations under this Agreement;

(2) A breach of any representation or warranty made by the Contractor under this Agreement;

(3) Willful misconduct of the Contractor or any other Contractor Person; or

(4) A negligent act or omission of the Contractor or any other Contractor Person.

"**Contractor Indemnitee**" has the meaning set forth in subsection 16.1(B) (Indemnification-Related Defined Terms).

"**Contractor Indemnification Act, Event or Circumstance**" has the meaning set forth in subsection 16.1(B) (Indemnification-Related Defined Terms).

"**Contractor Indemnity**" means the indemnity obligations of the Contractor under subsection 16.1(B) (Indemnification-Related Defined Terms).

"**Contractor Governmental Approvals**" means those local Governmental Approvals pursuant to which the Contractor will be the named permittee under, and is obligated to apply for, as set forth in Table 5-2 of Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals).

"**Contractor Person**" means:

(1) The Contractor;

(2) Any director, officer, employee or agent of the Contractor in each case acting as such;

(3) Any Subcontractor and any representative, advisor of the Contractor, in any such person's capacity as a provider of services directly or indirectly to the Contractor in connection with the Habitat Project Work; and

(4) Anyone for whose acts any of the foregoing may be legally or contractually liable in connection with this Agreement, including officers, directors, employees, representatives, agents, consultants and contractors.

"**Contractor Regulatory Compliance Obligations**" means all duties and obligations imposed by any Governmental Body under the Contractor Regulatory Compliance Terms during the Term, irrespective of the identity of the permittee.

"**Contractor Regulatory Compliance Terms**" means the Contractor-Allocated KRRC Regulatory Terms and the Contractor Governmental Approvals.

"**Contractor Representative**" has the meaning set forth in subsection 18.6(A) (Contractor Representative and Senior Supervisors).

"**Convenience Termination Notice Period**" has the meaning set forth in Section 14.4(A) (Convenience Termination Right and Payment).

"**Cost Substantiation**" means the process of providing evidence of actual costs in accordance with Section 18.10 (Cost Substantiation).

"**County**" means each of Siskiyou County and Klamath County.

"**County Memoranda of Agreement**" or "**County MOA's**" means the Memoranda of Agreement between the KRRC and each County relating to the Project.

"**CPUC**" means the California Public Utilities Commission.

"**CPUC Funding Agreement**" means the agreement dated December 13, 2017 between the KRRC and the CPUC providing funding for the Project.

"**Deductions**" has the meaning specified in Section 8.7 (Deductions).

"**Definite Plan**" means the Definite Plan for Facilities Removal, dated June 28, 2018 (titled "Definite Plan for the Lower Klamath Project"), prepared by the KRRC pursuant to Section 10.2.1 of the KHSA, as updated or amended from time to time. The Definite Plan is summarized in Appendix 1 (Summary of the Definite Plan).

"**Deliverable Material**" means Habitat Restoration Work Deliverable Material, Preliminary Services Deliverable Material, and all other documents, reports, studies, surveys, computer programs, warranties, manuals, submittals, licenses and materials required to be delivered by the Contractor to the KRRC in the performance of the Habitat Project Work.

"**Encumbrances**" means any Lien, lease, mortgage, security interest, charge, judgment, judicial award, attachment or encumbrance of any kind with respect to the Habitat Project Work.

"**Environmental Impact Report**" or "**EIR**" means the environmental impact report with respect to the Project prepared by the Water Resources Control Board pursuant to CEQA, in draft and final forms as applicable.

"**Environmental Mitigation Measures**" has the meaning set forth in Section 4.5 (Environmental Review).

"**Event of Default**" means, with respect to the Contractor, those items specified in Section 14.2 (Events of Default by the Contractor) and, with respect to the KRRC, those items specified in Section 14.3 (Events of Default by the KRRC).

"**Expiration Date**" has the meaning set forth in subsection 3.1(A) (Term).

"**Extraordinary Items**" has the meaning set forth in Section 9.4 (Extraordinary Items).

"**Facilities**" means the following specific hydropower facilities within the jurisdictional boundary of FERC Project No. 14803: J.C. Boyle Dam, Copco No. 1 Dam, Copco No. 2 Dam and Iron Gate Dam, and appurtenant works, structures, improvements, assets, equipment and ancillary facilities constituting part of the KHP licensed to PacifiCorp as of the

Contract Date, as more particularly described in Section 1.4 (Facilities) to Appendix 2 (KRRC Property Description). For the purposes of this Agreement, the term "Facilities" is synonymous with "Lower Klamath Project", as such term is used in the Definite Plan, Transfer Application and Surrender Application.

"**Facilities Removal**" means physical removal of all or part of each of the Facilities to achieve at a minimum a free-flowing condition and volitional fish passage, site remediation and restoration, including previously inundated lands, measures to avoid or minimize adverse downstream impacts, and all associated permitting for such actions.

"**Facilities Removal Defense Fund**" has the meaning set forth in subsection 4.3(I) (Facilities Removal Defense Fund).

"**Fees and Costs**" means reasonable fees and expenses of employees, attorneys, architects, engineers, expert witnesses, contractors, consultants and other persons, and costs of transcripts, printing of briefs and records on appeal, copying and other reimbursed expenses, and expenses reasonably incurred in connection with investigating, preparing for, defending or otherwise appropriately responding to any Legal Proceeding.

"**FERC**" means the Federal Energy Regulatory Commission.

"**FERC License Orders**" means the FERC License Transfer Order and the FERC License Surrender Order.

"**FERC License Surrender Order**" means the final order or orders issued by FERC approving the Surrender Application.

"**FERC License Transfer Order**" means the final order or orders issued by FERC approving the Transfer Application.

"**Funders**" means the CPUC, the OPUC and the State of California.

"**Funding Agreements**" means the CPUC Funding Agreement, the OPUC Funding Agreement and the California Proposition 1 Grant Funding Agreement.

"**Funding Requirements**" means the requirements for funding the Project established by the Funders under the Funding Agreements.

"**Governmental Approvals**" means any permit, license, authorization, consent, certification, exemption, ruling, entitlement, variance or approval issued by a Governmental Body required under Applicable Law to be obtained or maintained by any person with respect to the Project, including Governmental Approvals identified in Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals). Governmental Approvals includes the KRRC Governmental Approvals, Contractor Governmental Approvals and Project Company Governmental Approvals.

"**Governmental Body**" means any federal, State, regional or local legislative, executive, judicial or other governmental board, department, agency, authority, commission, administration, court or other body, or any official thereof, having jurisdiction in any way over or in respect of any aspect of the performance of the Project.

"**Guarantor**" means Resource Environmental Solutions, LLC, a limited liability company organized and existing under the laws of the State of Louisiana.

"**Guaranty Agreement**" means the Guaranty Agreement from the Guarantor to the KRRC in the form set forth as Transaction Form A (Form of Guaranty Agreement).

"**Habitat Maintenance Services**" means everything required by the Contractor Regulatory Compliance Terms to be furnished and done by the Contractor under Article 8 (Habitat Maintenance Services), and all other work to be performed hereunder and expressly relating to habitat maintenance services.

"**Habitat Maintenance Services Fee**" has the meaning set forth in Section 9.2 (Habitat Maintenance Services Fee).

"**Habitat Project Work**" means the Habitat Restoration Work and the Habitat Maintenance Services.

"**Habitat Project Work Area**" means the area described in, and shown on the map attached to, Appendix 3 (Habitat Project Work Area Description) within which the Habitat Project Work is to be performed.

"**Habitat Project Work Commencement Date**" means the date, following satisfaction of the Habitat Project Work Commencement Date Conditions by the Contractor, upon which the Contractor shall have the right to proceed with the Habitat Restoration Work, as determined in accordance with subsection 6.3(A) (Habitat Project Work Commencement Date Generally).

"**Habitat Project Work Commencement Date Conditions**" means the conditions set forth in subsection 6.3(A) (Habitat Project Work Commencement Date Generally).

"**Habitat Project Work Implementation Contract Amendment**" has the meaning set forth in subsection 5.9(B) (Habitat Project Work Implementation Contract Amendment Generally).

"**Habitat Project Work Implementation Contract Amendment Date**" has the meaning set forth in subsection 5.9(B) (Habitat Project Work Implementation Contract Amendment Generally).

"**Habitat Project Work Manager**" has the meaning set forth in subsection 10.1(A) (Habitat Project Work Manager).

"**Habitat Restoration Work**" means everything required by the Contractor Regulatory Compliance Terms to be furnished and done by the Contractor under Article 6 (Habitat Restoration Work), and all other work to be performed hereunder and expressly relating to habitat restoration work.

"**Habitat Restoration Work Deliverable Material**" means all documents, reports, studies, surveys, computer programs, warranties, manuals, submittals, licenses and other documents and materials required to be delivered by the Contractor to the KRRC in the performance of the Habitat Restoration Work pursuant to this Agreement.

"**Habitat Restoration Work Quality Management Plan**" means the Contractor's plan for quality assurance and quality control in implementing the Habitat Restoration Work, to be developed as part of the Preliminary Services in accordance with the requirements set forth in Appendix 4 (Preliminary Services) and Appendix 9 (Habitat Restoration Work Quality Control Requirements).

"**Habitat Restoration Work Price**" has the meaning set forth in subsection 7.1(A) (Habitat Restoration Work Price Generally).

"**Hazardous Material**" means any waste, substance, object or material defined or regulated as hazardous under Applicable Law, including "hazardous substances" as defined under CERCLA, "hazardous waste" as defined under RCRA and in California Health and Safety Code Section 25117, "hazardous material" as defined under US DOT regulations (49 CFR Parts 100–180), and "hazardous material" as defined in Oregon Administrative Rules 340-142-0001.

"**Health and Safety Plan**" means the Contractor's plan for health and safety in implementing the Habitat Restoration Work, to be developed as part of the Preliminary Services in accordance with the Contract Standards and the requirements in Appendix 4 (Preliminary Services) and Appendix 8 (General Habitat Restoration Work Requirements).

"**Health and Safety Representative**" has the meaning set forth in subsection 6.8(A) (Health and Safety Representative).

"**Insurance Requirement**" means any rule, regulation, code or requirement issued by any insurance company that has issued a policy of Required Insurance under this Agreement or by any insurance company that has issued a policy of insurance required to be obtained and maintained by the KRRC in connection with this Agreement, compliance with which is a condition to the effectiveness of such policy.

"**Intellectual Property**" means any trade secrets, proprietary rights, patents, copyrights or trademarks recognized under Applicable Law.

"**Key Personnel**" means individuals identified in Appendix 12 (Key Personnel and Approved Subcontractors).

"**KHP**" means PacifiCorp's Klamath Hydroelectric Project (FERC No. 2082) constructed between 1911 and 1962, consisting of the following eight hydroelectric developments: (1) East Side; (2) West Side; (3) Keno (non-generating); (4) J.C. Boyle; (5) Copco No. 1; (6) Copco No. 2; (7) Fall Creek; and (8) Iron Gate.

"**KHSA**" means the Klamath Hydroelectric Settlement Agreement dated February 18, 2010, as amended April 6, 2016 and November 30, 2016, between the United States Department of Interior, the United States Department of Commerce, the State of California, the State of Oregon, Humboldt County, the State of California, the Yurok Tribe, the Karuk Tribe, the Upper Klamath Water Users Association, certain conservation and fishing groups, PacifiCorp, as the licensee for the Klamath Hydroelectric Project, and various other Parties, as amended.

"**Klamath County**" means Klamath County, Oregon.

"**KRRC**" means the Klamath River Renewal Corporation, a not-for-profit corporation organized and existing under the laws of the State of California.

"**KRRC Fault**" means:

(1) A breach by the KRRC of any of its obligations under this Agreement;

(2) A failure of KRRC to obtain and maintain the insurance coverage set forth in Section 15.2 (KRRC-Provided Insurance) and to designate the Contractor as an additional insured on such policies;

(3) A breach of any representation or warranty by the KRRC under this Agreement;

(4) Willful misconduct of the KRRC or a Contractor Indemnitee; or

(5) A negligent act or omission of the KRRC or a Contractor Indemnitee.

"**KRRC Governmental Approvals**" means those Governmental Approvals which the KRRC will be the permittee of, and is responsible for applying for and paying the fees for, as set forth in Table 5-1 of Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals).

"**KRRC Property**" means the parcels of land and improvements to land owned by, or leased or licensed to, the KRRC as of the Habitat Project Work Implementation Contract Amendment Date, as described in Appendix 2 (KRRC Property Description).

"**KRRC Representative**" has the meaning set forth in subsection 18.6(B) (KRRC Representative).

"**KRRC Regulatory Terms**" means the terms and conditions of the KRRC Governmental Approvals.

"**Legal Proceeding**" means every action, suit, investigation, litigation, arbitration, administrative proceeding, including contested permit actions, and other legal or equitable proceeding having a bearing upon this Agreement or the work to be performed pursuant to this Agreement.

"**Lien**" means any and every lien against the Project or against any monies due or to become due from the KRRC to the Contractor under this Agreement, for or on account of the Contract Obligations, including mechanics', materialmen's, laborers' and lenders' liens.

"**Local Impact Mitigation Fund**" has the meaning set forth in subsection 4.3(H) (Local Impact Mitigation Fund)

"**Loss-and-Expense**" has the meaning set forth in subsection 16.1(B) (Indemnification-Related Defined Terms).

"**Monthly Maintenance Service Report**" has the meaning set forth in subsection 8.3(A) (Monthly Maintenance Service Reports).

"**NEPA**" means the National Environmental Policy Act, and applicable regulations promulgated thereunder, each as amended from time to time.

"**NEPA Compliance Document**" means the environmental assessment, environmental impact statement or other compliance document with respect to the FERC License Transfer Order or the FERC License Surrender Order prepared by FERC pursuant to NEPA, in draft and final forms as applicable.

"**Non-Binding Mediation**" means the voluntary system of dispute resolution through third-party mediation established by Article 13 (Dispute Resolution).

"**OPUC**" means the Oregon Public Utilities Commission.

"**OPUC Funding Agreement**" means the agreement dated January 24, 2017 between the KRRC and the OPUC providing funding for the Project.

"**OSHA**" means both the California Occupational Safety and Health Act, Chapter 3.2, Division 1, Title 8 of the California Code of Regulations, including all applicable regulations promulgated thereunder, and the Occupational Safety and Health Act of 1970, 29 U.S.C. 650 *et seq.*, including the applicable regulations promulgated thereunder, as amended or superseded from time to time.

"**Overdue Rate**" means the rate of interest set forth in California Code of Civil Procedure Section 685.010(a).

"**PacifiCorp**" means PacifiCorp, a regulated utility company organized and existing under the laws of the State of Oregon.

"**PacifiCorp Property Access Agreement**" means the property access agreement the Contractor will enter into with PacifiCorp pursuant to subsection 5.1(C) (PacifiCorp Property Access Agreement) in order to grant the Contractor a license to access PacifiCorp held property until PacifiCorp transfers such property to the KRRC pursuant to the terms of the KHSA.

"**Parties**" means the KRRC and the Contractor.

"**Payment Bond**" means the labor and materials payment bond provided by the Contractor to secure the payment obligations of the Contractor for any Habitat Project Work, as described in and maintained pursuant to this Agreement and in the form set forth in Transaction Form C (Form of Payment Bond).

"**Payment Request**" means a written submission by the Contractor in the form approved by the KRRC and accompanied by all required supporting documentation, requesting payment hereunder of any portion of the Habitat Restoration Work Price.

"**Performance Bond**" means the Performance Bond provided by the Contractor as described in and maintained pursuant to this Agreement and in the form set forth in Transaction Form B (Form of Performance Bond), as further described in Section 17.2 (Bonds).

"**Permitted Encumbrances**" means, as of any particular time, any one or more of the following:

(1) Encumbrances for utility charges, Taxes, rates and assessments not yet delinquent or, if delinquent, the validity of which is being contested diligently and in good faith by the Contractor and against which the Contractor has established appropriate reserves in accordance with generally accepted accounting principles;

(2) Any encumbrance arising out of any judgment rendered that is being contested diligently and in good faith by the Contractor, the execution of which has been stayed or against which a bond or bonds in the aggregate principal amount equal to such judgments shall have been posted with a financially-sound insurer and which does not have a material and adverse effect on the ability of the Contractor to perform the Project Habitat Work in accordance with this Agreement;

(3) Any encumbrance arising in the ordinary course of business imposed by law dealing with materialmen's, mechanics', workmen's, repairmen's, warehousemen's, landlords', vendors' or carriers' encumbrances created by law, or deposits or pledges which are not yet due or, if due, the validity of which is being contested diligently and in good faith by the Contractor and against which the Contractor has established appropriate reserves or bonded against, at the KRRC's request;

(4) Servitudes, licenses, leases, easements, restrictions, rights-of-way, rights in the nature of easements or similar items which shall not individually or in the aggregate materially and adversely impair the ability of the Contractor to perform the Habitat Project Work in accordance with this Agreement,;

(5) Applicable zoning and building bylaws and ordinances, municipal bylaws and regulations, and restrictive covenants, which individually or in the aggregate do not materially interfere with and adversely affect the Habitat Project Work by the Contractor in accordance with this Agreement;

(6) Encumbrances which are created on or before the Contract Date;

(7) Encumbrances which are created by a change in Applicable Law on or after the Contract Date; and

(8) Any encumbrance created by an act or omission of the KRRC.

"**Preliminary Services**" means the Base Preliminary Services and any Additional Preliminary Services performed by the Contractor hereunder prior to the Habitat Project Work Implementation Contract Amendment Date.

"**Preliminary Services Deliverable Material**" means all documents, reports, studies, surveys, computer programs, warranties, manuals, submittals, licenses and other documents and materials required to be delivered by the Contractor to the KRRC in the performance of the Preliminary Services pursuant to this Agreement.

"**Preliminary Services Fee**" means the fee to be paid by the KRRC to the Contractor for the performance of the Preliminary Services consisting of both a fixed-price component and a time-and-materials component, as set forth in Section 4.6 of Appendix 4 (Preliminary Services).

"**Preliminary Services Period**" means the period between the Contract Date and the Habitat Project Work Implementation Contract Amendment Date.

"**Preliminary Services Schedule**" has the meaning set forth in Section 5.3 (Preliminary Services Schedule).

"**Preliminary Services Tasks**" means the tasks specified in Appendix 4 (Preliminary Services).

"**Procurement Management Plan**" means the Contractor's plan for managing its procurement processes during performance of the Habitat Restoration Work, to be developed as part of the Preliminary Services in accordance with the requirements in Appendix 4 (Preliminary Services).

"**Program Manager**" means any individual or firm, or team of individuals or firms, under contract with the KRRC, including subcontractors, and designated by the KRRC from time to time as part of its professional services consulting, engineering or construction oversight team for purposes of administering this Agreement on behalf of the KRRC.

"**Project**" means the Project Implementation Work, Habitat Project Work, and all other work relating to Facilities Removal to be performed by the Project Company under the Project Agreement and by the Contractor under this Agreement.

"**Project Agreement**" means the Project Agreement for Design, Construction, Demolition and Habitat Restoration Services in connection with the Removal of the Lower Klamath River Dams, dated April 24, 2019, between the KRRC and the Project Company.

"**Project Company**" means Kiewit Infrastructure West Co., a corporation organized and existing under the laws of the State of Delaware.

"**Project Company-Allocated KRRC Regulatory Terms**" means the KRRC Regulatory Terms allocated to the Project Company pursuant to Appendix 6 (Allocation of Responsibility between the Contractor and the Project Company with respect to the KRRC Governmental Approvals).

"**Project Company Fault**" has the meaning set forth in Section 1.1 (Definitions) of the Project Agreement.

"**Project Company Governmental Approvals**" means those Governmental Approvals under which the Project Company will be the named permittee, and for which it is obligated to apply, as set forth in Table 5-3 of Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals).

"**Project Company Regulatory Compliance Terms**" means the Project Company-Allocated KRRC Regulatory Terms and the Project Company Governmental Approvals.

"**Project Implementation Commencement Date Conditions**" has the meaning set forth in subsection 6.3(A) (Project Implementation Commencement Date Generally) of the Project Agreement.

"**Project Implementation Contract Amendment**" has the meaning set forth in subsection 5.11(A) (Project Implementation Contract Amendment Generally) of the Project Agreement.

"**Project Implementation Contract Amendment Date**" has the meaning set forth in subsection 5.11(A) (Project Implementation Contract Amendment Generally) of the Project Agreement.

"**Project Implementation Work**" has the meaning set forth in Section 1.1 (Definitions) of the Project Agreement.

"**Project Site**" means the KRRC Property and the Adjacent and Related Lands.

"**RCRA**" means the Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*, and applicable regulations promulgated thereunder, each as amended from time to time.

"**Reference Documents**" means the documents identified as such in the Table of Contents to this Agreement, as existing in form and substance on the Habitat Project Work Implementation Contract Amendment Date and accessible at [_____] under the folder labeled "Reference Documents as of the Habitat Project Work Implementation Contract Amendment Date".

"**Regulated Site Condition**" means:

(1) Surface or subsurface structures, materials or conditions having historical, archaeological, cultural, religious, scientific or similar significance that is subject to the protections of Applicable Law;

(2) The presence or habitat of a species that is classified under Applicable Law as endangered, rare, threatened, of special concern, or similarly subject to the protections of Applicable Law;

(3) The presence anywhere in, on, under or adjacent to the Project Site on the Baseline Date of wells or underground storage tanks for the storage of chemicals, petroleum products or Regulated Substances that is subject to the protections of Applicable Law; and

(4) The treatment, storage, disposal or other handling of Regulated Substances anywhere in, on or under the Project Site (including presence in surface water, groundwater, soils or subsurface strata) that is subject to the protections of Applicable Law, but not including Regulated Substances used, stored or otherwise brought to the Project Site by the Contractor or any Subcontractor as provided in Section 4.6 (Regulated Site Condition).

"**Regulated Substance**" means (1) any oil, petroleum or petroleum product and (2) Hazardous Material; except that *de minimis* quantities of any of the foregoing shall not constitute a Regulated Substance hereunder.

"**Related Project**" has the meaning set forth in subsection 6.5(A) (Related Projects Generally).

"**Related Projects Coordination Protocol**" has the meaning set forth in subsection 6.5(A) (Related Project Generally).

"**Reliance Documents**" means the documents identified as such in the Table of Contents to this Agreement, as existing in form and substance on the Habitat Project Work Implementation Contract Amendment Date and accessible at [_____] under the folder labeled "Reliance Documents as of the Habitat Project Work Implementation Contract Amendment Date".

"**Relief Request Notice**" has the meaning set forth in subsection 12.3(C) (Submittal of Relief Request).

"**Required Insurance**" means the insurance policies and coverage required to be provided by the Contractor under this Agreement, as set forth in Section 15.1 (Contractor Provided Insurance) and Appendix 11 (Insurance Requirements).

"**Restricted Person**" means any person who (or any member of a group of persons acting together, any one of which):

(1) Is disbarred, suspended, or otherwise disqualified from federal, State, or KRRC contracting for any services similar in nature to the Contract Obligations (including those debarred by the California Division of Labor Standards Enforcement; *see* www.dir.ca.gov/dlse/debar.html);

(2) Was or is subject to any material claim of the United States, the State or the KRRC in any proceedings (including regulatory proceedings) which have been concluded or are pending at the time at which the determination of whether the person falls within this definition is being made, and which (in respect of any such pending claim, if it were to be successful) would, in the KRRC's view, in either case, be reasonably likely to materially affect the ability of the Contractor to perform its obligations under this Agreement;

(3) In the case of an individual, he or she (or in the case of a legal entity, any of the members of the board of directors or its senior executive managers) has been sentenced to imprisonment or otherwise given a custodial sentence for any criminal offense (other than minor traffic offenses or misdemeanors) less than 5 years prior to the date at which the determination of whether the person falls within this definition is being made;

(4) Has, directly or indirectly, its principal or controlling office in a country that is subject to any economic or political sanctions imposed by the United States for reasons other than its trade or economic policies; or

(5) Has as its primary business the illegal manufacture, sale, distribution or promotion of narcotic substances or arms, or is or has been involved in terrorism.

"**Security Instruments**" means the Guaranty Agreement, the Performance Bond and the Payment Bond.

"**Security Plan**" means the Contractor's plan for security at the Habitat Project Work Area in implementing the Habitat Restoration Work, to be developed with the Project Company as part of the Preliminary Services in accordance with the Contract Standards and the requirements in Appendix 4 (Preliminary Services) and Appendix 8 (General Habitat Restoration Work Requirements).

"**Senior Supervisors**" has the meaning set forth in subsection 18.6(A) (Contractor Representative and Senior Supervisors).

"**Separate Contractor**" means any person or entity under contract with the KRRC for the performance of work associated with the Related Projects.

"**Siskiyou County**" means Siskiyou County, California.

"**SLBE Firms**" means any small local business enterprise primarily based in Klamath County, Siskiyou County, Del Norte County, Humboldt County, Jackson County, Josephine County, Douglas County, Lake County, Trinity County, Shasta County, Tehama County or Modoc County, with particular preference given to enterprises based in Klamath County, Siskiyou County, Del Norte County, or Humboldt County.

"**SLTBE Firms**" means the SLBE Firms and the TBE Firms.

"**SLTBE Goals**" has the meaning set forth in subsection 10.3(H) (SLTBE Goals).

"**Specifications**" means the documents prepared by or on behalf of the Contractor comprising written technical descriptions of materials, equipment, restoration systems, standards, and workmanship for the Habitat Restoration Work and certain administrative details applicable thereto.

"**State**", when used with respect to a matter as to which either of the States has any regulatory, administrative, approval, review or other legal right or powers, means either or both of the States having such right or powers, as applicable.

"**States**" means both the State of California and the State of Oregon.

"**Subcontract**" means any contract entered into by the Contractor, or a Subcontractor of the Contractor of any tier, with one or more persons in connection with the carrying out of the Contractor's obligations under this Agreement, whether for the furnishing of

labor, materials, equipment, Supplies, services or otherwise, including contracts for Habitat Project Work.

"**Subcontractor**" means any person, other than the Contractor, that enters into a Subcontract, including Suppliers and any subcontractors performing Habitat Project Work.

"**Supplier**" means a manufacturer, distributor, materialman, fabricator, distributor, vendor or other supplier having a Subcontract to furnish Supplies.

"**Supplies**" means plant or other natural material, equipment systems or other supplies furnished in connection with the Habitat Project Work.

"**Surety**" means the surety company issuing the Performance Bond or Payment Bond, as applicable.

"**Surrender Application**" means the Application for Surrender of License for Major Project and Removal of Habitat Maintenance Services filed with FERC by the KRRC and PacifiCorp on September 23, 2016, seeking FERC's approval to surrender the license for the Facilities and to achieve, by implementation of the Definite Plan, a free-flowing condition and volitional fish passage through the portions of the Klamath River occupied by the Facilities.

"**Tax**" means any tax, fee, levy, duty, impost, charge, surcharge, assessment or withholding, or any payment-in-lieu thereof, and any related interest, penalty or addition to tax.

"**TBE Firms**" means any tribal business enterprise that is at least 51% owned by an Indian tribe or by Indian tribe members. For the purposes of this definition, an "Indian tribe" means any Indian tribe, band, nation or other organized group or community of Indians, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians or is recognized as such by the State in which the tribe, band, nation or community resides.

"**Term**" has the meaning set forth in Section 3.1 (Effective Date and Term).

"**Termination Date**" means the earlier of the Expiration Date or the date of termination of this Agreement under Article 14 (Breach, Default, Remedies and Termination).

"**Transaction Form**" means any of the transaction forms identified in the Table of Contents to this Agreement.

"**Transfer Application**" means the Joint Application for Approval of License Amendment and License Transfer filed with FERC by the KRRC and PacifiCorp on September 23, 2016, seeking FERC's approval of a separate license for the Facilities and to transfer the license for the Facilities from PacifiCorp to the KRRC.

"**Uncontrollable Circumstance**" means, and is limited to, any of the following acts, events or conditions that materially expands the scope, interferes with, delays or increases the cost of performing the Contractor's obligations under this Agreement, to the extent that such act, event or condition is not the result of the willful or negligent act, error or omission, failure to exercise reasonable diligence, or breach of this Agreement on the part of the Contractor:

(1) Errors, omissions or inaccuracies in the information contained in the Reliance Documents, as provided in subsection 4.8(B) (Reliance by Contractor on the Reliance Documents;

(2) Defects in the interrelated work of the KRRC or a Separate Contractor, as provided in subsection 6.5(D) (Interrelated Work);

(3) Disputes associated with the work of a Separate Contractor, as provided in subsection 6.5(E) (Disputes Associated with Separate Work);

(4) Any KRRC order suspending the Habitat Restoration Work issued pursuant to Section 6.6 (Suspension of Work);

(5) Delays in connection with KRRC testing or inspections, as provided in subsection 6.10(C) (KRRC Tests, Observations and Inspection);

(6) The exercise by KRRC or any Governmental Body of any right either may have to restrict access to the Habitat Project Work Area;

(7) Any filing, petition or similar request by the KRRC to change, amend, terminate or otherwise modify any Contractor-Allocated KRRC Regulatory Terms, without the prior written consent of and consultation with the Contractor, resulting in an amendment to, or modification of a Contractor-Allocated KRRC Regulatory Term;

(8) Any KRRC Fault or any Project Company Fault, each not made due to Contractor Fault;

(9) Any Project Company "Uncontrollable Circumstance" (as defined in the Project Agreement) that materially and adversely affects the performance by the Project Company of its obligations under the Project Agreement, where such non-performance materially and adversely affects the Contractor's Contract Obligations;

(10) The terms and conditions of any new Governmental Approval necessary for the Habitat Project Work but that, due to KRRC's error or omission, is not identified until after the Habitat Project Work Implementation Contract Amendment Date; or

(11) Any third party litigation filed against the KRRC, any Contractor Indemnitee, or any Governmental Body in connection with a Governmental Approval that results in a court order, settlement, or similar outcome restraining the performance of, or altering, the Habitat Project Work, to the extent not due to or arising out of Contractor Fault.

"**Utilities**" means any and all utility services and installations whatsoever (including gas, water, sewer, electricity, telephone, and telecommunications), and all piping, wiring, conduit, and other fixtures of every kind whatsoever related thereto or used in connection therewith.

"**Water Resources Control Board**" means the California State Water Resources Control Board.

SECTION 1.2. INTERPRETATION.

This Agreement shall be interpreted according to the following provisions, except to the extent the context or the express provisions of this Agreement otherwise require:

(A) Gender and Plurality. Words of the masculine gender mean and include correlative words of the feminine and neuter genders and words importing the singular number mean and include the plural number and vice versa.

(B) Persons. Words importing persons include firms, individuals, legal personal representatives, companies, associations, joint ventures, general partnerships, limited partnerships, limited liability corporations, trusts, business trusts, corporations, Governmental Bodies and other legal entities.

(C) Headings. The Table of Contents and any headings preceding the text of the Articles, Sections and subsections of this Agreement shall be solely for convenience of reference and shall not affect its meaning, construction or effect.

(D) References Hereto. The terms "hereto", "hereby", "hereof", "herein", "hereunder" and any similar terms refer to this Agreement.

(E) References to Days and Time of Day. All references to days herein are references to calendar days, unless otherwise indicated, such as by reference to Business Days. If the time for doing an act falls or expires on a day that is not a Business Day, the time for doing such act shall be extended to the next Business Day. Each reference to time of day is a reference to Pacific Standard time or Pacific Daylight Saving time, as the case may be.

(F) References to Including. The words "include", "includes" and "including" are to be construed as meaning "include without limitation", "includes without limitation" and "including without limitation", respectively.

(G) References to Statutes. Each reference to a statute or statutory provision includes any statute or statutory provision which amends, extends, consolidates or replaces the statute or statutory provision or which has been amended, extended, consolidated or replaced by the statute or statutory provision and includes any orders, regulations, by-laws, ordinances, codes of practice or instruments made under the relevant statute.

(H) References to the KRRC, Governmental Bodies and Private Persons. Each reference to the KRRC or a Governmental Body is deemed to include a reference to any successor to the KRRC or such Governmental Body or any organization or entity or organizations or entities which has or have taken over the functions or responsibilities of the KRRC or such Governmental Body. Each reference to a private person that is not an individual is deemed to include a reference to its successors and permitted assigns.

(I) References to Documents and Standards. Each reference to an agreement, document, standard, principle or other instrument includes a reference to that agreement, document, standard, principle or instrument as amended, supplemented, substituted, novated or assigned.

(J) References to All Reasonable Efforts. The expression "all reasonable efforts" and expressions of like import, when used in connection with an obligation of either Party, means taking in good faith and with due diligence all commercially reasonable steps to achieve the objective and to perform the obligation, including doing all that can reasonably be done in the circumstances taking into account each Party's obligations hereunder to mitigate delays and additional costs to the other Party, and in any event taking no less steps and efforts than those that would be taken by a commercially reasonable and prudent person in comparable circumstances.

(K) References to Knowledge. All references to "knowledge", "knowing", "know" or "knew" shall be interpreted as references to a Party having actual knowledge.

(L) References to Dollar Amounts. All statements of, or references to, dollar amounts or money, including references to "$" and "dollars", are to the lawful currency of the

United States of America. All payments required to be made by either Party hereunder shall be made in dollars.

(M) References to Promptly. All references to "promptly" shall be interpreted as meaning such action shall occur within a reasonable period of time given the circumstances.

(N) Entire Agreement. This Agreement contains the entire agreement between the Parties hereto with respect to the transactions contemplated by this Agreement. Without limiting the generality of the foregoing, this Agreement shall completely and fully supersede all other understandings and agreements among the Parties hereto with respect to such transactions.

(O) Standards of Workmanship and Materials. Any reference in the Contract Documents to materials, equipment, systems or supplies (whether such references are in lists, notes, schedules, or otherwise) shall be construed to require the Contractor to furnish the same in accordance with the grades and standards therefor indicated in the Contract Documents. Where the Contract Documents do not specify any explicit quality or standard for habitat restoration and maintenance materials or workmanship, the Contractor shall use only workmanship and new materials of a quality consistent with that of habitat restoration and maintenance workmanship and materials that are specified elsewhere in the Contract Documents, and the Contract Documents are to be interpreted accordingly.

(P) Technical Standards and Codes. References in the Contract Documents to all professional and technical standards and codes are to the most recently published professional and technical standards and codes of the institute, organization, association, authority or society specified, all as in effect as of the Contract Date. Unless otherwise specified to the contrary, all such professional and technical standards and codes shall apply as if incorporated in the Contract Documents.

(Q) Causing Performance. A Party shall itself perform, or shall cause to be performed, subject to any limitations specifically imposed hereby with respect to Subcontractors or otherwise, the obligations affirmatively undertaken by such party under this Agreement.

(R) Party Bearing Cost of Performance. All obligations undertaken by each Party shall be performed at the cost of the Party undertaking the obligation or responsibility, unless the other Party has explicitly agreed herein to bear all or a portion of the cost either directly, by reimbursement to the other Party or through an adjustment to the Contract Compensation.

(S) Interpretation of Contract Documents. The Contract Documents are intended to be complementary, and what is set forth in any one document is as binding as if set forth in each document. The Parties recognize that Contract Amendments may provide for specific modification to the terms and conditions of other Contract Documents, in which case the modified terms and conditions shall govern, as expressly set forth in the Contract Amendment. All terms and conditions of such other Contract Documents that are not expressly modified or deleted by a Contract Amendment, however, shall remain in effect. Subject to the foregoing terms in this Section, subsection (T) (Applicability and Consistency of Contract Standards) of this Section shall govern matters of interpretation related to the applicability and consistency of the Contract Documents, the requirements of which are included among the Contract Standards. Matters of interpretation and application of the Contract Documents that are agreed upon by the Parties may be reflected in a Contract Administration Memorandum prepared in accordance with Section 18.4 (Contract Administration).

(T) Applicability and Consistency of Contract Standards. The Contractor shall be obligated to comply only with those Contract Standards which are applicable in any particular

case. Where more than one Contract Standard applies to any particular performance obligation of the Contractor hereunder, each such applicable Contract Standard shall be complied with.

(U) Delivery of Documents in Digital Format. In the Contract Documents, the Contractor is obligated to deliver reports, records and other documentary submittals in connection with the performance of its duties hereunder. The Contractor agrees that all such documents shall be submitted to the KRRC in digital form, and at the KRRC's request in printed form. Digital copies shall consist of computer readable data submitted in any standard interchange format which the KRRC may reasonably request to facilitate the administration and enforcement of this Agreement.

(V) Severability. Each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law. If any provision of this Agreement is held to be invalid, unenforceable or illegal to any extent, such provision shall be severed and such invalidity, unenforceability or illegality shall not prejudice or affect the validity, enforceability and legality of the remaining provisions of this Agreement, unless such continued effectiveness as modified would be contrary to the basic understandings and intentions of the Parties as expressed herein. If any provision of this Agreement is held to be invalid, unenforceable or illegal, the Parties will promptly endeavor in good faith to negotiate new provisions to eliminate such invalidity, unenforceability or illegality and to restore this Agreement as nearly as possible to its original intent and effect.

(W) Drafting Responsibility. The Parties waive the application of any rule of law which otherwise would be applicable in connection with the construction of this Agreement to the effect that ambiguous or conflicting terms or provisions should be construed against the Party who (or whose counsel) prepared the executed agreement or any earlier draft of the same.

(X) No Third-Party Rights; States and PacifiCorp Excepted. This Agreement is exclusively for the benefit of the KRRC and the Contractor; provided, however, that the States and PacifiCorp, shall be third party beneficiaries hereof as provided by KHSA Appendix L and as expressly provided for in Article 16 (Indemnification) and Appendix 11 (Insurance Requirements). This Agreement shall not provide any other third parties with any remedy, claim, liability, reimbursement, cause of action or other rights.

(Y) Acting Reasonably and in Good Faith; Discretion. Each Party shall act reasonably and in good faith in the exercise of its rights hereunder, except where a Party has the right to act in its "discretion" by the express terms hereof. When a Party expressly has "discretion", it means that Party has the sole, absolute and unfettered discretion, with no requirement to act reasonably or provide reasons unless specifically required under the provisions of this Agreement. When a Party does not expressly have "discretion" it means that the Party shall act reasonably.

(Z) Counterparts and Delivery by Electronic Mail. This Agreement may be executed in any number of original counterparts. All such counterparts shall constitute but one and the same Agreement. Any Party may deliver an executed copy of this Agreement by electronic mail and such counterpart shall be deemed effective upon receipt.

(AA) Governing Law. This Agreement shall be governed by and construed in accordance with the applicable laws of the State of California without regard to the choice of law provisions thereof.

(BB) Defined Terms. The definitions set forth in Section 1.1 (Definitions) shall control in the event of any conflict with any definitions used elsewhere in this Agreement.

(CC) Interpolation. If any calculation hereunder is to be made by reference to a chart or table of values, and the reference calculation falls between two stated values, the calculation shall be made on the basis of linear interpolation.

(DD) Accounting and Financial Terms. All accounting and financial terms used herein are, unless otherwise indicated, to be interpreted and applied in accordance with generally accepted accounting principles.

ARTICLE 2

REPRESENTATIONS AND WARRANTIES

SECTION 2.1. REPRESENTATIONS AND WARRANTIES OF THE KRRC.

In addition to any other representations and warranties made by the KRRC in this Agreement, the KRRC represents and warrants that:

(A) Existence and Powers. The KRRC is a not-for-profit corporation organized and existing under and by virtue of the laws of the State of California, with the full legal right, power and authority to enter into and perform its obligations under this Agreement.

(B) Due Authorization and Binding Obligation. This Agreement has been duly authorized, executed and delivered by all necessary action of the KRRC and constitutes a legal, valid and binding obligation of the KRRC, enforceable against the KRRC in accordance with its terms and Applicable Law, except to the extent that its enforceability may be limited by the Bankruptcy Law or by equitable principles of general application.

(C) KHSA and Funding Agreements. The execution and delivery of this Agreement and the performance by the KRRC of its obligations hereunder does not require the consent or approval of any party to the KHSA or the Funding Agreements, except such as have been duly obtained as of the Contract Date.

(D) No Approvals Required. No approval, authorization, order or consent of, or declaration, registration or filing with, any Governmental Body is required for the valid execution, delivery and performance of this Agreement by the KRRC, except such as have been duly obtained or made.

(E) No Conflict. Neither the execution nor delivery by the KRRC of this Agreement nor the performance by the KRRC of its obligations in connection with the transactions contemplated hereby nor the fulfillment by the KRRC of the terms or conditions hereof (1) conflicts with, violates or results in a breach of any of its organizational or charter documents; or (2) conflicts with, violates or results in a breach of any contract, agreement or instrument to which the KRRC or any of its Affiliates is a party or by which the KRRC or any of its Affiliates or any of its properties or assets are bound, or constitutes a default under any of the foregoing.

(F) No Litigation. There is no Legal Proceeding, at law or in equity, before or by any court, arbitral tribunal or other Governmental Body pending against the KRRC, in which an unfavorable decision, ruling or finding could reasonably be expected to have a material and adverse effect on the execution and delivery of this Agreement by the KRRC or the validity, legality or enforceability of this Agreement against the KRRC or on the ability of the KRRC to perform its obligations hereunder.

SECTION 2.2. REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR.

In addition to any other representations and warranties made by the Contractor in this Agreement, the Contractor represents and warrants that:

(A) Existence and Powers. The Contractor is a corporation duly organized, validly existing and in good standing under the laws of the Commonwealth of Virginia and has the authority to do business in the States and in any other state in which it conducts its

activities, with the full legal right, power and authority to enter into and perform its obligations under this Agreement.

(B) Due Authorization and Binding Obligation. This Agreement has been duly authorized, executed and delivered by all necessary corporate action of the Contractor and constitutes a legal, valid and binding obligation of the Contractor, enforceable against the Contractor in accordance with its terms, except to the extent that its enforceability may be limited by the Bankruptcy Law or by equitable principles of general application.

(C) No Conflict. Neither the execution nor delivery by the Contractor of this Agreement nor the performance by the Contractor of its obligations in connection with the transactions contemplated hereby nor the fulfillment by the Contractor of the terms or conditions hereof (1) conflicts with, violates or results in a breach of any of its organizational or charter documents; or (2) conflicts with, violates or results in a breach of any contract, agreement or instrument to which the Contractor or any of its Affiliates is a party or by which the Contractor or any of its Affiliates or any of its properties or assets are bound, or constitutes a default under any of the foregoing.

(D) No Commitments Limiting Ability to Perform Contract Obligations. The Contractor has no commitments, obligations, or impediments of any kind that would have a material and adverse impact on the ability of the Contractor to perform the Contract Obligations in accordance with the Contract Standards. The Contractor covenants that it will not enter into any such commitment throughout the Term.

(E) No Organizational Approvals Required. No internal approval, authorization, order or consent is required for the valid execution and delivery of this Agreement by the Contractor except as such have been duly obtained or made as of the Contract Date.

(F) Licensing and Registration Requirements. The Contractor possesses all professional licenses required to perform the Habitat Project Work, subject to obtaining all Contractor Governmental Approvals required under this Agreement, and is not in violation of any of the terms or conditions of such licenses.

(G) No Litigation. There is no Legal Proceeding, at law or in equity, before or by any court, arbitral tribunal or other Governmental Body pending against the Contractor, in which an unfavorable decision, ruling or finding could reasonably be expected to have a material and adverse effect on the execution and delivery of this Agreement by the Contractor or the validity, legality or enforceability of this Agreement against the Contractor or on the ability of the Contractor to perform its obligations hereunder.

(H) Claims and Demands. There are no material and adverse claims or demands based in environmental, contract or tort law pending against the Contractor or any of its Affiliates with respect to any facilities designed or constructed by the Contractor or any of its Affiliates that would have a material and adverse effect upon the ability of the Contractor to perform the Contract Obligations.

(I) Applicable Law Compliance. To the best of its knowledge after due inquiry, the Contractor and its Affiliates are not in material violation of any law, order, rule or regulation with respect to any facilities designed or constructed by the Contractor or any of its Affiliates.

(J) Information Supplied by the Contractor. The information supplied by the Contractor in the documents identified in Appendix 13 (Contractor-Supplied Information) in connection with the Project are true, correct and complete in all material respects.

(K) Intellectual Property. To the Contractor's knowledge after due inquiry, the Contractor owns, or has sufficient rights to use, all Intellectual Property necessary for the Habitat Project Work without any material conflict with the rights of others.

(L) Practicability of Performance. Subject to, and in accordance with, the express terms of this Agreement, the Contractor assumes the risk of the practicability and possibility of performance of its Contract Obligations in compliance with the requirements of this Agreement and agrees that sufficient consideration for the assumption of such risk is included in the Contract Compensation.

ARTICLE 3

TERM

SECTION 3.1. EFFECTIVE DATE AND TERM.

(A) Term. This Agreement shall become effective, and the term hereof (the "**Term**") shall commence, on the Contract Date, and shall continue in effect until all of the Contractor Regulatory Compliance Terms have expired or are otherwise no longer in force and effect (the "**Expiration Date**") or, if this Agreement is terminated earlier by either Party in accordance with their respective termination rights under Article 14 (Breach, Default, Remedies and Termination), to the Termination Date.

(B) Commencement of Habitat Project Work. The obligation of the Contractor to perform the Habitat Project Work shall commence on the Habitat Project Work Commencement Date and shall continue throughout the balance of the Term in accordance with and subject to the express terms of this Agreement.

(C) Accrued Rights. No termination of this Agreement shall:

(1) Limit or otherwise affect the respective rights and obligations of the Parties accrued prior to the Termination Date; or

(2) Preclude either Party from impleading the other Party in any Legal Proceeding originated by a third party as to any matter arising during the Term.

SECTION 3.2. SURVIVAL.

Notwithstanding any other provision of this Agreement, this Section and the following provisions hereof shall survive the expiration or any earlier termination of this Agreement:

(1) Article 2 (Representations and Warranties);

(2) Article 13 (Dispute Resolution);

(3) Article 14 (Breach, Default, Remedies and Termination), as applicable to the surviving obligations of the Parties following the Termination Date;

(4) Article 16 (Indemnification), including all of the indemnities, limitations and releases set forth therein, with respect to claims first arising or occurring during the Term;

(5) Section 18.8 (Interest on Overdue Obligations);

(6) Section 18.11 (Retention and Audit of Books and Records);

(7) Appendix 11 (Insurance Requirements), with respect to claims first arising or occurring during the Term;

(8) All provisions of this Agreement with respect to payment obligations of the Contractor or the KRRC, in each case, that accrued prior to the Termination Date;

(9) Any other provisions which either expressly or by their context should survive expiration or early termination of this Agreement or the completion of the Contract Obligations; and

(10) Any provisions necessary to give effect to the provisions referenced or described in this Section.

ARTICLE 4

OVERVIEW AND GENERAL TERMS

SECTION 4.1. PROJECT OVERVIEW.

(A) Project Background. The Project is being implemented pursuant to the terms of the KHSA, a settlement agreement which represents the culmination of a lengthy period of planning, development and dispute resolution among the 53 KHSA signatories. The KRRC was formed as a California not-for-profit corporation pursuant to the KHSA for purposes of implementing the Project. Implementation requires, as preconditions, primarily environmental reviews, FERC license transfer and surrender, the issuance of governmental licenses, permits and approvals, and PacifiCorp land transfer. Project engineering, design, permitting and cost-estimating work has been undertaken by the Project Company, and by the Contractor as a subcontractor to the Project Company, under the Project Agreement in anticipation of the implementation of the Project once all preconditions have been satisfied. Additional preliminary services are to be provided by the Project Company under the Project Agreement and by the Contractor under this Agreement prior to the Project Implementation Contract Amendment Date under the Project Agreement and the Habitat Project Work Implementation Contract Amendment Date under this Agreement, which are expected to occur concurrently. The Project consists of Facilities Removal to be performed by the Project Company under the Project Agreement, and of the related Habitat Restoration Work and Habitat Maintenance Services to be performed by the Contractor hereunder.

(B) Habitat Project Work Generally. The Habitat Project Work consists generally of rim stability improvements; sourcing of plant materials; seed collection and propagation; invasive exotic vegetation removal; terrestrial restoration of former reservoir and other disturbed areas with native vegetation and engineered habitat features, including excavation to optimize near-channel habitat and improve floodplain and tributary connectivity, installation of large wood habitat features, riparian bank revegetation, and installation of bank stability or channel fringe complexity features in select locations; installation of irrigation systems; plant establishment and maintenance; and plant monitoring and reporting. This subsection is provided for summary and overview purposes only, is non-binding on the Parties in all respects, and shall not be used in the interpretation or application of this Agreement.

(C) Contractor Regulatory Compliance Terms Generally. The Contractor Regulatory Compliance Terms are those Governmental Approval terms and conditions required for the Contractor to perform the Habitat Project Work. The KRRC is responsible for managing the application process for, and obtaining, the KRRC Governmental Approvals, of which certain KRRC Regulatory Terms will be Contractor-Allocated KRRC Regulatory Terms and therefore Contractor Regulatory Compliance Terms. The Contractor is responsible for managing the application process for, and obtaining, the Contractor Governmental Approvals. The Contractor shall reasonably cooperate with and assist the KRRC in applying for and obtaining the KRRC Governmental Approvals, but shall have no responsibility to obtain or to comply with the terms and conditions any KRRC Regulatory Terms that are not Contractor-Allocated KRRC Regulatory Terms.

(D) Reliance by the KRRC. The Contractor acknowledges and agrees that the KRRC is entering into this Agreement in reliance on the Contractor's expertise with respect to the performance of the Contract Obligations. The Contractor recognizes that the Project will serve an essential public service and is critically important in order to enable the KRRC to continue to meet its obligations under the KHSA, the Funding Agreements and the FERC License Orders and its obligations as permittee under the KRRC Governmental Approvals.

SECTION 4.2. TERMS OF PRICING.

(A) Preliminary Services and Pricing and Terms. The Preliminary Services Fee and the scope of the Preliminary Services have been negotiated and agreed to by the Parties and set forth in Section 5.3 (Compensation for Preliminary Services) as of the Contract Date.

(B) Contract Compensation. The Habitat Restoration Work Price and the Habitat Maintenance Fee have been established as of the Contract Date on the basis and subject to the terms and conditions described in Section 5.9 (Habitat Project Work Implementation Contract Amendment).

(C) Expected Amendment of this Agreement Prior to Commencement of the Habitat Project Work. As of the Contract Date, the Parties expect (but without any obligation or liability whatsoever for the failure to agree to the same) to enter into the Habitat Project Work Implementation Contract Amendment following the receipt of all KRRC Governmental Approvals and Contractor Governmental Approvals necessary to commence the Habitat Project Work, and that the Habitat Project Work will thereupon commence.

SECTION 4.3. OVERVIEW OF PROJECT RISK ALLOCATION AND MITIGATION.

(A) Non-Binding Summary and Overview. This Section is provided for summary and overview purposes only, is non-binding on the Parties in any respect, and shall not be used in the interpretation or application of this Agreement. This overview is qualified in its entirety by the specific terms and conditions of the various agreements and instruments that are referred to herein, including this Agreement and the Project Agreement.

(B) Liability Protection Package Generally. The Project involves a number of risks to the KRRC, the Contractor and the Project Company that are intrinsic to Facilities Removal, and a comprehensive risk allocation and mitigation program has been developed that the KRRC believes is appropriate to the Project. The Project risk allocation and mitigation program consists primarily of the package of liability protections that are summarized in this Section.

(C) Intrinsic Risks in Facilities Removal. Among the general risks intrinsic to Facilities Removal that the KRRC, the Contractor, the Project Company and the Contractor Indemnitees have identified and evaluated are the risks of (1) non-performance by any Project contractor; (2) the occurrence of insurable or uninsurable force majeure events or other circumstances outside the control of the KRRC, the Project Company or the Contractor; (3) impacts on public lands and private property, businesses or interests, and claims filed by persons alleging damage or injury from those impacts, or otherwise objecting to Facilities Removal and its consequences; and (4) potential actions that may be taken by Governmental Bodies to enforce, augment or modify the terms and conditions of the Governmental Approvals.

(D) Liability Protection Package Elements. The primary elements of the liability protection package for the Project consist of (1) parent company guarantees and surety bonds required to be provided by the Contractor and the Project Company under this Agreement and the Project Agreement; (2) the insurance required to be provided under this Agreement and the Project Agreement; (3) the express indemnity protections provided by the Contractor under this Agreement and by the Project Company under the Project Agreement; (4) the commitments of the Contractor under this Agreement to comply with the Contractor Regulatory Compliance Terms; (5) the establishment of the Local Impact Mitigation Fund to handle claims for damages resulting from Facilities Removal; (6) the establishment of the Facilities Removal Defense Fund

to pay legal expenses incurred defending certain claims that may arise from Facilities Removal; and (7) the KRRC contingency reserve.

(E) Contractor Performance Guarantees. The Project is expected to be implemented in part by the Contractor under this Agreement and in part by the Project Company under the Project Agreement. The risk of contract non-performance has been mitigated by unconditional contract performance guarantees provided respectively by the parent companies of the Contractor and the Project Company, and by performance bonds furnished respectively by the Contractor and the Project Company.

(F) Insurance. The insurance policies required to be provided by the Contractor under this Agreement and by the Project Company under the Project Agreement include coverage for (1) builder's risk (in the case of the Project Company only); (2) professional liability; (3) commercial general liability; (4) commercial automobile liability; (5) workers' compensation and employer's liability; (6) excess liability; and (7) watercraft and aircraft liability. The KRRC is also obligated under this Agreement and under the Project Agreement to provide contractor's pollution liability and pollution legal liability insurance, and will acquire an owner's interest policy as well.

(G) Contractor Regulatory Compliance Terms. The Contractor Regulatory Compliance Terms contain provisions under which various Governmental Bodies have the right to impose obligations, to be determined in the future, relating to restoration of habitat and adaptive management requirements arising from the Facilities Removal. The liability associated with such terms and conditions has been transferred to the Contractor in accordance with and subject to the express terms of this Agreement.

(H) Local Impact Mitigation Fund. The KRRC has established, or will establish, a separate fund (the "**Local Impact Mitigation Fund**") to handle certain damages or injuries that may result from the impact of Facilities Removal. The Local Impact Mitigation Fund is or will be a dedicated balance sheet reserve or escrow fund sized to respond to such damages based on detailed, formal risk analyses.

(I) Facilities Removal Defense Fund. The KRRC has also established, or will establish, a separate fund (the "**Facilities Removal Defense Fund**") to pay for the legal expenses incurred by (1) the Contractor Indemnitees, and (2) the Project Company and the Contractor (to the extent such entities are not required by the Project Agreement or this Agreement, respectively, to indemnify for such claim) in defending potential claims filed by persons alleging damages or injuries resulting from the impact of Facilities Removal. The Facilities Removal Defense Fund, a companion fund to the Local Impact Mitigation Fund, also is or will be a dedicated KRRC balance sheet reserve or escrow fund established for similar purposes.

(J) KRRC Contingency Reserve. The KRRC has further reserved funds on its balance sheet for contingency events that may or may not occur under the Project Agreement or this Agreement, including Uncontrollable Circumstances. These reserves, along with any other available KRRC funds, are also available to respond to any KHSA indemnification claim by the States or PacifiCorp made pursuant to Section 7.1.3 of the KHSA in the event that any of the other liability protections referred to in this Section are insufficient to pay such claims.

SECTION 4.4. CONTRACTOR RESPONSIBILITIES GENERALLY.

(A) Scope of the Contract Obligations. The Contractor agrees to perform all Contract Obligations in accordance with the Contract Standards. In no event shall the Contractor commence, or be obligated to commence, the Habitat Restoration Work or Habitat Maintenance Services prior to Habitat Project Work Commencement Date. Upon and following

the Habitat Project Work Commencement Date, the Contractor shall be solely responsible for undertaking and performing the Habitat Restoration Services and Habitat Maintenance Services in accordance with the Contract Documents.

(B) Compliance with Funding Requirements. The Contractor shall comply with all applicable Funding Requirements; per diem and mileage rates for travel reimbursement purposes approved or set by the General Services Administration (GSA); prevailing wage requirements; and State audit requirements. The Contractor shall include the applicable Funding Requirements in all Subcontracts in a manner that effectively establishes the right of the Funders to enforce such requirements. In the event of a change in applicable Funding Requirements (including any such change in prevailing wage or other requirements) effective following the Contract Date, the Contractor shall be entitled to an adjustment to the Contract Compensation to account for any additional incremental cost of compliance. The Contractor shall, upon request, provide the KRRC with an acknowledgment of compliance with any Funding Requirement, together with appropriate supporting documentation not already in the KRRC's possession.

(C) Cooperation. The Contractor agrees to reasonably cooperate with the KRRC and any other contractor engaged by the KRRC in connection with the work to be performed toward completion of the Project and any Related Project, including the Program Manager. The KRRC and the Contractor each recognizes that a cooperative and collaborative environment among all persons engaged in performing such work is essential to the successful implementation of the Project and each agree to use all reasonable efforts to work with all such other persons toward fostering such an environment.

(D) Responsibility for Personnel and Subcontractors. All obligations of the Contractor under this Agreement shall be performed by Contractor employees, agents or Subcontractors (subject to the limitations set forth in Article 10 (Management, Labor and Subcontractors)) who are qualified to perform the specific services and meet all licensing and certification requirements of Applicable Law. The Contractor shall be fully responsible, in accordance with, and subject to, the terms and conditions of this Agreement, for all Contract Obligations performed on behalf of Contractor by its employees, agents or Subcontractors.

SECTION 4.5. ENVIRONMENTAL REVIEW.

(A) EIR. As of the Contract Date, a draft EIR is being prepared with respect to the Project by the Water Resources Control Board under CEQA. The Parties acknowledge and agree that the finalization and certification of the EIR is a condition to the occurrence of the Habitat Project Work Commencement Date.

(B) NEPA Compliance Document. As of the Contract Date, applications for the FERC License Orders have been filed. The Parties acknowledge and agree that the issuance of the FERC License Surrender Order will require the preparation of a NEPA Compliance Document, and that the finalization of a NEPA Compliance Document and the FERC License Surrender Order are conditions to the occurrence of the Habitat Project Work Commencement Date.

(C) EIR and NEPA Compliance Document Environmental Mitigation Measures. The Parties acknowledge and agree that the environmental mitigation measures required under the certified EIR and the NEPA Compliance Document shall be incorporated in the Habitat Maintenance Services as confirmed or revised as part of the Habitat Project Work Implementation Contract Amendment, to the extent such amendment is entered into hereby by the Parties.

SECTION 4.6. REGULATED SITE CONDITIONS.

In performing the Habitat Project Work, the Contractor shall exercise due care, in light of all relevant facts and circumstances, to avoid exacerbating any Regulated Site Condition after the location and existence of such Regulated Site Condition has been disclosed to the Contractor or becomes actually known by the Contractor through physical observation. Notwithstanding anything to the contrary in this Section, the Contractor shall bear full responsibility for the Contractor's handling, treatment, storage, removal, remediation, avoidance or other appropriate action (if any), with respect to:

(1) any Regulated Substance present at, on, in, under or migrating or emanating to or from the Project Site, that was generated by or brought or caused to be brought to the Project Site or the Habitat Project Work Area by any act or omission of the Contractor or any of its Subcontractors (which shall not include any Regulated Substances (including arsenic) contained in the sediments at the Project Site); and

(2) the Contractor shall indemnify, defend and hold harmless the Contractor Indemnitees in accordance with and to the extent provided in Article 16 (Indemnification) from and against all Loss-and-Expense to the extent resulting from Contractor's failure to meet its responsibilities under clause (1) of this Section;.

provided, however, and notwithstanding anything in this Agreement to the contrary, the Contractor shall have no liability hereunder or otherwise (including in respect of any indemnification or performance obligations and notwithstanding any changes to any Contractor Regulatory Compliance Term) relating to, arising from or in connection with (i) any Regulated Substance pre-existing in any sediment at the Project Site or Habitat Project Work Area that was not first introduced by the Contractor, or (ii) any arsenic present in soil or groundwater that was not first introduced by the Contractor. The Parties agree that any cost or liability associated with such Regulated Substance shall be exclusively handled through the Local Impact Mitigation Fund or the KRRC's insurance.

SECTION 4.7. ACCESS TO AND SUITABILITY OF THE HABITAT PROJECT WORK AREA.

(A) Familiarity with the Habitat Project Work Area. Prior to the Contract Date, the Contractor's agents and representatives shall have inspected and become familiar with the Habitat Project Work Area, their physical condition relevant to the obligations of the Contractor pursuant to this Agreement, including surface conditions, natural terrain, vegetation, roads, Utilities, topographical conditions and air and water quality conditions. Further, as of the Contract Date, the Contractor shall be familiar with all local and other conditions which may be material to the Contractor's performance of the Contract Obligations (including transportation; seasons and climate; access, availability, disposal, handling and storage of materials and equipment; and availability and quality of labor and Utilities); the Contractor shall have reviewed all information made available by the KRRC and the Project Company regarding the Project, the Project Site, the Habitat Project Work Area and the Habitat Project Work provided to or developed by the Contractor pursuant to or in connection with this Agreement and the Project Agreement, including the information contained in the Reference Documents; the Contractor shall have made all other site investigations that it deems necessary to make a determination as to the condition of the Project, the Project Site and the Habitat Project Work Area, to confirm that the Habitat Project Work Area constitutes an acceptable and suitable site for the Habitat Restoration Work and the Habitat Maintenance Services, and to confirm the Contract Compensation. Subject to (i) the proviso at the end of Section 4.6 (Regulated Site Condition) and (ii) the Contractor's relief for Uncontrollable Circumstances, the Contractor accepts the Project Site and Habitat Project Work Area in their "as-is" condition and acknowledges that the Project Site and Habitat Project

Work Areas contains undeveloped property containing natural and wild waters, terrain, plants and animals.

(B) Independent Verification of KRRC-Provided Project Site Information. The Contractor acknowledges that it is responsible for the independent verification and confirmation of any Project Site and Habitat Project Work Area information supplied to it in good faith. Subject to (i) the proviso at the end of Section 4.6 (Regulated Site Condition) and (ii) the Contractor's relief for Uncontrollable Circumstances, the Contractor assumes full responsibility for inspecting the Project Site and the Habitat Project Work Area and for the means and methods that it employs when performing the Habitat Project Work.

(C) Access to the Project Site and Habitat Project Work Area. Following the transfer of any PacifiCorp owned properties to the KRRC, the execution of this Agreement shall be deemed to constitute the granting of a license to the Contractor to access the Project Site and the Habitat Project Work Area for the purposes of performing the Contract Obligations. The Contractor shall assume all risks associated with its accessing the Project Site and Habitat Project Work Area and shall indemnify, defend and hold harmless the Contractor Indemnitees in accordance with and to the extent provided in Article 16 (Indemnification) from and against all Loss-and-Expense resulting therefrom. For the duration of the Term, the Contractor shall have all Project Site and Habitat Project Work Area access rights as are necessary for the performance of the Contract Obligations in accordance with the Contract Documents and Contract Standards and such access rights shall not be subject to any further KRRC approval. Notwithstanding any of the foregoing, the Contractor shall at all times comply with the Project Site and Habitat Project Work Area access requirements and restrictions expressly set forth in the Contract Documents.

(D) Water Supply. In connection with the negotiation of the Habitat Project Work Implementation Contractor Amendment, pursuant to Section 5.9 (Habitat Project Work Implementation Contract Amendment), the KRRC and the Contractor shall negotiate an appropriate allocation of responsibility for obtaining water necessary for the performance of any Habitat Project Work.

SECTION 4.8. INFORMATION PROVIDED BY OR ON BEHALF OF THE KRRC.

(A) Generally. The KRRC makes no representation or warranty with respect to any information provided to the Contractor by or on behalf of the KRRC in connection with this Agreement except as specifically provided in subsection (B) (Reliance by Contractor on the Reliance Documents) of this Section. Except (1) for information set forth in Reliance Documents, and (2) as set forth in the Contract Documents (including in relation to relief for Uncontrollable Circumstances), the Contractor shall assess all risks related to the Contract Obligations and independently verify and confirm all information supplied to it by or on behalf of the KRRC and upon which the Contractor elects to rely in connection herewith. Except as otherwise provided in subsection (B) (Reliance by Contractor on the Reliance Documents) of this Section and as may reasonably be requested by the Contractor, agreed upon by the KRRC in its discretion, and expressly established in the Habitat Project Work Implementation Contract Amendment, the Contractor shall have no right to relief hereunder or to make any claim against the KRRC, or to seek any adjustment to the Contract Compensation as the result of any error, omission or insufficiency relating to any information provided to the Contractor by or on behalf of the KRRC in connection with this Agreement.

(B) Reliance by Contractor on the Reliance Documents. The Contractor shall be entitled to the reasonable use of the information contained in the Reliance Documents in performing the Habitat Restoration Work, shall not be required to re-perform the work required to develop such information, and shall be entitled to fully rely on the Reliance Documents as provided in this Section. If the Contractor establishes that any error, omission or insufficiency

in the information contained in the Reliance Documents has a material and adverse impact on the Contractor's cost or time for performance of the Habitat Restoration Work, then the Contractor shall be entitled to Uncontrollable Circumstance relief as and to the extent provided in Article 12 (Uncontrollable Circumstances).

(C) No Reliance by Contractor on the Reference Documents. The Reference Documents are provided for reference purposes only and the Contractor shall not be entitled to the rely on the information contained in any Reference Document. No misstatement, omission, insufficiency or otherwise in a Reference Document shall entitle the Contractor to Uncontrollable Circumstance or other relief hereunder.

SECTION 4.9. ENGAGEMENT OF THE PROGRAM MANAGER AND OTHER KRRC REPRESENTATIVES.

The Contractor shall reasonably cooperate with the Program Manager and any other representative designated by the KRRC from time to time. The services of the Program Manager and other KRRC-designated representatives may include the following:

(1) Reviewing and monitoring the performance of the Habitat Project Work;

(2) Reviewing and monitoring the performance of the Habitat Project Work;

(3) Reviewing Payment Requests and Billing Statements; and

(4) Reviewing and advising the KRRC with respect to any material changes to the Habitat Maintenance Services during the Term.

It is understood that the services intended to be provided by the Program Manager shall be of an observational and review nature only, and that the Program Manager shall not have authority to interfere with, halt or delay in any way the Habitat Project Work. The fees of the Program Manager shall be paid by the KRRC. Nothing in this Section shall be construed to limit the right of any KRRC personnel or representative having the authority to protect health and safety from inspecting the Habitat Project Work or otherwise exercising any power permitted under Applicable Law.

SECTION 4.10. MANAGEMENT OF KRRC REAL PROPERTY.

The KRRC shall be responsible for all inspections, security, insurance and other management obligations with respect to the Project Site, including KRRC Property and the Habitat Project Work Area that are normally attendant to property ownership. The Contractor shall have no such property management responsibility except insofar as any of the Contract Obligations may impose similar responsibilities on the Contractor. The Contractor shall, however, promptly inform the KRRC of any circumstance occurring on the KRRC Property or the Habitat Project Work Area that should be brought to the attention of the KRRC in light of the KRRC's property management obligations.

SECTION 4.11. DELIVERABLE MATERIAL.

(A) KRRC Irrevocable License and Use of Deliverable Material. The Contractor hereby assigns to the KRRC an irrevocable license to all Deliverable Material and all ideas, methods or information specifically developed for such Deliverable Material. All such documents and information, including all ideas or methods represented by such information, may be used as the KRRC reasonably determines and shall be delivered to the KRRC at no additional cost to the KRRC as required hereunder, upon request or upon the Termination Date. The KRRC's use

of any such Deliverable Material (including drafts, working copies, and incomplete documents or information such as ideas or methods or information) for any purpose other than the Project, shall be at the KRRC's own risk, and the Contractor shall have no liability therefor.

(B) Contractor Ownership of Deliverable Material. Except as provided in subsection (A) of this Section, the Contractor hereby retains all right, title and interest, including any copyrights, patents, or any other Intellectual Property rights in all Deliverable Material and all ideas, methods or information specifically developed for such Deliverable Material.

ARTICLE 5

PRELIMINARY SERVICES AND HABITAT PROJECT WORK IMPLEMENTATION CONTRACT AMENDMENT DATE

SECTION 5.1. SCOPE OF THE PRELIMINARY SERVICES.

(A) Generally. The Contractor shall render and perform the Preliminary Services to and for the KRRC in accordance with Appendix 4 (Preliminary Services) and the terms and conditions of this Agreement. The Contractor's responsibility to perform the Preliminary Services shall include the employment of or the subcontracting for all necessary professionals, technicians and engineers, properly qualified, licensed and skilled in the various aspects of the Preliminary Services. All Preliminary Services shall be performed in accordance with the Contract Standards, as applicable.

(B) Preliminary Services Tasks. The Contractor acknowledges that the Preliminary Services are divided into discrete Preliminary Services Tasks associated with the advancement of the Preliminary Services. The Contractor shall commence the Preliminary Services as of the Contract Date. The Contractor shall proceed to complete the Preliminary Services in coordination with the KRRC and shall perform work among Preliminary Services Tasks on a concurrent basis as appropriate in order to achieve the Preliminary Services Schedule objectives. The Contractor shall be compensated for Preliminary Services on both a fixed fee and a time-and-materials basis in accordance with Section 5.3 (Compensation for Preliminary Services).

(C) PacifiCorp Property Access Agreement. The Parties acknowledge and agree that the execution, delivery and effectiveness of the PacifiCorp Property Access Agreement is a condition to the ability of the Contractor to perform some of the Preliminary Services Tasks. The Parties agree to work together to cause the PacifiCorp Property Access Agreement to be negotiated, completed and effective consistent with the Preliminary Services Schedule and establish terms and conditions that are reasonably necessary for the timely performance of the Preliminary Services. The PacifiCorp Property Access Agreement will establish the terms and conditions of the Contractor's access to the Project Site prior to the transfer of any PacifiCorp properties to the KRRC. Following any such transfer of PacifiCorp property to the KRRC, the Contractor shall be authorized to access such property pursuant to subsection 4.7(C) (Access to Project Site and Habitat Project Work Area).

(D) Uncontrollable Circumstance Relief Inapplicable During the Preliminary Services Period. The Uncontrollable Circumstance relief provisions of this Agreement apply only during the Habitat Project Work. Preliminary Services to be provided hereunder are in the nature of professional services. In the event that any circumstance expands or limits the Preliminary Services workscope or extends or reduces the expected time frame for its completion, the Parties shall negotiate, in good faith, appropriate adjustments to the Preliminary Services Schedule and additional compensation provided for in Appendix 4 (Preliminary Services).

(E) KRRC to Provide Assurance of Funding. In order to assure the Contractor that the Funders are funding the KRRC in a manner consistent with the KRRC's payment obligations to the Contractor during the Preliminary Services Period, the KRRC shall, when reasonably requested by the Contractor, provide bank statements, financial statements or other materials or information reasonably required to demonstrate KRRC's ability to meet such payment obligations. The KRRC shall not be required to provide such materials more than once a month.

SECTION 5.2. CHANGES TO THE SCOPE OF THE PRELIMINARY SERVICES.

(A) Generally. The KRRC shall have the right to make changes to the scope of the Preliminary Services set forth in Appendix 4 (Preliminary Services) at any time, in its discretion, by written notice to the Contractor, subject to the terms and conditions of this Section. Changes to the scope of the Preliminary Services may be made by the KRRC to account for any reason determined by the KRRC.

(B) Additional Preliminary Services. Except as otherwise specifically provided in this Section, the Contractor shall be entitled to an equitable adjustment to the Preliminary Services Fee and the Preliminary Services Schedule in the event of any expansion of the scope of the Base Preliminary Services pursuant to this Section (the "**Additional Preliminary Services**"). Any expansion of the scope of the Base Preliminary Services under this Section and the corresponding equitable adjustment to the Preliminary Services Fee and the Preliminary Services Schedule shall be reflected in a Contract Amendment. The Contractor shall not be entitled to compensation for any Additional Preliminary Services beyond the scope of the Base Preliminary Services unless, prior to the performance of any such Additional Preliminary Services, the Contractor shall have received express written authorization from the KRRC to perform the Additional Preliminary Services. In the absence of any KRRC-directed change to the scope of the Base Preliminary Services reflected in a Contract Amendment, the Contractor shall have no obligation to perform work outside the scope of the Base Preliminary Services.

(C) Additional Preliminary Services Resulting from Delay. Extra costs resulting from delays caused by Uncontrollable Circumstances shall be deemed to be costs resulting from Additional Preliminary Services, as and to the extent provided in Article 12 (Uncontrollable Circumstances) if the Contractor demonstrates that the costs claimed (1) resulted from time or expenses actually incurred in performing the Preliminary Services, (2) were incurred by Contractor as a direct result of the delay and not otherwise within the scope of the Preliminary Services, and (3) are reasonably documented.

(D) Exclusions from Additional Preliminary Services. Additional Preliminary Services shall not include work or services necessary during the Preliminary Services because of negligent errors, omissions or conflicts of any type in the Contractor's Preliminary Services Deliverable Material. All such work or services shall constitute Base Preliminary Services and shall be performed at no additional cost to the KRRC, and shall include any required corrections or revisions to the Preliminary Services Deliverable Material.

(E) Changes that Reduce the Scope of the Preliminary Services. The KRRC shall have the right to reduce the scope of the Preliminary Services at any time by written notice to the Contractor. Changes to the Preliminary Services that reduce the scope of the Preliminary Services shall be effective upon the delivery of the written notice by the KRRC pursuant to this Section. Any reduction in the scope of the Preliminary Services may result in an appropriate reduction in unpaid portions of the Preliminary Services Fee and an adjustment to the Preliminary Services Schedule, as appropriate, which shall be reflected in a Contract Amendment.

(F) Reallocation of Preliminary Services Tasks Workscope and the Preliminary Services Fee. Notwithstanding any other provision of this Section, the KRRC Contract Representative may, in consultation with the Contractor, reallocate the workscope among existing and new Preliminary Services Tasks and also reallocate each Preliminary Services Task compensation among the other Preliminary Services Tasks. Any reallocation of workscope, or Preliminary Services Task compensation shall be reflected in a Contract Administration Memorandum.

SECTION 5.3. COMPENSATION FOR PRELIMINARY SERVICES.

(A) Contractor Services Performed Prior to the Contract Date. The Parties acknowledge and agree that the Contractor has performed professional and other services to advance the development of the Project prior to the Contract Date based upon its expertise in the environmental restoration field. These services were performed as a subcontractor to the Project Company under the Project Agreement between [_____] and [_____, 2020], and as a service provider directly to KRRC under the [_____ Agreement], dated [_____], between KRRC and the Contractor. The Contractor represents that such services were provided in accordance with the standards and requirements set forth in the applicable agreement, and have been paid for in full. The Deliverable Material created pursuant to such services shall be subject to the irrevocable license and ownership provision of Section 4.11 (Deliverable Material) of this Agreement. The Base Preliminary Services constitute a continuation of the services provided under such agreements, commencing on the Contract Date.

(B) Compensation for Base Preliminary Services. During the Preliminary Services Period, the KRRC shall pay the Contractor the Preliminary Services Fee in the manner and subject to the terms and conditions set forth in this Agreement and in Section 4.6 (Preliminary Services Fee) of Appendix 4 (Preliminary Services). The Preliminary Services Fee for the Base Preliminary Services shall be payable in part on a fixed-fee basis as provided in subsection (C) of this Section, and in part on a time-and-materials basis as provided in subsection (D) of this Section. The Contractor agrees that the Preliminary Services Fee (as it may be increased in accordance with the terms of this Agreement) shall be the Contractor's entire compensation and reimbursement for the performance of the Preliminary Services, inclusive of all costs, expenses and disbursements paid or incurred by the Contractor, as well as all overhead, administration, risk and profit. The Preliminary Services Fee shall be subject to adjustment solely in accordance with Section 5.2 (Changes to the Scope of the Preliminary Services).

(C) Fixed Fee Compensation for Base Preliminary Services. The Base Preliminary Services for which the Contractor is entitled to be paid the Preliminary Services Fee on a fixed-fee basis are the Base Preliminary Services described in Section 4.6 of Appendix 4 (Preliminary Services). The fixed-fee component of the Preliminary Services Fee is [$_____]. This amount shall be payable in installments based on completion of the milestones and tasks set forth in Section 4.6 of Appendix 4.

(D) Time and Materials Compensation for Base Preliminary Services. The Base Preliminary Services for which the Contractor is entitled to be paid the Preliminary Services Fee on a time-and-materials basis are the Base Preliminary Services described in Section 4.6 of Appendix 4 (Preliminary Services). The budgeted amount for the time-and-materials component of the Preliminary Services Fee is [$_____] based upon the work scope and projected level of effort. This amount shall be payable in installments based on the completion of the milestones and tasks set forth in Section 4.6 of Appendix 4.

(E) Compensation for Additional Preliminary Services. The Contractor shall be compensated for any Additional Preliminary Services on a time and materials or fixed-price basis, agreed to in writing through a Contract Amendment executed by the KRRC and the Contractor.

(F) Payment Requests and Payment. The Contractor shall provide the KRRC with a Payment Request for the performance of the Preliminary Services on a monthly basis in accordance with the specific requirements set forth in Appendix 4 (Preliminary Services). The Payment Request shall state the amount payable for the month and the total amount paid against the Preliminary Services Fee through the date of the Payment Request, along with a monthly progress report regarding the performance of the Preliminary Services and such other information or documentation as the KRRC may reasonably require. The KRRC shall make

payment to the Contractor of all properly supported invoiced amounts within 30 days of receipt of the Payment Request, subject to the terms and conditions of this Agreement. Payments of the Preliminary Services Fee shall not be subject to retainage holdback or, except as provided in subsection (G) (Non-Compliant Preliminary Services) and subsection (H) (Billing Statement Disputes) of this Section, offset.

(G) Non-Compliant Preliminary Services. Nothing contained in this Agreement shall require the KRRC to pay for any Preliminary Services which are not performed in accordance with the terms and conditions of this Agreement.

(H) Billing Statement Disputes. If the KRRC disputes in good faith any Payment Request for Preliminary Services, the KRRC shall pay all undisputed amounts when due but may withhold payment of the disputed amount, and shall provide the Contractor with a written objection indicating the amount being disputed and the detailed reasons then known to the KRRC for the dispute. In the event that the Contractor disputes any amounts offset by the KRRC, it shall provide the KRRC with a written objection indicating the amount being disputed and the detailed reasons then known to the Contractor. If the Contractor is unable to reach agreement with the KRRC as to the payment dispute, the undisputed amount shall be paid by the KRRC and the Contractor may elect to initiate dispute resolution procedures in accordance with Section 13.1 (Dispute Resolution Procedures). When any billing dispute is finally resolved, if payment by the KRRC to the Contractor of amounts withheld is required, such payment shall be made within 30 days of the date of resolution of the dispute, together with interest thereon, from the date originally due, determined as provided in Section 18.8 (Interest on Overdue Obligations) of this Project Agreement.

SECTION 5.4. PRELIMINARY SERVICES SCHEDULE.

The "**Preliminary Services Schedule**" is set forth in, and shall be updated as provided in, Appendix 4 (Preliminary Services). The Contractor agrees to complete the Preliminary Services in a diligent, efficient and timely manner in accordance with the Preliminary Services Schedule. The Contractor acknowledges and agrees that any delays in the Contractor's completion of its Preliminary Services under this Agreement or performance beyond the number of days agreed to herein for completion of a Preliminary Services Task may cause injury and damage to the KRRC. The KRRC reserves the right to extend the Preliminary Services Schedule as the KRRC reasonably deems necessary or appropriate. The Parties acknowledge and agree, however, that the Preliminary Services Fee as of the Contract Date assumes that the Preliminary Services will be completed by May 1, 2021 and any Preliminary Services to be performed subsequent to that date shall result in an appropriate adjustment to the Preliminary Services Fee to be negotiated in good faith by the KRRC and the Contractor.

SECTION 5.5. SUSPENSION OF PRELIMINARY SERVICES.

The KRRC may, for any reason through a written notice executed by the KRRC Contract Representative, order the Contractor to suspend performance of the Preliminary Services. Prior to any resumption of work at the KRRC's direction, the Contractor shall notify the KRRC Contract Representative of any additional time and costs the Contractor believes it is entitled to within 30 days of its receipt of the request to resume suspended work or for Additional Preliminary Services Deliverable Material outside the scope of the Preliminary Services or changes in the scope of the Preliminary Services. If the Contractor establishes that the suspension of the Preliminary Services had a material and adverse effect on the Contractor's time or costs for the performance of the Preliminary Services, the Contractor shall be entitled to time and cost relief, as appropriate and determined by the KRRC acting reasonably and subject to the Contractor's duty to mitigate in Section 18.7 (General Duty to Mitigate).

SECTION 5.6. COORDINATION WITH THE KRRC.

(A) Meetings and Reports Generally. The Contractor shall hold periodic, but no more than every two weeks, meetings and conferences with the KRRC during the Preliminary Services to verify and confirm that the development of the Contract Obligations (1) has the full benefit of the KRRC's experience and knowledge of existing needs, (2) is consistent with the KRRC's current policies and standards, and (3) is proceeding in accordance with the Preliminary Services Schedule. The Contractor shall also keep the KRRC regularly informed as to the progress of the Preliminary Services through the submittal of monthly progress reports in accordance with the requirements set forth in Appendix 4 (Preliminary Services). The monthly progress report shall include a section on the progress of the design and list any concerns, actions, changes, and reviews and approvals from the KRRC that the Contractor requires. The Contractor shall indicate any Governmental Body or Utility requirements and issues of which the KRRC should be aware of, and if there are KRRC requirements for interacting with such Governmental Bodies, Utilities or other groups.

(B) Information Provided by the KRRC. The KRRC shall make available for the Contractor's use in the performance of the Preliminary Services all existing plans, maps, field notes, statistics, computations, and other data in the KRRC's possession relating to the Contract Obligations, including as reasonably requested in writing by the Contractor, at no cost to the Contractor. Except as otherwise provided in Section 4.8 (Information Provided by or on Behalf of the KRRC), all such information is provided to the Contractor for the sole purpose of the Contractor's convenience and for use in relation to the performance of the Preliminary Services and may not be relied upon by the Contractor. The Contractor shall promptly notify the KRRC in writing when it reasonably believes or suspects that information provided by the KRRC is not accurate. Any and all information provided by the KRRC shall remain the property of the KRRC and shall be returned (or destroyed) promptly to the KRRC upon written request.

(C) Required Design Information. Notwithstanding the provisions of subsection (B) (Information Provided by the KRRC) of this Section and except as provided in Section 4.8 (Information Provided by or on Behalf of the KRRC), the Contractor acknowledges and agrees that, pursuant to its performance as a subcontractor to the Project Company under the Project Agreement prior to the Contract Date, the Contractor was responsible for obtaining and verifying all information required (as further described in the Project Agreement) in order to properly design the Habitat Project Work so that it is designed, constructed and performs in accordance with Applicable Law and the Contract Standards.

SECTION 5.7. HABITAT PROJECT WORK DESIGN.

(A) Design Considerations. The design of the Habitat Project Work to the 60% level was performed by the Contractor as a subcontractor to the Project Company under the Project Agreement prior to the Contract Date. The Parties do not expect the Habitat Project Work's design to be materially advanced during this Agreement's Preliminary Services Period. The Contractor represents that the design of the Habitat Project Work developed by the Contractor prior to the Contract Date pursuant to the Project Agreement was undertaken by a design team exercising such degree of care, skill and diligence as would reasonably be expected from consultants qualified to perform services similar in scope, nature and complexity to the design and by a Contractor appointed design team that:

(1) Was so qualified;

(2) Included (as required by Applicable Law) licensed or registered professional engineers and architects; and

(3) Had sufficient expertise and experience to expeditiously and efficiently perform all of the design in a proper and professional manner to the Contract Standards.

(B) Contractor Assumption of Full Design Liability. The Contractor acknowledges and agrees that if and when the Habitat Project Work Implementation Contract Amendment is executed by the Parties and notwithstanding the fact that the earlier design work was performed by the Contractor as a subcontractor to the Project Company pursuant to the Project Agreement, that the Contractor will have the sole and exclusive responsibility and liability for the performance of the Habitat Project Work in accordance with Section 6.4 (Final Design Responsibilities and Risk Assumption), and subject to the terms and conditions of the Contract Documents. Accordingly, during the Preliminary Services Period, the Contractor shall not propose or agree to any element of the Contract Obligations or other work product to be incorporated in the Habitat Project Work Implementation Contract Amendment that would, in its reasonable judgment, be inconsistent with the assumption of such responsibility and liability.

SECTION 5.8. PERMITTING RESPONSIBILITIES AND SCHEDULE.

(A) Obtaining All Remaining KRRC Governmental Approvals. Promptly following the Contract Date, the KRRC and the Contractor, working with the Project Company, shall continue and carry to completion the performance of their respective obligations to obtain, or assist in obtaining, the KRRC Governmental Approvals, as further described in Appendix 4 (Preliminary Services). The Parties shall cooperate and keep each other apprised of progress in obtaining all required Governmental Approvals, and any potential cost or schedule impacts of proposed terms and conditions in the draft forms of the Governmental Approvals.

(B) Preliminary Services Relating to Permitting. Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals) sets forth, as of the Contract Date, the Governmental Approvals expected to be required for the Project, and the division of responsibility between the KRRC, the Contractor and the Project Company for managing the process of applying for and obtaining each of the Governmental Approvals. During the performance of the Preliminary Services, the Contractor shall review and confirm all Contractor Governmental Approvals that are required for the Habitat Restoration Work, identifying the permit name, issuing agency and permittee or approval holder and assist the KRRC in acquiring the KRRC Governmental Approvals. In connection therewith, the Contractor shall:

(1) Prepare and complete all required filings, applications and reports and develop and furnish all necessary data, information, plans, documentation and supporting material required to be prepared, completed, developed and furnished by the Contractor pursuant to Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals);

(2) Familiarize itself with all Contractor Regulatory Compliance Terms;

(3) Attend all meetings and hearings required by Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals);

(4) Cooperate with and reasonably assist the KRRC in carrying out any of the KRRC's responsibilities hereunder with respect to the KRRC Governmental Approvals as and to the extent provided in subsection (E) (Contractor Responsibilities in Connection with KRRC Governmental Approvals) of this Section;

(5) Pay all required permit and filing fees relating to Contractor Governmental Approvals;

(6) Take all other action reasonably necessary, as soon as practicable in the performance of the Preliminary Services and Habitat Restoration Work to, as applicable, seek to obtain, maintain, renew and extend all Contractor Governmental Approvals; and

(7) Comply with the terms and conditions of all Contractor Regulatory Compliance Terms.

(C) Application Process. The KRRC shall be notified by the Contractor prior to any application or data submittal by the Contractor with any Governmental Body regarding any Governmental Approval. The Contractor shall not knowingly take any action in any application, data submittal or other communication with any Governmental Body regarding Governmental Approvals or the terms and conditions thereof that would impose any unreasonable cost or unreasonable burden on the KRRC or that would materially contravene any KRRC policies with respect to the matters contained therein. The KRRC reserves the right, after reasonable notification and consultation with the Contractor, to reasonably modify, alter, amend, delete or supplement any information supplied, or term or condition proposed, by the Contractor which would have the effect described in the preceding sentence. The final terms and conditions of any Governmental Approval shall be subject to the KRRC's and the Contractor's approval, which approval shall not be unreasonably conditioned, withheld or delayed. The Contractor shall deliver to the KRRC, promptly after the Contractor's receipt, a copy of each Contractor Governmental Approval, and shall provide a listing of the status of all Contractor Governmental Approvals in its monthly progress report.

(D) KRRC Responsibilities in Connection with the KRRC Governmental Approvals. The KRRC shall:

(1) Be responsible for applying for and obtaining the KRRC Governmental Approvals, subject to the Contractor's obligations under subsection (E) (Contractor Responsibilities in Connection with KRRC Contractor Governmental Approvals) of this Section;

(2) Perform all activities that are the responsibility of the KRRC as set forth in Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals);

(3) Cooperate with and, upon the reasonable request of the Contractor, provide reasonable assistance to, the Contractor in obtaining from Governmental Bodies the Contractor Governmental Approvals (including any modifications, renewals and extensions of existing Contractor Governmental Approvals from Governmental Bodies);

(4) Where necessary to obtain, renew, replace, extend the validity of, or arrange necessary amendments to any Contractor Governmental Approval and within a reasonable period of time after being requested to do so by the Contractor:

(a) Execute Contractor Governmental Approval applications and related documents, either in its own name or jointly with the Contractor, as and to the extent required under Applicable Law or the administrative practices of the applicable Governmental Body;

(b) Provide for attendance by appropriate KRRC staff at public hearings and meetings of applicable Governmental Bodies; and

(c) Provide the Contractor with existing relevant data and documents that are within the KRRC's custody or control or are reasonably obtainable by the KRRC and which are reasonably required for such purpose.

To the extent Applicable Law or the administrative practice of the applicable Governmental Body requires that Contractor Governmental Approvals that are required to be obtained by the Contractor pursuant to this Section be applied for or issued in the KRRC's name or that the KRRC directly coordinate with such Governmental Bodies, the Contractor shall provide all necessary support and efforts to apply for and obtain such Contractor Governmental Approvals, including preparing all applications and related documents for execution by the KRRC. The KRRC's obligation to assist and cooperate pursuant to this Section shall be subject to the Contractor's obligations under this Section and shall not require the KRRC to:

(i) Staff the Contractor's permitting or development efforts, undertake any new studies or investigations with respect to the Habitat Restoration Work, or lead efforts to obtain the issuance of the Contractor Governmental Approvals required to be obtained by the Contractor hereunder;

(ii) Take a position which it reasonably believes to be inconsistent with the Contract Documents, the Contract Standards, or KRRC policy (except policies that are incompatible with the contracting methodology associated with this Agreement or are inconsistent with the express obligations of the KRRC hereunder); or

(iii) Refrain from concurring with a position taken by a Governmental Body if the KRRC believes that position to be correct.

(E) Contractor Responsibilities in Connection with KRRC Governmental Approvals. In connection with the KRRC Governmental Approvals, the Contractor shall cooperate with and reasonably assist the KRRC in carrying out any of the KRRC's responsibilities hereunder with respect to the KRRC Governmental Approvals, including:

(1) Reasonably assisting the KRRC in preparing and completing all required filings, applications and reports, as further described in Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals);

(2) Developing and furnishing all necessary data, information, plans, documentation and supporting material, as further described in Appendix 5 (Role of the KRRC, Contractor and Project Company in Obtaining the Governmental Approvals);

(3) Familiarizing itself with all applicable terms and conditions;

(4) Attending all required meetings and hearings;

(5) Taking all other actions reasonably necessary to assist the KRRC in obtaining, maintaining, renewing, and extending all KRRC Governmental Approvals; and

(6) As provided in subsection 11.3(A) (Fines, Penalties, Indemnification and Remediation), comply with Contractor Regulatory Compliance Terms and all Applicable

Laws, and indemnify, defend and hold harmless the Contractor Indemnitees from and against all Loss-and-Expense resulting from any failure of such compliance.

(F) Delays in the Issuance of Contractor Governmental Approvals in General. To the extent any Contractor Governmental Approval has not been obtained as of the Habitat Project Work Implementation Contract Amendment Date because it was not required in order to commence the Habitat Project Work, the Contractor shall bear the risk of any delays in obtaining such remaining Contractor Governmental Approval and of complying with any of the terms and conditions contained in such Contractor Governmental Approval, irrespective of the cause of any such delay or of the imposition of any such term or condition. No such delay or term or condition shall constitute an Uncontrollable Circumstance, or entitle the Contractor to any price, schedule or performance relief hereunder.

(G) Delays in the Issuance of KRRC Governmental Approvals. The Parties acknowledge and agree that all KRRC Governmental Approvals must be obtained and in full force and effect on or prior to, and as a condition to the occurrence of, the Habitat Project Work Implementation Contract Amendment Date. Accordingly, delays in the issuance of any KRRC Governmental Approval shall operate to delay the occurrence of the Habitat Project Work Implementation Contract Amendment Date but, once the Habitat Project Work Implementation Contract Amendment Date occurs, shall not constitute an Uncontrollable Circumstance or operate to provide the Contractor any schedule relief.

SECTION 5.9. HABITAT PROJECT WORK IMPLEMENTATION CONTRACT AMENDMENT.

(A) Agreement Pricing as of the Contract Date. Subject to the terms of this Section, the Base Habitat Restoration Work Price shall be $48,097,244 and the Base Habitat Maintenance Services Fee shall be $29,861,270, each payable in the manner described respectively in Article 7 (Compensation for Habitat Restoration Work) and Article 9 (Compensation for Habitat Maintenance Services), assuming the Habitat Project Work Implementation Contract Amendment Date occurs in the Contract Year ending on June 30, 2021. Such elements of the Contract Compensation shall have no force or effect unless and until the Parties negotiate and enter into the Habitat Project Work Implementation Contract Amendment as provided in and subject to the terms and conditions of subsection (B) of this Section.

(B) Habitat Project Work Implementation Contract Amendment Generally. The KRRC and the Contractor acknowledge and agree that each intends (without obligation) to negotiate and enter into a Contract Amendment (the "**Habitat Project Work Implementation Contract Amendment**") at the conclusion of the Preliminary Services Period, concurrently with execution of the Project Implementation Contract Amendment by the KRRC and the Project Company under the Project Agreement. The Habitat Project Work Implementation Contract Amendment is expected to be entered into for the purpose of amending, if and to the extent required, the Contract Compensation and any other provision of this Agreement that may be materially affected by (1) the terms and conditions of the Contractor Regulatory Compliance Terms as finally issued and established, (2) the length of the Preliminary Services Period, or (3) any other material fact or circumstance occurring during the Preliminary Services Period and not previously known by the Parties. In particular, the Parties acknowledge and agree that the Base Habitat Restoration Work Price and the Base Habitat Maintenance Services Fee set forth in subsection (A) of this Section as of the Contract Date have been established based on certain assumed terms and conditions of the Contractor Regulatory Compliance Terms that are set forth in Appendix 7 (Assumed Contractor Regulatory Compliance Terms); and that any material change in such assumed terms and conditions may be the basis for a negotiated change in such

pricing. The date on which the Habitat Project Work Implementation Contract Amendment is executed and delivered by the Parties shall constitute the "**Habitat Project Work Implementation Contract Amendment Date**".

(C) Habitat Project Work Implementation Contract Amendment Submittal. The Contractor shall, in connection with any potential Habitat Project Work Implementation Contract Amendment and at the request of the KRRC, make a submittal to the KRRC with facts and analysis supporting its position with respect to any proposed term or condition for the Habitat Project Work Implementation Contract Amendment that would amend or revise the terms and conditions of this Agreement as executed on the Contract Date. In negotiating the Habitat Project Work Implementation Contract Amendment, the KRRC does not intend to agree to any modification of the Contract Compensation or other terms and conditions hereof in the absence of any change in material facts or circumstances occurring between the Contract Date and the Habitat Project Work Implementation Contract Amendment Date.

(D) Expected Conditions to the Execution of the Habitat Project Work Implementation Contract Amendment. Subject to a future waiver by either of the Parties, the Parties do not expect to enter into a Habitat Project Work Implementation Contract Amendment unless, on or before the Habitat Project Work Implementation Contract Amendment Date:

(1) Environmental Impact Report. A final Environmental Impact Report has been prepared, issued and certified.

(2) NEPA Compliance Document. A final NEPA Compliance Document has been prepared with respect to the FERC License Surrender Order by FERC.

(3) FERC License Orders. The FERC License Orders have been issued and are in full force and effect.

(4) Adjacent and Related Lands. The KRRC has acquired easements or other interests in real property with respect to the Adjacent and Related Lands sufficient for the purposes of performing the Habitat Maintenance Services.

(5) Insurance. The KRRC, Project Company and Contractor have each obtained all insurance, including any project-specific insurance that the KRRC has agreed to compensate the Project Company or Contractor for, that is required by this Agreement and the Project Agreement for the commencement of Habitat Project Work and Project Implementation Work.

(6) KRRC Governmental Approvals. The KRRC Governmental Approvals have been obtained, are in full force and effect, and provide all authority required under Applicable Law for the Contactor to commence, carry out and continue to completion the Habitat Project Work.

(7) Contractor Governmental Approvals. The Contractor Governmental Approvals have been obtained, as required, are in full force and effect, and provide all authority required under Applicable Law for the Contactor to commence, carry out and continue to completion the Habitat Project Work.

(8) Project Company Governmental Approvals. The Project Company Governmental Approvals have been obtained, as required, are in full force and effect, and provide all authority required under Applicable Law for the Project Company to commence, carry out and continue to completion the Project Implementation Work.

(9) Project Implementation Contract Amendment. The Project Implementation Contract Amendment has been executed and delivered and is in full force and effect under the Project Agreement.

(10) County MOA's. The County MOA's have been executed and delivered, and are in full force and effect.

(11) PacifiCorp Property Transfer Agreement. An agreement between PacifiCorp and the KRRC providing for the transfer of all property required for the Project has been executed and delivered.

(12) KHSA Requirements. A determination by the States and PacifiCorp, pursuant to the KHSA Section 7.1.4, that the KRRC has demonstrated to PacifiCorp's and the States' reasonable satisfaction that the KRRC has met the obligations set forth in Appendix L of the KHSA and other required obligations.

(13) Local Impact Mitigation Fund and Facilities Removal Defense Fund. The Local Impact Mitigation Fund and Facilities Removal Defense Fund each have been established and funded.

(14) Funding Assurances. The KRRC and the Contractor have established a process which assures the Contractor that the Funders are funding the KRRC in a manner consistent with the KRRC's payment obligations to the Contractor pursuant to this Agreement.

(15) Legal Proceedings. There is no Legal Proceeding pending or threatened that could reasonably be expected to enjoin the performance of the Contract Obligations or in which an unfavorable decision, ruling or finding could reasonably be expected to have a material and adverse effect on the validity or enforceability of the FERC License Orders, the Governmental Approvals, the Funding Agreements, the EIR, the NEPA Compliance Document or any other action taken by any person required to commence and carry out the performance of the Contract Obligations.

(E) No Obligation to Enter into the Habitat Project Work Implementation Contract Amendment. The KRRC and the Contractor shall have the obligation to negotiate in good faith to enter into the Habitat Project Work Implementation Contract Amendment, as provided in this Agreement. Neither the KRRC nor the Contractor, however, shall have any obligation to enter into the Habitat Project Work Implementation Contract Amendment.

(F) Security for Performance. On and as a condition to the occurrence of the Habitat Project Work Implementation Contract Amendment Date, the Contractor shall provide the KRRC with the Guaranty Agreement, the Performance Bond and the Payment Bond concurrently with the execution of the Habitat Project Work Implementation Contract Amendment, as required by and in accordance with Article 17 (Security for Performance).

ARTICLE 6

HABITAT RESTORATION WORK

SECTION 6.1. SCOPE OF THE HABITAT RESTORATION WORK.

The Habitat Restoration Work shall commence on the Habitat Project Work Commencement Date and be performed in accordance with and subject to the terms and conditions of this Agreement. The Contractor shall be paid the Habitat Restoration Work Price pursuant to Article 7 (Compensation for Habitat Restoration Work) for the Habitat Restoration Work.

SECTION 6.2. HABITAT RESTORATION WORK GENERALLY.

(A) Sequencing and Staging of Habitat Restoration Work. The Contractor shall not be limited in the sequencing or staging of the Habitat Restoration Work, except to the extent that the Contractor Regulatory Compliance Terms expressly impose such limitations. The KRRC understands and acknowledges that the Contractor intends to complete the Habitat Restoration Work in stages, whereby particular segments of the Habitat Restoration Work will be designed and implemented prior to the completion of the design and implementation of the Habitat Restoration Work as a whole. Although this Agreement does not require the Contractor to fully complete the entire design of the Habitat Restoration Work prior to proceeding with particular segments of the Habitat Restoration Work, the Contractor shall comply with all requirements of Applicable Law in performing the Habitat Restoration Work and shall further comply with the design submittal requirements set forth in subsection Section 6.4(C) (KRRC Review and Comment on Design Documents).

(B) Laydown Areas. Laydown and staging areas for habitat restoration materials and supplies required for the Habitat Restoration Work shall be located on the Habitat Project Work Area.

(C) Habitat Restoration Work Schedule and Reports. An initial Habitat Restoration Work schedule shall be prepared during performance of the Preliminary Services, and shall be negotiated and agreed upon by the Parties and updated as part of the Habitat Project Work Implementation Contract Amendment. The Contractor shall submit monthly progress reports as to the status of completion of the Habitat Restoration Work. The Contractor acknowledges and agrees that it has a material obligation to provide the KRRC with, and to update, maintain and revise, the Habitat Restoration Work schedule in such monthly progress reports.

(D) On-Site Meetings and Design and Habitat Restoration Work Review. The Contractor, the KRRC and the Program Manager shall conduct regular progress and management meetings as set forth in Appendix 8 (General Habitat Restoration Work Requirements). Such meetings shall take place at the Habitat Project Work Area in a field office in accordance with Appendix 8 (General Habitat Restoration Work Requirements) or as otherwise directed by the KRRC. The monthly progress report shall be prepared by the Contractor and provided to the KRRC and the Program Manager at least five days prior to each monthly meeting

(E) Utilities. The Contractor shall provide, make all arrangements necessary to secure the availability of, and construct all connections for, all Utilities necessary for the performance of the Habitat Restoration Work and shall be responsible for modifying all existing Utilities at the Habitat Project Work Area in order to support the Habitat Restoration Work.

(F) Quality Assurance and Quality Control. The Contractor shall have full responsibility for quality assurance and quality control for the Habitat Restoration Work, including compliance with the Habitat Restoration Work Quality Management Plan. Without limiting any other requirement hereunder, the Contractor shall perform quality control inspection and testing services to ensure compliance with the Contract Standards

(G) Sales Tax. The Contractor shall pay all sales, consumer, use, and similar taxes required by the law of the place where the Habitat Restoration Work is performed. Without limiting any of the foregoing, in the event the KRRC seeks to obtain any available exemption under Applicable Law from sales, consumer, use and similar taxes for the Habitat Restoration Work, the Contractor will cooperate with the KRRC in seeking such an exemption, and will utilize (and cause its Subcontractors to utilize) any such exemption to the extent available in performance of the Habitat Restoration Work. In such circumstances, the KRRC will provide the Contractor with an appropriate certification, letter or other reasonably required materials setting forth any such exemption that is obtained by the KRRC for the Habitat Restoration Work.

(H) Title and Risk of Loss. Except to the extent provided in subsection 6.12(E) (Payment for Restoration Work and Uninsured Costs) the Contractor shall bear all risk of loss for the Habitat Restoration Work until completed. The procedures set forth in Section 6.12 (Property Damage) shall be applicable in the event of any damage to, loss or the destruction of, the Habitat Restoration Work at the Habitat Project Work Area.

(I) Encumbrances. The Contractor shall not directly or indirectly create or permit to be created or to remain, and shall promptly discharge or bond any Encumbrance or Lien (other than Permitted Encumbrances) arising in relation to the Habitat Restoration Work or the Habitat Restoration Work. The Contractor's Subcontracts with all materialmen, suppliers and Subcontractors shall provide that the sole recourse for such materialmen, suppliers and Subcontractors for non-payment shall be against the Payment Bond.

(J) Notice of Default. The Contractor shall provide to the KRRC, promptly following the receipt thereof, copies of any notice of default, breach or non-compliance received under or in connection with any Contractor Regulatory Compliance Terms, Subcontract, Security Instrument or other transaction agreement pertaining to the Contract Obligations.

(K) Temporary Habitat Project Work Area Facilities. The Contractor shall be responsible for ensuring that adequate temporary facilities are provided as necessary to enable all personnel, including all Subcontractor personnel, to perform their work and that provisions have been made for all Habitat Project Work Area facilities necessary for the Contractor to manage, inspect and supervise the Habitat Restoration Work.

SECTION 6.3. HABITAT PROJECT WORK COMMENCEMENT DATE.

(A) Habitat Project Work Commencement Date Generally. In no event shall the Contractor commence or be obligated to commence the Habitat Restoration Work prior to the "**Habitat Project Work Commencement Date**" established pursuant to this Section. The Habitat Project Work Commencement Date shall not occur prior to the satisfaction of the following "**Habitat Project Work Commencement Date Conditions**", each of which must be and remain satisfied as of the Habitat Project Work Commencement Date:

(1) The Habitat Project Work Implementation Contract Amendment Date shall have occurred;

(2) All KRRC Governmental Approvals and Contractor Governmental Approvals required to commence the Habitat Restoration Work shall have been issued and be in full force and effect, and copies thereof shall have been provided to the KRRC;

(3) The Contractor shall have provided the KRRC with certificates for all Required Insurance which is to be provided by the Contractor in accordance with Section 15.1 (Contractor-Provided Insurance) and certified that all such policies are in full force and effect and in compliance with the requirements of Section 15.1 (Contractor-Provided Insurance) and Appendix 11 (Insurance Requirements);

(4) The KRRC shall have provided the Contractor with certificates for all Required Insurance which is to be provided by the KRRC in accordance with Section 15.2 (KRRC-Provided Insurance) and certified that all such policies are in full force and effect and in compliance with the requirements of Section 15.2 (KRRC-Provided Insurance); and

(5) The KRRC, in consultation with the Project Company, shall have notified the Contractor that the Project Site is ready for the Contractor to begin its Habitat Project Work.

The foregoing requirements are in addition to any other preconditions to the commencement of Habitat Project Work established by the Contract Documents.

(B) Establishment of the Habitat Project Work Commencement Date. In no event shall the Habitat Project Work Commencement Date be established prior to the satisfaction by the Contractor and the KRRC of the Habitat Project Work Commencement Date Conditions. The Contractor shall provide 10 days' written notice to the KRRC as to the satisfaction of its Habitat Project Work Commencement Date Conditions and the date it proposes to establish as the Habitat Project Work Commencement Date hereunder. The KRRC shall issue a notice to proceed with Habitat Project Work on the Habitat Project Work Commencement Date proposed by the Contractor upon satisfaction of the Habitat Project Work Commencement Date Conditions, which shall not be unreasonably conditioned, delayed or withheld. In the event the KRRC determines that the Contractor has not satisfied the Habitat Project Work Commencement Date Conditions, notwithstanding the Contractor's notice pursuant to this Section, the KRRC Contract Representative, by written notice to the Contractor delivered not later than three days prior to the Habitat Project Work Commencement Date proposed by the Contractor, shall notify the Contractor of the KRRC's determination and state which conditions the Contractor has failed to satisfy. The Contractor shall satisfy all such conditions prior to the establishment of the Habitat Project Work Commencement Date.

(C) Effect of the Establishment of the Habitat Project Work Commencement Date. Upon the issuance by the KRRC of the notice to proceed establishing the Habitat Project Work Commencement Date, the Contractor shall have the right and the obligation to proceed with the Habitat Project Work. Absent the occurrence of Uncontrollable Circumstances as and to the extent provided in this Agreement, no delay in the establishment of the Habitat Project Work Commencement Date shall entitle the Contractor to any price, schedule or performance relief hereunder.

SECTION 6.4. FINAL DESIGN RESPONSIBILITIES AND RISK ASSUMPTION.

(A) Performance of the Design Work. Following the issuance of the notice to proceed with the Habitat Project Work pursuant to Section 6.3 (Habitat Project Work Commencement Date), the Contractor agrees to undertake, perform and complete the designs and plans for the Habitat Project Work in accordance with the Contract Standards and to prepare all design documents necessary or appropriate to carry out and complete the Habitat Restoration

Work. The Contractor shall be responsible for the professional quality, technical accuracy, timely completion and coordination of all Habitat Restoration Work design documents and shall, without additional compensation, correct or revise any negligent errors, omissions or other deficiencies in the Habitat Restoration Work design documents.

(B) Sole Design Responsibility and Liability. The Contractor shall have the sole and exclusive responsibility and liability for the design of the Habitat Project Work and the execution and completion of the Habitat Project Work hereunder in accordance with the Contract Standards, notwithstanding the KRRC's role in defining the nature and extent of the Preliminary Services under this Agreement or the Project Agreement and negotiating and agreeing upon the Habitat Project Work Implementation Contract Amendment.

(C) KRRC Review and Comment on Design Documents. The KRRC shall have the right, at its request and acting reasonably, to review and comment on all Habitat Restoration Work design documents. The Contractor shall reasonably consider and, as appropriate, provide written responses to any comments delivered by the KRRC or its representatives as to the Contractor's design within a reasonable timeframe. Neither review and comment by the KRRC or the Program Manager on any design document, nor any failure by the KRRC or the Program Manager to comment on any design document shall in any way relieve the Contractor of full responsibility for design and completion of the Habitat Restoration Work in accordance with the Contract Standards. Without limiting the KRRC's review and comment rights under this Section, the KRRC's review of any design document shall not be required in order for the Contractor to proceed with the performance of the Habitat Restoration Work.

SECTION 6.5. INTERFACE AND COORDINATION.

(A) Related Projects Generally. The Contractor acknowledges that the KRRC will be undertaking several other projects at and in the vicinity of the Habitat Project Work Area and, without limiting any other obligation under this Agreement, agrees to reasonably coordinate the Habitat Restoration Work (including making reasonable adjustments to its Habitat Restoration Work schedule and activities) to minimize conflicts with the work associated with such other projects in accordance with the Contract Standards. Any other project the KRRC may undertake at or in the vicinity of the Habitat Project Work Area are referred to herein as the "**Related Projects**". As part of the Preliminary Services, the Contractor shall provide, for the KRRC's review and comment, a protocol (the **"Related Projects Coordination Protocol"**), prepared in accordance with the Contract Standards and providing for the coordination of work between the Contractor, the Project Company, and any other contractor for any other Related Projects. Nothing in this Agreement shall be interpreted as granting the Contractor exclusive occupancy of the Habitat Project Work Area. The Contractor must ascertain to its own satisfaction the scope of the Habitat Restoration Work and the nature of any other contracts that have been or may be awarded by the KRRC in relation to the Project. The Contractor shall cause the Habitat Restoration Work to be performed without damaging the work or property of any Separate Contractor and, to the maximum reasonable extent, so as not to cause any unnecessary hindrance or delay to any Separate Contractors working at the Habitat Project Work Area. The Contractor agrees to reasonably cooperate and coordinate its activities with those of the KRRC and all Separate Contractors so that the Habitat Restoration Work and any Related Project can be completed in an orderly and coordinated manner without unreasonable disruption. Without limiting any of the foregoing, the Contractor shall comply with the Related Projects Coordination Protocol, which is intended to establish a management framework for creating a cooperative and collaborative project environment among the Contractor and the Separate Contractors. Notwithstanding anything to the contrary in the Related Projects Coordination Protocol or this Agreement, the Contractor's agreement to comply with the Related Projects Coordination Protocol shall not (and shall not be construed to): (1) confer upon the Contractor any liability for the acts or omissions of the Separate Contractors; (2) impose upon the Contractor joint or several liability

for the acts or omissions of the Separate Contractors; (3) create a partnership, consortium or joint venture relationship among the Contractor and any Separate Contractor; or (4) expand the Contractor's liabilities beyond those set forth in this Agreement. Subject to subsection (E) of this Section, the Contractor agrees that it shall not be entitled to any price, performance or other Uncontrollable Circumstance relief hereunder due to any delay or hindrance to the extent caused by a failure of any Contractor Person to reasonably cooperate or coordinate its work with the work of any Separate Contractor in accordance with this Section.

(B) Coordination Meetings. The KRRC intends to have coordination meetings among the KRRC, the Contractor and the various Separate Contractors in an effort to manage the overall program associated with the work being performed at or in the vicinity of the Habitat Project Work Area and to avoid or mitigate cost and time impacts to the Project. The Contractor agrees that it will attend and participate in these logistics meetings and shall cooperate with the KRRC and the Separate Contractors to the extent reasonably necessary for the performance by such Separate Contractors of their work.

(C) Equipment and Materials Storage at Habitat Project Work Area. Subject to subsection 6.2(B) (Laydown Areas), the Contractor shall coordinate with the KRRC and any Separate Contractors to store apparatus, materials, supplies and equipment in such orderly fashion at the Habitat Project Work Area as will not unduly interfere with the progress of the Habitat Project Work or the work of the KRRC or any Separate Contractor.

(D) Interrelated Work. If part of the Habitat Restoration Work depends on proper execution of construction or operations by the KRRC, the Project Company or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Habitat Restoration Work, inspect the other work and promptly report to the KRRC Contract Representative any apparent discrepancies or defects in the other construction that would render it unsuitable for the proper execution of the Habitat Project Work. The Contractor shall be entitled to Uncontrollable Circumstance relief as and to the extent provided in Article 12 (Uncontrollable Circumstances) in the event that defects in the work of the KRRC, the Project Company or any Separate Contractor render the work unsuitable for the proper execution or result of any part of the Habitat Project Work. However, failure of the Contractor to report discrepancies or defects in the other construction and actually known by the Contractor shall constitute acknowledgment that the KRRC's or the Separate Contractor's completed or partially completed construction is fit and proper to receive the Habitat Project Work.

(E) Disputes Associated with Separate Work. If the performance of any work by the KRRC, the Project Company or a Separate Contractor is reasonably expected to be interfered with by the concurrent performance of some other contract or contracts, the KRRC shall decide which contractor shall cease work temporarily and which contractor shall continue or whether the work under the contracts can be coordinated so that the contractors may proceed concurrently. Any decision by the KRRC to halt or delay the performance of the Habitat Restoration Work by the Contractor pursuant to this Section shall be made in accordance with Section 6.6 (Suspension of Work), and the Contractor shall be entitled to Uncontrollable Circumstance relief as and to the extent provided therein.

SECTION 6.6. SUSPENSION OF WORK.

(A) KRRC Right to Suspend Work. The KRRC may, through a written notice executed by the KRRC Contract Representative, order the Contractor to suspend, delay or interrupt all or any part of the Habitat Restoration Work for such period of time as the KRRC Contract Representative may reasonably determine to be appropriate for the coordination of the Related Projects or otherwise for the convenience of the KRRC, so long as such suspension does not contravene the requirements of any Governmental Approval.

(B) Uncontrollable Circumstance Relief. In the event the KRRC exercises its right to suspend, delay or interrupt all or any part of the Habitat Restoration Work pursuant to this Section, the Contractor shall be entitled to Uncontrollable Circumstance relief as and to the extent provided in Article 12 (Uncontrollable Circumstances). No adjustment will be made pursuant to this Section or Article 12 (Uncontrollable Circumstances), however, for any suspension, delay or interruption to the extent caused by Contractor Fault, including any suspension under subsection 6.8(E) (Health and Safety Compliance Requirements). Any adjustment under this subsection shall be subject to the terms and conditions of Article 12 (Uncontrollable Circumstances).

SECTION 6.7. HABITAT RESTORATION PRACTICE.

(A) Exclusive Responsibility of Contractor. The Contractor shall have exclusive responsibility for all habitat restoration means, methods, techniques, sequences and procedures necessary or desirable for the correct, prompt and orderly performance and completion of the Habitat Restoration Work as required under this Agreement.

(B) Habitat Project Work Area Debris, Trash and Waste. The Contractor shall keep the Habitat Project Work Area reasonably free from Contractor-generated debris, trash and habitat restoration wastes to permit the Contractor to perform its Habitat Restoration Work efficiently, safely and without interfering with the use of adjacent land areas and without causing complaints from Separate Contractors, adjacent property owners, local public officials or members of the public. The Contractor shall remove all Contractor-generated debris, trash and habitat restoration wastes, materials, equipment, machinery and tools arising from the Habitat Restoration Work or applicable portions thereof (and not otherwise incorporated into the Habitat Restoration Work in accordance with the Contract Documents) to permit the KRRC to occupy the Habitat Project Work Area for its intended use.

SECTION 6.8. RESPONSIBILITY FOR HEALTH AND SAFETY.

(A) Health and Safety Representative. The Contractor assumes responsibility for implementing and monitoring all health and safety precautions and programs related to the performance of the Habitat Restoration Work. The Contractor shall, prior to commencing Habitat Restoration Work, designate an individual with the requisite qualifications and experience necessary to supervise the implementation and monitoring of all health and safety precautions and programs related to the Habitat Restoration Work (the "**Health and Safety Representative**"). The Health and Safety Representative shall be an individual stationed at the Habitat Project Work Area who shall have no other responsibilities with respect to the Habitat Restoration Work other than supervising the implementation and monitoring of all health and safety precautions and programs related to the Habitat Restoration Work.

(B) Precautions and Protection. The Contractor shall take all reasonable precautions for the health and safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

(1) All employees on the Habitat Project Work Area and all other persons who may be affected thereby;

(2) All the Habitat Restoration Work, whether in storage on or off the Habitat Project Work Area, under the care, custody or control of Contractor or any of its Subcontractors. Machinery and equipment shall have proper guards in place and all hazards shall be eliminated in accordance with the latest health and safety provisions of the OSHA Construction Industry Regulations 29 CFR Parts 1910 and 1926; and

(3) Other property at the Habitat Project Work Area or adjacent thereto.

(C) Health and Safety Inspections and Meetings. The Contractor is solely responsible to inspect, survey, and assess the Habitat Project Work Area and identify the existence of all permit-required confined spaces and non-permit confined spaces and comply with applicable OSHA regulations and standards. The Contractor shall comply with all health and safety requirements imposed by Applicable Law in the performance of the Habitat Restoration Work. The Health and Safety Representative shall make routine daily inspections of the Habitat Project Work Area and shall hold weekly health and safety meetings with the Contractor's personnel, Subcontractors and others, as applicable. The Contractor shall provide minutes of each health and safety meeting to the KRRC within five days of such meeting.

(D) Health and Safety Plan. The Contractor shall, as part of the Preliminary Services, provide, for the KRRC's review and comment, a Health and Safety Plan, prepared in accordance with the Contract Standards. The Health and Safety Plan shall include, but not be limited to, electrical safety, lock-out/tag-out, arc flash safety personal protection equipment while working in vicinity of energized electrical equipment, hazard communication, fire protection plan, emergency access plan, health and safety inspections of mechanized equipment, machinery, hoists, cranes, scaffolding, excavations, shoring, and related items. The Contractor shall not perform any Habitat Restoration Work-related activity until the KRRC has had an opportunity to review and comment on the Health and Safety Plan. The Contractor shall provide a final Health and Safety Plan, having addressed any comments provided by the KRRC, as a pre-condition to the establishment of the Habitat Project Work Commencement Date under Section 6.3 (Habitat Project Work Commencement Date).

(E) Health and Safety Compliance Requirements. The Contractor shall, and shall cause all Subcontractors to, comply with: (1) all Applicable Law relating to safety; (2) the Health and Safety Plan; and (3) any KRRC-specific health and safety requirements provided to the Contractor. The Contractor shall immediately report (no later than within 12 hours after its occurrence), in writing, any health and safety-related injury, loss, damage, accident or near miss arising from the Habitat Restoration Work to the KRRC and, to the extent mandated by Applicable Law, to all Governmental Bodies having jurisdiction over health and safety-related matters involving the Habitat Restoration Work. The KRRC, through the KRRC Contract Representative, shall have the right to suspend any or all Habitat Restoration Work if the Contractor fails to comply with its obligations hereunder without any requirements of providing the Contractor with Uncontrollable Circumstance relief hereunder.

(F) Emergencies. The Contractor shall develop an emergency response plan in accordance with the requirements set forth in Appendix 8 (General Habitat Restoration Work Requirements). The emergency response plan shall be subject to the approval of the KRRC and shall establish the protocols for the Contractor in dealing with emergencies impacting the performance of the Habitat Restoration Work. In case of an emergency which threatens immediate loss or damage to property or health and safety of life, the Contractor shall act immediately to prevent threatened loss, damage, injury or death. The Contractor shall notify the KRRC of the situation and all actions taken immediately thereafter. If, in the opinion of the Contractor, immediate action is not required, the Contractor shall notify the KRRC of the emergency situation and proceed in accordance with the KRRC's instructions. However, if any loss, damage, injury or death occurs that could have been prevented by the Contractor's prompt and immediate action, the Contractor shall be fully liable for all costs, damages, claims, actions, suits, attorneys' fees and all other expenses arising therefrom or relating thereto. Prior to commencing its Habitat Restoration Work and at all times during the performance of the Habitat Restoration Work, the Contractor shall provide the KRRC with two 24-hour emergency phone numbers where its representatives can be contacted. When the KRRC has been notified of emergency situations requiring, in the KRRC Contract Representative's reasonable opinion,

immediate attention and rectification, the KRRC Contract Representative will so notify the Contractor. In the event the Contractor fails to commence actions to prevent threatened loss, damage, injury or death within one hour after notification from the KRRC Contract Representative, the KRRC may take all appropriate rectification actions and deduct the costs thereof from monies owed to the Contractor.

SECTION 6.9. SECURITY.

(A) Security Generally. The Contractor, in accordance with the Contract Standards, shall be responsible for the security and protection of the Habitat Restoration Work at the Habitat Project Work Area, including any requirements set forth in Appendix 8 (General Habitat Restoration Work Requirements). The Contractor shall guard against all damage or injury to such properties caused by trespass, negligence, vandalism or malicious mischief of third parties, and shall operate, maintain, repair and replace all surveillance and other security equipment and assets constituting fixtures of the Habitat Restoration Work in accordance with the Contract Standards.

(B) Security Plan. The Contractor shall, as part of the Preliminary Services, provide, for the KRRC's review and comment, a Security Plan, prepared in accordance with the Contract Standards. The Contractor shall not perform any Habitat Restoration Work-related activity (including any activity that disturbs the Habitat Project Work Area) until the KRRC has had an opportunity to review and comment on the Security Plan. The Contractor shall provide a final Security Plan, having addressed any comments provided by the KRRC, as a pre-condition to the establishment of the Habitat Project Work Commencement Date under Section 6.3 (Habitat Project Work Commencement Date).

SECTION 6.10. MONITORING, OBSERVATIONS, TESTING AND UNCOVERING OF HABITAT RESTORATION WORK.

(A) Observations and Habitat Restoration Work Review Protocol. The Contractor shall at all times during normal working hours afford the KRRC, any Governmental Body and Utility (including PacifiCorp) having lawful jurisdiction, and any of their authorized representatives, including the Program Manager, every reasonable opportunity for observing all Habitat Restoration Work at the Habitat Project Work Area, and shall comply with the Habitat Restoration Work review procedures set forth in Appendix 10 (Habitat Restoration Work Review Procedures). During any such observation and inspection, all representatives of the KRRC, including the Program Manager, shall comply with all health and safety and other rules and regulations applicable to presence in or upon the Habitat Project Work Area, and shall in no material way interfere with the Contractor's performance of any Habitat Restoration Work.

(B) Certificates and Reports. The Contractor shall secure and deliver to the KRRC promptly all required certificates of inspection, test reports, work logs, or approvals with respect to the Habitat Restoration Work as and when required by the Contract Standards.

(C) KRRC Tests, Observations and Inspections. The KRRC, its employees, agents, representatives and contractors (which may be selected in the KRRC's discretion), and all Governmental Bodies and Utilities (including PacifiCorp) having lawful jurisdiction, may at any reasonable time and with reasonable notice conduct such on-site observations and inspections, and such civil, structural, mechanical, electrical or other tests as the KRRC deems necessary or desirable to ascertain whether the Habitat Restoration Work complies with the Contract Standards. The Contractor's costs, subject Cost Substantiation, paid in connection with any such test, observation or inspection shall result in additional compensation payable to the Contractor unless such test, observation or inspection reveals a material failure of the Habitat Restoration Work to comply with the Contractor Regulatory Compliance Terms, in which

event the costs and expenses of such observation, inspection or test shall be borne solely by the Contractor. The Contractor shall be entitled to Uncontrollable Circumstance relief as and to the extent provided in Article 12 (Uncontrollable Circumstances) in the event that any requested test, observation or inspection causes an additional material cost (subject to Cost Substantiation), but only if such testing, observation or inspection does not reveal any material failure or non-compliance as set forth herein. The Contractor acknowledges and agrees that any test, observation or inspection by the KRRC or its representatives is for the sole benefit of the KRRC and shall not relieve the Contractor from its obligations to perform the Habitat Restoration Work in accordance with the requirements of the Contract Documents.

SECTION 6.11. CORRECTION OF WORK. The Contractor shall complete, repair, replace, restore, re-perform, rebuild and correct promptly any Habitat Restoration Work that does not materially conform with the Contract Standards. The Contractor shall be solely responsible for the removal of defective work. In the event of a failure of the Contractor to take action to correct any such non-conforming Habitat Restoration Work in a timely manner, the KRRC, upon 10 days' written notice, shall have the right, but not the obligation, to correct or provide for the correction of such non-conforming Habitat Restoration Work and the costs and expenses reasonably incurred by the KRRC in connection therewith shall be reimbursed by the Contractor to the KRRC, subject to Cost Substantiation. The KRRC shall provide the Contractor with seven days' advance written notice prior to exercising its right to correct or provide for the correction of any non-conforming Habitat Restoration Work pursuant to this Section.

SECTION 6.12. PROPERTY DAMAGE.

(A) Damage Prevention. In performing the Habitat Project Work, the Contractor shall comply with the Contract Standards to protect the Habit Project Work from loss, damage or destruction, as applicable.

(B) Restoration. In case of damage to the Habitat Restoration Work, to the extent required by the Contractor Regulatory Compliance Terms, the Contractor shall promptly undertake and complete restoration of the damage to the Habitat Restoration Work to the character and condition existing immediately prior to the damage or to the condition deemed acceptable by the Governmental Body with jurisdiction over such Habitat Restoration Work.

(C) Notice and Reports. In addition to the notification requirements set forth in subsection 6.8(E) (Health and Safety Compliance Requirements), the Contractor shall notify the KRRC and the insurers under any applicable policy of Required Insurance of any incident causing property damage to the Habitat Restoration Work in excess of $5,000 or of any OSHA recordable injury accident on the Habitat Project Work Area related to the Habitat Restoration Work, as promptly as reasonably possible after the Contractor learns of any such damage or accident. As soon as practicable after learning of any such incident or accident (but in no event later than 72 hours), the Contractor shall submit a written report to the KRRC. Such report shall be updated on a weekly basis and upon culmination of all tests, analysis and reviews, a final report incorporating all of the tests, analysis and reviews and the findings thereof shall be submitted to the KRRC. The Contractor shall also submit to the KRRC copies of all accident and other reports filed with (or given to the Contractor by) any insurance company, adjuster, or Governmental Body or otherwise prepared or filed in connection with the damage or accident.

(D) Insurance and Other Third-Party Payments. To the extent that any repair, replacement or restoration costs incurred pursuant to this Section can be recovered from any insurer or from another third party, each Party shall assist each other in exercising such rights as it may have to effectuate such recovery. Each Party shall provide the other with copies of all relevant documentation, and shall cooperate with and assist the other Party upon request by participating in conferences, negotiations and litigation regarding insurance claims; provided,

however, that neither Party shall be obligated pursuant to this Section to provide the other Party with documents subject to the attorney-client privilege under the laws of the States. The parties acknowledge that the Insurance Requirements do not obligate the Contractor to obtain builder's risk insurance.

(E) Payment for Habitat Restoration Work. The Contractor shall pay all costs and expenses incurred in performing any work necessary to repair or replace the Habitat Project Work to the condition deemed acceptable by the Governmental Body with jurisdiction over such Habitat Restoration Work; provided, however, that to the extent any such costs or expenses are incurred in performing restoration work required due to the occurrence of an Uncontrollable Circumstance, the KRRC shall pay such costs and expenses.

(F) Repair of KRRC Property and Private Property Damaged Due to Contractor Fault. The Contractor shall promptly repair or replace all KRRC Property and all private property (including Separate Contractor work or property) damaged by any Contractor Person as a result of Contractor Fault. The repair and replacement work shall restore the damaged property, to the maximum extent reasonably practicable, to its character and condition existing immediately prior to the damage to the condition deemed acceptable by the Governmental Body with jurisdiction over such Habitat Restoration Work. Costs incurred in connection therewith shall be borne solely by the Contractor to the extent the damage was caused by Contractor Fault and to the extent insurance proceeds are not available due to a failure of the Contractor to obtain or maintain any applicable policy of Required Insurance. To the extent that any such costs incurred pursuant to this Section can be recovered from any insurer or from another third party (including the Project Company or any Subcontractor), the Contractor and the KRRC shall each exercise its commercially reasonable efforts to obtain recovery from the appropriate source and provide a credit to the KRRC if recovery is obtained. Nothing in this Section is intended to waive any rights of recovery under applicable policies of insurance.

ARTICLE 7

COMPENSATION FOR HABITAT RESTORATION WORK

SECTION 7.1. HABITAT RESTORATION WORK PRICE.

(A) Habitat Restoration Work Price Generally. The KRRC shall pay the Contractor the Habitat Restoration Work Price for the Habitat Restoration Work in accordance with this Article. The "**Habitat Restoration Work Price**" shall be the sum of the Base Habitat Restoration Work Price and any Base Habitat Restoration Work Price Adjustments provided for under subsection (C) (Base Habitat Restoration Work Price Adjustments) of this Section.

(B) Base Habitat Restoration Work Price. The "**Base Habitat Restoration Work Price**" is $[_____]. Except as provided in subsection (C) (Base Habitat Restoration Work Price Adjustments) of this Section, the Base Habitat Restoration Work Price shall not be subject to adjustment in any manner whatsoever.

(C) Base Habitat Restoration Work Price Adjustments. The adjustments to the Base Habitat Restoration Work Price provided for in this subsection shall be deemed the "**Base Habitat Restoration Work Price Adjustments**" and shall be reflected in a Contract Amendment. The Base Habitat Restoration Work Price shall be adjusted only to account for the cost resulting from Uncontrollable Circumstances, as and to the extent provided in Article 12 (Uncontrollable Circumstances).

SECTION 7.2. HABITAT RESTORATION WORK PRICE PAYMENT PROCEDURE.

(A) Scheduled Payments. The Contractor shall be paid Habitat Restoration Work Price upon completion of the applicable milestones, and in the amounts, set forth in [_____].

(B) Payment Requests. The Contractor shall, upon achievement of each applicable milestone set forth in [_____] be entitled to submit a Payment Request to the KRRC and the KRRC Representative with respect to the Habitat Restoration Work Price on a monthly basis and to receive from the KRRC the corresponding scheduled payment. Each Payment Request shall be in a form reasonably acceptable to the KRRC and must be accompanied by a monthly requisition report, which shall include:

(1) A reasonably detailed description of all Habitat Restoration Work actually completed to date;

(2) Updates to the Project Schedule in accordance with Appendix 8 (General Habitat Restoration Work Requirements), which shall reflect changes in the Contractor's critical path schedule since the date of the last Payment Request;

(3) A certificate of the Contractor Contract Representative certifying (1) the portion of the Habitat Restoration Work Price payable to the Contractor for completed Habitat Restoration Work; and (2) that, to their knowledge after reasonable inquiry, the Contractor is neither in default under this Agreement nor in breach of any material provision of this Agreement such that the breach would, with the giving of notice or passage of time, constitute a Contractor Event of Default;

(4) A verified statement setting forth the information required under any Applicable Law pertaining to prevailing wages; and

(5) Notice of any Encumbrances which have been filed together with evidence that the Contractor has discharged any such Encumbrances or made timely notification to the Surety that issued the Payment Bond regarding such Encumbrances; and

(6) Any other specific documents or information relating to the Habitat Restoration Work or this Agreement as may be required by Applicable Law or this Agreement.

(C) Review and Payment. Prior to submitting a Payment Request for the Habitat Restoration Work Price to the KRRC, the Contractor shall submit a draft Payment Request to the KRRC and the KRRC Representative, including all information required pursuant to this Section. The KRRC and the KRRC Representative shall have 15 days to review each draft Payment Request. Within such 15-day period, the KRRC shall verify or dispute in writing (or by telecommunication promptly confirmed in writing) the Contractor's certification that the Contractor has achieved the level of progress indicated and is entitled to payment. If the KRRC determines that the Habitat Restoration Work has progressed as indicated in the draft Payment Request, the KRRC shall notify the Contractor, and the Contractor shall submit a final, certified Payment Request to the KRRC, which may not contain any material change from the draft Payment Request reviewed by the KRRC. The KRRC shall pay the Contractor the requisitioned amount included in the final, certified Payment Request within 30 days following receipt, subject to the KRRC's rights to withhold payments under Section 7.3 (Permissible Withholdings). Disputes regarding payments of the Habitat Restoration Work Price shall be resolved in accordance with subsection (D) (Payment Dispute Procedures) of this Section. Any undisputed amounts of the Habitat Restoration Work Price shall be paid within 30 days after receipt of the Contractor's final, certified Payment Request.

(D) Payment Dispute Procedures. If the KRRC determines that the Habitat Restoration Work required for any payment has not progressed as indicated by the Contractor in the draft Payment Request, or otherwise disputes any draft Payment Request, the KRRC shall provide prompt written notice to the Contractor as to the KRRC's reasons, in reasonable detail, for such determination or the basis for such dispute. After receiving such determination notice, the Contractor may make the necessary corrections and resubmit a draft Payment Request to the KRRC and the KRRC Representative, or the KRRC may agree on a revised amount or draft Payment Request, as applicable, in which case the Contractor shall promptly notify the KRRC of such agreement and submit a final, certified Payment Request to the KRRC as to any undisputed amount. If the Contractor is unable to reach agreement with the KRRC as to the progress of the Habitat Restoration Work and the draft Payment Request, the Contractor may exercise its right to contest the KRRC's determination in accordance with the dispute resolution procedures set forth in Article 13 (Dispute Resolution). Any proceedings undertaken to resolve a dispute arising under this subsection shall immediately terminate if (1) the Contractor demonstrates to the KRRC that the Habitat Restoration Work has progressed as indicated in the draft Payment Request giving rise to the dispute and that the disputed draft Payment Request is correct, and (2) the KRRC concurs with such demonstration. The Contractor shall not be entitled to payment of the amount so requisitioned and disputed except upon resolution of the dispute in accordance with this subsection; provided, however, that the KRRC shall pay all requisitioned amounts which are not in dispute. In the event that upon resolution of any such dispute, it is determined that the Contractor was properly entitled to the disputed amount as of a date earlier than the date on which payment is actually made, the Contractor shall be entitled to receive, promptly following such resolution, such disputed amount plus interest on such disputed amount at the Overdue Rate.

(E) Payment of the Base Habitat Restoration Work Price Adjustments. The Base Habitat Restoration Work Price Adjustments shall be payable by the KRRC in a manner

and upon a schedule negotiated by the Parties that reasonably reflects the manner and schedule for payment that would apply if such Base Habitat Restoration Work Price Adjustments were to have constituted the Base Habitat Restoration Work Price.

SECTION 7.3. PERMISSIBLE WITHHOLDINGS.

The KRRC may disapprove and withhold and retain all or any portion of any payment requested in any Payment Request for Habitat Restoration Work in an amount equal to the sum of:

(1) Any indemnification amounts which are due and owing to the KRRC hereunder and with respect to which a claim has been filed against a Contractor Indemnitee by a third party in accordance with Applicable Law;

(2) Any amount determined pursuant to subsection 15.1(E) (Maintenance of Insurance Coverage) and Appendix 11 (Insurance Requirements);

(3) Any other deductions or withholdings which are required by Applicable Law;

(4) Any payments with respect to which the Habitat Restoration Work covered by such Payment Request (or any previous Payment Request) does not materially comply with this Agreement;

(5) Damage to the work of a Separate Contractor to the extent caused by the Contractor or any Subcontractor;

(6) Any payments with respect to which any person has filed a Lien resulting from the acts or omissions of the Contractor in failing to perform the Habitat Restoration Work and such Lien remains unreleased or unbonded;

(7) Any Payment Request, if an Event of Default by the Contractor has occurred under Section 14.2 (Events of Default by the Contractor); and

(8) In the event the Contractor fails to pay any Taxes, assessments, penalties or fees imposed by any Governmental Body, then the Contractor authorizes the KRRC to deduct and withhold or pay over to the appropriate Governmental Body those unpaid amounts upon demand by the Governmental Body if the failure to pay such amounts would reasonably be expected to result in a lien on the KRRC Property.

In the event of any permissible withholding under this Section, the KRRC shall notify the Contractor in writing at least seven days prior to the date payment is otherwise due. The notice shall indicate the specific amounts the KRRC intends to withhold, the reasons and contractual basis for the withholding, and the specific measures the Contractor must take to rectify the KRRC's concerns. Any dispute associated with any such withholding shall be handled in accordance with subsection 7.2(C) (Payment Dispute Procedures).

SECTION 7.4. FINAL HABITAT RESTORATION WORK PRICE PAYMENT.

The final Payment Request relating to the Habitat Restoration Work Price shall include:

(1) A certified statement that all Subcontractors, vendors, and other persons or firms who have furnished or performed labor or furnished materials for the Habitat Restoration Work have been fully paid or satisfactorily secured;

(2) A certificate of the Surety for both the Performance Bond and the Payment Bond certifying that the Surety consents to payment for Habitat Restoration Work Completion and agrees that such payment shall not relieve the Surety of any of its obligations under the Performance Bond or the Payment Bond;

(3) A list of all pending property damage and personal injury or death insurance claims against the Contractor and arising out of or resulting from the Habitat Restoration Work, identifying the claimant and the nature of the claim; and

(4) Certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of this Agreement.

Final payment does not constitute a waiver by the KRRC of any rights relating to the Contractor's obligations under this Agreement. Final payment constitutes a waiver of all claims by the Contractor against the KRRC relating to the Habitat Restoration Work, the payment of the Habitat Restoration Work Price or otherwise in connection with the Habitat Restoration Work Period.

SECTION 7.5. NO ACCEPTANCE, WAIVER OR RELEASE.

Unless other provisions of this Agreement specifically provide to the contrary, none of the following shall be construed as (i) the KRRC's acceptance of any Habitat Restoration Work which is defective, incomplete, or otherwise not in compliance with this Agreement, (ii) the KRRC's release of the Contractor from any obligation under this Agreement, (iii) the KRRC's extension of the Contractor's time for performance, (iv) an estoppel against the KRRC, or (v) the KRRC's acceptance of any claim by the Contractor:

(1) The KRRC's payment to the Contractor or any other person with respect to performance of the Habitat Restoration Work;

(2) The review, consent, approval or acceptance, as applicable, of any submissions, permit applications, punch lists, other documents, certifications, or Habitat Restoration Work of the Contractor or any Subcontractor by the KRRC, the KRRC Representative or any other person;

(3) The review of (or failure to prohibit) any habitat restoration applications, means, methods, techniques, sequences, or procedures for the Habitat Restoration Work by the KRRC, the KRRC Representative or any other person;

(4) The entry at any time on the Project Site or the Habitat Project Work Area (including any area in which the Habitat Restoration Work is being performed) by the KRRC, the KRRC Representative or any other person;

(5) Any observation, inspection or testing of (or failure to observe, inspect or test) any Habitat Restoration Work (whether finished or in progress) by the KRRC, the KRRC Representative or any other person;

(6) The failure of the KRRC, the KRRC Representative or any other person to respond in writing to any notice or other written communication of the Contractor within

fifteen (15) days (or such other period as expressly provided herein) of such notice or other written communication; provided, however, that immediately following such 15-day (or other period), the KRRC's failure to respond shall automatically constitute a waiver of such underlying right; or

(7) Any other exercise of rights or failure to exercise rights by the KRRC hereunder.

ARTICLE 8

HABITAT MAINTENANCE SERVICES

SECTION 8.1. CONTRACTOR OBLIGATIONS GENERALLY.

(A) Commencement of Performance. Commencing immediately following the completion of the any aspect of the Habitat Restoration Work, and throughout the remainder of Term, the Contractor shall perform the Habitat Maintenance Services in compliance with the Contract Standards. The Habitat Maintenance Services consist primarily of compliance with the applicable Contractor Regulatory Compliance Terms.

(B) All Required Related Work. In performing the Habitat Maintenance Services, the Contractor shall provide and furnish everything required to carry out such services, including the employment and furnishing of all labor, materials, equipment, supplies, tools, transportation, Utilities, insurance, temporary facilities and other things and services of every kind whatsoever necessary for the full performance and completion of the Habitat Maintenance Services, and all administrative, accounting, recordkeeping, notification and similar responsibilities of every kind whatsoever under the Contract Documents pertaining to such obligations. A reference to Habitat Maintenance Services shall mean any part and all of the Habitat Maintenance Services unless the context otherwise requires, and shall include all Habitat Maintenance Services authorized by Contract Amendment.

(C) Encumbrances. At all following the Habitat Project Work Implementation Contract Amendment Date, the Contractor shall keep the Habitat Project Work Area free from any and all Encumbrances (other than Permitted Encumbrances) arising out of or in connection with (1) the Habitat Maintenance Services, or (2) any acts, omissions, errors or debts of the Contractor, the Guarantor, their Affiliates and their Subcontractors.

SECTION 8.2. SERVICE COORDINATION.

(A) Communications and Meetings. On or before the Contract Date, the Contractor shall inform the KRRC of the telephone, e-mail address and other means by which the Habitat Project Work Manager and Senior Supervisors may be contacted, and shall promptly notify the other Party of any changes in such contact information. The KRRC shall furnish to the Contractor comparable communications information with respect to the KRRC Representative, appropriate KRRC staff and the Program Manager. The Contractor shall meet with the KRRC each month (or less frequently if agreed to by the KRRC) to review the contents of the Monthly Maintenance Service Reports required to be prepared pursuant to subsection 8.3(A) (Monthly Maintenance Service Reports). The Habitat Project Work Manager and, if requested by the KRRC, the Senior Supervisors each shall personally attend the monthly operations meetings with the KRRC, and all special meetings which the KRRC may reasonably request from time to time, to review management, maintenance, performance and planning matters arising with respect to this Agreement. Any issue in dispute which the Parties are unable to resolve at such monthly and special meetings may be referred to the dispute resolution procedures set forth in Section 13.1 (Dispute Resolution Procedures), and the resolution of any issues resolved at such meetings or through Non-Binding Mediation shall be reflected in a Contract Administration Memorandum or a Contract Amendment, as applicable.

(B) Complaints and Communications. The Contractor shall respond in a timely and effective manner to all complaints and communications received by the Contractor or the KRRC regarding any matter related to the Habitat Maintenance Services. The Contractor shall investigate each such complaint and communication and, if it has a valid basis, the Contractor shall promptly rectify the matter. All such complaints and communications shall be

promptly logged and responded to in writing, emailed to the KRRC on a timely basis and reported to the KRRC as part of the Monthly Maintenance Service Reports delivered pursuant to subsection 8.3(A) (Monthly Maintenance Service Reports). The Contractor shall establish, maintain and make freely known an e-mail address and mailing address to which customer or citizen complaints and communications may be directed.

(C) Relations with States. The Contractor shall cooperate with and assist the KRRC in performing its obligations to the States under the KHSA, including providing all information, data and reports required thereunder.

SECTION 8.3. REPORTS.

(A) Monthly Maintenance Service Reports. The Contractor shall provide the KRRC and the Program Manager with monthly written reports ("**Monthly Maintenance Service Report**") during the Term prepared in accordance with the Contract Standards, covering the Contract Obligations and addressing work performed during the past month. The Contractor shall describe any issues, problems or concerns that the KRRC should be made aware of and how the Contractor proposes to address them in each Monthly Maintenance Service Report. The Monthly Maintenance Service Report shall include a description of the work planned for the next three months and an update on the Contractor's progress in meeting the SLTBE Goals. The KRRC's and the Program Manager's receipt or acceptance of the Monthly Maintenance Service Report (or any revised Monthly Maintenance Service Report) shall not bind the KRRC in any manner. Thus, the KRRC's and the Program Manager's receipt or acceptance of the Monthly Maintenance Service Report (or any revised Monthly Maintenance Service Report) shall not imply KRRC approval or consent to any of the matters set forth therein.

(B) Elements. Monthly Maintenance Service Reports required to be submitted by the Contractor shall include:

(1) A summary of Habitat Maintenance Services activities during the reporting month;

(2) A schedule of upcoming Habitat Maintenance Services activities;

(3) A listing of submittals delivered during the reporting month and their status;

(4) A listing of submittals scheduled for delivery the following month;

(5) A listing of any alleged violations of Contractor Regulatory Compliance Terms or Applicable Law and actions taken or to be taken to eliminate any subsequent violations; and

(6) A listing of issues known to the Contractor needing resolution; and

(7) A listing of all material complaints received during the reporting month.

(C) Annual Reports. The Contractor shall furnish the KRRC, within 30 days after the end of each Contract Year following the Date, an "**Annual Report**" containing the following information:

(1) A summary of the information contained in the Monthly Maintenance Service Reports; and

(2) Results of a performance evaluation which will review and analyze the administrative and maintenance practices employed in the management of the Habitat Maintenance Services.

(D) Reporting Efficiency. The Contractor and the KRRC shall review annually the frequency, format and content of all of the regular reports required during the Term to assure that the information and its presentation are necessary and economical; provided, that from time to time the Contractor may request that any such reports be delivered on a less frequent basis if in its good faith determination such request is reasonable under the circumstances, which request shall not be rejected unreasonably by the KRRC.

(E) Default Reports. The Contractor shall provide to the KRRC, promptly after the receipt thereof, copies of any written notice of a material default, breach or non-compliance received or sent under or in connection with any material contract entered into by the Contractor in connection with the Habitat Maintenance Services.

SECTION 8.4. EQUIPMENT AND SYSTEMS MAINTENANCE.

The Contractor shall perform all normal and ordinary maintenance of the machinery, equipment, structures, improvements and all other property installed as part of the Project, shall keep such equipment systems, improvements and property in good working order, condition and repair, in a neat and orderly condition and in accordance with the Contract Standards. The Contractor shall provide or make provisions for all labor, materials, supplies, equipment, spare parts, consumables and services which are necessary for the normal and ordinary maintenance of the Project and shall conduct predictive, preventive and corrective maintenance of such equipment systems, improvements and property in the Project as required by the Contract Standards.

SECTION 8.5. PERIODIC INSPECTIONS.

The KRRC may, upon reasonable written notice, perform an inspection of the Habitat Project Work at any time, and relevant records of the Contractor each Contract Year, to assess compliance with the Contract Standards. The Contractor shall cooperate fully with the inspections, which shall not interfere unreasonably with the Contractor's performance of the Habitat Maintenance Services. The KRRC's inspection may include the inspection of: (1) the Project and the Habitat Project Work Area; (2) all areas where chemicals are stored or used; and (3) all maintenance and repair records kept by the Contractor. KRRC shall promptly, upon request, provide Contractor with a copy of any data, analyses or reports arising from such inspections.

SECTION 8.6. EMERGENCIES.

(A) Emergency Plan. Within 30 days following the Habitat Project Work Implementation Contract Amendment Date, the Contractor shall provide the KRRC with a plan of action to be implemented in the event of an emergency, including fire, weather, environmental, health, safety and other potential emergency conditions. The plan shall: (1) provide for appropriate notifications to the KRRC and all other Governmental Bodies having jurisdiction and for measures which facilitate coordinated emergency response actions by the KRRC and all such other appropriate Governmental Bodies; and (2) assure the timely availability of all personnel required to respond to any emergency (no later than one hour during nights, weekends or holidays). The emergency plan shall be reviewed by the Parties annually as part of the review of the Annual Report and updated when necessary, in accordance with the Habitat Maintenance Protocol.

(B) Emergency Action. Notwithstanding any requirement of this Agreement requiring KRRC approval or consent to reports or submittals, if at any time the Contractor determines in good faith that an emergency situation exists such that action must be taken to protect the safety of the public or its employees, to protect the safety or integrity of the Project or to mitigate the immediate consequences of an emergency event, then the Contractor shall take all such action it deems in good faith to be reasonable, practicable and appropriate under the circumstances. As promptly thereafter as is reasonable, the Contractor shall notify the KRRC of the event at an emergency phone number from a list supplied by the KRRC, and the Contractor's response thereto. Absent the occurrence of Uncontrollable Circumstances, as and to the extent provided in this Agreement, cost of the Contractor's response measures shall be borne by the Contractor.

SECTION 8.7. DEDUCTIONS.

The Contractor shall pay Deductions in accordance with Appendix 14 (Deductions) for failing to perform administrative obligations set forth therein. The Contractor shall have the right to discuss with the KRRC any such Deductions prior to their imposition, and to dispute the obligation to pay any Deduction pursuant to Article 13 (Dispute Resolution).

ARTICLE 9

COMPENSATION FOR HABITAT MAINTENANCE SERVICES

SECTION 9.1. HABITAT MAINTENANCE SERVICES FEE GENERALLY.

From and after the Habitat Project Work Commencement Date, the KRRC shall pay the Habitat Maintenance Services Fee to the Contractor in the manner set forth in this Article as compensation for the Contractor's performing the Habitat Maintenance Services under this Agreement. The Habitat Maintenance Services Fee shall be calculated according to this Article, and paid pursuant to the schedule described below in Section 9.3 (Base Habitat Maintenance Services Fee).

SECTION 9.2. HABITAT MAINTENANCE SERVICES FEE.

The "**Habitat Maintenance Services Fee**" shall be calculated as the Base Habitat Maintenance Services Fee, plus or minus any Extraordinary Items. Each component of the Habitat Maintenance Services Fee shall be determined in accordance with this Article.

SECTION 9.3. BASE HABITAT MAINTENANCE SERVICES FEE.

The "**Base Habitat Maintenance Services Fee**" is payable on the dates and in the amounts set forth in [_____].

SECTION 9.4. EXTRAORDINARY ITEMS.

The Extraordinary Item component of the Habitat Maintenance Services Fee, which may be a charge or a credit, shall be equal to the net of the following items (each an "**Extraordinary Item**" hereunder):

(1) Any Deductions owed by the Contractor due to non-performance specifically provided for under Section 8.7 (Deductions);

(2) Any indemnification amounts which are due and owing to the KRRC hereunder and with respect to which a claim has been filed against a Contractor Indemnitee by a third party in accordance with Applicable Law; and

(3) Any other increase or reduction in the Base Habitat Maintenance Services Fee provided for under any other Article or Appendix of this Agreement.

(4) If the Parties are unable to agree on how to treat and designate an Extraordinary Item pursuant to this subsection, either Party may elect to initiate dispute resolution procedures in accordance with Article 13 (Dispute Resolution).

SECTION 9.5. PERMISSIBLE WITHHOLDINGS.

The KRRC may withhold and retain all or any portion of any payment requested in any Billing Statement for Habitat Maintenance Services in an amount equal to the sum of:

(1) Any Deductions owed by the Contractor due to non-performance specifically provided for under Section 8.7 (Deductions);

(2) Any indemnification amounts which are due and owing to the KRRC hereunder and with respect to which a claim has been filed against a Contractor Indemnitee by a third party in accordance with Applicable Law;

(3) Any amount determined pursuant to subsection 15.1(E) (Maintenance of Insurance Coverage);

(4) Any payments with respect to which documents to be delivered in connection therewith are not correct and complete;

(5) Any payments to the extent that the Habitat Maintenance Services covered by such Billing Statement (or any previous Billing Statement) does not comply with this Agreement;

(6) Any payments with respect to which any person has filed a Lien resulting from the acts or omissions of the Contractor in performing the Habitat Maintenance Services and such Lien remains unreleased or unbonded;

(7) All payments, if an Event of Default of the Contractor has occurred under Section 14.2 (Events of Default by the Contractor); and

(8) In the event the Contractor fails to pay any Taxes, assessments, penalties or fees imposed by any Governmental Body, then the Contractor authorizes the KRRC to deduct and withhold or pay over to the appropriate Governmental Body those unpaid amounts upon demand by the Governmental Body if the failure to pay such amounts would reasonably be expected to result in a lien on the KRRC Property.

In the event of any permissible withholding under this Section, the KRRC shall notify the Contractor in writing at least seven days prior to the date payment is otherwise due. The notice shall indicate the specific amounts the KRRC intends to withhold, the reasons and contractual basis for the withholding and the specific measures the Contractor must take to rectify the KRRC's concerns.

SECTION 9.6. BILLING STATEMENT DISPUTES.

If the KRRC disputes any amount billed by the Contractor, the KRRC may either (1) pay the disputed amount when otherwise due, and provide the Contractor with a written objection indicating the amount that is being disputed and providing all reasons then known to the KRRC for its objection to or disagreement with such amount, or (2) pay the undisputed amount when due, and provide the Contractor with written objection as aforesaid within the time when the disputed amount would otherwise have been payable. When any billing dispute is finally resolved, if payment by the KRRC to the Contractor of amounts withheld or reimbursement to the KRRC by the Contractor of amounts paid under protest is required, such payment or reimbursement shall be made within 45 days of the date of resolution, with interest at the Overdue Rate calculated from the date on which the payment was or would have been paid to the date on which the payment is reimbursed or paid.

ARTICLE 10

MANAGEMENT, LABOR AND SUBCONTRACTORS

SECTION 10.1. MANAGEMENT.

(A) Habitat Project Work Manager. The Contractor shall appoint a full-time manager (the "**Habitat Project Work Manager**") whose sole employment responsibility shall be managing the Contractor's performance of the Habitat Project Work; provided, however, that the Contractor may, acting reasonably, transition the Habitat Project Work Manager to a part-time basis based on the scope of remaining Habitat Project Work. The Habitat Project Work Manager shall be licensed, trained, experienced and proficient in the provision of management services comparable to the Habitat Project Work. The Habitat Project Work Manager shall at all times during the Term remain appropriately licensed and certified as required under Applicable Law. The Contractor acknowledges that the performance of the individual serving from time to time as the Habitat Project Work Manager will have a material bearing on the quality of service provided hereunder, and that effective cooperation between the KRRC and the Habitat Project Work Manager will be essential to effectuating the intent and purposes of this Agreement. Accordingly, not fewer than 30 days prior to the date on which any candidate for Habitat Project Work Manager from time to time during the Term is proposed by the Contractor to assume managerial responsibility for the Habitat Project Work, the Contractor shall: (1) provide the KRRC with a comprehensive resume of the candidate's licenses, training, experience, skills and approach to management and customer relations; and (2) afford the KRRC an opportunity to interview the candidate with respect to such matters. The KRRC shall have the right within 30 days following such interview to disapprove the hiring of the proposed candidate, which right of disapproval shall not be exercised unreasonably. The initial Habitat Project Work Manager , as identified in Appendix 12 (Key Personnel and Approved Subcontractors), shall not be replaced, unless otherwise approved by the KRRC acting reasonably, for a period of three years from the Habitat Project Work Implementation Contract Amendment Date, absent death, disability, retirement, resignation or cessation of employment with the Contractor. The Contractor shall replace the Habitat Project Work Manager at the request of the KRRC, after notice and a reasonable opportunity for corrective action, in the event the KRRC determines, acting reasonably, that an unworkable relationship has developed between the Habitat Project Work Manager and the KRRC.

(B) KRRC Rights with Respect to Key Personnel. The Contractor acknowledges that the identity of the Habitat Project Work Manager and the other key management and supervisory personnel proposed by the Contractor and its Subcontractors in its submittals to the KRRC was a material factor in the selection of the Contractor to perform this Agreement. Such personnel, their affiliations and their anticipated roles in the performance of the Contract Obligations are set forth in Appendix 12 (Key Personnel and Approved Subcontractors). The Contractor shall utilize such personnel to perform such services unless such personnel are unavailable for good cause shown. "Good cause shown" shall not include performing services on other projects for the Contractor or any of its Affiliates, but shall include termination for cause, employee death, disability, retirement, resignation or any job protected leave available under Applicable Law. In the event of any such permissible unavailability, the Contractor shall utilize replacement key management and supervisory personnel of equivalent skill, experience and reputation. Any on-site personnel change shall be proposed to the KRRC with reasonable advance notice for its review. The Contractor shall remove or replace, or have removed or replaced, any personnel performing the Contract Obligations if the KRRC, acting reasonably, determines that an unworkable relationship has developed between the KRRC and the individual.

SECTION 10.2. LABOR.

(A) Staffing Generally. The Contractor shall staff the Habitat Project Work during the Term in accordance with the Contract Standards with qualified personnel who meet the licensing and certification requirements of the State. The Contractor shall discipline or replace, as appropriate, any employee of the Contractor or any Subcontractor engaging in unlawful, unruly or objectionable conduct. The Contractor shall replace any Contractor or Subcontractor employee at the request of the KRRC, after notice and a reasonable opportunity for corrective action, in the event the KRRC determines, acting reasonably, that such employee does not have the requisite skills for the tasks assigned or has engaged is unlawful, unruly or objectionable conduct.

(B) Labor and Wage Requirements. The Contractor acknowledges that the prevailing wage and related requirements of the California Labor Code apply to "maintenance work" as defined at California Code of Regulations title 8, section 19000 and that the Habitat Maintenance Services include or may include such maintenance work. Therefore, the Contractor shall comply with the Labor Code provisions concerning payment of prevailing wage rates, penalties, keeping and retention of payroll records, and related requirements with regard to any employees performing maintenance work as may be required by Labor Code section 1771 and California Code of Regulations title 8, chapter 8, subchapter 3.

(C) Personnel Performance. The Contractor shall enforce discipline and good order at all times among the Contractor's employees and all Subcontractor employees. All persons engaged by the Contractor for performance of the Contract Obligations shall have requisite skills for the tasks assigned. The Contractor shall employ or engage and compensate engineers and other consultants to perform all engineering and other services required for the Contract Obligations. The Contractor shall ensure that all persons performing Contract Obligations, including all Subcontractors, comply with all registration, licensing and certification requirements imposed by any Governmental Body or otherwise under Applicable Law, including Contractor and Subcontractor employees.

(D) Labor Relations. The Contractor shall furnish labor that can work in harmony with all other elements of labor employed for the performance of the Habitat Project Work. The Contractor shall have exclusive responsibility for disputes or jurisdictional issues among unions or trade organizations representing employees of the Contractor or its Subcontractors, whether pertaining to organization of the Habitat Project Work, employee hiring or any other matters. The KRRC shall have no responsibility whatsoever for any such disputes or issues and the Contractor shall indemnify, defend and hold harmless the KRRC and the Contractor Indemnitees in accordance with and to the extent provided in Section 16.1 (Contractor's Obligation to Indemnify) from and against all Loss-and-Expense resulting from any such labor dispute.

(E) Notice of Labor Disputes. If the Contractor has knowledge of an actual or potential labor dispute that may affect any of the Contract Obligations, the Contractor shall promptly:

(1) Give notice thereof to the KRRC, including all relevant information related to the dispute of which the Contractor has knowledge; and

(2) Take all reasonable steps to ensure that such labor dispute does not affect the performance of any of the Contract Obligations including by applying for relief to appropriate forums or courts.

(F) Non-Discrimination Policy. Discrimination in any manner against any employee or applicant for employment by the Contractor or a Subcontractor on the basis of sex, race, creed, color, age, mental or physical disability, sexual orientation, religion, marital status, gender identity or national origin is prohibited. The Contractor shall include a similar nondiscrimination clause in all Subcontracts. If the Contractor fails to include a nondiscrimination clause in a Subcontract, the KRRC shall provide a reasonable opportunity to cure the defect. If the Contractor fails to cure the defect within the time period granted, the KRRC may declare this Agreement void and the Contractor shall be entitled to the reasonable value of the Contract Obligations that have been performed and materials that have been provided to date. If the Contractor cures the defect, this Agreement shall remain in force. If the Contractor willfully fails to comply with the requirements of the nondiscrimination clause, the KRRC may compel the Contractor to continue to perform under this Agreement as provided in California Public Utilities Code Section 20-106(b).

(G) Sexual Harassment. Sexual harassment by the Contractor, a Subcontractor, or any of their employees while on the Project Site or the Habitat Project Work Area or while actively representing or performing Contract Obligations for the KRRC is prohibited. It shall be the responsibility of the Contractor to prevent any such acts and to remove any employee who conducts such acts. Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature constitute sexual harassment. Basic criteria for determining unlawful behavior includes conduct that has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment.

(H) Abuse, Use, Sale or Possession of Drugs or Intoxicants. The use, possession, sale or distribution of illegal drugs or intoxicants by the Contractor, a Subcontractor or any of their employees while performing Contract Obligations for the KRRC is prohibited. It shall be the responsibility of the Contractor to prevent such activities and to remove any employee or Subcontractor employee whose ability to perform appears to be affected by the use of drugs or intoxicants.

SECTION 10.3. SUBCONTRACTING GENERALLY.

(A) Right to Subcontract. The Contractor may carry out the Habitat Project Work and other Contract Obligations by contracting such obligations to one or more Subcontractors in accordance with the requirements of this Article. The Contractor shall retain full responsibility to the KRRC under this Agreement for the required performance of the Contract Obligations, notwithstanding the execution of, or the terms and conditions contained in, any Subcontract. Subcontracts entered into by the Contractor for the performance of the Contract Obligations shall neither supersede nor abrogate any of the terms or provisions of this Agreement.

(B) Approval Required. The Subcontractors identified in Appendix 12 (Key Personnel and Approved Subcontractors), which includes SLTBE Firms, are approved by the KRRC for the performance of the specific Contract Obligations identified therein, subject to the rights of the KRRC under this Section. All other Subcontractors shall be subject to the approval of the KRRC, which approval shall not be unreasonably conditioned, withheld or delayed. The Contractor shall replace any Subcontractor at the request of the KRRC, after notice and a reasonable opportunity for corrective action, in the event that the KRRC determines, acting reasonably, that an unworkable relationship has developed between the KRRC or the Contractor and the Subcontractor.

(C) Performance Failure. No failure of any Subcontractor used by the Contractor in connection with the provision of the Contract Obligations shall relieve the Contractor from its obligations hereunder to perform the Contract Obligations. The Contractor shall be responsible for settling and resolving with all Subcontractors all claims including those:

(1) Arising out of delay, disruption, interference, hindrance or schedule extension caused by the Contractor;

(2) Arising from the actions or inactions of the Contractor or a Subcontractor; or

(3) Inflicted on the Contractor or a Subcontractor by the actions of another Subcontractor.

The Contractor shall provide to the KRRC, promptly following the receipt thereof, copies of any notice of default, breach or non-compliance received under or in connection with any Subcontract that may have a material and adverse effect on performance by the Contractor of its obligations under the Contract Documents.

(D) Restricted Persons. In providing the Contract Obligations, the Contractor shall not contract with, or allow any of its Subcontractors to contract with, any person that, in the reasonable opinion of the KRRC, is a Restricted Person.

(E) Subcontractor Licensing. All trade Subcontractors shall possess a valid contractor license as required by Applicable Law for the classification required for the work to be performed by the Subcontractor at the time of the Subcontract and throughout the duration of the Subcontract.

(F) Availability of Material Subcontractors and Key Personnel. At the request of the KRRC, the Contractor shall make the key representatives of material Subcontractors requested by the KRRC available for meetings between the KRRC and the Contractor concerning design review, Habitat Project Work progress or any other matter relating to the performance of the Habitat Project Work.

(G) Assignability. All Subcontracts entered into by the Contractor with respect to the Project shall contain provisions providing for assignment to the KRRC, solely at the KRRC's election and without cost or penalty, upon any early termination in accordance with this Agreement.

(H) SLTBE Goals. The Contractor acknowledges the KRRC has established (1) a non-mandatory goal for 5% of the Contract Compensation to be subcontracted to SLBE Firms, and (2) a non-mandatory goal for 10% of the Contract Compensation to be subcontracted to TBE Firms (the "**SLTBE Goals**"). The Contractor further acknowledges that a Subcontractor that qualifies as both an SLBE Firm and an TBE Firm shall only be counted under one such category for the purposes of the SLTBE Goals. The Contractor shall use commercially reasonable efforts to comply with the SLTBE Goals by utilizing practices consistent with industry standards, including the use of outreach programs, creation of small work packages, and engagement of the KRRC in a KRRC-supervised subcontracting process. The Contractor shall report its progress in meeting the SLTBE Goals, as reasonably requested, but not more than quarterly.

(I) Subcontractor Claims. The Contractor shall pay or cause to be paid to all Subcontractors all amounts due in accordance with their respective Subcontracts and the requirements of this Article. No Subcontractor shall have any right or claim against the KRRC

for labor, services, materials or equipment furnished for the Contract Obligations. The Contractor acknowledges that its indemnity obligations under Article 16 (Indemnification) shall extend to all claims for payment or damages by any Subcontractor who furnishes or claims to have furnished any labor, services, materials or equipment in connection with the Habitat Project Work. The Contractor shall, at the KRRC Representative's request, furnish satisfactory evidence that all obligations of the nature designated above in this Section have been paid, discharged or waived. If the Contractor fails to do so the KRRC may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor will be resumed in accordance with the terms of this Agreement, but in no event shall the provisions of this sentence be construed to impose any obligations upon the KRRC to either the Contractor, the Surety or any third party. In paying any unpaid bills of the Contractor, any payment so made by the KRRC will be considered as a payment made under this Agreement by the KRRC to the Contractor and the KRRC will not be liable to the Contractor for any such payments made in good faith.

(J) Removal of Subcontractors and Personnel. If at any time during the Term, the KRRC reasonably determines that the performance of any Subcontractor or any member of Subcontractor's staff performing Contract Obligations is unsatisfactory, based on serial, material non-performance issues (without reasonable cure thereof), the KRRC may require the Contractor to remove such Subcontractor or staff member immediately and replace the Subcontractor or staff member at no cost or penalty to the KRRC.

ARTICLE 11

COMPLIANCE WITH APPLICABLE LAW AND CONTRACTOR REGULATORY COMPLIANCE TERMS

SECTION 11.1. COMPLIANCE WITH APPLICABLE LAW GENERALLY.

The Contractor shall, and shall cause all of its Subcontractors to, perform the Contract Obligations in accordance with Applicable Law, including the Contractor Regulatory Compliance Terms, and all other applicable Contract Standards. The incorporation, reference or citation of specific statutes or other parts of Applicable Law in the Contract Documents is not intended, nor shall it be construed, to limit the generality of the Contractor's and all Subcontractors' obligations to comply with Applicable Law (whether or not specifically incorporated or referenced in the Contract Documents) in performing the Contract Obligations.

SECTION 11.2. COMPLIANCE WITH THE CONTRACTOR REGULATORY COMPLIANCE TERMS.

(A) Development and Finalization of the Contractor Regulatory Compliance Terms. The Contractor Regulatory Compliance Terms consist of (1) the terms of the Contractor Governmental Approvals, and (2) the Contractor-Allocated KRRC Regulatory Terms. As provided in Section 5.8 (Permitting Responsibilities and Schedule), during the Preliminary Services Period, the Contractor is obligated to apply for and seek to obtain, as permittee, all of the Contractor Governmental Approvals required to commence performance of the Habitat Project Work. As further provided in Section 5.8 (Permitting Responsibilities and Schedule), during the Preliminary Services Period the Contractor also is obligated to assist the KRRC in applying for and seeking to obtain the KRRC Governmental Approvals and, once obtained, in allocating responsibility for compliance between the Contractor and the Project Company.

(B) Compliance with the Contractor Regulatory Compliance Terms. The Contractor shall comply with all terms, conditions and requirements of all Contractor Regulatory Compliance Terms required to be complied with in connection with the performance of the Contract Obligations. The Contractor shall report to the KRRC, promptly upon obtaining knowledge thereof, all violations of the terms and conditions of any Contractor Regulatory Compliance Terms. Any Contractor violations of or noncompliance with any Contractor Regulatory Compliance Terms, shall be at the sole risk, liability and expense of the Contractor. The Contractor Regulatory Compliance Terms are the only Governmental Approvals, or particular terms and conditions of the Governmental Approvals, that the Contractor is obligated to comply with hereunder. Compliance with all other Governmental Approvals is the responsibility of the Project Company under the Project Agreement.

(C) KRRC Assistance. The Parties acknowledge and agree that the KRRC is the permittee under the KRRC Governmental Approvals, and notwithstanding its contracting hereunder for the Contractor to perform the Contractor-Allocated KRRC Regulatory Terms, the KRRC has not delegated any of its obligations as permittee under the KRRC Governmental Approvals. The KRRC shall cooperate in good faith and take all reasonable action requested by the Contractor from time to time, including engaging with and making requests to Governmental Bodies and other third parties (whether via formal filings, informal outreach or both, as applicable) to the extent such actions (1) may, in the Contractor's reasonable belief, help the Contractor perform its obligations hereunder, including complying with the Contractor Regulatory Compliance Terms and mitigating the circumstances relating to Uncontrollable Circumstances, (2) does not in the KRRC's reasonable belief interfere with any other right or obligation the KRRC may have pursuant to the KHSA; or (3) to the extent such actions do not involve incremental additional material cost or expense to the KRRC.

(D) Summary and Overview of Contractor Regulatory Compliance Terms Generally. The Contractor Regulatory Compliance Terms consist generally of monitoring native plant establishment; re-seeding difficult and underperforming areas; continuing to install pole cuttings and seed plantings; adaptively replacing pole cuttings, acorns, and container plants; maintaining existing and previously planted vegetation; invasive exotic vegetation control and inspections; herbivore control; maintaining the irrigation systems; field-based monitoring throughout reservoir areas where restoration features were installed; modification, adaptive improvement and augmentation of installed habitat features as needed; constructing in-stream habitat features based on engineered designs that are appropriate for the system; constructing off-channel wetlands, side channels and alcoves where appropriate; enhancing mid-channel gravel bars; conducting field monitoring of the mainstream and tributaries; fish passage monitoring; removing all non-natural fish passage barriers; and monitoring and report preparation. This subsection is provided for summary and overview purposes only, is not binding on the Parties in any respect, and shall not be used in the application or interpretation of this Agreement.

SECTION 11.3. OBLIGATIONS OF THE CONTRACTOR UPON NON-COMPLIANCE.

(A) Fines, Penalties, Indemnification and Remediation. In the event that the Contractor or any Subcontractor fails, or is alleged to have failed by a Governmental Body, at any time to comply with Applicable Law (including the FERC License Orders and all other Contractor Regulatory Compliance Terms) with respect to the Contract Obligations, the Contractor shall: (1) promptly respond to any notice of non-compliance, warning letter, notice of violation or other enforcement action and seek amicable resolution of the issues; (2) promptly correct such failure and resume compliance with Applicable Law; (3) pay any resulting fines, assessments, levies, impositions, penalties or other charges; (4) indemnify, defend and hold harmless the Contractor Indemnitees in accordance with and to the extent provided in Article 16 (Indemnification) from and against all Loss-and-Expense resulting therefrom; (5) make all changes in performing the Contract Obligations which are necessary to ensure that the failure of compliance with Applicable Law will not recur; and (6) comply with any corrective action plan filed with or mandated by any Governmental Body in order to remedy any such failure of the Contractor to comply with Applicable Law.

(B) Failure of Enforcement by Governmental Bodies. In the event the KRRC determines, acting reasonably, that any Governmental Body has failed to enforce or waived any of the Contractor Regulatory Compliance Terms and that such failure or waiver materially and adversely affects the rights and interests of the KRRC hereunder, the KRRC may notify the Contractor of its determination and the basis therefor. Promptly following any such determination and notification, the Contractor shall meet and confer with the KRRC regarding the alleged failure of enforcement or waiver and the appropriateness of potential remedial measures. Any agreement reached between the Parties as to appropriate remedial steps shall be reflected in a Contract Administration Memorandum.

ARTICLE 12

UNCONTROLLABLE CIRCUMSTANCES

SECTION 12.1. UNCONTROLLABLE CIRCUMSTANCES GENERALLY.

(A) Extent of Relief Available to the Contractor. Notwithstanding any other provision of this Agreement, if an Uncontrollable Circumstance occurs in the performance of the Habitat Project Work, the Contractor shall be entitled to relief from its obligations, extensions of time and compensation, as and to the extent provided in this Article. Such relief shall be available irrespective of whether an obligation of this Agreement expressly states that it is excused by Uncontrollable Circumstances.

(B) Mitigation Given Effect. Any relief to which the Contractor is entitled under this Article on account of Uncontrollable Circumstances shall be adjusted to account for the effect of the mitigation measures which were or should have been taken by the Contractor in compliance with its duty to mitigate under Section 18.7 (General Duty to Mitigate).

(C) Applicable Law Compliance. Nothing in this Article shall be interpreted as relieving the Contractor of its obligation, following any and all Uncontrollable Circumstances, to perform the Contract Obligations in compliance with Applicable Law.

(D) Contract Obligations Not Affected; Resumption of Performance. The occurrence of an Uncontrollable Circumstance shall not excuse the Contractor from performing any obligation hereunder not directly affected by the occurrence of the Uncontrollable Circumstance. Upon the occurrence of an Uncontrollable Circumstance, the Contractor shall promptly use all reasonable efforts to eliminate the cause thereof and resume performance of the affected Contract Obligations.

SECTION 12.2. NO RELIEF FOR ANY CONTRACTOR INDEMNIFICATION ACT, EVENT OR CIRCUMSTANCE NOT CONSTITUTING AN UNCONTROLLABLE CIRCUMSTANCE.

(A) No Contractual Relief. The Contractor understands and agrees that the Contractor Regulatory Compliance Terms (1) include performance standards and measures which may change over time and (2) provide substantial discretion for the applicable Governmental Bodies to require new performance standards. The Contractor shall not be relieved of its obligation to perform the Contract Obligations on account of any act, event, or circumstance whatsoever not constituting an Uncontrollable Circumstance, irrespective of (1) whether or to what extent the act, event or circumstance is within or outside the control of the Contractor, (2) whether the occurrence of the act, event or circumstance was or was not to any extent due to the willful or negligent act, event or omission of the Contractor, (3) the extent to which the act, event or circumstance expands the scope of, interferes with, delays or increases the cost of performing the Contract Obligations, or (4) the timing of the occurrence of such act, event or circumstance, including any of the following acts, events or circumstances:

(1) The adoption, amendment, promulgation, issuance, modification, repeal or written change in administrative or judicial interpretation of any Applicable Law related to the Habitat Project Work, including any such change which results in a modification of any Contractor Regulatory Compliance Term;

(2) The order or judgment of any Governmental Body;

(3) A delay in the renewal or reissuance of any Contractor Governmental Approval;

(4) The imposition or establishment of any new or unanticipated terms or conditions in any Contractor Regulatory Compliance Term that do not arise from Legal Proceedings initiated by third parties;

(5) The "re-opening", reissuance, revision, or change in interpretation as to the application of the terms and conditions of any Contactor Compliance Term or the imposition of any unanticipated terms and conditions of any Contractor Regulatory Compliance Term;

(6) A change in the nature or severity of the actions typically taken by a Governmental Body to enforce compliance with Applicable Law related to the Habitat Project Work or any Contractor Regulatory Compliance Term in effect at any time during the Habitat Project Work;

(7) Any increase in any fines or penalties provided for under Applicable Law; in effect at any time during the Term;

(8) Any change in Applicable Law relating to Taxes;

(9) The extension of the stated or effective expiration date of any Governmental Approval of any length;

(10) Geotechnical or other site conditions, or differing geotechnical or other site conditions, of any kind;

(11) Naturally occurring events (including unusually severe and abnormal climatic conditions) landslides, underground movement, earthquakes, fires, tornadoes, hurricanes, floods, lightning, epidemics and other acts of God;

(12) Explosion, terrorism, sabotage or similar occurrence, acts of a declared public enemy, extortion, war, blockade or insurrection, riot or civil disturbance;

(13) Labor disputes, strikes, slowdowns, stoppages, boycotts or disruptions;

(14) The failure of any Subcontractor to furnish services, materials or equipment on the dates agreed to; or

(15) The preemption, confiscation, diversion, destruction or other interference in possession or performance of materials or services by a Governmental Body in connection with a public emergency or any condemnation or other taking by eminent domain of any material portion of the Project Site or the Habitat Project Work Area.

In the event of any conflict between the foregoing items described in (1) through (15) and the definition of Uncontrollable Circumstances; the latter shall prevail for all purposes under this Agreement.

(B) Relief Available to the Contractor Under the Contractor Regulatory Compliance Terms. The Contractor is obligated under Section 11.2 (Compliance with the Contractor Regulatory Compliance Terms) to comply with the Contractor Regulatory Compliance Terms. The Parties acknowledge and agree that the Contractor Regulatory Compliance Terms contain terms and conditions that provide various forms of specific potential schedule and performance relief that is available under certain defined circumstances, including circumstances allowing for permissible delay and performance relief; new or additional

measures; and adaptive management measures to attain water quality objectives. Nothing in this Section is intended to prevent the Contractor from availing itself of any performance relief provided for under any such terms and conditions.

SECTION 12.3. UNCONTROLLABLE CIRCUMSTANCE CLAIM PROCEDURES.

(A) Notice and Written Report. In order to assert an entitlement based on the occurrence of an Uncontrollable Circumstance, the Contractor shall give notice of the occurrence of the Uncontrollable Circumstance to the KRRC Contract Representative as soon as practicable, and in any event within 10 Business Days of the date the Contractor has knowledge that the Uncontrollable Circumstance has caused or is likely to cause an entitlement under this Agreement. The Contractor's notice shall include a written report:

(1) Describing the Uncontrollable Circumstance and the cause thereof, to the extent known;

(2) Stating the date on which the Uncontrollable Circumstance began and its estimated duration, to the extent known;

(3) Summarizing the consequences of the Uncontrollable Circumstance and the expected impact on the performance of the Contract Obligations; and

(4) Indicating the nature and scope of the Contractor's potential entitlement to relief.

(B) Updates. The Contractor shall provide the KRRC Contract Representative with periodic updates, together with further details and supporting documentation, as it receives or develops additional information pertaining to the Uncontrollable Circumstance and the matters described in subsection (A) (Notice and Written Report) of this Section. In particular, the Contractor shall notify the KRRC Contract Representative as soon as the Uncontrollable Circumstance has ceased and of the time when performance of its affected obligations can be resumed.

(C) Submittal of Relief Request. The Contractor shall submit to the KRRC Contract Representative a further notice making its request for specific relief, the basis therefor and the event giving rise to the requested relief (the "**Relief Request Notice**"), promptly after becoming aware of such occurrence, but not more than 30 days after the KRRC's receipt of the notice required under subsection (A) (Notice and Written Report) of this Section. Each Relief Request Notice shall include all information required in this Article with respect to the specific relief being requested.

(D) Delay in Notification. If any Uncontrollable Circumstance notice or any required information is submitted by the Contractor to the KRRC after the dates required under this Section, then the Contractor's entitlement to relief hereunder due to the occurrence of the Uncontrollable Circumstance shall have been reduced to the extent the KRRC is prejudiced by the delay of such notice or required information.

(E) Multiple and Overlapping Claims. The Contractor may make multiple but not duplicative claims with respect to an Uncontrollable Circumstance.

(F) Burden of Proof and Mitigation. The Contractor shall bear the burden of proof in establishing the occurrence of an Uncontrollable Circumstance and the entitlement to

relief based thereon, and shall demonstrate that the Contractor complied with its mitigation obligations under Section 18.7 (General Duty to Mitigate).

(G) KRRC Response. The KRRC may, but shall have no obligation to, respond to the Contractor's initial notice concerning the occurrence of an Uncontrollable Circumstance under subsection (A) (Notice and Written Report) of this Section. Within 30 days after receipt of a Relief Request Notice pursuant to subsection (C) (Submittal of Relief Request) of this Section, the KRRC shall issue a written determination as to the extent, if any, to which it agrees with or dispute the Contractor's request, and the reasons therefor.

(H) Agreement or Dispute. The agreement of the Parties as to the specific relief to be given the Contractor on account of an Uncontrollable Circumstance shall be evidenced by a Contract Administration Memorandum or a Contract Amendment. Either Party may refer any dispute for resolution in accordance with Section 13.1 (Dispute Resolution Procedures).

(I) Certifications. Each submittal made under this Section by the Contractor shall be accompanied by a certification of the Contractor Contract Representative that the submittal is made in good faith; that the supporting data are complete and accurate at the time of the submittal to the best knowledge of the Contractor; and that the requested relief accurately reflects the relief to which the Contractor reasonably believes it is entitled hereunder. The Contractor shall have no entitlement to relief for uncertified claims.

SECTION 12.4. UNCONTROLLABLE CIRCUMSTANCES RELIEF.

If and to the extent that an Uncontrollable Circumstance materially interferes with, delays or increases the cost to the Contractor performing the Project Implementation Work in accordance herewith, the Contractor shall be entitled to:

(1) Relief from its performance obligations; or

(2) An adjustment to the Contract Compensation for such costs (including the costs reasonably incurred in connection with mitigation measures undertaken by the Contractor pursuant to Section 18.7 (General Duty to Mitigate)), except as and to the extent provided in Article 16 (Indemnification));

or any combination thereof, each of which properly reflects the interference with performance, the time lost as a result thereof, or the amount of the increased cost, in each case only to the minimum extent necessary to compensate the Contractor or provide performance relief and only to the extent attributable to the Uncontrollable Circumstance. Any cost reduction achieved, or which should have been achieved, through the mitigation measures undertaken by the Contractor pursuant to Section 18.7 (General Duty to Mitigate) shall be reflected in a reduction of the amount of the additional Contract Compensation or Base Habitat Restoration Work Price Adjustment as appropriate to reflect such mitigation measures. The Contractor shall not be entitled to any price relief on account of any costs incurred as the result of Contractor Fault or an act, event or circumstance that the Contractor is obligated to insure against under Article 15 (Insurance), irrespective of any limits of coverage and of any deductible applicable under any policy of insurance maintained or required to be maintained thereunder.

SECTION 12.5. RELEASE.

The Contractor's acceptance of any performance, price or schedule adjustment under this Article shall be construed as a release of the KRRC (but in no event, any other third party, including the Project Company or any Subcontractors) by the Contractor (and all persons

claiming by, through or under the Contractor) from any and all losses or expenses resulting from, or otherwise attributable to, the event giving rise to the adjustment claimed.

ARTICLE 13

DISPUTE RESOLUTION

SECTION 13.1. DISPUTE RESOLUTION PROCEDURES.

(A) Generally. Except as provided in subsection 13.2(D) (Relation to Judicial Legal Proceedings), each Party shall follow the dispute resolution procedures set forth in this Section to attempt to resolve and settle disputes between themselves concerning the rights, obligations and liabilities of the Parties. The dispute resolution procedures set forth in this Section are intended to encourage a negotiated resolution of disputes in a prompt and efficient manner without resort to litigation, which should be a last resort.

(B) Informal Negotiations. Representatives of the KRRC and the Contractor with day-to-day involvement in the administration of this Agreement and the performance of the Contract Obligations shall initially and promptly enter into negotiations to attempt to address and resolve any disputes that may arise concerning this Agreement. In connection with such negotiations, the Party asserting the dispute shall provide the other with a written description of the nature of the dispute, along with reasonable supporting documentation. The Parties shall consider involving senior representatives and other upper management personnel of each Party in the informal negotiation process, as well as other representatives of the Parties not actively involved in the day-to-day activities associated with the dispute who might be able to take a broader look at the dispute in the context of the overall objectives of the Project and this Agreement. Following the exercise of reasonable efforts towards resolution of a dispute through such informal negotiations without reaching agreement, a Party may declare that the informal negotiations have been exhausted, and such Party may request Non-Binding Mediation.

SECTION 13.2. NON-BINDING MEDIATION.

(A) Rights to Request and Decline Non-Binding Mediation. Subject to the requirements of subsection 13.1(B) (Informal Negotiations), either Party may request Non-Binding Mediation of any dispute arising under this Agreement, whether technical or otherwise. Non-Binding Mediation is voluntary and will not be a condition precedent to initiating the institution of Legal Proceedings by either Party. The non-requesting Party may decline the request in its discretion. If there is concurrence that any particular matter shall be mediated, the provisions of this Section shall apply. The costs of such Non-Binding Mediation shall be divided equally between the KRRC and the Contractor.

(B) Procedure. The mediator shall be a professional engineer, attorney or other professional mutually acceptable to the Parties who has no current or on-going relationship to either Party. The mediator shall have full discretion as to the conduct of the mediation. Each Party shall participate in the mediator's program to resolve the dispute until and unless the Parties reach agreement with respect to the disputed matter or one Party determines in its discretion that its interests are not being served by the mediation.

(C) Non-Binding Effect. Mediation is intended to assist the Parties in resolving disputes over the correct interpretation of this Agreement. No mediator shall be empowered to render a binding decision.

(D) Relation to Judicial Legal Proceedings. Nothing in this Section shall operate to limit, interfere with or delay the right of either Party under this Article to commence judicial Legal Proceedings upon a breach of this Agreement by the other Party, whether in lieu of, concurrently with, or at the conclusion of any Non-Binding Mediation.

SECTION 13.3. FORUM FOR DISPUTE RESOLUTION.

It is the express intention of the Parties that all Legal Proceedings related to this Agreement or to the Project or to any rights or any relationship between the Parties arising therefrom shall be solely and exclusively initiated and maintained in state or federal courts located in the City and County of San Francisco, California. The Contractor and the KRRC each irrevocably consents to the jurisdiction of such courts in any such Legal Proceeding and waives any objection it may have to the laying of the jurisdiction of any such Legal Proceeding.

SECTION 13.4. CONTINUANCE OF PERFORMANCE DURING DISPUTE.

Unless otherwise directed in writing by the KRRC, at all times during the course of any dispute resolution procedure or Legal Proceeding, the Contractor shall continue with the performance of the Contract Obligations in a diligent manner and in accordance with the applicable provisions of this Agreement. The KRRC shall continue to satisfy its obligations under this Agreement, including its uncontested payment obligations to the Contractor during the pendency of any such dispute, subject to the terms and conditions of this Agreement. Records of the Contract Obligations performed during such time shall be kept in accordance with the applicable provisions of this Agreement.

ARTICLE 14

BREACH, DEFAULT, REMEDIES AND TERMINATION

SECTION 14.1. REMEDIES FOR BREACH.

(A) Generally. The Parties agree that, except as otherwise provided in this Section, in the event that either Party breaches this Agreement, the other Party may exercise any legal rights it may have under this Agreement and under Applicable Law, subject to Section 13.1 (Dispute Resolution Procedures). Neither Party shall have the right to terminate this Agreement except as expressly provided in this Article.

(B) No Effect On Contract Obligations. The exercise by the KRRC of any of its rights under this Article shall not reduce or affect in any way the Contractor's responsibility hereunder to perform the Contract Obligations.

(C) No Duplicative Recovery. Every right to claim compensation, indemnification or reimbursement under this Agreement shall be construed so that the recovery is without duplication to any other amount recoverable under this Agreement.

SECTION 14.2. EVENTS OF DEFAULT BY THE CONTRACTOR.

(A) Events of Default Not Requiring Previous Notice or Cure Opportunity for Termination. Each of the following shall constitute an Event of Default by the Contractor upon which the KRRC, by notice to the Contractor, may terminate this Agreement without any requirement of having given notice previously or of providing any further cure opportunity:

(1) Assignment or Transfer Without Consent. The assignment or transfer by the Contractor of this Agreement or any right or interest therein without the KRRC's prior written consent; provided that the Contractor may assign or transfer its rights and interests in this Agreement to its Affiliate without obtaining the consent of the KRRC, so long as reasonable notice is provided;

(2) Insolvency. The insolvency of the Contractor as determined under the Bankruptcy Law;

(3) Voluntary Bankruptcy. The filing by the Contractor or the Guarantor of a petition of voluntary bankruptcy under the Bankruptcy Law; the consenting of the Contractor or the Guarantor to the filing of any bankruptcy or reorganization petition against the Contractor or the Guarantor under the Bankruptcy Law; or the filing by the Contractor or the Guarantor of a petition to reorganize the Contractor or the Guarantor pursuant to the Bankruptcy Law; or

(4) Involuntary Bankruptcy. The issuance of an order of a court of competent jurisdiction appointing a receiver, liquidator, custodian or trustee of the Contractor or the Guarantor or of a major part of the property of the Contractor or the Guarantor, or the filing against the Contractor or the Guarantor of a petition to reorganize the Contractor or the Guarantor pursuant to the Bankruptcy Law, which order shall not have been discharged or which filing shall not have been dismissed within 90 days after such issuance or filing.

(B) Events of Default Requiring Previous Notice and Cure Opportunity for Termination. It shall be an Event of Default by the Contractor upon which the KRRC may

terminate this Agreement by notice to the Contractor and subject to the Contractor's cure rights set forth in subsection (C) (Notice and Cure Opportunity) of this Section, if:

(1) Any representation or warranty of the Contractor hereunder was false or inaccurate in any material respect when made, and the legality of this Agreement or the ability of the Contractor to carry out its obligations hereunder is thereby materially and adversely affected;

(2) The Contractor fails, refuses or otherwise defaults in its duty to pay any undisputed or uncontested amount required to be paid to the KRRC under this Agreement within 60 days following the due date for such payment;

(3) The Contractor suspends, ceases, stops or abandons the Contract Obligations or fails to continuously and diligently perform the Contract Obligations;

(4) The failure of the Contractor to obtain and maintain in full force and effect in accordance with the requirements of this Agreement any Security Instrument required by Article 17 (Security for Performance) as security for the performance of this Agreement;

(5) The failure of the Contractor to renew the Performance Bond or Payment Bond at least 90 days prior to the expiration of such Performance Bond or Payment Bond;

(6) The Contractor fails to resume performance of the Contract Obligations which has been suspended or stopped within a reasonable time after receipt of notice from the KRRC to do so or (if applicable) after cessation of the event preventing performance;

(7) The Contractor fails materially to comply with any Applicable Law or materially fails unreasonably to comply with the instructions of the KRRC consistent with this Agreement; or

(8) The Contractor fails to perform any other material obligation under this Agreement.

(C) Notice and Cure Opportunity. The Contractor acknowledges that the KRRC has an immediate termination right upon the occurrence of any of the defaults listed in subsection (A) (Events of Default Not Requiring Previous Notice or Cure Opportunity for Termination) of this Section and that the Contractor has no further right of notice or cure in such circumstances of default. Conversely, no default listed in subsection (B) (Events of Default Requiring Previous Notice and Cure Opportunity for Termination) of this Section shall constitute an Event of Default giving the KRRC the right to terminate this Agreement for cause under this Section unless:

(1) The KRRC has given prior written notice to the Contractor stating that a specified default has occurred which gives the KRRC a right to terminate this Agreement for cause under this Section, and describing the default in reasonable detail; and

(2) The Contractor has not initiated within a reasonable time (in any event not more than 15 days from the initial default notice) and continued with due diligence to carry out to completion all actions reasonably necessary to correct the default and prevent its recurrence.

If the Contractor shall have initiated and continued with due diligence to carry out to completion all actions required under item (2) of this subsection, the default shall not constitute an Event of Default during such period of time as the Contractor shall continue with due diligence to carry out to completion all such actions.

(D) Other Remedies upon Contractor Event of Default. The right of termination provided under this Section upon an Event of Default by the Contractor is not exclusive. If this Agreement is terminated by the KRRC for an Event of Default by the Contractor, the KRRC shall have the right to pursue a cause of action for actual damages and to exercise all other remedies which are available to it under this Agreement, under the Security Instruments and under Applicable Law. The Contractor shall not be entitled to any compensation for services provided subsequent to receiving any notice of termination for an Event of Default under this Section.

SECTION 14.3. EVENTS OF DEFAULT BY THE KRRC.

(A) Events of Default Permitting Termination. The failure, refusal or other default by the KRRC in its duty to pay any undisputed amount required to be paid to the Contractor under this Agreement within 30 days following the due date for such payment shall constitute an Event of Default by the KRRC upon which the Contractor, by notice to the KRRC, may terminate this Agreement, subject to the terms and conditions of this Section.

(B) Notice and Cure Opportunity. No such default described in subsection (A) (Events of Default Permitting Termination) of this Section shall constitute an Event of Default giving the Contractor the right to terminate this Agreement for cause under this Section unless:

(1) The Contractor has given prior written notice to the KRRC stating that a specified default has occurred which gives the Contractor a right to terminate this Agreement for cause under this Section, and describing the default in reasonable detail; and

(2) The KRRC has neither challenged in an appropriate forum the Contractor's conclusion that such default has occurred or constitutes a material breach of this Agreement nor initiated within a reasonable time (in any event not more than 30 days from the initial default notice) and continued with due diligence to carry out to completion all actions reasonably necessary to correct the default and prevent its recurrence.

If the KRRC shall have initiated and continued with due diligence to carry out to completion all actions required under item (2) of this subsection, the default shall not constitute an Event of Default during such period of time (in any event not more than 60 days from the initial default notice) as the KRRC shall continue with due diligence to carry out to completion all such actions.

(C) Effect of Termination. If this Agreement is terminated by the Contractor for cause as a result of an Event of Default by the KRRC, the KRRC shall pay the Contractor the same amount which would be payable under Section 14.4 (KRRC Convenience Termination Rights) if this Agreement were terminated at the election of the KRRC for convenience and without cause based on the date of termination. The KRRC shall have no further liability to the Contractor for any Event of Default or termination under this Section.

(D) Payment of Amounts Owing Through the Termination Date. Without duplicating any amount required to be paid pursuant to subsection (C) (Effect of Termination) of this Section, upon any termination pursuant to this Section, the Contractor shall be paid all

amounts due for the Contract Obligations performed prior to the Termination Date to be paid as part of the Contract Compensation but not yet paid as of the Termination Date.

SECTION 14.4. KRRC CONVENIENCE TERMINATION RIGHTS.

(A) Convenience Termination Right and Payment. Notwithstanding any other provision of this Agreement, the KRRC shall have the right at any time following the Contract Date until the final payment due date for the Habitat Restoration Work Price, exercisable in its discretion for any reason upon 60 days' written notice to the Contractor, to terminate this Agreement (the "**Convenience Termination Notice Period**"). During the Termination Notice Period, the KRRC and the Contractor will negotiate a transition plan with the Governmental Bodies for the Contractor to complete any Habitat Restoration Work that may still be in progress. At the request of the applicable Governmental Bodies, the Termination Notice Period shall be reasonably extended.

(B) Convenience Termination Payment for Contract Obligations. In the event of a convenience termination of the Contract Obligations pursuant to this subsection, the Contractor shall be entitled to a convenience termination payment in an amount equal to the sum of:

(1) The difference between (a) the value of all Habitat Project Work performed up to the Termination Date, and (b) all payments already made to the Contractor pursuant to this Agreement; and

(2) Subject to subsection (C) (Settlement of Subcontracts Generally) of this Section, the reasonable costs incurred by the Contractor in connection with the termination, including all actual and reasonable demobilization costs and amounts due in settlement of terminated Subcontracts.

In the event of a termination for convenience under this subsection, the Contractor acknowledges and agrees that it shall not be entitled to any compensation in excess of the value of the Habitat Project Work performed plus its settlement and closeout costs. Under no circumstances shall the Contractor or any Subcontractor be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of a termination for convenience under this subsection.

(C) Settlement of Subcontracts Generally. The obligation of the KRRC to pay amounts due in settlement of Subcontracts under subsection (B) (Convenience Termination Payment for Contract Obligations) of this Section shall be limited to the reasonable costs incurred by the Contractor in settling and closing out Subcontracts and shall be subject to Cost Substantiation. Any convenience termination settlement payment under any Subcontract shall be calculated in the same manner as provided in subsection (B) (Convenience Termination Payment for Contract Obligations) of this Section with respect to the convenience termination settlement payment to the Contractor. In no event shall the KRRC be responsible for anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages payable to any Subcontractor as a result of the termination of any Subcontract.

(D) Payment of Amounts Due as a Result of Convenience Termination. The Contractor shall submit a termination for convenience claim, in the form and with the certification prescribed by the KRRC, promptly following the Termination Date but in any event not later than 60 days following the Termination Date. In the event of a failure of the Contractor to submit a termination for convenience claim within the time allowed pursuant to this Section, the KRRC may determine, on the basis of information available to the KRRC, the amount, if any,

due to the Contractor by reason of the convenience termination and shall thereupon pay to the Contractor the amount so determined, if any. In no event shall the amount payable to the Contractor pursuant to this Section exceed the Contract Compensation as reduced by the amount of payments otherwise made. In addition, any amount payable to the Contractor pursuant to this Section shall be reduced in the amount of any undisputed claim the KRRC may have against the Contractor under this Agreement. Any payment required to be made to the Contractor pursuant to this Section shall be made within 120 days following the Termination Date, subject to compliance by the Contractor with its obligations under Section 14.5 (Obligations of the Contractor upon Termination). Any payment required to be made by the Contractor to the KRRC pursuant to this Section shall be made within 120 days following the later of the Termination Date or the KRRC's resolution of the Contractor's termination for convenience claim. In the event of a dispute between the Parties as to the amount of any payment required to be made pursuant to this Section, either Party may elect to initiate dispute resolution procedures in accordance with Section 13.1 (Dispute Resolution Procedures).

(E) Completion or Continuance by the KRRC. Without limiting any other KRRC right or remedy provided for under this Agreement, after the date of any termination under this Section, the KRRC may at any time (but without any obligation to do so) take any and all actions necessary or desirable to continue and complete the Contract Obligations so terminated, including entering into contracts with other contractors.

(F) Convenience Termination Rights as Consideration. The right of the KRRC to terminate this Agreement for its convenience and in its discretion in accordance with this Section constitutes an essential part of the overall consideration for this Agreement, and, except with respect to the determination as to the amount due the Contractor pursuant to this Section, the Contractor hereby waives any right it may have under Applicable Law to assert that the KRRC owes the Contractor a duty of good faith dealing in the exercise of such right. The only compensation payable by the KRRC upon the exercise of its convenience termination option shall be any amounts specified herein in connection therewith.

SECTION 14.5. OBLIGATIONS OF THE CONTRACTOR UPON TERMINATION.

Upon any termination of this Agreement by the KRRC, the Contractor shall, as applicable and subject to any written directions provided by the KRRC:

(1) Stop any further Contract Obligations at the Project Site and the Habitat Project Work Area or otherwise in connection with the Project;

(2) Cease incurring any further obligations or liabilities pertaining to the Contract Obligations;

(3) Promptly take all action as necessary to protect and preserve all materials, equipment, tools, facilities, and other property pertaining to the Project;

(4) Clean up and remove all debris and trash from the Project Site and the Habitat Project Work Area;

(5) Promptly remove from the Project Site and the Habitat Project Work Area all equipment, tools, or material owned by the Contractor, or its Subcontractors, agents or representatives;

(6) Promptly deliver a list of all Suppliers, materials, machinery, equipment, property or other pending items being fabricated or on order for delivery to the Project

but not yet delivered to the Project Site or the Habitat Project Work Area or incorporated into the Contract Obligations, and comply with the written instructions of the KRRC with respect to such matters;

(7) Deliver a complete copy of all books, notes, and records of the Contractor pertaining to this Agreement's performance or planned Contract Obligations activities;

(8) Promptly provide a list of (and make available to the KRRC for review or copying) all files pertaining to the Contract Obligations, including any and all access and security codes, and including instructions and demonstrations that show how to open and modify such codes;

(9) Promptly deliver complete copies of all Subcontracts to the KRRC, together with a detailed report on the status of such Subcontracts (status of orders and work performed and not performed or delivered under each Subcontract); a record of proposals made and balances due under each Subcontract; any cancellation penalties pertaining thereto; and any further information required by the KRRC, and furthermore assist the KRRC in contacting such Subcontractors to verify such information or answer any questions of the KRRC;

(10) Use commercially reasonable effort to assign to the KRRC any Subcontract that the KRRC elects in writing, in its discretion, to have assigned to it, with the KRRC assuming, and the Contractor being relieved of, all obligations under the Subcontract from the date of the assignment;

(11) Promptly assign and transfer to the KRRC all right, title, and interest of Contractor to any items ordered for the Contract Obligations (but not yet delivered to the Project Site or the Habitat Project Work Area or incorporated into the Project) as requested by the KRRC in its discretion; provided the KRRC (or Surety) assumes responsibility for payment thereof;

(12) Promptly deliver and assign to the KRRC all warranties or guarantees by any vendor, supplier, manufacturer, or Subcontractor pertaining to the Project;

(13) Promptly notify the KRRC, in writing, of any pending or threatened Legal Proceedings against the Contractor relating to this Agreement or the Contract Obligations; and

(14) Promptly take such other action and execute such documents as requested by the KRRC, and assist in the transition of the Contract Obligations to the Surety or the KRRC, or as reasonably deemed necessary or appropriate by the KRRC, and avoid any action or conduct that would increase any expense or cost that would become an obligation or liability to the KRRC unless requested or directed by the KRRC Representative in writing.

With respect to any of the foregoing obligations that cannot reasonably be completed by the Termination Date, the Contractor shall complete such obligations as promptly as is practicable, but in no event later than 30 days following the Termination Date; provided, however, that the KRRC shall pay for the Contractor's costs incurred beyond the Termination Date as a result of the obligations described in this Article.

SECTION 14.6. NO WAIVERS.

No action of the KRRC or the Contractor pursuant to this Agreement (including any investigation or payment), and no failure to act, shall constitute a waiver by either Party of the other Party's compliance with any term or provision of this Agreement. No course of dealing, failure or delay by the KRRC or the Contractor in exercising any right, power or remedy under this Agreement shall operate as a waiver thereof or otherwise prejudice such Party's rights, powers and remedies. No single or partial exercise of (or failure to exercise) any right, power or remedy of the KRRC or the Contractor under this Agreement shall preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No waiver of any breach of any provision of this Agreement will be deemed to be a waiver of any subsequent breach of that provision or of any similar provision.

SECTION 14.7. WAIVER OF CONSEQUENTIAL AND PUNITIVE DAMAGES.

In no event shall either Party hereto be liable to the other or obligated in any manner to pay to the other any special, incidental, consequential, punitive or similar losses or damages (including loss of profits, loss of production, loss of business opportunity or other consequential or indirect loss) based upon claims arising out of or in connection with the performance or non-performance of its obligations or otherwise under this Agreement, or the material inaccuracy of any representation made in this Agreement, whether such claims are based upon contract, tort, negligence, warranty or other legal theory. The Parties further acknowledge and agree that nothing in this Section shall serve as a limitation or defense with respect to any obligation of the Contractor to pay any Deductions specifically provided for under this Agreement.

ARTICLE 15

INSURANCE

SECTION 15.1. CONTRACTOR-PROVIDED INSURANCE.

(A) Required Insurance. At all times during the Term, the Contractor shall obtain, maintain and comply with the insurance requirements set forth in this Article and Appendix 11 (Insurance Requirements) hereto and shall pay all premiums with respect thereto as the same become due and payable. The Required Insurance shall be provided on or before the Contract Date (or as otherwise specified in Appendix 11 (Insurance Requirements)) and remain in effect for the periods specified in Appendix 11 (Insurance Requirements). Proof of Required Insurance shall be furnished as provided in Appendix 11 (Insurance Requirements).

(B) No Builder's Risk Insurance Required. The Insurance Requirements do not obligate the Contractor to obtain builder's risk insurance. As provided in Section 6.12 (Property Damage), the Contractor shall bear the risk of any damage to the Habitat Restoration Work and the cost of any required repair or replacements, whether or not any policy of builder's risk insurance is in effect.

(C) Subcontractors. The Contractor shall ensure that all eligible Subcontractors secure and maintain all insurance coverage and other financial sureties pursuant to and as required by Appendix 11 (Insurance Requirements) and by Applicable Law in connection with their presence and the performance of their duties at or concerning the Project; provided, however, that the KRRC may, at its discretion, waive or modify any insurance requirement, taking into account the nature and extent of the work required under the applicable Subcontract for such Subcontractor.

(D) Compliance with Insurer Requirements. The Contractor shall comply promptly with the requirements of all insurers providing the Required Insurance pertaining to the Project. The Contractor shall not knowingly do or permit anything to be done that results in the cancellation or the reduction of coverage under any policy of Required Insurance.

(E) Maintenance of Insurance Coverage. If the Contractor fails to pay or cause to be paid any premium for Required Insurance, or if any insurer cancels any Required Insurance policy and the Contractor fails to obtain replacement coverage so that the Required Insurance is maintained on a continuous basis, then the KRRC at its election (but without any obligation to do so), following notice to the Contractor, may pay such premium or procure similar insurance coverage from another insurer, and upon such payment by the KRRC, the amount thereof shall be immediately reimbursed to the KRRC by the Contractor. The Contractor shall not perform Habitat Maintenance Services during any period when any policy of Required Insurance is not in effect. The Contractor shall comply with all Insurance Requirements and take all steps necessary to ensure that the Project remains continuously insured in accordance with the requirements of this Agreement. The failure of the Contractor to obtain and maintain any Required Insurance shall not relieve the Contractor of its liability for any losses intended to be insured thereby. Should any failure to provide continuous insurance coverage occur, the Contractor shall indemnify, defend and hold harmless the Contractor Indemnitees in accordance with and to the extent provided in Article 16 (Indemnification) from and against all Loss-and-Expense arising out of such failure. The purchase of the Required Insurance to satisfy the Contractor's obligations under this Section shall not be a satisfaction of any Contractor liability under this Agreement or in any way limit, modify or satisfy the Contractor Indemnity.

(F) Reductions for Insurance Proceeds. Whenever this Agreement obligates one Party to pay any amount to the other Party in respect of an event or circumstance for which,

or with respect to the consequences of which, an insurance claim may be made under the Required Insurance, the amount which any Party is obligated to pay will be reduced by the amount of insurance proceeds which the other Party actually recovers or would have been entitled to recover if it had complied with the requirements of this Agreement or any policy of Required Insurance.

SECTION 15.2. KRRC-PROVIDED INSURANCE.

The KRRC shall, on or prior to the Habitat Project Implementation Contract Amendment Date, acquire both a contractor's pollution liability insurance policy and a pollution legal liability insurance policy, each to be written on occurrence and claims made forms, respectively, with limits of not less than $100 million for each pollution condition and a $100 million project aggregate limit, covering liability due to pollution caused by or exacerbated by Project Implementation Work or the Habitat Project Work. Such policies shall include coverage for clean-up, removal, transportation and disposal and for any sudden and accidental pollution. The policies shall not exclude from coverage claims relating to injuries arising from the presence of lead or asbestos. The policies shall continue such coverage, either through policy renewals or purchase of an extended discovery period, if such coverage is available, through the statute of repose. The KRRC covenants to maintain the insurance described in this Section through the statute of repose following the Termination Date, to ensure that the Contractor is identified as an additional insured on such policies and to periodically provide the Contractor with evidence of such insurance during the Habitat Project Work. The Parties shall also determine which party will bear responsibilities for deductibles under the KRRC policies described in this Section as part of the Habitat Project Work Implementation Contract Amendment.

ARTICLE 16

INDEMNIFICATION

SECTION 16.1. CONTRACTOR'S OBLIGATION TO INDEMNIFY.

(A) Indemnity. The Contractor shall indemnify, defend and hold harmless the Contractor Indemnitees from and against (and pay the full amount of) any and all Loss-and-Expense that any Contractor Indemnitee may sustain in connection with any claim made by any third party arising by reason of (or alleged to result from or in connection with) any Contractor Indemnification Act, Event or Circumstance.

(B) Indemnification-Related Defined Terms. As used in this Article and in this Agreement,

(1) "**Contractor Indemnitee**" means the KRRC, PacifiCorp, the States, the CPUC, the OPUC and their respective elected officials, trustees, board members, officers, employees, representatives and agents.

(2) "**Contractor Indemnity**" means the obligations of the Contractor under this Article.

(3) **"Contractor Indemnification Act, Event or Circumstance**" means any:

(a) Contractor Fault;

(b) Failure to comply with any Contract Obligations, including any Contractor Regulatory Compliance Obligations; or

(c) Any express obligation of the Contractor to provide any indemnity hereunder, including those described in:

(i) Section 4.6 (Regulated Site Conditions);

(ii) Subsection 4.7(C) (Access to the Project Site and Habitat Project Work Area);

(iii) Subsection 10.2(D) (Labor Relations);

(iv) Subsection 10.3(I) (Subcontractor Claims);

(v) Subsection 11.3(A) (Fines, Penalties, Indemnification and Remediation); or

(vi) Subsection 15.1(E) (Maintenance of Insurance Coverage).

(4) "**Loss-and-Expense**" means, except as may be limited by the express terms of this Section, any and all (1) loss, liability, forfeiture, obligation, damage, fine, penalty, judgment, deposit, charge, assessment, tax, cost or expense directly arising from any Contractor Indemnification Act, Event or Circumstance, and (2) reasonable fees, costs and expenses of expert witnesses, contractors, and other persons incurred in connection with investigating, preparing for, defending or responding to any action, suit, litigation, arbitration, administrative proceeding or other legal or equitable proceeding relating to the Contractor Indemnity, and all appeals therefrom.

(C) Exceptions to and Limitations on the Contractor Indemnity. The Contractor Indemnity shall not operate to indemnify any Contractor Indemnitee:

(1) To the extent the Contractor Indemnification Act, Event or Circumstance was caused by or arose from KRRC Fault;

(2) To the extent the Contractor's obligation to indemnify is limited by Applicable Law, including anti-indemnity statutes;

(3) For any Loss-and-Expense that arises from a claim for a decline in the value of real or personal property, business interruptions, loss of profit or revenue, or similar economic loss; or

(4) To the extent relating to any Regulated Substances (including arsenic) that first existed at the Project Site as of the Contract Date, except as otherwise expressly provided for in Section 4.6 (Regulated Site Conditions).

(D) No Insurance Limitation. The Contractor Indemnity shall not be limited by the Required Insurance or by any coverage exclusions or other provisions in any policy of Required Insurance or other insurance maintained by the Contractor which is intended to respond to such events.

(E) Reductions. The Contractor Indemnitees' right to indemnification pursuant to this Article shall be reduced by all proceeds actually received by the Contractor Indemnitees from, under or pursuant to:

(1) Any insurance policy;

(2) Article 15 (Indemnification) of the Project Agreement;

(3) Any settlement agreement;

(4) Any other third-party indemnification agreement;

(5) The Local Impact Mitigation Fund or the Facilities Removal Defense Fund.

The Contractor shall indemnify the Contractor Indemnitees in a timely manner. The Contractor Indemnitees, however, shall reimburse the Contractor for any proceeds subsequently received from the sources described in this subsection, to the extent that the Contractor would not have otherwise owed the Contractor Indemnitees if such proceeds were available when the Contractor originally indemnified the Contractor Indemnitees.

(F) Reliance by Contractor Indemnitees. This Section may be relied upon by the Contractor Indemnitees and may be enforced directly by any of them against the Contractor in the same manner and for the same purpose as if pursuant to a contractual indemnity directly between them and the Contractor.

SECTION 16.2. INDEMNIFICATION PROCEDURES.

(A) Notice. If a Contractor Indemnitee receives any notice, demand, letter or other document concerning any claim for which it appears that the Contractor Indemnitee is, or may become entitled to, indemnification for a Loss-and-Expense under this Agreement in respect of the entire claim, the Contractor Indemnitee shall give notice in writing to the Contractor as soon as reasonably practicable. A delay by the Contractor Indemnitee in providing such notice

beyond such period shall not waive any right to indemnification except to the extent that the Contractor demonstrates, bearing the burden of proof, that it is prejudiced, suffers loss, or incurs expense because of the delay.

(B) Consolidation of Claims. If a notice of claim is given pursuant to subsection (A) (Notice) of this Section by more than one Contractor Indemnitee relating to the same facts or circumstances, the Contractor may, acting reasonably and in consultation with the Contractor Indemnitees named in the claims, require the consolidated administration and coordination of all such noticed claims by common counsel.

(C) Contractor Right to Dispute Claim. If notice is given as provided in subsection (A) (Notice) of this Section, the Contractor shall be entitled, acting reasonably and in consultation with the Contractor Indemnitees named in the claim, to dispute the claim in the name of the Contractor Indemnitee at the Contractor's own expense and take conduct of any defense, dispute, compromise, or appeal of the claim and of any incidental negotiations. The Contractor Indemnitee will give the Contractor all reasonable cooperation, access and assistance for the purposes of considering and resisting such claim.

(D) Rights and Duties of the Parties. With respect to any claim conducted by the Contractor pursuant to subsection (C) (Contractor Right to Dispute Claim) of this Section:

(1) The Contractor shall keep the Contractor Indemnitee fully informed and consult with it about material elements of the conduct of such defense, including any settlement discussions;

(2) The Contractor shall demonstrate to the Contractor Indemnitee, at the reasonable request of the Contractor Indemnitee, that the Contractor has sufficient means to pay all costs and expenses that it may incur by reason of conducting such defense; and

(3) The Contractor shall have full control, acting reasonably and in consultation with the Contractor Indemnitees named in the claim, of such defense and proceedings, including any compromise or settlement thereof; provided, however, that any such compromise or settlement involving non-monetary obligations of Contractor Indemnitees, or otherwise having a direct effect upon such Contractor Indemnitee's continuing operations, shall (1) contain a full release of the applicable Contractor Indemnitee from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement, and (2) be subject to the consent of such Contractor Indemnitee, which consent will be obtained by the KRRC and shall not be unreasonably withheld, conditioned or delayed. If requested by the Contractor, acting reasonably, the Contractor Indemnitee shall at the sole cost and expense of the Contractor, cooperate with the Contractor and its counsel in contesting any claim which the Contractor elects to contest, including the making of any related counterclaim against the person asserting the claim or any cross-complaint against any person.

(E) Contractor Indemnitee Rights to Conduct Defense. A Contractor Indemnitee may take conduct of any defense, dispute, compromise or appeal of the claim and of any incidental negotiations, if:

(1) The Contractor fails to notify the Contractor Indemnitee of its intention to take conduct of the relevant claim within 10 Business Days of the notice from the Contractor Indemnitee under subsection (A) (Notice) of this Section or notifies the Contractor Indemnitee that it does not intend to take conduct of the claim;

(2) The Contractor Indemnitee reasonably determines that a conflict exists between it and the Contractor or another Contractor Indemnitee which prevents or potentially prevents the Contractor from presenting a full and effective defense; or

(3) The Contractor fails to comply in any material respect with subsection (D) (Rights and Duties of the Parties) of this Section.

(F) Transfer of Conduct of Claim to Contractor Indemnitee. A Contractor Indemnitee may at any time, without limiting the Contractor's obligation to defend and indemnify the Contractor Indemnitees under this Article (including the obligation to pay Fees and Costs in connection with such indemnity), give notice to the Contractor that it is retaining or taking over, as the case may be, the conduct of any defense, dispute, compromise, settlement or appeal of any claim, or of any incidental negotiations, to which subsection (E) (Contractor Indemnitee Rights to Conduct Defense) of this Section applies. On receipt of such notice the Contractor will promptly take all steps necessary to transfer the conduct of such claim to the Contractor Indemnitee, and will provide to the Contractor Indemnitee all reasonable cooperation, access and assistance for the purposes of considering and resisting such claim.

(G) Contractor Responsibility for Costs. If a Contractor Indemnitee is entitled and elects to conduct its own defense pursuant to subsection (E) (Contractor Indemnitee Rights to Conduct Defense) of this Section, all Fees and Costs incurred by the Contractor Indemnitee in investigating, defending and conducting the claim for which it is entitled to indemnification hereunder shall constitute a Loss-and-Expense subject to the Contractor Indemnity.

ARTICLE 17

SECURITY FOR PERFORMANCE

SECTION 17.1. GUARANTOR.

(A) Guaranty Agreement. The Contractor shall cause the Guaranty Agreement to be provided by the Guarantor on or before, the Habitat Project Work Implementation Contract Amendment Date, in substantially the form attached hereto as Transaction Form A (Form of Guaranty Agreement).

(B) Reports and Notifications Concerning the Financial Condition of the Guarantor. The Contractor shall provide to the KRRC, within 180 days after the end of each fiscal year of the Guarantor, the consolidated balance sheet and income statement for the Guarantor attached to the audited year-end financial statements for that fiscal year reported upon by the independent public accountant of the Guarantor. If applicable, the Contractor shall also furnish the KRRC with copies of the quarterly and annual reports and other filings of the Guarantor filed with the Securities and Exchange Commission. If the Guarantor is not required to file quarterly reports with the Securities and Exchange Commission, the Contractor, at the request of the KRRC, shall provide the KRRC with unaudited quarterly financial statements of the Guarantor within 60 days following the end of each quarter based on the fiscal year of the Guarantor. In addition, the Contractor shall provide reasonable notice to the KRRC of any change to the financial condition of the Guarantor that would reasonably be anticipated to impair the ability of the Guarantor to meet its obligations under the Guaranty Agreement.

(C) Material Adverse Change to Financial Condition of Guarantor. If, at any time during the Term, (a) there is a change that results in a 20% decline in the Guarantor's net worth as of the Habitat Project Work Implementation Contract Amendment Date, or (b) there is a material change in the condition of the Guarantor's earnings, net worth, or working capital over the preceding 12 months which would reasonably be anticipated to impair the Guarantor's ability to meet its obligations under the Guaranty Agreement, the Contractor shall, at its sole cost and expense, cause to be provided credit enhancement of its obligations hereunder within 30 days after such occurrence. Such credit enhancement shall be in the form either of (1) an unconditional guarantee of all of the Contractor's obligations hereunder provided by a corporation or financial institution having a credit rating substantially similar to the Guarantor as of such date, or (2) subject to the approval of the KRRC, acting reasonably, a letter of credit or substitute instrument providing security for the performance of the Contractor's obligations hereunder in a form and manner reasonably acceptable to the KRRC. In the event that the Contractor provides credit enhancement in the form of a replacement guarantor, the replacement guarantor shall become the guarantor for purposes of this Agreement and the provisions of this Section shall apply equally to such replacement guarantor. For purposes of this Section, "net worth" means stockholder or shareholder equity, as reported on the Guarantor's balance sheet.

(D) Responsibility for Cost. The cost and expense of obtaining and maintaining the Guaranty Agreement and any credit enhancement required under this Section as security for the performance of the Contractor's obligations hereunder shall be borne by the Contractor without reimbursement from the KRRC.

SECTION 17.2. BONDS.

(A) Performance Bond. The Contractor, on or before, and as a condition to the effectiveness of, the Contract Date, shall provide the Performance Bond as financial security for the faithful performance of the Habitat Project Work, including specifically the Contractor's

correction, replacement, or restoration of any portion of the Habitat Restoration Work which is found to be not in compliance with requirements of this Agreement. The Performance Bond shall remain open until the Termination Date. The penal sum of the Performance Bond shall be an amount equal to $[_____].

(B) Payment Bond. The Payment Bond shall be security for the payment of all persons supplying labor and material in the performance of the Habitat Project Work and shall remain open until the Termination Date. The penal sum of the Payment Bond shall be an amount equal to $[_____].

(C) Surety Requirements. The bond required to be provided pursuant to this Section shall be issued by a Surety: (1) approved by the KRRC; (2) having a rating of "A" in the latest revision of the A.M. Best Contractor's Insurance Report; (3) listed in the United States Treasury Department's Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsurance Companies"; and (4) holding a certificate of authority to transact surety business in the State. The Performance Bond and the Payment Bond shall comply with and shall be subject to the California Bond and Undertaking Law (California Code of Civil Procedure Section 994.0101 *et seq.*).

(D) Monitoring of Surety. The Contractor shall be responsible throughout the Term for monitoring the financial condition of any Surety issuing the bonds required by this Agreement and for making inquiries no less often than annually to confirm that each such Surety complies with the qualification requirements and maintains at least the minimum rating level specified in this Section. In the event the rating of any issuing Surety falls below such minimum level, or if any Surety is declared bankrupt or becomes insolvent or has the rights to do business in the State terminated, the Contractor shall promptly notify the KRRC of such event and shall promptly take steps to ensure continued compliance with this Section by furnishing or arranging for the furnishing of a substitute or additional bond of a Surety whose rating and other qualifications satisfy all above requirements, unless the KRRC agrees to accept the Surety that no longer satisfies the minimum rating level specified above, or agrees to an alternative method of assurance. Upon such notice by the Contractor of such an event, the KRRC shall not unreasonably withhold its approval of such assurance.

(E) Completion of Work. If this Agreement is terminated by the KRRC for an Event of Default and the Surety fails to pursue completion of the Contract Obligations with reasonable speed, the KRRC may arrange for completion of the Contract Obligations and deduct the cost thereof from any amount otherwise due to the Contractor under this Agreement, including the cost of additional KRRC administration and consultant services made necessary by such default or neglect. In such event, no further payment shall then be made by the KRRC until all costs of completing the Contract Obligations shall have been paid.

SECTION 17.3. COSTS OF PROVIDING SECURITY INSTRUMENTS.

The cost and expense of obtaining and maintaining the Security Instruments required under this Article as security for the performance of the Contractor's obligations hereunder shall be borne by the Contractor without additional reimbursement from the KRRC.

ARTICLE 18

MISCELLANEOUS PROVISIONS

SECTION 18.1. NO CONTRACTOR OWNERSHIP IN THE PROJECT.

The Contractor shall perform the Contract Obligations provided for herein as an independent contractor and shall not have any legal, equitable, tax beneficial or other ownership or leasehold interest in the KRRC Property, the Project Site or the Habitat Project Work Area. The Contractor shall not perform the Contract Obligations for any purpose other than the purposes contemplated by this Agreement or to serve or benefit any person other than the KRRC and the Contractor Indemnitees.

SECTION 18.2. RELATIONSHIP OF THE PARTIES.

The Contractor is an independent contractor of the KRRC and the relationship between the Parties shall be limited to performance of this Agreement in accordance with its terms. Neither Party shall have any responsibility with respect to the services to be provided or contractual benefits assumed by the other Party. Nothing in this Agreement shall be deemed to constitute either Party a partner, agent or legal representative of the other Party. No liability or benefits, such as workers' compensation, pension rights or liabilities, or other provisions or liabilities arising out of or related to a contract for hire or employer/employee relationship shall arise or accrue to any Party's agent or employee as a result of this Agreement or the performance thereof.

SECTION 18.3. AFFILIATE TRANSACTIONS.

If any costs to be reimbursed by the KRRC to the Contractor under this Agreement arise from a transaction between the Contractor and any Affiliate of the Contractor, the Contractor shall notify the KRRC of the specific nature of the contemplated transaction, including the identity of the Affiliate, the nature of the work to be performed by the Affiliate and the anticipated cost to be incurred, before any such transaction is consummated or cost incurred. The Contractor shall not enter into any such transaction, nor incur any such cost, absent the written approval of the KRRC in its discretion.

SECTION 18.4. CONTRACT ADMINISTRATION.

(A) Administrative Communications. The Parties recognize that a variety of contract administrative matters will routinely arise throughout the performance of this Agreement. These matters will by their nature involve requests, notices, questions, assertions, responses, objections, reports, claims, and other communications made personally, in meetings, by phone, by mail and by electronic and computer communications. The purpose of this Section is to set forth a process by which the resolution of the matters at issue in such communications, once resolution is reached, can be formally reflected in the common records of the Parties so as to permit the orderly and effective administration of this Agreement.

(B) Contract Administration Memoranda. The principal formal tool for the administration of routine matters arising under this Agreement between the Parties that do not require a Contract Amendment shall be a "**Contract Administration Memorandum**". A Contract Administration Memorandum shall be prepared, once all preliminary communications have been concluded, to evidence the resolution reached by the KRRC and the Contractor as to matters of interpretation and application arising during the course of the performance of their obligations hereunder. Such matters may include, for example: (1) issues as to the meaning, interpretation or application of this Agreement in particular circumstances or conditions;

(2) calculations required to be made; (3) notices, waivers, releases, satisfactions, confirmations, further assurances, consents and approvals given hereunder; and (4) other similar routine contract administration matters.

(C) Procedure. Either Party may request the execution of a Contract Administration Memorandum. When resolution of the matter is reached, a Contract Administration Memorandum shall be prepared by or at the direction of the KRRC reflecting the resolution. Contract Administration Memoranda shall be serially numbered, dated, signed by the Contract Representative of each Party, and, at the request of the KRRC, co-signed by a Senior Supervisor for the Contractor. The KRRC and the Contractor each shall maintain a parallel, identical file of all Contract Administration Memoranda, separate and distinct from the Contract Amendments and all other documents relating to the administration and performance of this Agreement.

(D) Effect. Executed Contract Administration Memoranda shall serve to guide the ongoing interpretation and application of the terms and conditions of this Agreement. Any material change, alteration, revision or modification of this Agreement, however, shall be effectuated only through a formal Contract Amendment in accordance with Section 18.5 (Contract Amendments).

SECTION 18.5. CONTRACT AMENDMENTS.

(A) Amendments Generally. Notwithstanding the provisions of Section 18.4 (Contract Administration), no material change, alteration, revision or modification of the terms and conditions of this Agreement shall be made except through a written amendment to this Agreement, duly authorized, approved or ratified by each of the Parties (a "**Contract Amendment**").

(B) Procedure. Contract Amendments shall be serially numbered, dated and signed by a Senior Supervisor for the Contractor and by the KRRC Representative, as determined in accordance with subsection 18.6(B) (KRRC Representative). The KRRC and the Contractor each shall maintain a parallel, identical file of all Contract Amendments, separate and distinct from the Contract Administration Memoranda and all other documents relating to the administration and performance of this Agreement.

SECTION 18.6. CONTRACT REPRESENTATIVES.

(A) Contractor Representative and Senior Supervisors. The Contractor shall appoint and inform the KRRC in writing from time to time of the identity of (1) the individual with the responsibility and power from time to time to administer this Agreement and to bind the Contractor with respect to any Contract Administration Memorandum or Contract Amendment (the "**Contractor Representative**"), and (2) the corporate officials of the Contractor with senior supervisory responsibility for the Project and the performance of this Agreement (the "**Senior Supervisors**"). The Contractor shall promptly notify the KRRC in writing of the appointment of any successor Senior Supervisors. The Senior Supervisors shall cooperate with the KRRC in any reviews of the performance of the Habitat Project Work Manager and the Contractor Representative which the KRRC may undertake from time to time, and shall give full consideration to any issues raised by the KRRC in conducting such performance reviews.

(B) KRRC Representative. The KRRC shall appoint an individual or individuals to act as the "**KRRC Representative**" for this Agreement. The KRRC Representative shall have the authority to administer this Agreement, subject to the Board of Directors' delegation of authority. The Contractor understands and agrees that any delegation of authority to the KRRC Representative may provide only limited authority with respect to the

implementation of this Agreement, which may include the authority to bind the KRRC with respect to any Contract Amendment. Within such limitations, the Contractor shall be entitled to rely on the written directions of the KRRC Representative. The KRRC Representative shall have the right at any time to issue the Contractor a written request for information relating to this Agreement. Any written request designated as a "priority request" shall be responded to by the Contractor within three Business Days.

(C) KRRC Approvals and Consents. When this Agreement requires any approval or consent by the KRRC to a Contractor submission, request or report, the approval or consent shall, within the limits of the authority of subsection (B) (KRRC Representative) of this Section, be given by the KRRC Representative in writing and such writing shall be conclusive evidence of such approval or consent, subject only to compliance by the KRRC with the Applicable Law that generally governs its affairs. Unless expressly stated otherwise in this Agreement, and except for requests, reports and submittals made by the Contractor that do not, by their terms or the terms of this Agreement, require a response or action, if the KRRC does not find a request, report or submittal acceptable, it shall provide written response to the Contractor describing its objections and the reasons therefor within 30 days of the KRRC's receipt thereof. If no response is received, the request, report or submittal shall be deemed rejected unless the KRRC's approval or consent may not be unreasonably delayed by the express terms hereof, and the Contractor may resubmit the same, with or without modification. Requests, reports and submittals that do not require a response or other action by the KRRC pursuant to some specific term of this Agreement shall be deemed acceptable to the KRRC if the KRRC shall not have objected thereto within 30 days of the receipt thereof.

SECTION 18.7. GENERAL DUTY TO MITIGATE.

(A) Mitigation by the Contractor. In all cases where the Contractor is entitled to receive any relief from the KRRC or exercise any rights, including the right to receive any payments, costs, damages or extensions of time, the Contractor shall use all reasonable efforts to mitigate such amount required to be paid by the KRRC to the Contractor under this Agreement, or the length of the extension of time. Upon request from the KRRC, the Contractor shall promptly submit a detailed description, supported by all such documentation as the KRRC may reasonably require, of the measures and steps taken by the Contractor to mitigate and meet its obligations under this Section.

(B) Mitigation by the KRRC. In all cases where the KRRC is entitled to receive from the Contractor any compensation, costs or damages, but not in any other cases, the KRRC shall use all reasonable efforts to mitigate such amount required to be paid by the Contractor to the KRRC under this Agreement, provided that such obligation shall not require the KRRC to:

(1) Take any action which is contrary to the public interest of the States, as determined by the KRRC in its discretion; or

(2) Alter the amount of Deductions it is entitled to receive hereunder.

The KRRC shall have no obligation to mitigate, implied or otherwise, except as set forth in this Section or as expressly provided in this Agreement. Upon request by the Contractor, the KRRC shall promptly submit a detailed description, supported by all such documentation as the Contractor may reasonably require, of the measures and steps taken by the KRRC to mitigate and meet its obligations under this Section.

SECTION 18.8. INTEREST ON OVERDUE OBLIGATIONS.

Except as otherwise provided for herein, all amounts due hereunder, whether as damages, credits, revenue, charges or reimbursements, that are not paid when due shall bear interest at the Overdue Rate.

SECTION 18.9. TAXES.

The Contractor shall pay all Taxes imposed on or in connection with the performance of the Contract Obligations, including (1) sales and use Taxes, and (2) any county "business tax", without reimbursement from the KRRC. The Contractor acknowledges that any such Taxes have been priced into the Habitat Maintenance Services Fee.

SECTION 18.10. COST SUBSTANTIATION.

(A) Required Substantiation and Competitive Practices. The Contractor shall substantiate any other costs for which it claims compensation hereunder other than (1) the Base Habitat Restoration Work Price and the Base Habitat Maintenance Services Fee, which were proposed and negotiated on a fixed price basis, or (2) any other costs that are part of a negotiated fixed price. In incurring any other costs which are subject to Cost Substantiation, the Contractor shall utilize competitive practices to the maximum reasonable extent (including, where practicable, obtaining three competing bids, quotes, proposals or estimates for costs expected to be in excess of $100,000), and shall enter into Subcontracts on commercially reasonable terms and prices in light of the work to be performed and the KRRC's potential obligation to pay for it.

(B) Cost Substantiation Certificate. Any Payment Request or Billing Statement for compensation relating to costs requiring Cost Substantiation under subsection (A) (Required Substantiation and Competitive Practices) of this Agreement shall be accompanied by a certificate stating that the costs being invoiced (1) are properly payable under this Agreement and specifying the provisions of this Agreement under which compensation is due, and (2) are equal to amounts paid by the Contractor for Contract Obligations that have been properly performed. The Cost Substantiation certificate shall describe the competitive or other process utilized by the Contractor to obtain the commercially reasonable price in accordance with subsection (A) (Required Substantiation and Competitive Practices) of this Section, and shall state that such services and materials are reasonably required pursuant to this Agreement. Each Cost Substantiation certificate shall be accompanied by copies of all documentation reasonably necessary to demonstrate that the costs have been paid and are reasonable. Such documentation shall be in a format and level of detail reasonably acceptable to the KRRC. To the extent reasonably necessary to confirm the payment of costs that are subject to Cost Substantiation under subsection (A) (Required Substantiation and Competitive Practices) of this Section, copies of timesheets, invoices, canceled checks, expense reports, receipts and other documents, as appropriate, shall be provided.

SECTION 18.11. RETENTION AND AUDIT OF BOOKS AND RECORDS.

(A) Books and Records. The Contractor shall prepare and maintain proper, accurate and complete books and records regarding the Contract Obligations and all transactions related thereto, including all books of account, bills, vouchers, invoices, personnel rate sheets, cost estimates and bid computations and analyses, Subcontracts, time books, daily job diaries and reports, correspondence, and any other documents showing all acts and transactions in connection with or relating to or arising by reason of the Contract Obligations, any Subcontract or any operations or transactions in which the KRRC has or may have a financial or other material interest hereunder (collectively, "**Books and Records**"). The Contractor and its Subcontractors shall produce such Books and Records for inspection, audit

and reproduction for all such purposes within 15 days of request by the KRRC. All financial records of the Contractor and its Subcontractors shall be maintained in accordance with generally accepted accounting principles and generally accepted auditing standards. The Contractor and its Subcontractors shall maintain such Books and Records in accordance with subsection (E) (Preservation of Books and Records) of this Section.

(B) KRRC Rights to Audit and Examine Payments Other than Lump Sum Payments. All payments whatsoever by the KRRC to the Contractor (other than the underlying costs that comprise any lump sum payments, including the Base Habitat Restoration Work Price and any mutually agreed lump sum Base Habitat Restoration Work Price Adjustment, and any other mutually agreed fixed rates, fees, multipliers, percentages or unit prices) and all Contract Obligations shall be subject to audit at any time by the KRRC, the State, any other Governmental Body having an interest in the performance of services under this Agreement (or any Subcontract) and any of their authorized representatives. The Contractor shall provide all evidence necessary to support Cost Substantiation as required under this Agreement, and allow the KRRC access to the Contractor's Books and Records. The Contractor shall require all Subcontractors to comply with the provisions of this Section and include the requirements hereof in the written contract between the Contractor and the Subcontractor. The Contractor shall also require all Subcontractors to include the requirements of this Section in any lower tier Subcontracts relating to the Project. In the event that the Contractor is a joint venture, such right to examine, copy and audit shall apply collaterally and to the same extent to the Books and Records of the joint venture sponsor, and those of each individual joint venture member.

(C) Notice and Process. Upon written notice by the KRRC, the Contractor and its Subcontractors shall promptly (in no event later than 15 days following the notice) make available at its office at all reasonable times the Books and Records for examination, audit, or reproduction. Notice shall be in writing, delivered by hand or by certified mail, and shall provide not fewer than five days' prior notice of the examination or audit. The KRRC may take possession of such Books and Records by reproducing such Books and Records for off-site review or audit. When requested in the KRRC's written notice of examination or audit, the Contractor shall provide the KRRC with copies of electronic and electronically stored Books and Records in a reasonably usable format that allows the KRRC to access and analyze all such Books and Records. For Books and Records that require proprietary software to access and analyze, the Contractor shall provide the KRRC with two licenses with maintenance agreements authorizing the KRRC to access and analyze all such Books and Records. If the Contractor is unable to provide the licenses, the Contractor shall provide the KRRC with access to the Contractor's accounting system whereby the KRRC can obtain applicable Books and Records, including job cost reports, material distribution reports, labor cost reports, labor productivity reports, standard time/overtime analysis reports, man hour reports, and the like.

(D) Selection of Auditor or Examiner and Determination of Scope. The KRRC has discretion as to the selection of an examiner or auditor and the scope of the examination or audit.

(E) Preservation of Books and Records. The Contractor shall preserve all of its Books and Records, and the KRRC may examine, audit, or reproduce Books and Records, from the Habitat Project Work Contract Amendment Date until the later of six years after: (1) final payment under this Agreement; (2) final settlement of a termination for convenience under Section 14.4 (KRRC Convenience Termination Rights); or (3) the final resolution of any dispute. The failure by the Contractor to make available to the KRRC Books and Records in accordance with this Section or the Contractor's refusal to cooperate with a notice of audit or examination shall be deemed a material breach of this Agreement and grounds for termination.

(F) Overpayment. In the event an audit by the KRRC determines that the Contractor cannot document a cost or expense for which payment has been made, or that the KRRC has overpaid the Contractor, the Contractor, upon demand, shall refund to the KRRC the amounts overpaid or undocumented. If the overpayment exceeds 1% of the total amount that should have been properly paid by the KRRC during the period audited, then the Contractor shall, in addition, reimburse the KRRC for any and all Fees and Costs incurred in connection with the inspection or audit. Payments to the Contractor, or approval by the KRRC of any requisition for payment submitted by the Contractor, shall in no way affect the Contractor's obligation hereunder or the right of the KRRC to obtain a refund of any payment to the Contractor which is in excess of that to which it was lawfully entitled.

SECTION 18.12. ASSIGNMENT.

(A) By the Contractor. The Contractor shall not assign, transfer, convey, lease, encumber or otherwise dispose of this Agreement, its right to execute the same, or its right, title or interest in all or any part of this Agreement or any monies due hereunder whatsoever prior to their payment to the Contractor, whether legally or equitably, by power of attorney or otherwise, without the prior written consent of the KRRC. Any such approval given in one instance shall not relieve the Contractor of its obligation to obtain the prior written approval of the KRRC to any further assignment. Any such assignment of this Agreement which is approved by the KRRC, shall require the assignee of the Contractor to assume the performance of and observe all obligations, representations and warranties of the Contractor under this Agreement which shall remain in full force and effect during this Agreement. The approval of any assignment, transfer or conveyance shall not operate to release the Contractor in any way from any of its obligations under this Agreement unless such approval specifically provides otherwise. In the event the Contractor violates this Section, the KRRC may, in addition to any other remedy provided herein, withhold any further payment of Contract Compensation.

(B) By the KRRC. The KRRC may not assign its rights or obligations under this Agreement without the prior written consent of the Contractor, which may be given or withheld by the Contractor acting reasonably.

SECTION 18.13. COMPLIANCE WITH MATERIAL AGREEMENTS.

The Contractor shall comply with its obligations under agreements of the Contractor, which are material to the performance of its obligations under this Agreement. The KRRC shall comply with its obligations under agreements of the KRRC, which are material to the performance of its obligations hereunder.

SECTION 18.14. BINDING EFFECT.

This Agreement shall inure to the benefit of and shall be binding upon the KRRC and the Contractor and any assignee acquiring an interest hereunder consistent with Section 18.12 (Assignment).

SECTION 18.15. WAIVER.

Any of the terms, covenants, and conditions of this Agreement may be waived at any time by the Party entitled to the benefit of such term, covenant or condition if such waiver is in writing and executed by the Party against whom such waiver is asserted. Neither Party shall be deemed, by any act, delay, indulgence, omission, or otherwise to have waived any right or remedy hereunder or to have acquiesced in any breach of any of the terms and conditions hereof, absent a signed written waiver.

SECTION 18.16. ASSIGNMENT OF ANTI-TRUST CLAIMS. In accordance with California Public Contract Code Section 7103.5, in entering into this Agreement, the Contractor offers and agrees to assign to the KRRC all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the California Business and Professions Code), arising from purchases of goods, services or materials pursuant to this Agreement. The assignment shall be made and become effective at the time the KRRC tenders final payment to the Contractor for the Habitat Restoration Work, without further acknowledgment by the Parties.

SECTION 18.17. NOTICES.

(A) Procedure. All notices, consents or approvals or written communications given pursuant to the terms of this Agreement shall be:

(1) In writing and delivered in person;

(2) Transmitted by certified mail, return, receipt requested, postage prepaid or by overnight courier utilizing the services of a nationally-recognized overnight courier service with signed verification of delivery; or

(3) Given by email transmission, if a signed original of the emailed notice or other communication is deposited in the United States Mail within two days after transmission.

Notices shall be deemed given only when actually received at the address first given below with respect to each Party; provided, however, that email transmissions shall be deemed given only when the signed original of the emailed notice or other communication is received at such address. Either Party may, by like notice, designate further or different addresses to which subsequent notices shall be sent.

(B) KRRC Notice Address. Notices required to be given to the KRRC shall be addressed as follows:

The Klamath River Renewal Corporation
2001 Addison St., #317
Berkeley, CA 94704
Attn: Laura Hazlett
Telephone No.: (415) 820-4441
Email Address: lhazlett@klamathrenewal.org

with a copy to:

The Klamath River Renewal Corporation
2140 Shattuck Avenue, Suite 801
Berkeley, CA 94704
Attn: Richard Roos-Collins
Telephone No.: (510) 296-5589
Email Address: rrcollins@waterpowerlaw.com

Hawkins Delafield & Wood LLP
7 World Trade Center, 41st Floor
250 Greenwich Street
New York, NY 10007

Attn: Eric Petersen
Telephone No.: 212-820-9401
Email Address: epetersen@hawkins.com

(C) Program Manager Notice Address. Notices required to be given to the Program Manager shall be addressed as follows:

McMillen Jacobs Associates
1471 Shoreline Dr.
Boise, ID 83702
Attn: Morton D. McMillen
Telephone No.: (208) 342-4214
Email Address: mortmcmillen@mcmjac.com

with copies to the KRRC at the addresses provided in subsection (B) (KRRC Notice Address) of this Section.

(D) Contractor Notice Address. Notices required to be given to the Contractor shall be addressed as follows:

Resource Environmental Solutions, LLC
6575 West Loop South, Suite 300
Bellaire, TX 77401
Attn: Sam Burley
Telephone No.: (346) 310-6212
Email Address: sburley@res.com

with a copy to:

Bracewell LLP
2001 M St. NW, Suite 900
Washington, DC 20036
Attn: Jason Hutt; Hans Dyke
Telephone No.: (202) 828-8500
Email Address: jason.hutt@bracewell.com; hans.dyke@bracewell.com

SECTION 18.18. NOTICE OF LITIGATION.

In the event the Contractor or the KRRC receives written notice of or undertakes the defense or the prosecution of any Legal Proceedings in connection with the Project, the Party receiving such notice or undertaking such defense or prosecution shall give the other Party timely notice of such proceedings. For purposes of this Section only, "timely notice" shall be deemed given if the receiving Party has a reasonable opportunity to provide objections or comments or to proffer to assume the defense or prosecution of the matter in question, given the deadlines for response established by the relevant rules of procedure.

SECTION 18.19. FURTHER ASSURANCES.

The KRRC and Contractor each agree to execute and deliver such further instruments and to perform any acts that may be necessary or reasonably requested in order to give full effect to this Agreement. The KRRC and the Contractor, in order to carry out this Agreement, each shall use all commercially reasonable efforts to provide such information, execute such further instruments and documents and take such actions as may be reasonably requested by the other and not inconsistent with the provisions of this Agreement and not

involving the assumption of obligations or liabilities different from, in excess of or in addition to those expressly provided for herein.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the day and year first above written.

KLAMATH RIVER RENEWAL CORPORATION	HGS, LLC
By: _____	By: _____
Laura Hazlett	Printed Name: _____
Chief Operating Officer	Title: _____

TRANSACTION FORMS

TO THE

AGREEMENT

ENTERED INTO
IN CONNECTION WITH
THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS

between

THE KLAMATH RIVER RENEWAL CORPORATION

and

HGS, LLC

Dated

[_____], 2020

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TRANSACTION FORM A

FORM OF GUARANTY AGREEMENT

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GUARANTY AGREEMENT

from

RESOURCE ENVIRONMENTAL SOLUTIONS. LLC

to

THE KLAMATH RIVER RENEWAL CORPORATION

Dated as of

[_____], 2020

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GUARANTY AGREEMENT

THIS GUARANTY AGREEMENT is made and dated as of [_____], 2020, between the Klamath River Renewal Corporation (the "KRRC") and Resource Environmental Solutions, LLC, a limited liability company organized and existing under the laws of the State of Louisiana (together with any permitted successors and assigns hereunder, the "Guarantor").

RECITALS

The KRRC and HGS, LLC, a limited liability company organized and existing under the laws of the State of California and authorized to do business in the State of California (the "Contractor"), have entered into the Habitat Restoration, Maintenance and Liability Transfer Agreement in connection with the Removal of the Lower Klamath River Dams, dated as of [_____], 2020, as amended from time to time (the "Agreement"), whereby the Contractor has agreed to perform the design, construction, demolition and habitat restoration services work necessary to carry out and complete the Project, all as more particularly described therein.

The Contractor is a subsidiary of the Guarantor.

Performance by the KRRC and the Contractor of their obligations under the Agreement will result in a direct and substantial benefit to the Guarantor.

The KRRC will enter into the Agreement only if, concurrently with its execution and delivery by the Contractor, the Guarantor guarantees the performance by the Contractor of all of the Contractor's Obligations under the Agreement as set forth in this Guaranty Agreement.

In order to induce the execution and delivery of the Agreement by the KRRC and in consideration thereof, the Guarantor agrees as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATION

SECTION 1.1. DEFINITIONS. For the purposes of this Guaranty, the following words and terms shall have the respective meanings set forth as follows. Any other capitalized word or term used but not defined herein is used as defined in the Agreement.

"**Obligations**" means the amounts payable by, and the covenants and agreements of, the Contractor pursuant to the terms of the Agreement.

"**Transaction Agreement**" means any agreement entered into by the Contractor or the KRRC in connection with the transactions contemplated by the Agreement, including the Agreement, and any supplements thereto.

SECTION 1.2. INTERPRETATION. In this Guaranty, unless the context otherwise requires:

(A) References Hereto. The terms "hereby", "hereof", "herein", "hereunder" and any similar terms refer to this Guaranty, and the term "hereafter" means after, and the term "heretofore" means before, the date of execution and delivery of this Guaranty.

(B) Plurality. Words importing the singular number mean and include the plural number and vice versa.

(C) Persons. Words importing persons include firms, companies, associations, general partnerships, limited partnerships, trusts, business trusts, corporations and other legal entities, including public bodies, as well as individuals.

(D) Headings. The Table of Contents and any headings preceding the text of the Articles, Sections and subsections of this Guaranty shall be solely for convenience of reference and shall not constitute a part of this Guaranty, nor shall they affect its meaning, construction or effect.

(E) Entire Agreement. This Guaranty constitutes the entire agreement between the parties hereto with respect to the transactions contemplated by this Guaranty. Nothing in this Guaranty is intended to confer on any person other than the Guarantor, the KRRC and their permitted successors and assigns hereunder any rights or remedies under or by reason of this Guaranty.

(F) Counterparts. This Guaranty may be executed in any number of original counterparts. All such counterparts shall constitute but one and the same Guaranty.

(G) Applicable Law. This Guaranty shall be governed by and construed in accordance with the applicable laws of the State of California.

(H) Severability. If any clause, provision, subsection, Section or Article of this Guaranty shall be ruled invalid by any court of competent jurisdiction, the invalidity of any such clause, provision, subsection, Section or Article shall not affect any of the remaining provisions hereof, and this Guaranty shall be construed and enforced as if such invalid portion did not exist provided that such construction and enforcement shall not increase the Guarantor's liability beyond that expressly set forth herein.

(I) Approvals. All approvals, consents and acceptances required to be given or made by any party hereto shall be at the sole discretion of the party whose approval, consent or acceptance is required.

(J) Payments. All payments required to be made by the Guarantor hereunder shall be made in lawful money of the United States of America.

ARTICLE II

REPRESENTATIONS AND WARRANTIES OF THE GUARANTOR

SECTION 2.1. REPRESENTATIONS AND WARRANTIES OF THE GUARANTOR. The Guarantor hereby represents and warrants that:

(1) Existence and Powers. The Guarantor is a corporation duly organized, validly existing and in good standing under the laws of the State of Louisiana, with the full legal right, power and authority to enter into and perform its obligations under this Guaranty.

(2) Due Authorization and Binding Obligation. This Guaranty has been duly authorized, executed and delivered by all necessary corporate action of the Guarantor and constitutes the legal, valid and binding obligation of the Guarantor, enforceable against the Guarantor in accordance with its terms, except to the extent that its enforceability may be limited by bankruptcy, insolvency or other similar laws affecting creditors' rights from time to time in effect and equitable principles of general application.

(3) No Conflict. To the best of its knowledge, neither the execution nor delivery by the Guarantor of this Guaranty nor the performance by the Guarantor of its obligations in connection with the transaction contemplated hereby or the fulfillment by the Guarantor of the terms and conditions hereof: (a) conflicts with, violates or results in a breach of any law or governmental regulation applicable to the Guarantor; (b) conflicts with, violates or results in a breach of any term or condition of the Guarantor's corporate charter or by-laws or any order, judgment or decree, or any contract, agreement or instrument to which the Guarantor is a party or by which the Guarantor or any of its properties or assets are bound, or constitutes a default under any of the foregoing; or (c) will result in the creation or imposition of any material encumbrance of any nature whatsoever upon any of the properties or assets of the Guarantor except as permitted hereby.

(4) No Approvals Required. No approval, authorization, order or consent of, or declaration, registration or filing with, any Governmental Body is required for the valid execution and delivery of this Guaranty by the Guarantor or the performance of its payment or other obligations hereunder, except as such shall have been duly obtained or made.

(5) No Litigation. Except as disclosed in writing to the KRRC, there is no Legal Proceeding, at law or in equity, before or by any Governmental Body pending or, to the best of the Guarantor's knowledge, overtly threatened or publicly announced against the Guarantor, in which an unfavorable decision, ruling or finding could reasonably be expected to have a material and adverse effect on the validity, legality or enforceability of this Guaranty against the Guarantor, or on the ability of the Guarantor to perform its obligations hereunder.

(6) No Legal Prohibition. The Guarantor has no knowledge of any Applicable Law in effect on the date as of which this representation is being made which would prohibit the performance by the Guarantor of this Guaranty and the transactions contemplated by this Guaranty.

(7) Consent to Agreements. The Guarantor is fully aware of and consents to the terms and conditions of the Agreement.

(8) Consideration. This Guaranty is made in furtherance of the purposes for which the Guarantor has been organized, and the assumption by the Guarantor of its obligations hereunder will result in a material benefit to the Guarantor.

(9) Applicable Law Compliance. Except as disclosed in writing to the KRRC, the Guarantor does not have knowledge of any material violation of any law, order, rule or regulation with respect to any facilities designed or constructed by the Guarantor, Contractor or any of their Affiliates.

ARTICLE III

GUARANTY COVENANTS

SECTION 3.1. GUARANTY TO THE KRRC. The Guarantor hereby absolutely, presently, irrevocably and unconditionally guarantees to the KRRC for the benefit of the KRRC (1) the full and prompt payment when due of each and all of the payments required to be credited or made by the Contractor under the Agreement (including all amendments and supplements thereto) to, or for the account of, the KRRC, when the same shall become due and payable pursuant to this Guaranty, and (2) the full and prompt performance and observance of each and all of the Obligations. Notwithstanding the unconditional nature of the Guarantor's obligations as set forth herein, the Guarantor shall have the right to assert the defenses provided in Section 3.4 (Defenses, Set-Offs and Counterclaims) hereof against claims made under this Guaranty.

SECTION 3.2. RIGHT OF THE KRRC TO PROCEED AGAINST GUARANTOR. This Guaranty shall constitute a guaranty of payment and of performance and not of collection, and the Guarantor specifically agrees that in the event of a failure by the Contractor to pay or perform any Obligation guaranteed hereunder, the KRRC shall have the right to proceed first and directly against the Guarantor under this Guaranty and without proceeding against the Contractor or exhausting any other remedies against the Contractor which the KRRC may have. Without limiting the foregoing, the Guarantor agrees that it shall not be necessary, and that the Guarantor shall not be entitled to require, as a condition of enforcing the liability of the Guarantor hereunder, that the KRRC: (1) file suit or proceed to obtain a personal judgment against the Contractor or any other person that may be liable for the Obligations or any part of the Obligations; (2) make any other effort to obtain payment or performance of the Obligations from the Contractor other than providing the Contractor with any notice of such payment or performance as may be required by the terms of the Agreement or required to be given to the Contractor under Applicable Law; (3) foreclose against or seek to realize upon any security for the Obligations; or (4) exercise any other right or remedy to which the KRRC is or may be entitled in connection with the Obligations or any security therefor or any other guarantee thereof, except to the extent that any such exercise of such other right or remedy may be a condition to the Obligations of the Contractor or to the enforcement of remedies under the Agreement. Upon any unexcused failure by the Contractor in the payment or performance of any Obligation and the giving of such notice or demand, if any, to the Contractor and the Guarantor as may be required in connection with such Obligation and this Guaranty, the liability of the Guarantor shall be effective and shall immediately be paid or performed. Notwithstanding the KRRC's right to proceed directly against the Guarantor, the KRRC (or any successor) shall not be entitled to more than a single full performance of the Obligations in regard to any breach or non-performance thereof.

SECTION 3.3. GUARANTY ABSOLUTE AND UNCONDITIONAL. The obligations of the Guarantor hereunder are absolute, present, irrevocable and unconditional and shall remain in full force and effect until the Contractor shall have fully discharged the Obligations in accordance with their respective terms and conditions, and, except as provided in Section 3.4 (Defenses, Set-Offs and Counterclaims), shall not be subject to any counterclaim, set-off, deduction or defense (other than full and strict compliance with, or release, discharge or satisfaction of, such Obligations) based on any claim that the Guarantor may have against the Contractor, the KRRC or any other person. Without limiting the foregoing, the obligations of the Guarantor hereunder shall not be released, discharged or in any way modified by reason of any of the following (whether with or without notice to, knowledge by, or further consent, of the Guarantor), except as provided in Section 3.4 (Defenses, Set-Offs and Counterclaims):

(1) the extension or renewal of this Guaranty or the Agreement up to the specified Terms of each agreement;

(2) any exercise or failure, omission or delay by the KRRC in the exercise of any right, power or remedy conferred on the KRRC with respect to this Guaranty or the Agreement except to the extent such failure, omission or delay gives rise to an applicable statute of limitations defense with respect to a specific claim;

(3) any permitted transfer or assignment of rights or obligations under the Agreement or under any other Transaction Agreement by any party thereto, or any permitted assignment, conveyance or other transfer of any of their respective interests in the Project or in, to or under any of the Transaction Agreements;

(4) any permitted assignment for the purpose of creating a security interest or mortgage of all or any part of the respective interests of the KRRC or any other person in any Transaction Agreement or in the Project;

(5) any renewal, amendment, change or modification in respect of any of the Obligations or terms or conditions of any Transaction Agreement;

(6) any failure of title with respect to all or any part of the respective interests of any person in the Project Site, the Habitat Project Work Area or the Project;

(7) the voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, moratorium, arrangement, composition with creditors or readjustment of, or other similar proceedings against the Contractor or the Guarantor, or any of the property of either of them, or any allegation or contest of the validity of this Guaranty or any other Transaction Agreement in any such proceeding (it is specifically understood, consented and agreed to that, to the extent permitted by law, this Guaranty shall remain and continue in full force and effect and shall be enforceable against the Guarantor to the same extent and with the same force and effect as if any such proceeding had not been instituted and as if no rejection, stay, termination, assumption or modification has occurred as a result thereof, it being the intent and purpose of this Guaranty that the Guarantor shall and does hereby waive all rights and benefits which might accrue to it by reason of any such proceeding);

(8) except as permitted by Section 4.1 (Maintenance of Corporate Existence) or 4.2 (Assignment) hereof, any sale or other transfer by the Guarantor or any Affiliate of any of the capital stock or other interest of the Guarantor or any Affiliate in the Contractor now or hereafter owned, directly or indirectly, by the Guarantor or any Affiliate, or any change in composition of the interests in the Contractor;

(9) any failure on the part of the Contractor for any reason to perform or comply with any agreement with the Guarantor;

(10) the failure on the part of the KRRC to provide any notice to the Guarantor which is not required to be given to the Guarantor pursuant to this Guaranty and to the Contractor as a condition to the enforcement of Obligations pursuant to the Agreement;

(11) any failure of any party to the Transaction Agreements to mitigate damages resulting from any default by the Contractor or the Guarantor under any Transaction Agreement;

(12) the merger or consolidation of any party to the Transaction Agreements into or with any other person, or any sale, lease, transfer, abandonment or other disposition of any or all of the property of any of the foregoing to any person;

(13) any legal disability or incapacity of any party to the Transaction Agreements; or

(14) the fact that entering into any Transaction Agreement by the Contractor or the Guarantor was invalid or in excess of the powers of such party.

Should any money due or owing under this Guaranty not be recoverable from the Guarantor due to any of the matters specified in subparagraphs (1) through (14) of this Section, then, in any such case, such money, together with all additional sums due hereunder, shall nevertheless be recoverable from the Guarantor as though the Guarantor were principal obligor in place of the Contractor pursuant to the terms of the Agreement and not merely a guarantor and shall be paid by the Guarantor forthwith subject to the terms of this Guaranty. Notwithstanding anything to the contrary expressed in this Guaranty, nothing in this Guaranty shall be deemed to amend, modify, clarify, expand or reduce the Contractor's rights, benefits, duties or obligations under the Agreement. To the extent that any of the matters specified in subparagraphs (1) through (6) and (8) through (14) would provide a defense to, release, discharge or otherwise affect the Contractor's Obligations, the Guarantor's obligations under this Guaranty shall be treated the same.

SECTION 3.4. DEFENSES, SET-OFFS AND COUNTERCLAIMS. Notwithstanding any provision contained herein to the contrary, the Guarantor shall be entitled to exercise or assert any and all legal or equitable rights or defenses which the Contractor may have under the Agreement or under Applicable Law (other than bankruptcy or insolvency of the Contractor and other than any defense which the Contractor has expressly waived in the Agreement or the Guarantor has expressly waived in Section 3.5 (Waivers by the Guarantor) hereof or elsewhere hereunder), and the obligations of the Guarantor hereunder are subject to such counterclaims, set-offs or deductions which the Contractor is permitted to assert pursuant to the Agreement, if any.

SECTION 3.5. WAIVERS BY THE GUARANTOR. The Guarantor hereby unconditionally and irrevocably waives:

(1) notice from the KRRC of its acceptance of this Guaranty;

(2) notice of any of the events referred to in Section 3.3 (Guaranty Absolute and Unconditional) hereof, except to the extent that notice is required to be given as a condition to the enforcement of the Obligations;

(3) to the fullest extent lawfully possible, all notices which may be required by statute, rule of law or otherwise to preserve intact any rights against the Guarantor, except any notice to the Contractor required pursuant to the Agreement or Applicable Law as a condition to the performance of any Obligation;

(4) to the fullest extent lawfully possible, any statute of limitations defense based on a statute of limitations period which may be applicable to guarantors (or parties in similar relationships) which would be shorter than the applicable statute of limitations period for the underlying claim;

(5) any right to require a proceeding first against the Contractor;

(6) any right to require a proceeding first against any person or the security provided by or under any Transaction Agreement except to the extent such Transaction Agreement specifically requires a proceeding first against any person (except the Contractor) or security;

(7) any requirement that the Contractor be joined as a party to any proceeding for the enforcement of any term of any Transaction Agreement;

(8) the requirement of, or the notice of, the filing of claims by the KRRC in the event of the receivership or bankruptcy of the Contractor; and

(9) all demands upon the Contractor or any other person and all other formalities the omission of any of which, or delay in performance of which, might, but for the provisions of this Section, by rule of law or otherwise, constitute grounds for relieving or discharging the Guarantor in whole or in part from its absolute, present, irrevocable, unconditional and continuing obligations hereunder.

SECTION 3.6. PAYMENT OF COSTS AND EXPENSES. The Guarantor agrees to pay the KRRC on demand all Fees and Costs, incurred by or on behalf of the KRRC in successfully enforcing by Legal Proceeding observance of the covenants, agreements and obligations contained in this Guaranty against the Guarantor, other than the Fees and Costs that the KRRC incurs in performing any of its obligations under the Agreement, or other applicable Transaction Agreement where such obligations are a condition to performance by the Contractor of its Obligations.

SECTION 3.7. SUBORDINATION OF RIGHTS. The Guarantor agrees that any right of subrogation or contribution which it may have against the Contractor as a result of any payment or performance hereunder is hereby fully subordinated to the rights of the KRRC hereunder and under the Transaction Agreements and that the Guarantor shall not recover or seek to recover any payment made by it hereunder from the Contractor until the Contractor and the Guarantor shall have fully and satisfactorily paid or performed and discharged the Obligations giving rise to a claim under this Guaranty.

SECTION 3.8. SEPARATE OBLIGATIONS; REINSTATEMENT. The obligations of the Guarantor to make any payment or to perform and discharge any other duties, agreements, covenants, undertakings or obligations hereunder shall: (1) to the extent permitted by applicable law, constitute separate and independent obligations of the Guarantor from its other obligations under this Guaranty; (2) give rise to separate and independent causes of action against the Guarantor; and (3) apply irrespective of any indulgence granted from time to time by the KRRC. The Guarantor agrees that this Guaranty shall be automatically reinstated if and to the extent that for any reason any payment or performance by or on behalf of the Contractor is rescinded or must be otherwise restored by the KRRC, whether as a result of any proceedings in bankruptcy, reorganization or similar proceeding, unless such rescission or restoration is pursuant to the terms of the Agreement, or any applicable Transaction Agreement or the Contractor's enforcement of such terms under Applicable Law.

SECTION 3.9. TERM. This Guaranty shall remain in full force and effect from the date of execution and delivery hereof until all of the Obligations of the Contractor have been fully paid and performed.

ARTICLE IV

GENERAL COVENANTS

SECTION 4.1. MAINTENANCE OF CORPORATE EXISTENCE.

(A) Consolidation, Merger, Sale or Transfer. The Guarantor covenants that during the term of this Guaranty it will maintain its corporate existence, will not dissolve or otherwise dispose of all or substantially all of its assets and will not consolidate with or merge into another entity or permit one or more other entities to consolidate with or merge into it unless the successor is the Guarantor; provided, however, that the Guarantor may consolidate with or merge into another entity, or permit one or more other entities to consolidate with or merge into it, or sell or otherwise transfer to another entity all or substantially all of its assets as an entirety and thereafter dissolve if the successor entity (if other than the Guarantor): (a) assumes in writing all the obligations of the Guarantor hereunder and, if required by law, is duly qualified to do business in the States of California and Oregon; (b) delivers to the KRRC an opinion of counsel to the effect that its obligations under this Guaranty are legal, valid, binding and enforceable subject to applicable bankruptcy and similar insolvency or moratorium laws; and (c) has a net worth at the time of any such transaction at least equal to the net worth of the Guarantor immediately prior to such time.

(B) Continuance of Obligations. If a consolidation, merger or sale or other transfer is made as permitted by this Section, the provisions of this Section shall continue in full force and effect and no further consolidation, merger or sale or other transfer shall be made except in compliance with the provisions of this Section. No such consolidation, merger or sale or other transfer shall have the effect of releasing the initial Guarantor from its liability hereunder unless a successor entity has assumed responsibility for this Guaranty as provided in this Section.

SECTION 4.2. ASSIGNMENT. Except as provided in Section 4.1 (Maintenance of Corporate Existence), this Guaranty may not be assigned by the Guarantor without the prior written consent of the KRRC.

SECTION 4.3. QUALIFICATION IN CALIFORNIA. The Guarantor agrees that, so long as this Guaranty is in effect, if required by law, the Guarantor will be duly qualified to do business in the States of California and Oregon.

SECTION 4.4. CONSENT TO JURISDICTION. The Guarantor irrevocably: (1) agrees that any Legal Proceeding related to this Guaranty or to any rights or relationship between the parties arising therefrom shall be solely and exclusively initiated and maintained in state or federal courts located in San Francisco County, California, having appropriate jurisdiction therefor; (2) consents to the jurisdiction of such courts in any such Legal Proceeding; and (3) waives any objection which it may have to the laying of the jurisdiction of any such Legal Proceeding in any such court.

SECTION 4.5. BINDING EFFECT. This Guaranty shall inure to the benefit of the KRRC and its permitted successors and assigns and shall be binding upon the Guarantor and its successors and assigns.

SECTION 4.6. AMENDMENTS, CHANGES AND MODIFICATIONS. This Guaranty may not be amended, changed or modified or terminated and none of its provisions may be waived, except with the prior written consent of the KRRC and the Guarantor.

SECTION 4.7. LIABILITY. It is understood and agreed to by the KRRC that nothing contained herein shall create any obligation of, or right to look, to any director, officer, employee or stockholder of the Guarantor (or any Affiliate of the Guarantor) for the satisfaction of any obligations hereunder, and no judgment, order or execution with respect to or in connection with this Guaranty shall be taken against any such director, officer, employee or stockholder.

SECTION 4.8. NOTICES.

(A) Procedure. All notices, demands or written communications given pursuant to the terms of this Guaranty shall be: (1) in writing and delivered in person; (2) transmitted by certified mail, return, receipt requested, postage prepaid or by overnight courier utilizing the services of a nationally-recognized overnight courier service with signed verification of delivery; or (3) given by email transmission, if a signed original of the emailed letter or other communication is deposited in the United States mail within two days after transmission. Notices shall be deemed given only when actually received at the address first given below with respect to each party. Either party may, by like notice, designate further or different addresses to which subsequent notices shall be sent.

(B) KRRC Notice Address. Notices required to be given to the KRRC shall be addressed as follows:

The Klamath River Renewal Corporation
2001 Addison St., #317
Berkeley, CA 94704
Attn: Laura Hazlett
Telephone No.: (415) 820-4441
Email Address: lhazlett@klamathrenewal.org

with a copy to:

The Klamath River Renewal Corporation
2140 Shattuck Avenue, Suite 801
Berkeley, CA 94704
Attn: Richard Roos-Collins
Telephone No.: (510) 296-5589
Email Address: rrcollins@waterpowerlaw.com

(C) Guarantor Notice Address. Notices required to be given to the Guarantor shall be addressed as follows:

Resource Environmental Solutions, LLC
[ADDRESS]
Attn: [_____]
Telephone No.: [_____]
Email Address: [_____]

with a copy to:

Resource Environmental Solutions, LLC
[ADDRESS]
Attn: [_____]
Telephone No.: [_____]
Email Address: [_____]

[Signature Page Follows]

IN WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed in its name and on its behalf by its duly authorized officer as of the date first above written.

RESOURCE ENVIRONMENTAL SOLUTIONS, LLC, as Guarantor

By: _____

Name: _____
Printed

Title: _____

ACCEPTED AND AGREED TO BY:

[Contractor Seal]

KLAMATH RIVER RENEWAL CORPORATION

By:
_____

Name:
_____
Printed

Title: _____

TRANSACTION FORM B

FORM OF PERFORMANCE BOND

Bond No.: _____

FORM OF PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That we, HGS, LLC. as principal (the "Contractor") and [_____] as surety (the "Surety"), are held and firmly bound unto the Klamath River Renewal Corporation (the "KRRC"), in the just and penal sum of _____ dollars ($_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS, the Contractor was awarded and entered into the annexed Habitat Restoration, Maintenance and Liability Transfer Agreement with the KRRC in connection with the Removal of the Lower Klamath River Dams dated as of [_____], as amended from time to time (the "Agreement"), whereby the Contractor has agreed to perform the design, construction, demolition and habitat restoration services work necessary to carry out and complete the project, all as more particularly described therein, and is required by the KRRC to give this bond on the Contract Date (as defined in the Agreement) pursuant to the Agreement;

NOW, THEREFORE, if the Contractor, its heirs, executors, administrators, successors, and assigns shall well and truly do and perform all of the covenants and obligations of the Agreement and any alteration thereof made as therein provided, on its part to be done and performed at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect inclusive of any period of any guarantees or warranties required under the Agreement.

Any alterations in the work to be done, or the materials to be furnished, which may be made pursuant to the terms of the Agreement, shall not in any way release either the Contractor or the Surety, nor shall any extensions of time granted under the provisions of the Agreement release either the Contractor or the Surety, and notice of such alterations or extensions of the Agreement is hereby waived by the Surety.

The date when this bond first becomes effective is the date first set forth below and immediately following the end of any prior bond issued in respect of the Agreement. Notwithstanding anything contained in the Agreement to the contrary, the liability of the Contractor and Surety under this bond is limited to the term ending the ____ day of _____, 20__, and may be extended by the Surety for additional periods by continuation certificate issued by the Surety ("Bond Term"). This bond shall secure the faithful performance of all of Contractor's obligations under the Agreement whether such performance occurred during the term of any prior bonds issued in respect of the Agreement, or during the Bond Term, provided that, for the avoidance of doubt, this sentence shall not be deemed to modify the penal sum of this bond or allow for any claim against a prior bond which has been terminated or released before the claim was made.

The Surety shall provide written notice to the KRRC not less than ninety (90) days prior to the expiration of the then-current Bond Term if the Surety will not renew this bond after the expiration of the then-current Bond Term. It is understood that if this bond is not renewed or extended by the Surety at least sixty (60) days before the end of the then current Bond Term, the Contractor is obligated under the Agreement to provide the KRRC a substitute bond or alternative

security reasonably acceptable to the KRRC. If the Contractor fails to deliver a substitute bond or alternative security at least forty-five (45) days prior to the end of the then current Bond Term, then it is understood that such failure will represent an event of material default under this bond and a material breach of the Agreement.

The Surety hereby waives the provisions of California Civil Code Sections 2819 (regarding exoneration of sureties in certain circumstances), 2845 (regarding certain limitations on remedies against sureties) and 2849 (regarding a surety's rights as to other security held by the creditor).

In the event suit is brought upon this bond by the KRRC and judgment is recovered, the Surety shall pay all costs incurred by the KRRC in such suit, including, but not limited to, reasonable attorneys' fees and administrative and consultant costs to be fixed by the court. Any proceeding, legal or equitable under this bond shall be instituted in state or federal courts located in San Francisco County, California.

The address or addresses at which the Contractor and Surety may be served with notices, papers and other documents under the California Bond and Undertaking Law (Cal. Civ. Proc. Code § 995.010 *et seq.*) is the following:

_____

_____.

WITNESS our hands this _____ day of _____, 20[__].

(Seal) Contractor

By _____

_____

Title

(Surety's Corporate Seal) Surety

By _____

_____

Title

_____

Address of Surety

_____

_____

Approved:

_____

_____

[Title]
Klamath River
Renewal Corporation

Notice: No substitution or revision to this bond form will be accepted.

ACKNOWLEDGMENT BY NOTARY PUBLIC

[Cal. Civ. Code § 1189]

State of California)
County of
)

On _____ before me, _____, a notary public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

[Any acknowledgment taken in another state shall be sufficient if it is taken in accordance with the laws of the state where the acknowledgment is made.]

(Attach proof of authority of attorney-in-fact of surety.)

TRANSACTION FORM C

FORM OF PAYMENT BOND

Bond No. _____

FORM OF PAYMENT BOND FOR LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, HGS, LLC. as principal (the "Contractor"), and [_____] as surety (the "Surety"), are held and firmly bound unto the Klamath River Renewal Corporation (the "KRRC"), in the sum of _____ dollars ($_____) lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS, the Contractor was awarded and entered into the annexed Habitat Restoration, Maintenance and Liability Transfer Agreement with the KRRC in connection with the Removal of the Lower Klamath River Dams dated as of [_____], as amended from time to time (the "Agreement"), whereby the Contractor has agreed to perform the design, construction, demolition and habitat restoration services work necessary to carry out and complete the project, all as more particularly described therein, and is required by the KRRC to give this bond on the Contract Date (as defined in the Agreement) pursuant to the Agreement;

NOW, THEREFORE, if the Contractor, or its subcontractors, fails to pay any of the persons referred to in Section 9100 of the California Civil Code for any materials, provisions, provender, equipment, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, the Surety will pay for the same, in an amount not exceeding the sum specified above, and also, in case suit is brought upon this bond, reasonable attorneys' fees, to be fixed by the court. This bond shall inure to the benefit of any and all persons entitled to file claims under Section 9100 of the California Civil Code so as to give a right of action to them or their assigns in any suit brought upon this bond.

Any alterations in the work to be done, or the material to be furnished, which may be made pursuant to the terms of the Agreement, shall not in any way release either the Contractor or the Surety, nor shall any extensions of time granted under the provisions of the Agreement release either the Contractor or the Surety, and notice of such alterations or extensions of the Agreement is hereby waived by the Surety.

The date when this bond first becomes effective is the date first set forth below and immediately following the end of any prior bond issued in respect of the Agreement. Notwithstanding anything contained in the Agreement to the contrary, the liability of the Contractor and Surety under this bond is limited to the term ending the ____ day of _____, 20__, and may be extended by the Surety for additional periods by continuation certificate issued by the Surety ("Bond Term"). This bond shall secure the faithful performance of all of Contractor's obligations under the Agreement whether such performance occurred during the term of any prior bonds issued in respect of the Agreement, or during the Bond Term, provided that, for the avoidance of doubt, this sentence shall not be deemed to modify the penal sum of this bond or

allow for any claim against a prior bond which has been terminated or released before the claim was made.

The Surety shall provide written notice to the KRRC not less than ninety (90) days prior to the expiration of the then-current Bond Term if the Surety will not renew this bond after the expiration of the then-current Bond Term. It is understood that if this bond is not renewed or extended by the Surety at least sixty (60) days before the end of the then current Bond Term, the Contractor is obligated under the Agreement to provide the KRRC a substitute bond or alternative security reasonably acceptable to the KRRC. If the Contractor fails to deliver a substitute bond or alternative security at least forty-five (45) days prior to the end of the then current Bond Term, then it is understood that such failure will represent an event of material default under this bond and a material breach of the Agreement.

The Surety hereby waives the provisions of California Civil Code Sections 2819 (regarding exoneration of sureties in certain circumstances), 2845 (regarding certain limitations on remedies against sureties) and 2849 (regarding a surety's rights as to other security held by the creditor).

The address or addresses at which the Contractor and Surety may be served with notices, papers and other documents under the California Bond and Undertaking Law (Cal. Civ. Proc. Code § 995.010 *et seq.*) is the following:

_____

_____.

WITNESS our hands this _____ day of _____, 20[__].

(Seal) Contractor

By _____

_____

Title

(Surety's Corporate Seal) Surety

By _____

_____

Title

_____

Address of Surety

_____

_____

Approved:

_____

_____

[Title]
Klamath River
Renewal Corporation

Notice: No substitution or revision to this bond form will be accepted.

ACKNOWLEDGMENT BY NOTARY PUBLIC

[Cal. Civ. Code § 1189]

State of California)
County of
)

On _____ before me, _____, a notary public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

[Any acknowledgment taken in another state shall be sufficient if it is taken in accordance with the laws of the state where the acknowledgment is made.]

(Attach proof of authority of attorney-in-fact of surety.)

APPENDICES

to the

HABITAT RESTORATION, MAINTENANCE AND LIABILITY TRANSFER AGREEMENT

ENTERED INTO
IN CONNECTION WITH
THE REMOVAL OF THE LOWER KLAMATH RIVER DAMS

between

THE KLAMATH RIVER RENEWAL CORPORATION

and

HGS, LLC

Dated

[_____], 2020

TABLE OF CONTENTS

APPENDIX 1

SUMMARY OF THE DEFINITE PLAN

APPENDIX 1

SUMMARY OF THE DEFINITE PLAN

1.1. PURPOSE

This Appendix serves as a non-binding reference document. It summarizes the scope and contents of the Definite Plan as it was submitted to FERC on June 28, 2018. This Appendix does not account for any changes made to the Definite Plan, any further KRRC submittals to FERC, or any other developments whatsoever, after June 28, 2018. References to sections and appendices within this Appendix refer to the sections and appendices of the Definite Plan, unless stated otherwise.

1.2. BACKGROUND

On June 28, 2018, the KRRC submitted the Definite Plan for the Lower Klamath Project to FERC for the proposed removal of J.C. Boyle, Copco 1, Copco 2, and Iron Gate dams. As of this submittal, the Definite Plan consists of an Executive Summary, nine chapters, and 17 appendices. The Definite Plan provides the blue print to decommission and remove the Lower Klamath Project consistent with the terms of the KHSA. It delineates (i) the methods to be undertaken to effect dam removal and a timetable for dam removal; (ii) plans for management, removal, and disposal of sediment, debris, and other materials; (iii) plans for site remediation and restoration; (iv) plans for measures to avoid or minimize adverse downstream impacts; (v) a plan for compliance with all applicable laws; (vi) a detailed statement of the estimated costs of dam removal; and (vii) measures to reduce risks of cost overruns, delays, or other impediments to dam removal.

The Definite Plan provides a comprehensive statement of the methods and other specifications to implement the Project, as required by Section 7.2 of the KHSA. It states the scientific and engineering analyses that support those specifications, and serves as a basis for FERC's hearings of the license transfer and surrender applications, review by other regulatory agencies, and public comment. KRRC proposed to incorporate the Definite Plan, in its final form, into all regulatory authorizations, including license surrender, to implement the Project.

1.3. DEFINITE PLAN SUMMARY

The below subsections summarize each section of the Definite Plan.

1.3.1 Section 1: Objectives and Background

Section 1 of the Definite Plan (Objectives and Background) describes the objectives of the Definite Plan objectives, and the Project and its background. Section 1.3 summarizes KRRC's plan for compliance with applicable laws and regulations.

1.3.2 Section 2: Existing Feature Descriptions

Section 2 (Existing Feature Descriptions) describes the then-existing features and developments of the four dams and their powerhouses.

1.3.3 Section 3: FERC Compliance and Dam Safety

Section 3 (FERC Compliance and Dam Safety) explains KRRC's proposed program to comply with FERC dam safety requirements and engineering guidelines. The proposed program is designed to allow removal of the Project to be undertaken in a manner that minimizes risk to

people, structures, infrastructure, and the natural resources of the Klamath River Basin. The removal will be fully consistent with FERC's dam safety requirements and FERC Engineering Guidelines, and will incorporate the review and recommendations of the Oregon Water Resources and the California Department of Water Resources, Division of Dam Safety to the full extent of any state agency jurisdiction over the decommissioning and removal of the Facilities.

FERC requires the following dam removal plans and submittals to be provided: Coffer Dam Design; Coffer Dam Certification; Temporary Construction Emergency Action Plan; Quality Control Inspection Program; Dam Stability Analysis (Iron Gate and J.C. Boyle); Blasting Plan; Reservoir Rim Stability Analyses; Flood Routing Analysis and Inundation Study; and rock quality evaluation in the areas of planned breaching.

1.3.4 Section 4: Reservoir Drawdown and Diversion Plan

Section 4 (Reservoir Drawdown and Diversion Plan) describes the drawdown facilities; process, flows and sediment releases; anticipated downstream effects; monitoring; and adaptive management measures. Drawdown facilities that will be used for drawing down the reservoirs and diverting Klamath River flows around the dams include, depending on the dam: spillways, modified diversion tunnels, power intake, and diversion culverts beneath the dam. The Definite Plan provides detailed actions to effectuate drawdown for each reservoir.

Section 4 also provides flood frequency analyses and a summer flow frequency analysis. The drawdown periods are scheduled to minimize release of flows with high suspended sediments into downstream areas during critical times for important aquatic species and life stages. Deconstruction, including site preparation, drawdown, and facilities removal, will occur over about 20 months. The drawdown period could be longer during a wet year and shorter during a dry year. The Definite Plan describes how KRRC will use the diversion facilities to draw down the reservoirs and release sediment, the timing of the discharges, the range of discharge rates anticipated, the portion of discharge associated with specific structures, and the change in reservoir elevation per day. Analysis of the embankment and reservoir rims demonstrate the Project will maintain adequate factors of safety to prevent embankment slope instability, provided the drawdown rate is controlled. Analyses were conducted of drawdown's effect on downstream river flows. The Definite Plan describes monitoring requirements during drawdown for any evidence of embankment instability; best management practices to avoid diversion facility failure or blockage and respond to instability of embankments.

The Definite Plan states that the KRRC will update the existing Emergency Action Plans relating to catastrophic dam failures. KRRC performed a reservoir rim stability evaluation that is provided in Appendix E. Potential instability includes deep-seated large landslides along the reservoir rim that could impact roads or property and slides of material beneath the current water surface, the latter of which would only impact resources within the current reservoir footprint. The Definite Plan discusses potential effects in the river channel downstream of Iron Gate Dam, including aggradation at tributaries, pool depths, lateral channel migration, water quality and slope instability.

1.3.5 Section 5: Dam Removal Approach

Section 5 (Dam Removal Approach) describes the removal limits, construction access, staging and disposal areas, removal process, demolition methods and equipment, imported materials, and waste disposal for the four Facilities. The Project achieves the objectives of free-flowing river conditions and volitional fish passage by the complete removal of dams (except for buried features), power generation facilities, water intake structures, canals, pipelines, and ancillary buildings. KRRC also presents a partial removal alternative for purpose of environmental

review, which would leave portions of each dam in place, along with ancillary buildings and structures.

The Definite Plan describes actions the contractor will take to dispose of earth materials generated from dam removal; concrete rubble; and rebar, mechanical and electrical equipment, each in an appropriate location. On-site disposal actions include burying earth materials and/or concrete rubble, grading the area, covering it with topsoil and hydroseeding it. KRRC will complete erosion monitoring of on-site disposal sites annually for 5 years to assess and repair significant erosion and slope deterioration, to the satisfaction of the appropriate regulatory agency.

Detailed actions for the removal of each dam and ancillary structures (such as powerhouses and transmission lines) are described in the Definite Plan. The Plan describes the demolition methods and estimated equipment and workforce needed at each dam.

1.3.6 Section 6: Reservoir and Other Restoration

Section 6 (Reservoir and Other Restoration) summarizes the proposed plan to stabilize remaining reservoir sediment post-drawdown and to restore the former reservoir areas at each development to native habitat. Appendix H contains the full Reservoir Area Management Plan. The 2011 Reservoir Area Management Plan was developed as part of the 2012 EIS/R and 2013 Secretarial Determination of Record. Appendix H reflects updates to the 2011 Plan. The 2011 Plan focused on control of invasive exotic vegetation (IEV) species and revegetation of the reservoir areas with native grasses, shrubs and trees as the primary method for restoration.

KRRC proposes a two-pronged approach consisting of revegetation and active habitat restoration with monitoring and adaptive management. The Definite Plan outlines a sequence of activities beginning 1 to 2 years pre-drawdown and concluding 10 years post-dam removal. The activities in Section 6 and Appendix H include: sourcing of plant materials; seed collection and propagation; IEV removal; terrestrial restoration of all former reservoir and other disturbed areas with native vegetation and engineered habitat features, including excavation to optimize near-channel habitat and improve floodplain and tributary connectivity, installation of large wood habitat features, riparian bank revegetation, and installation of bank stability or channel fringe complexity features in select locations; installation of irrigation systems; plant establishment and maintenance; plant monitoring and reporting; monitoring native plant establishment; re-seeding difficult and underperforming areas; continuing to install pole cuttings and seed plantings; adaptively replacing pole cuttings, acorns, and container plants; maintaining existing and previously planted vegetation; IEV control and inspections; herbivore control; maintaining the irrigation systems; field-based monitoring throughout reservoir areas where restoration features were installed; modification, adaptive improvement, and augmentation of installed habitat features as needed; constructing in-stream habitat features based on engineered designs that are appropriate for the system; constructing off-channel wetlands, side channels, and alcoves where appropriate; enhancing mid-channel gravel bars; conducting field monitoring of the mainstem and tributaries; fish passage monitoring; removing all non-natural fish passage barriers; and monitoring and report preparation. The Reservoir Area Management Plan also includes cattle exclusion fencing around the reservoir restoration areas where they abut grazing land.

Monitoring of the reservoir restoration aspects of the Project will be accomplished using physical site characteristics to produce data to monitor and adaptively manage the restoration efforts. After dam removal, initial conditions data points will be established. Actions include establishing permanent ground photo points throughout the reservoir areas, high resolution vertical aerial photos of the reservoir areas, and LiDAR data collection after sediment evacuation and initial ground cover stabilization.

Section 6 also describes habitat restoration on the floodplains and tributaries that flow into the Klamath River in the reservoir areas:

1. Tributary Connectivity: Light equipment and manual labor to move materials and enhance longitudinal connectivity; place large wood to promote habitat complexity

2. Wetlands, Floodplain and Off-Channel Habitat Features: Restore or create wetlands; create floodplain swales; restore side channels by modifying hydraulics

3. Floodplain Roughness: Create floodplain roughness using equipment and partially bury brush and woody debris

4. Bank Stability and Channel Fringe Complexity: Introduce complexity through riparian revegetation and placement of large wood

5. Large Wood Habitat Features: Promote conditions that restore natural ecosystem processes and protect vegetation

Revegetation will also be conducted for areas disturbed by construction activities but outside of the former reservoir areas, such as staging areas, spoil disposal areas, and temporary access roads. Section 6 lists these areas and the appropriate restoration activities.

1.3.7 Section 7: Other Project Components

Section 7 (Other Project Components) describes other features of the Project including proposed aquatic and terrestrial resources measures, long-term road improvements, City of Yreka water supply infrastructure improvements, recreation facilities demolition/restoration, and other resource management plans.

Section 7.2 includes background information pertaining to basin-specific fish populations, disease, passage and related water quality data and information. In addition, Section 7.2.5 summarizes the proposed aquatic resource measures to protect and benefit relevant species that the KRRC will implement as part of the Project. A full discussion of the aquatic resource measures is included in Appendix I.

Section 7.3 describes terrestrial resource measures KRRC will implement to reduce potential impacts to terrestrial resources. These measures are:

1. The Habitat Rehabilitation Plan (the restoration plan summarized in Section 6 and Appendix H);

2. Surveys and avoidance and minimization measures for: nesting birds, bald and golden eagles and special status wildlife species, special status plant species, bats, and the Northern Spotted Owl; and

3. Compliance with regulatory requirements for delineating and protecting wetlands.

Appendix J discusses the full terrestrial resource work plans and planned avoidance and minimization measures.

Section 7.4 describes road improvements to facilitate construction access, provide safety measures during dam removal, and return roads used by Project-related vehicles to a state that at least equals existing condition. Appendix K shows the findings of an assessment of the road infrastructure expected to be used throughout the Project.

Section 7.5 describes the proposed improvements to the City of Yreka water supply pipeline, which crosses the Klamath River and would likely be damaged due to high velocity river flows after removal of Iron Gate Dam.

Section 7.6 describes the recreation facilities removal and the Draft Recreation Plan. As of the June 28, 2018 submittal, PacifiCorp provides recreation facilities at J.C. Boyle Reservoir, Copco Lake, and Iron Gate Reservoir. KRRC will remove certain features of each recreation facility as specified in the Definite Plan, and regrade, seed and plant affected areas. Some recreation facilities will remain in place. Appendix Q provides the Draft Recreation Plan, which proposes new or improved recreation facilities to be built.

Section 7.7 describes KRRC's proposed downstream flood control improvements. Thirty-six habitable structures would be located within the 100-year floodplain following dam removal (thirty-four of these structures are already in the 100-year floodplain with the dams in place; i.e., two are added to the floodplain due to dam removal). KRRC will work with the owners to move or elevate legally established structures, where feasible. KRRC will coordinate with FEMA on revising the map of the future 100-year floodplain. KRRC will consult with the owners of river crossing bridges to address effects of the increase in flood depths after dam removal.

Section 7.8 describes the Fish Hatchery Plan. The hatchery facilities are operated by CDFW as of the June 28, 2018 submittal. They will be transferred to the State of California and thereafter operated by CDFW with funding from PacifiCorp for 8 years after the removal of Iron Gate Dam. One-time improvements will be made as necessary, funded by PacifiCorp. KRRC will facilitate the transfer and cooperate with CDFW in its implementation of the Definite Plan. KRRC will demolish certain features of the Iron Gate Hatchery, funded by PacifiCorp to the extent required under the KHSA. The Definite Plan provides detailed data and analysis regarding operations of the hatchery facilities.

Section 7.9 briefly describes the Cultural Resources Plan, which is provided in Appendix L. The Cultural Resources Plan describes, as of the date of submittal, cultural resources studies conducted by KRRC in the past, that are ongoing, and that it expects to conduct to comply with regulatory requirements. The Cultural Resources Plan provides the status as of submittal of consultation with affected tribal organizations.

Section 7.10 lists other plans included in the Project: Fire Management Plan (Appendix O1), Traffic Management Plan (Appendix O2), Hazardous Materials Management Plan (Appendix O3), Emergency Response Plan (Appendix O4), Noise and Vibration Control Plan (Appendix O5), Water Quality Monitoring Plan (Appendix M), and Groundwater Well Management Plan (Appendix N).

1.3.8 Section 8: Project Costs and Schedule

Section 8 (Project Costs and Schedule) provides the understanding, as of the June 28, 2018 submittal, of Project costs and construction schedules. The full Estimate of Project Costs report is provided as Appendix P.

1.3.9 Appendices

The 17 appendices to the Definite Plan are:

A. Risk Management Plan: Contents include Risk Management Plan objectives and background; insurance, bonds, and other surety arrangements; project delivery method; and design & construction risk register.

B. Figures: This Appendix is redacted.

C. Figures – Other: Technical figures and maps of the Klamath River and Project features.

D. Dam Stability Analyses: AECOM analysis of stability of J.C. Boyle and Iron Gate Dams during reservoir drawdown.

E. Reservoir Rim Stability Evaluation: Summarizes geologic background information, recent field reconnaissance, and any analyses completed as of submittal to assess reservoir rim stability at J.C. Boyle, Copco No.1 and Iron Gate reservoirs.

F. Reservoir Drawdown Modeling Output: Contains results from modeling of flows and water levels due to the drawdown of J.C. Boyle Reservoir, Copco Lake, and Iron Gate Reservoir; and a flood frequency analysis at J.C. Boyle, Copco and Iron Gate.

G. Copco Foundation Removal: AECOM technical memorandum analyzing Copco No. 1 foundation removal.

H. Reservoir Area Management Plan: Describes Project goals and objectives; historical and current conditions at each of the 3 reservoirs; anticipated reservoir conditions after drawdown; reservoir area restoration (including restoration time periods, overview for each reservoir, full description of restoration actions, and data gaps and informational studies); monitoring and adaptive management; and supplementary information.

   Appendix H contains a comprehensive outline of parameters that will be monitored, which include: stability of remaining reservoir sediments, fish passage, invasive exotic vegetation, native plant revegetation, and restoration of natural ecosystem processes. It includes restoration actions and adjustments specific to each reservoir area, based on the topography and ecological features of each reservoir and the surrounding area.

   Appendix H provides the following restoration timeline in relationship to the reservoir drawdown and dam removal activities:

Table 5-1 Restoration Timeline

RESTORATION PERIOD:	Pre-Dam Removal (DR)			DD	DR	Post-DR	Plant Establ.	Maintenance & Monitoring			
Monitoring Period:	Preparation			Construction			Y1	Y2	Y3	Y4	Y5
Calendar Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Task:											
Seed Collection											
Seed Propagation											
Prepare Construction PS&E for Pilot Growing Tests											
Pilot Growing Tests with Monitoring and Data Gathering											
Restoration PS&E Preparation											
Invasive Exotic Vegetation Control											
Construction and Dam Removal (DR)											
Drawdown (DD)											
Site Mass Ggrading at Reservoir Restoration Areas											
Bank Stability and Channel Fringe Actions											
Install Large Wood for Habitat (Ground/Aerial)											
Tributary Connectivity in Reservoir Areas											
Aerial Pioneer Crop Seeding (Repeated)											
Salvage & Planting of Exist. Ripar/Wetland Vegetation											
Pole Cutting Installation											
Cross-rip Compacted Areas in Disturbed Uplands											
Pioneer Crop Mowing and/or Rolling											
Permanent Seed Mix Broadcasting by Vegetation Zone											
Irrigation Installation and Maintenance											
Plant Maintenance											
Key Inspections											
Installation of Deer Fence Enclosures in Selected Areas											
Performance Criteria Monitoring											
Deer Fence and Irrigation Removal											

I. Aquatic Resources Measures: Provides background on 2012 EIS/R measures and rationale for the revised measures included in the Definite Plan. Describes dam removal benefits and effects on aquatic resources; measures to offset effects on mainstem spawning (by removing tributary obstructions and enhancing spawning habitat) and juvenile outmigration (by relocating fish downstream and to off-channel ponds before drawdown, ensuring tributary connectivity, monitoring water conditions in tributaries and relocating juvenile fish if water quality requires); the decision not to use fall pulse flows before drawdown to promote fish migration into tributaries; Iron Gate hatchery management to reduce fish exposure to high sediment levels (by coordinating with CDFW to delay fish release until sediment levels decline); the decision not to relocate Pacific lamprey ammocoetes; and relocation of suckers and freshwater mussels (though recovery of the entire populations is not anticipated).

J. Terrestrial Resource Measures: Describes measures to reduce Project impacts on the Northern Spotted Owl, the bald eagle and golden eagle, special status wildlife species, bats, and special status plants (by conducting surveys and either implementing recommended measures or using data to develop avoidance and minimization measures, in coordination with USFWS and CDFW for certain resources). KRRC will conduct mapping of vegetation communities and assess wetlands, implement avoidance and minimization measures, conduct wetland and riparian habitat restoration, and comply with wetland regulatory requirements.

K. Road and Bridge Structure Data and Long-Term Improvements: Provides tables describing access roads and haul routes of significance, road intersection field observations, bridge structure field observations, and culvert field observations.

L. Cultural Resources Plan: Describes ongoing consultations, KRRC's Cultural Resources Working Group, the process to define the area of potential effects, information on resource identification efforts, and resource evaluations. Describes the contents of management plans and agreement documents to be developed (Historic Properties Management Plan; Programmatic Agreement; Inadvertent Discovery Program; Plan of Action for the treatment of human remains; Cultural Resources Monitoring Plan; and Looting and Vandalism Prevention Plan). Describes compliance efforts under Section 106 of the National Historic Preservation Act of 1966, as well as cultural resource requirements of CEQA, and SWRCB tribal consultations required under California AB 52. AB 52 compliance is required for SWRCB's consideration of the CWA Section 401 water quality certification.

M. Water Quality Monitoring Plan: Provides background on existing water quality monitoring in the Klamath Hydroelectric Reach and resulting data. Describes the proposed Water Quality Monitoring Plan's rationale, monitoring locations, monitoring parameters and frequency, riverbed sediment sampling and analysis, and plan implementation and schedule.

N. Groundwater Well Management Plan: The Groundwater Well Management Plan consists of: well ownership database search and agency coordination, outreach to land owners and residents, installation of groundwater monitoring wells, groundwater monitoring, post-dam removal outreach and notification of findings, and proposed remedial actions for affected wells.

O. Construction Related Plans:

1. Fire Management Plan: Describes the need for fire management, lists fire suppression agencies with jurisdiction, describes regulations and requirements, lists contacts, describes the Fire Management Plan, and describes the water supply assessment to be conducted post-dam removal.

2. Traffic Management Plan: Describes the need for a Traffic Management Plan, summarizes construction access, and lists proposed traffic management strategies.

3. Hazardous Materials Management Plan: Describes the plan to address management of hazardous materials during physical removal of all structures at the four developments, lists anticipated types of hazardous

Waste at each development, and provides a hazardous materials inventory for each development.

4. Emergency Response Plan: Lists the general requirements of the emergency response plan. Emergency response scenarios include: medical, fire, traffic incident, hazardous material spill, downstream hydraulic change planning, dam or tunnel failure, catastrophic natural emergency, and security threat. General measures for each scenario are included.

5. Noise and Vibration Control Plan: Describes measures to address and reduce increases in noise levels resulting from construction activities during removal of the dam developments.

P. Estimate of Project Costs: Describes limitations of the costs estimates and the basis of the cost estimate (including cost categories, the construction procurement approach, construction pricing, consulting services pricing, escalation, design & construction contingency, Monte Carlo analysis to analyze uncertainties and risk, and ongoing due diligence). Provides summaries for each cost category. Provides the results of the total cost estimate, Monte Carlo results, and comparisons with previous estimates.

Q. Draft Recreation Plan: Describes existing recreation sites and activities, objectives, identified recreation opportunities, evaluation and screening criteria for recreation opportunities, and the process for finalization of the Recreation Plan.

APPENDIX 2

KRRC PROPERTY DESCRIPTION

APPENDIX 2

KRRC PROPERTY DESCRIPTION

2.1. PURPOSE

The purpose of this Appendix is to describe the land owned by, or leased or licensed to, the KRRC as of the Habitat Project Work Implementation Contract Amendment Date.

[Note: to be inserted on the Habitat Project Work Implementation Contract Amendment Date.]

APPENDIX 3

HABITAT PROJECT WORK AREA DESCRIPTION

APPENDIX 3

HABITAT PROJECT WORK AREA DESCRIPTION

3.1. PURPOSE

The purpose of this Appendix is to describe the real property on which the Habitat Project Work will be performed.

[Note: to be inserted on the Habitat Project Work Implementation Contract Amendment Date.]

APPENDIX 4

PRELIMINARY SERVICES

APPENDIX 4

PRELIMINARY SERVICES

4.1. GENERAL REQUIREMENTS

4.1.1 Scope of Base Preliminary Services.

The Base Preliminary Services shall consist of the following nine Preliminary Services Tasks:

- Task #1: Habitat Restoration Work Management
- Task #2: Local Impact Mitigation Fund Development
- Task #3: Permitting Support and Compliance Program
- Task #4: Seed Collection/Propagation and Invasive Exotic Vegetation Control

Unless specifically excluded from this Agreement, the Contractor shall provide to the KRRC all architectural, engineering, geotechnical, landscape, Habitat Restoration Work management, cost estimating and other professional services necessary to perform the Base Preliminary Services required by this Agreement.

4.1.2 Deliverable Material.

Required Deliverable Material for each Preliminary Services Task is identified in this Appendix. All Deliverable Material identified in this Appendix shall be reviewed with representatives of the KRRC. The Contractor shall promptly correct deficiencies in Deliverable Material and shall promptly make modifications to conform to Habitat Restoration Work requirements and modifications to achieve acceptability of the Deliverable Material to the KRRC. Draft deliverables shall be provided to the KRRC in Microsoft® WORD or EXCEL format. Unless specified otherwise, the Contractor shall provide electronic copies of all final deliverables in .pdf format. For draft and final design drawing, design report and specification deliverables, the Contractor shall provide six (6) hard copies to the KRRC or their designated representative. Drawing hardcopies shall be ½-size printed single sided on 11 x 17 paper and spiral bound.

4.1.3 Plans and Reports.

The Preliminary Services Tasks provide for the preparation of all plans, reports and other deliverables listed in Attachment 4B (Preliminary Services Contractor Submittals).

4.1.4 Preliminary Services Completed Pursuant to the Project Agreement

The Preliminary Services described in this Appendix do not include any of the work performed by the Contractor as a subcontractor to the Project Company pursuant to the Project Agreement. Under such subcontracting arrangement, the Contractor developed a 60% design for the Habitat Project Work, which will serve as a basis of the Preliminary Services described in this Appendix and the Contractor Governmental Approvals development and finalization.

4.2. PRELIMINARY SERVICES TASK #1 – HABITAT RESTORATION WORK MANAGEMENT

4.2.1 Habitat Restoration Work Management.

The Contractor shall provide Habitat Restoration Work management of the Contractor team in terms of staffing, budget, schedule, scope, as well as communication and coordination with the KRRC.

This Preliminary Services Task includes managing the scope of work, schedule and budget, coordination with the KRRC and development of the plans and reports listed below:

- Mobilization and Site Access Plan, which shall include:
  - Site Trailers and Utilities Plan
  - Security Plan
  - Photographic Documentation Plan
  - Related Projects Coordination Protocol
  - Emergency Operations and Response Plan
- Health and Safety Plan
- Habitat Restoration Work Execution Plan, which shall include:
  - Habitat Restoration Work Team Structure and Staffing Plan
  - Communications Plan
  - Scope Management Plan
  - Change Management/Integration Management Plan, which shall include a Trend Management Log and Habitat Restoration Work Decision Log
  - Schedule Management Plan
  - Budget Management Plan
  - Risk Management Plan, which shall include risk register
  - Procurement Management Plan
  - Habitat Restoration Work Quality Management Plan, which shall meet the requirements set forth in Appendix 9 (Habitat Restoration Work Quality Control Requirements) (including QA/QC requirements)
  - Document Control Plan
- Preliminary Services Schedule and Initial Habitat Restoration Work Schedule
- FERC-Required Plans and Submittals
- Monthly Progress Reports

Requirements associated with the various plans and submittals listed above are included in Sections 4.2.8 (Mobilization and Site Access Plan) through 4.2.12 (FERC and DSOD-Required Plans and Submittals) below.

The Contractor will prepare invoices, progress reports, and design progression and design decision log updates on a monthly basis. Other activities include keeping the KRRC informed and soliciting input from the KRRC when making key decisions, coordination with Subcontractors, scheduling of staff, and coordinating the QA effort.

The Contractor shall also conduct weekly Habitat Restoration Work management meetings with the Contractor Habitat Restoration Work managers and KRRC Habitat Restoration Work managers. An agenda will be distributed to the KRRC prior to the meetings and the Contractor will distribute meeting notes and action items within three days after each meeting. Each meeting agenda shall include:

(a) Ongoing activities

(b) Upcoming activities

(c) Scope, schedule and budget

(d) Habitat Restoration Work risks

(e) Issues

(f) Decisions and actions

(g) Change management

(h) Health and safety

During Preliminary Services Task #1 Contractor shall conduct weekly Habitat Restoration Work management meetings throughout the duration of the Preliminary Services Period.

A minimum of nine Technical Workshops shall be incorporated into Base Preliminary Services to address specific subjects and facilitate collaboration and development of ideas and decisions to be carried forward during design development. Each workshop will last two to four hours in length and will be facilitated by the Contractor and KRRC Habitat Restoration Work managers. An agenda (including desired outcomes) as well as technical background documents will be distributed to workshop attendees prior to the meetings. The Contractor will document the outcome of each workshop and distribute meeting notes and action items within three days after each workshop. At a minimum, Technical Workshops will be conducted on the following subjects:

(a) Habitat Restoration Work Kickoff and Partnering

(i) Risk Identification, Evaluation and Management

(j) Design Submittals and Challenges

(k) Schedule and Habitat Restoration Work Sequencing

(l) Permitting and Compliance

(m) Subcontractor Procurement

Deliverables:

All final plan or other submittals shall be submitted within 2 weeks of receipt of KRRC comments, unless otherwise noted below.

- Draft and final Mobilization and Site Access Plan; draft shall be submitted within 60 calendar days of the Contract Date
- Draft and final Health and Safety Plan; draft shall be submitted within 30 calendar days of the Contract Date
- Draft and final Habitat Restoration Work Execution Plan; draft shall be submitted within 30 calendar days of the Contract Date
- Draft and final Preliminary Services Schedule; draft shall be submitted within 30 calendar days of the Contract Date
- Monthly Updates to Preliminary Services Schedule: shall be submitted in each Monthly Progress Report

- Draft and final FERC Plans/Submittals; drafts shall be submitted based on final Preliminary Services Schedule
- Meeting Agendas and Notes
- Technical Workshop Agendas and Notes

4.2.2 Document Submittal Procedures.

Within 10 days following the Contract Date, the Contractor shall submit to the KRRC a set of document submittal procedures ("Document Submittal Procedures"). The Document Submittal Procedures shall identify the key document submittal packages to be prepared by the Contractor, the expected submittal dates to the KRRC, as well as the expected review durations for the KRRC. Proposed KRRC review durations should vary based on the type and size of submittal, and review durations should be organized by category. The Contractor should expect a two week review for draft submittals, except for Preliminary Services Tasks #7 and #8, which will require three weeks. A one week review duration shall be assumed for all final submittals to back-check. The parties acknowledge and agree that if submittals are not provided on the agreed upon submittal dates, it could extend the KRRC's review completion date a corresponding number of days. The Document Submittal Procedures shall also identify the frequency of the Contractor's design progress meetings during various phases of the design. The Document Submittal Procedures shall require the Contractor to submit a minimum of one electronic and one original hardcopy, with up to six paper copies of each document submittal and CD copies as requested by the KRRC. The Document Submittal Procedures shall also require the Contractor to distribute the document submittals as directed by the KRRC.

Unless otherwise noted herein for specific tasks/submittals, the Contractor shall anticipate a review duration of two weeks for any submittals/applications to agencies or other stakeholders.

The Contractor may, in coordination with the Program Manager, propose to create a Habitat Restoration Work web site, accessible to the KRRC and KRRC-designated representatives, for posting all document submittals and other reference information. This web site shall be integrated with the Records Management System described in Section 4.2.5 (Records Management System). Implementation of the Habitat Restoration Work website shall be subject to the KRRC's approval. The KRRC may reduce the requirements for hard copies and electronic and CD copies of submittals in consideration of access to information on the web site.

Deliverables:

- Draft and final Document Submittal Procedures

4.2.3 Monthly Progress Report Requirements.

The Contractor shall submit Monthly Progress Reports during the Preliminary Services Period which meet the requirements set forth in subsection 6.2(C) (Habitat Restoration Work Schedule and Reports) of this Agreement.

Deliverables:

- Monthly Progress Reports

4.2.4 Kickoff Meeting and Partnering.

Within two weeks after each Preliminary Services Task notice to proceed, key staff members of the KRRC and Contractor will participate in a Habitat Restoration Work kickoff/partnering workshop. The goal of the workshops is to deepen working relationships, develop common

goals and objectives for the Habitat Restoration Work, and achieve a cooperative partnership environment among Habitat Restoration Work participants. The workshop attendees, agendas, facilitation, and venue will be coordinated by the KRRC and Contractor's Habitat Restoration Work managers immediately following the Preliminary Services Task notice to proceed. The Contractor will develop a Draft and Final Partnering Charter for review and execution by the KRRC. The Contractor will distribute (within one week after workshop) and track action items that come out of the partnering workshops.

Deliverables:

- Kickoff Agenda and Meeting Notes
- Draft and Final Partnering Charter
- Workshop Action Items

4.2.5 Records Management System.

The Contractor will, at the KRRC's discretion either (a) utilize the Program Manager's System 6 Sharepoint software or (b) furnish and implement a records management software system (such as EADOC or similar) to facilitate work flow and transmit and store written documents associated with the Habitat Restoration Work. The system will be utilized by the KRRC, Contractor, and their Subcontractors and vendors to transmit, review and respond, log, and store Habitat Restoration Work related documents. The records management system will incorporate the following:

(a) Overall Habitat Restoration Work tracking and monitoring of key performance indicators;

(b) Meeting and workshops agendas, presentations, and notes;

(c) Action items, issues, decision logs, and tracking;

(d) Budget and schedule tracking;

(e) Risk tracking and mitigation;

(f) Submitting and tracking requests for information (RFIs);

(g) Document submittals and transmittals including drawings (pdf format);

(h) Quality management documentation including comments, responses, and confirmations;

(i) Value engineering submissions;

(j) Invoices and monthly reports;

(k) Templates and tools;

(l) Habitat Restoration Work related communication; and

(m) Dashboards of Habitat Restoration Work progress for the KRRC.

Deliverables:

- Records Management System documentation

- Posting of deliverables required by this Appendix
- Entry and updating of on-line logs (action, issue, decision)
- Posting of RFIs

4.2.6 Constructability Reviews.

4.2.6.1 30% and 60% Design Stage. The Contractor shall provide for constructability reviews of the design at the 30% and 60% design submittal milestones as follows:

(a) Identify and establish a team of individuals among the Contractor team primarily responsible for Habitat Restoration Work who will undertake constructability reviews on behalf of the Contractor;

(b) Submit 30% or 60% design submittal, as applicable, to Contractor's constructability review team and to the KRRC for constructability review;

(c) Schedule and conduct constructability workshop with Contractor's constructability review team and the KRRC;

(d) Discuss recommendations with the KRRC and conduct follow-up evaluations including cost, schedule, and risk impact analysis of any preliminary constructability comments that are tentatively agreed-to;

(e) Prepare written constructability review report;

(f) Meet and review constructability review report and results of constructability evaluations with KRRC; and

(g) Proceed with agreed-to changes.

Deliverables:

- Written constructability review report
- Workshop agenda

4.2.7 Value Engineering.

Value engineering shall be conducted at the design criteria report, 30%, and 60% design submittal milestones by the value engineering team designated by the KRRC. At each such design submittal milestone, the Contractor shall submit a draft of the Design Criteria Report, 30% or 60% design submittal, as applicable, to the value engineering team and participate in a value engineering workshop to be conducted by the value engineering team. The value engineering team shall prepare a value engineering report, and the Contractor shall review such report and prepare responses to the value engineering recommendations, including a discussion of cost and Habitat Restoration Work Schedule impacts. The Contractor shall meet with the KRRC to review responses and submit final recommendations regarding value engineering input to the KRRC for review and approval. Upon approval by the KRRC, the Contractor shall proceed with the agreed-to changes.

Deliverables:

- Value engineering report associated with referenced design tasks
- Responses to value engineering recommendations associated with referenced design tasks

- Workshop agendas

4.2.8 Mobilization and Site Access Plan.

The Contractor shall develop a Mobilization and Site Access plan that clearly identifies all proposed access routes with anticipated truck or equipment use, all mobilization activities with clears descriptions and timing of each activity, as wells as a description and location of any proposed on-site construction staff housing and offices. Refer to Section 6.2 (Habitat Restoration Work Generally) of the Agreement for additional requirements associated with laydown areas, Utilities, and temporary Habitat Project Work Area facilities.

The plan shall clearly identify the number and type of temporary office facilities for the Contractor and the KRRC, including at a minimum the requirements outlined in Section 4.5 (Habitat Restoration Work Generally) of this Appendix. A schematic will be provided showing areas to be used by the Contractor for storage of construction, demolition and restoration materials and equipment, the location of a temporary construction trailer and for construction of new facilities including required setbacks and traffic flow for the construction vehicles entering and exiting the Habitat Project Work Area.

The plan shall identify the approach, in coordination with the Project Company, to providing site security for all areas where the Habitat Restoration Work will occur. In addition, the Contractor shall propose a process to coordinate closely with PacifiCorp to allow for ongoing maintenance and operations of existing Facilities (see Reference Document 12 (PacifiCorp Operations and Maintenance Agreement)).

A plan for photographic documentation throughout the duration of the Habitat Restoration Work shall be developed. The Contractor shall consult with the Owner to determine strategic locations for sequential construction photographs and other photographs required. Other construction photographs shall document; pre-existing conditions; disputed, changed, or deficient work; progress information; and other areas as appropriate. At a minimum, aerial photography of the entire Habitat Project Work Area shall be taken on an annual basis.

4.2.9 Health and Safety Plan.

The Contractor shall develop and implement , in coordination with the Project Company, a written Habitat Project Work Area-specific Health and Safety Plan that includes management commitment, maintaining a safe workplace, employee participation, hazard evaluation and controls, employee training and periodic inspections. The objective of this plan is to eliminate injuries to all persons and damage to property, shall be developed specifically for the needs of this Habitat Restoration Work and shall be maintained at the Site (at office facilities in CA and OR) and available for review upon request. See Section 4.7 (Habitat Restoration Work Safety and Security) of this Appendix for additional Health and Safety requirements to be included in the plan.

4.2.10 Habitat Restoration Work Execution Plan.

4.2.10.1 Submission of Habitat Restoration Work Execution Plan. In accordance with the Preliminary Services Schedule, the Contractor shall develop and submit a Habitat Restoration Work Execution Plan to the KRRC for review and comment. A Habitat Restoration Work Execution Plan shall serve as a Habitat Restoration Work management tool for the KRRC and Contractor (including Subcontractors) and will include guidelines and procedures for execution of the work and issues resolution. The Habitat Restoration Work Execution Plan will be in compliance with the Contract Standards and include:

(a) A Habitat Restoration Work Team Structure and Staffing Plan that provides guidance on how the Habitat Restoration Work will be staffed, managed, and eventually released, including:

(1) a description of Contractor's organization;

(2) roles and responsibilities defining positions, skills and competencies that the Habitat Restoration Work demands;

(3) Habitat Restoration Work organization charts that identifies all key discipline design leads for the Habitat Restoration Work; and

(4) a staffing management plan delineating the time periods each Habitat Restoration Work team member will be needed and other information important to engage the Habitat Restoration Work team;

(b) A Communications Plan that provides the following:

(1) contact information for both the Contractor and the KRRC (including phone numbers, facsimile numbers, e-mail addresses, and points of contact);

(2) communication requirements for the Contractor and the KRRC (including frequency and time frame of communications, information to be communicated, and methods or technologies used to convey information);

(3) resources allocated for communication activities, the method of updating and refining the plan, flow charts for information flow, and a glossary of common terminology;

(4) regulatory coordination and public relations procedures;

(5) a public notification plan to inform the KRRC, Governmental Bodies, and residents and businesses located in the vicinity of the Habitat Restoration Work of the status of Habitat Restoration Work. The plan shall provide a schedule for issuing public notices and conducting public meetings as well as measures that are planned to notify specific residents and businesses that may be affected by the Habitat Restoration Work;

(6) the Contractor's designated public relations person and their contact information. The public relations person shall assist the KRRC with notifications and with inquiries from the public and media; and

(7) the Communication Plan shall be updated and resubmitted semi-annually or sooner if needed to remain current during the Habitat Restoration Period.

(c) A Scope Management Plan that describes how the scope will be defined, developed, monitored, controlled, and verified, including:

(1) process for preparing the Habitat Restoration Work scope statement;

(2) creation of the Records Management System from the detailed scope statement, and how the Records Management System will be maintained; and

(3) procedures for obtaining formal acceptance of completed Habitat Restoration Work deliverables and processing of the detailed scope statement;

(d) A Change Management/Integration Management Plan that includes:

(1) identification of procedures that will be used to document any changes from the accepted Specifications;

(2) identification of procedures that will be used to document the communication flow to the appropriate contractor's construction personnel;

(3) description of the process for reviewing all change requests, approving changes and managing changes to deliverables, organization process assets, Habitat Restoration Work documents, the Habitat Restoration Work Execution Plan, and communicating their disposition;

(4) Trend Management Log; and

(5) Habitat Restoration Work Description Log;

The Contractor shall prepare and maintain a change management log for the duration of the Base Preliminary Services. The change management log shall integrate with the Habitat Restoration Work decision log and be used to document proposed and approved changes to the price, schedule, or changes to the Agreement. At a minimum, the change management log shall submitted on a monthly basis and shall include the following information:

(1) Change identification number

(6) Brief description of change

(7) Status of change (pending, approved, rejected)

(8) Dates associated with change including initial proposal date and the date on which the change was accepted or rejected

(9) Back-up information including cost, schedule, and technical information

Change management shall be a standing agenda item at Habitat Restoration Work management meetings. Following approval of the Design Criteria Report (DCR), the change management log shall be used to track changes to the approved Habitat Restoration Work and their associated cost and schedule impacts.

(e) A Schedule Management Plan that describes the criteria and activities for developing, monitoring, and controlling the Habitat Restoration Work Schedule, including:

(1) Habitat Restoration Work Schedule model development;

(2) scheduling methodology and scheduling tools;

(3) level of accuracy and the acceptable range used in determining realistic activity durations;

(4) units of measure, such as staff hours, staff days, or weeks, as well as physical units of measurement;

(5) organizational procedures links with activities tied to the approved Records Management System;

(6) Habitat Restoration Work Schedule model maintenance and the process used to update status and record progress of the Habitat Restoration Work during execution;

(7) control thresholds, variance thresholds for monitoring schedule performance and agreed-upon amounts of variation to be allowed;

(8) rules of performance management, such as earned value management rules, rules for establishing percent complete, control accounts, earned value measurement techniques, and schedule performance measurements;

(9) reporting formats, including the formats and frequency of schedule reports; and

(10) descriptions of each of the schedule management processes;

(f) A Budget Management Plan that describes how the Habitat Restoration Work budget will be planned, structured, and controlled, including:

(1) units of measure, the level of precision and accuracy;

(2) coordination with approved Records Management System; and

(3) control thresholds for monitoring budget performance, including the rules of performance measurement (earned value management);

(g) A Risk Management Plan that describes how risk management activities will be structured and performed, including:

(1) how risk management will be incorporated into the delivery of the Habitat Restoration Work in accordance with the Contract Standards.

(2) the methodology, approaches, tools, and data sources that will be used to perform risk management on the Habitat Restoration Work;

(3) roles and responsibilities, defining the lead and support risk management team members for each type of activity and their responsibilities;

(4) budgeting to establish estimates of funds needed based on assigned resources for inclusion in the cost baseline and protocols for application of contingency and management reserves;

(5) timing of risk management processes to be performed through the Habitat Restoration Work life cycle; and

(6) protocols for application of schedule contingency reserves and risk management activities associated with the Habitat Restoration Work Schedule;

A risk management workshop will be conducted with the KRRC within 30 days of the kickoff/partnering workshop. The workshop shall be used to identify key Habitat Restoration Work risk and opportunities for avoiding and minimizing risks.

The Risk Management Plan will include a risk register developed and maintained by the Contractor. The register shall be initially populated with risks identified in the risk management workshop. The risk register shall include the following information:

(2) Risk identification;

(7) Activities affected (tied to schedule activities);

(8) Risk description including qualitative categorization of risk;

(9) Estimated/calculated percent likelihood that risk may occur (note: this will be output from quantitative analysis performed on key risks that could exceed target cost or schedule thresholds);

(10) Phase of Habitat Restoration Work that risk could impact;

(11) Potential schedule impact should risk occur;

(12) Potential cost impact should risk occur;

(13) Potential health and safety impacts should risk occur;

(14) Risk trigger;

(15) Risk owner; and

(16) Risk strategy (transfer, mitigate, accept, exploit).

Risks shall be reviewed at the weekly Habitat Restoration Work management meetings. Additionally, the following risk management workshops shall be conducted to provide for re-evaluation of overall risks, a deeper level of risk analysis for identified risks, identification of new risks, and review of risk avoidance, and mitigation measures:

(3) During the development of the DCR

(17) Upon submission of the 30% DCD

(18) Upon submission of the 60% DCD

Ongoing qualitative risk analysis shall be conducted by Contractor with review and input from the KRRC.

(h) A Procurement Management Plan that describes how the Contractor will acquire goods or services from outside its organization, including:

(1) management of procurement processes from developing procurement documents through contract closure;

(2) guidance for the types of contracts to be used and use of independent estimates and standardized documents; and

(3) handling of long lead items, requests to self-perform and linking them into activity resources and schedule;

(i) A Habitat Restoration Work Quality Management Plan that meets the requirements set forth in Appendix 9 (Habitat Restoration Work Quality Control Requirements);

(j) A Document Control Plan that identifies how documents will be managed throughout the Habitat Restoration Work life cycle, including:

(1) the process of organizing, storing, protecting, and sharing documents;

(2) the management of both the hard copy and electronic repositories of documents, historical information, and a consistent approach to the creation, update and format of documents.

4.2.10.2 Establishment and Compliance with Habitat Restoration Work Execution Plan. The KRRC will review the draft Habitat Restoration Work Execution Plan and return comments in accordance with the Preliminary Services Schedule. The Habitat Restoration Work Execution Plan will be accepted by the KRRC only after the Contractor has addressed all KRRC comments to the reasonable satisfaction of the Habitat Restoration Work Director. Any subsequent amendments or updates to the Habitat Restoration Work Execution Plan will be submitted to the Habitat Restoration Work Director for review and comment in the same manner as the initial Habitat Restoration Work Execution Plan. The Contractor will implement and comply with the accepted Habitat Restoration Work Execution Plan, and any accepted amendments or updates thereto, in connection with the performance of the Habitat Restoration Work.

4.2.11 Preliminary Services Schedule.

The Contractor shall prepare the Preliminary Services Schedule using Primavera P6 scheduling software (latest version), and shall submit the Preliminary Services Schedule as electronic files (native and pdf) and hardcopy. The Contractor shall provide licenses for up to three KRRC personnel to access the Preliminary Services Schedule at any given time.

The Preliminary Services Schedule shall reflect the schedule, by use of a Gantt or Bar Chart, for all activities comprising the Preliminary Services, and shall set forth all tasks and key subtasks in a logical and efficient work sequence that the Contractor intends to utilize in taking the Habitat Restoration Work from execution of this Agreement to the Habitat Project Work Implementation Contract Amendment Date.

The Contractor shall submit the Initial Preliminary Services Schedule on the Contract Date. During the Preliminary Services Period, the Contractor shall update the Initial Preliminary Services Schedule on a monthly basis. The Initial Preliminary Services Schedule, as updated pursuant to this subsection, is referred to herein as the Preliminary Services Schedule.

The Contractor shall undertake and complete the Preliminary Services in accordance with the Preliminary Services Schedule. Updates on the Contractor's compliance with the Preliminary Services Schedule shall be submitted monthly with the Monthly Progress Report required by Section 4.2.3 (Monthly Progress Report Requirements) of this Appendix and subsection 6.2(C) (Habitat Restoration Work Schedule and Reports) of this Agreement. The Initial Preliminary Services Schedule, prepared in accordance with the requirements set forth in this subsection, is included as Attachment 4A (Initial Preliminary Services Schedule) to this Appendix.

At a minimum, the Preliminary Services Schedule shall generally include:

(a) Start date for each activity;

(b) Finish date for each activity;

(c) Major milestones;

(d) Meeting and workshop dates;

(e) Submittal dates including draft submission dates, KRRC review periods, and final submission dates;

(f) Identification of critical path; and

(g) Float.

The KRRC shall review and comment on the Initial Preliminary Services Schedule within 15 days of receipt. Comments on the Initial Preliminary Services Schedule shall be discussed at the weekly Habitat Restoration Work management meeting following receipt of any comments provided by the KRRC. The Contractor shall provide a revised Preliminary Services Schedule, as applicable, based on agreed-to changes at the next weekly Habitat Restoration Work management meeting.

The KRRC shall review and comment on the update to the Preliminary Services Schedule. The review process shall include evaluation of missing logic, critical path, leads and lags, and float, percent complete, and changes in schedule logic or activity durations. Comments on the updates to the Preliminary Services Schedule shall be discussed at the weekly Habitat Restoration Work management meeting following receipt of any comments provided by the

KRRC. The Contractor shall provide a revised draft Preliminary Services Schedule based on agreed-to changes at the next weekly Habitat Restoration Work management meeting.

4.2.12 FERC and DSOD-Required Plans and Submittals.

In connection with the FERC license transfer and surrender application process, and DSOD's dam removal permit process, the Contractor shall coordinate with the KRRC to develop specific plans and schedules for compliance at FERC and DSOD's direction, and consistent with any recommendations provided by the FERC Board of Consultants (the "BOC"). The Contractor shall assume up to 15 separate plans will be required for separate submittal to FERC/DSOD during the Preliminary Services. For each anticipated plan, the Contractor shall develop an approach to supply an adequate level of detail to FERC or DSOD based on their previous FERC/DSOD experience. The approach should be closely coordinated with other Preliminary Services design tasks (Tasks #5 through #7) and shall identify appropriate standards and criteria that apply.

The Contractor shall build on previous preliminary plan information provided in the Definite Plan, and shall complete all additional work required to inform the final plans listed below in the detailed design Preliminary Services Tasks #5 through #7. The Contractor should anticipate additional effort to organize the design information into separate plan submittals to FERC/DSOD on the various topics. The Contractor shall anticipate BOC review prior to any plan submittal to FERC, and shall address all BOC comments to the satisfaction of the BOC and KRRC.

The following plans and submittals may be required by FERC/DSOD during the Contractor's Preliminary Services.

- Erosion and Sediment Control Plan
- Traffic Management Plan
- Public Safety Plan
- Noise and Vibration Control Plan
- Coffer Dam Plan
- Temporary Construction Emergency Action Plan
- Spill Prevention, Control and Countermeasure Plan (SPCC)
- Quality Control and Inspection Plan
- Blasting Plan
- Dust Control Plan
- Reservoir Rim Stability Plan
- Recreation Improvements Plan
- Revegetation and Wetlands Management Plan
- Woody Debris Management Plan

Deliverables:

- Draft and final approach to each plan
- Draft and final plans (up to 15 separate plans)
- Response to BOC comments matrix and revised final plan

4.3. PRELIMINARY SERVICES TASK #2 – LOCAL IMPACT MITIGATION FUND DEVELOPMENT

[Contractor to develop workscope description.]

4.4. PRELIMINARY SERVICES TASK #3 – PERMITTING SUPPORT AND COMPLIANCE PROGRAM

The Contractor shall identify, understand and comply with all Applicable Law and Contractor Governmental Approvals. Appendix 5 (Role of the KRRC, Contractor and Project Company with Respect to the Governmental Approvals) allocates responsibility relating to the Governmental Approvals between the Project Company, KRRC and the Contractor. The Contractor is responsible for all activities associated with Contractor Governmental Approvals.

For KRRC Governmental Approvals, the Contractor shall, as required by Appendix 5 (Role of the KRRC, Contractor and Project Company with Respect to the Governmental Approvals) provide draft applicable reviews and attend up to five agency coordination meetings for each Contractor Governmental Approval. In addition, the Contractor shall provide the KRRC with the necessary reports, submittals, plans, information, drawings and specifications, and responses to agency comments, as required to submit final applications and obtain approvals.

For Contractor Governmental Approvals prepared during the Preliminary Services, draft application submittals shall be supplied to the KRRC a minimum of 10 days prior to anticipated agency submittal for review and comment. The Contractor shall provide a "response to comments" matrix along with the revised application to the KRRC prior to submitting to agencies. The KRRC shall be given notification a minimum of five working days prior to direct communication with agencies pertaining to the Habitat Project Work. The KRRC shall be given the opportunity to be involved in all communication and coordination activities with agencies.

For some KRRC Governmental Approvals, the KRRC may meet regulatory requirements by applying a good neighbor approach that would result in a letter memorandum outlining compliance requirements, or by entering into a Memorandum of Understanding with agencies. In either case, the Contractor shall consider documented requirements coming out of the process as mandatory, and shall implement accordingly.

The Contractor, under this Preliminary Services Task #3 shall also prepare all necessary management plans required by the KRRC Governmental Approvals relating to the Habitat Project Work.

The Contractor shall develop an Initial Environmental Compliance Plan that outlines their understanding of required activities and submittals, in addition to a summary of their approach to ensuring acquisition of all KRRC Governmental Approvals and Contractor Governmental Approvals and implementation of all associated requirements and conditions. The initial plan shall also contain a matrix identifying all required KRRC Governmental Approvals and Contractor Governmental Approvals, status of those approvals, and any known or assumed conditions. They Contractor shall develop the matrix in an excel database. The Contractor will be responsible for identifying any conflicts between the various and KRRC Governmental Approvals which will become Contractor-Allocated KRRC Regulatory Terms and Contractor Governmental Approval requirements, and proposing an approach to resolve such conflicts.

As Governmental Approvals are issued, the Contractor will review and include all requirements in the Initial or Final Environmental Compliance Plan. This plan will organize requirements of all Contractor Regulatory Compliance Terms in one place, identifying requirements by permit or source document, resource category, and any associated agency submittals, frequency and timing. The matrix will also identify responsible entity and staff for each requirement, and any staff or subcontractor training or certifications required for compliance with Contractor Regulatory Compliance Terms including, but not limited to, ESA or cultural resources conditions.

The Contractor shall acknowledge and consider that regulatory requirements may constrain their proposed schedule, methods, and sequence of performing the Habitat Project Work.

During investigations and restoration, some agencies may have the authority to approve or inspect certain elements of the work. Contractor shall coordinate its activities with agencies as required by the Contractor Regulatory Compliance Terms, and shall allow agency representatives access to locations within Habitat Project Work Area as required by the Contractor Regulatory Compliance Terms

Deliverables:

- Initial Environmental Compliance Plan: Plan to be developed by the Contractor, for KRRC review and acceptance
- Final Environmental Compliance Plan: Within 45 calendar days of the date of issuance of the FERC Surrender Order, the Contractor shall submit a Final Environmental Compliance Plan for review and acceptance by the KRRC. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. Acceptance of the Final Environmental Compliance Plan by the KRRC in no way releases the Contractor of any and all responsibility to adhere to all requirements associated with Contractor Regulatory Compliance Terms and other Applicable Law.
- Amended Environmental Compliance Plans: The Environmental Compliance Plan shall be updated throughout the Habitat Project Work, as necessary, to document any changes to the management of environmental compliance activities and reporting that result from any permit changes that occur during design and construction, or that are negotiated with the governmental agencies during the Habitat Restoration Work. Any revisions to the Environmental Compliance Plan shall be submitted to the KRRC for review and acceptance.
- Permits: Copies of draft permit applications and final permit documents associated with Contractor Governmental Approvals
- Plans: Contractor shall prepare and maintain any plans, as required, pursuant to Applicable Law. Plans shall be submitted to the applicable regulatory agencies by the specified dates or as required to permit related construction activities to begin, whichever is earlier. All such plans shall be submitted to the KRRC for review and acceptance a minimum of two (2) weeks prior to agency submittal. Contractor shall prepare and submit these plans as required by Appendix 5 (Role of the KRRC, Contractor and Project Company with Respect to the Governmental Approvals). Contractor shall comply with all aspects of the plans as they pertain to the Habitat Restoration Work.
- Acceptance is conditional and is predicated upon satisfactory performance during construction. The KRRC reserves the right to require the Contractor to make changes in the Environmental Compliance Plan or operations if the KRRC determines that environmental protection requirements are not being met.

Assumptions:

(a) KRRC entities responsible for providing background information or identified as a responsible party in the environmental compliance plan matrix will provide the Contractor with all required information in a timely and organized manner and actively participate in information exchange with the Habitat Project Work team, as required to support the Contractor delivering the environmental compliance plan within budget and on schedule.

(b) Only one initial in-person kickoff meeting for permitting information and knowledge transfer and one in-person environmental compliance plan approach and planning coordination meeting will be required.

(c) Only one round of KRRC review and revisions of environmental compliance plan format and outline will be required and KRRC review feedback of the environmental compliance plan will be conducted in one four-hour meeting with KRRC written comments consolidated into one comment set provided within one week of the meeting.

(d) No more than eight management plans will be incorporated into the ECP. Any additions will either be out of scope or addressed after the Habitat Project Work Implementation Contract Amendment Date.

(e) The KRRC will actively and timely communicate draft/final permit compliance requirements allowing for proposed conditions to be evaluated by the design teams to determine any efficiencies or conflicts.

(f) KRRC representatives will be available to transfer knowledge of permitting, plan status and details in such a manner as to prevent delays in the environmental compliance plan or design development. The level of effort required to fulfill the requirements of this task are difficult to fully estimate due to the Contractor participation being dependent upon the KRRC and regulatory agency requests for information and support. The level of effort included considers responsibility for supporting environmental compliance delegated to the Habitat Project Work team, the scale and nature of the Habitat Project Work and the environment the Habitat Project Work is being executed.

(g) The KRRC is responsible for any Bureau of Land Management Governmental Approval.

4.5. PRELIMINARY SERVICES TASK #4 – SEED COLLECTION/PROPAGATION AND INVASIVE EXOTIC VEGETATION CONTROL

4.5.1 General Scope.

In general:

(a) Contractor will contract with proposed seed propagators for seed collection and propagation, and will be responsible for obtaining further information from KRRC about actual yields achieved and seed banked as part of its seed collection and propagation scope. Contractor will also perform its own collection and propagation work to augment KRRC's collection and propagation work. It is understood that quantities provided by initial seed collection and propagation will not be sufficient to cover all Habitat Restoration Work needs for complete restoration and that additional seed collection and propagation will be needed under a future task to achieve the complete restoration of the Habitat Project Work Area.

(b) Contractor will oversee and coordinate the seed collection including review of current practices, landowner coordination, regulatory agency coordination (collection techniques, seed mix/rates, etc.), special use permits for collection on state/federal lands, and coordination with existing seed collectors for the collection season.

(c) Contractor will oversee and coordinate the seed propagation program, including a review of current practices and coordination with existing seed propagators for the propagation season.

4.5.2 Deliverable Material

This Preliminary Services Task #4 requires the following Deliverable Materials to be delivered to the KRRC on the dates identified in the Preliminary Services Schedule:

(a) Contractor will develop a concise seed collection and propagation plan that proposes specific areas to be used for collection (and schedule/duration for each area) and anticipated PLS yields, as well as details and timing associated with coming to an agreement with seed propagators and anticipated yields from those propagators.

(b) Seed Collection and Propagation Schedule

(c) Description of Seed Collection and Propagation Techniques (including (i) precautions to be taken during plant materials collection, propagation and storage; and (ii) plant species composition and seed mix species rates);

(d) Propagation Contractor Selection Process Overview

4.6. PRELIMINARY SERVICES FEE

The **"Preliminary Services Fee**" shall be the sum of the compensation components described in this Section 4.6 of this Appendix.

4.6.1 Compensation for Preliminary Services Tasks #1, #2 and #4.

For Preliminary Services Tasks #1, #2 and #4, the KRRC shall pay the Contractor a fixed price of $[_____], in 12 equal installments on the first of each month beginning on the 1st of the month following the Contract Date. Such fixed price shall serve as the Contractor's entire compensation for Preliminary Services Tasks #1, #2 and #4 performed as required under this Agreement, and shall include costs for any and all out-of-pocket disbursements for travel, lodging and other expenses incidental to the performance of the Base Preliminary Services and any payments to third parties such as Subcontractors.

4.6.2 Compensation for Preliminary Services Task #3.

For Preliminary Services Task #3, the KRRC shall pay the Contractor on a time and materials basis, with an upset limit of [$_____ for permits and $_____ for management plan development]. Such upset limit, as may be adjusted upward by the KRRC, acting reasonably, shall serve as the Contractor's entire compensation for Preliminary Services Tasks #1, #2 and #4 performed as required under this Agreement, and shall include costs for any and all out-of-pocket disbursements for travel, lodging and other expenses incidental to the performance of the Base Preliminary Services and any payments to third parties such as Subcontractors

4.6.3 Contingency Release Compensation Upon Receipt of All KRRC Governmental Approvals.

KRRC has reserved a contingency specifically related to potential changes in the anticipated Contractor-Allocated KRRC Regulatory Terms; in particular, the Contractor-Allocated KRRC Regulatory Terms requiring the monitoring associated with species of concern (as described in Appendix 7) and all AR and TER measures included in the CWA 401 permit, other than TER 7 – Mussel Relocation (collectively, the "Specifically Identified Permits"). If on the Habitat Project Work Implementation Contract Amendment Date, (1) the terms in the Specifically Identified Permits are substantially the same as described in Appendix 7 (Assumed Contractor Regulatory Compliance Terms) or (2) such terms have changed and the Contractor has agreed that it will not change the Contract Compensation relative to what was included in the Agreement on the Contract Date, the Contractor shall at such time receive from the KRRC a one-time payment equal to $[_____]. If the terms in the Specifically Identified Permits have been modified between the Contract Date and the Habitat Project Work Commencement Date and such modification has resulted in an increase in the Contract Compensation, relative to what was included in the Agreement on the Contract Date, then the Contractor shall receive no release from contingency; provided that this sentence shall not limit the KRRC and the Contractor's right to enter into a Contract Amendment.

4.6.4 Compensation for Additional Preliminary Services.

In the event the KRRC elects to request any Additional Preliminary Services, compensation for the Additional Preliminary Services shall be negotiated by the KRRC and the Contractor in accordance with subsection 5.2(B) (Additional Preliminary Services) of this Agreement.

ATTACHMENT 4A

INITIAL PRELIMINARY SERVICES SCHEDULE

[Note: to be inserted on the Habitat Project Work Implementation Contract Amendment Date.]

ATTACHMENT 4B

PRELIMINARY SERVICES CONTRACTOR SUBMITTALS

Task No.	Task Name	Required Submittals	BOC Review	Applicable Governmental Review Entity
1	**Habitat Restoration Work Management**			
		Monthly Progress Reports		
		Meeting Agendas and Notes		
		Technical Workshop Agendas and Notes		
		Mobilization and Site Access Plan		
		Site Trailers and Utilities Plan		
		Security Plan		
		Photographic Documentation Plan		
		Related Projects Coordination Protocol		
		Emergency Operations and Response Plan		
		Health and Safety Plan	Yes	FERC
		Habitat Restoration Work Execution Plan		
		Habitat Restoration Work Team Structure and Staffing Plan		
		Communications Plan		
		Scope Management Plan		
		Change Management/Integration Management Plan		
		Schedule Management Plan	Yes	FERC
		Budget Management Plan	Yes	FERC
		Risk Management Plan	Yes	FERC
		Procurement Management Plan		
		Habitat Restoration and Quality Management Plan		
		Document Control Plan		
		Preliminary Services Schedule		
		FERC Required Plans and Submittals	Yes	FERC
		Document Submittal Procedures		
		Partnering Charter		
		Records Management System Documentation		
		Constructability Review Report(s)	Yes	FERC
		Value Engineering Report(s)	Yes	FERC
2	**Local Impact Mitigation Fund Development**			
		[To be developed]		
3	**Permitting Support and Compliance Program**			
		Initial, Final and Amended Environmental Compliance Plan		Federal and State regulatory agencies
		Permit Applications		
		Plans or supporting material for KRRC Governmental Approvals		
4	**Seed Collection/Propagation and Invasive Exotic Vegetation Removal**			
		Seed Collection and Propagation Schedule		
		Description of Seed Collection and Propagation Techniques		
		Propagation Contractor Selection Process Overview		
		Reference Site Information for Each Planting Zone		

APPENDIX 5

ROLE OF THE KRRC, CONTRACTOR AND PROJECT COMPANY IN OBTAINING THE GOVERNMENTAL APPROVALS

APPENDIX 5

ROLE OF THE KRRC, CONTRACTOR AND PROJECT COMPANY IN OBTAINING THE GOVERNMENTAL APPROVALS

5.1. PURPOSE

The purpose of this Appendix is to provide a list of the Governmental Approvals that are expected to be required with respect to the Project and the Habitat Project Work. To the best knowledge of the Parties, Table 5-1, Table 5-2, and Table 5-3 of this Appendix, in sum, represents the complete list of Governmental Approvals necessary for the Project.

5.2. KRRC GOVERNMENTAL APPROVALS

The purpose of Table 5-1 is to indicate the Governmental Approvals for which (1) the KRRC will be the named permittee, application manager and party responsible for paying application fees; and (2) to provide additional details on the assistance that the KRRC and the Project Company are expected to provide to the KRRC with respect to obtaining the KRRC Governmental Approvals. After the KRRC Governmental Approvals are issued, such terms will be allocated as the responsibility of either the Project Company or the Contractor on the Habitat Project Work Implementation Contract Amendment Date. Such allocation will be reflected in Appendix 6 (Allocation of Responsibility between the Contractor and the Project Company with Respect to the KRRC Governmental Approvals).

5.3. CONTRACTOR GOVERNMENTAL APPROVALS

The purpose of Table 5-2 is to indicate the Governmental Approvals for which (1) the Contractor will be the named permittee, application manager and party responsible for paying application fees; and (2) to provide additional details on the assistance, if any, that the KRRC and the Project Company are expected to provide to the Project Company with respect to obtaining the Contractor Governmental Approvals. The Contractor will be solely responsible for complying with all terms and conditions of the Contractor Governmental Approvals, as issued.

5.4. PROJECT COMPANY GOVERNMENTAL APPROVALS

The purpose of Table 5-3 is to indicate the Governmental Approvals for which (1) the Project Company will be the named permittee, application manager and party responsible for paying application fees; and (2) to provide additional details on the assistance, if any, that the KRRC and the Contractor are expected to provide to the Project Company with respect to obtaining the Project Company Governmental Approvals. The Project Company will be solely responsible for complying with all terms and conditions of the Project Company Governmental Approvals, as issued.

Table 5-1
KRRC Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and Project Company in Assisting the Application Process
1.	**NEPA Record of Decision or FERC Order**	FERC	**Contractor**: [To be finalized] **Project Company:** Data and analyses from Preliminary Services work to support FERC, as needed.
2.	**Approval Establishing Effectiveness of LKP License Transfer**	FERC	**Contractor**: [To be finalized] **Project Company:** Data and analyses from Preliminary Services work to support FERC, as needed.
3.	**Approval Establishing Effectiveness of LKP License Surrender**	FERC	**Contractor**: [To be finalized] **Project Company:** Data and analyses from Preliminary Services work to support FERC, as needed.
4.	**CWA Section 404 Individual Permit**	United States Army Corps of Engineers (USACE)	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
5.	**WSR Determination Memo**	NPS (primary), BLM, USFWS, or USFS	**Contractor**: [To be finalized] **Project Company:** None
6.	**ESA Section 7 Biological Opinions**	United States Fish and Wildlife Service / National Marine Fisheries Service	**Contractor**: [To be finalized] **Project Company:** None

Table 5-1
KRRC Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and Project Company in Assisting the Application Process
7.	**NHPA Section 106 Consultation and associated plans**	SHPOs, THPOs, ACHP, Tribes	**Contractor**: [To be finalized] **Project Company:** None
8.	**CEQA Notice of Determination**	California State Water Resources Control Board (SWRCB)	**Contractor**: [To be finalized] **Project Company:** Data and analyses to support SWRCB as needed.
9.	**Section 401 Water Quality Certification**	SWRCB / ODEQ	**Contractor**: [To be finalized] **Project Company:** Data and analyses to support SWRCB as needed.
10.	**Lake and Streambed Alteration Agreement**	CDFW	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
11.	**Incidental Take Permit**	CDFW	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
12.	**Removal/Fill and In Water Work Period Variance**	ODSL	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
13.	**Fish Passage Approval**	ODFW	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.

Table 5-1
KRRC Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and Project Company in Assisting the Application Process
14.	**State Lands Surface and Submerged Lands Lease**	State Lands Commission	**Contractor**: [To be finalized] **Project Company:** Draft application review.
15.	**Dam Removal Permit**	California Division of Safety of Dams (DSOD)	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed. All Project Company design submittals will require review by DSOD.
16.	**Dam Safety/ Decommissioning**	OWRD	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
17.	**California Coastal Zone Consistency Review**	CCC	**Contractor**: [To be finalized] **Project Company:** Draft application review; Data and analyses from Preliminary Services work to support application, as needed.
18.	**Land Use Permits**	Klamath County / Siskiyou County	**Contractor**: [To be finalized] **Project Company:** None
19.	**Community Development Department – Building Division and Septic On-Site Division Permits (e.g., structural, electrical, mechanical, plumbing permits)**	Klamath County	**Contractor**: [To be finalized] **Project Company:** Data and analyses from Preliminary Services work pertaining to any septic system demolition.

Table 5-1
KRRC Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and Project Company in Assisting the Application Process
20.	**Site Development Permit**	Klamath County	**Contractor**: [To be finalized] **Project Company:** None
21.	**Development and Demolition Permit**	Siskiyou County	**Contractor**: [To be finalized] **Project Company:** None
22.	**Building Permit (Hatchery Work)**	Siskiyou County	**Contractor**: [To be finalized] **Project Company:** Draft application review
23.	**CLOMR/LOMR**	Siskiyou County / Klamath County	**Contractor**: [To be finalized] **Project Company:** Data and analyses from Preliminary Services work to support application, as needed. Materials and information required for LOMR application.

Table 5-2
Contractor Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the KRRC and Project Company in Assisting the Application Process
24.	**Business License**	Klamath County	**KRRC**: None. **Project Company:** [To be finalized]
25.	**Business License**	Siskiyou County	**KRRC**: None. **Project Company**: [To be finalized]
26.	**Transportation Permit**	Siskiyou County	**KRRC**: None. **Project Company**: [To be finalized]
27.	**Sign Permit**	Siskiyou County	**KRRC**: None. **Project Company**: [To be finalized]

Table 5-3
Project Company Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and KRRC in Assisting the Application Process
28.	**Section 402 National Pollutant Discharge Elimination System (General Construction Permit)**	Regional Water Quality Control Board (RWQCB) / ODEQ	**KRRC**: None. **Contractor**: [To be finalized]
29.	**Encroachment Permit**	Oregon Department of Transportation (ODOT)	**KRRC**: None. **Contractor**: [To be finalized]
30.	**Over-Dimensional Permit**	ODOT	**KRRC**: None. **Contractor**: [To be finalized]
31.	**Forestry Notification and Permit to Use Fire or Power-Driven Machinery (PDM)**	Oregon Department of Forestry	**KRRC**: None. **Contractor**: [To be finalized]
32.	**Asbestos/Lead/ PCB/Other Hazardous Wastes Removal and Abatement Notifications and related reporting and sampling**	ODEQ /Oregon Health Authority / U.S. Environmental Protection Agency (EPA) / Occupational Safety and Health Administration (OSHA)	**KRRC**: None. **Contractor:** [To be finalized]
33.	**Underground Storage Tanks/Leaking**	ODEQ	**KRRC**: None.

Table 5-3
Project Company Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and KRRC in Assisting the Application Process
	Underground Storage Tanks decommissioning/cleanup notification and related sampling and reporting		**Contractor**: [To be finalized]
34.	**Explosives Storage and Explosives Magazine Relocation notifications**	Oregon Office of the State Fire Marshal	**KRRC**: None. **Contractor**:
35.	**Treated Wood Generation Notice**	California Department of Toxic Substances Control	**KRRC**: None. **Contractor**: [To be finalized]
36.	**Geotechnical Hole / Monitoring Well / Water Supply Well Report Forms**	Oregon Department of Water Resources	**KRRC**: None. **Contractor**: [To be finalized]
37.	**In-Water Blasting Permit**	ODFW	**KRRC**: None. **Contractor**: [To be finalized]
38.	**Explosives Storage and Explosives Magazine Relocation notifications**	California Office of the State Fire Marshal	**KRRC**: None. **Contractor**: [To be finalized]
39.	**Business License**	Klamath County	**KRRC**: None. **Contractor**: [To be finalized]

Table 5-3
Project Company Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and KRRC in Assisting the Application Process
40.	**Business License**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
41.	**Asbestos/Lead/ PCB/Other Hazardous Wastes Removal and Abatement declaration and related reporting and sampling**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
42.	**Environmental Health Division Water Wells / Monitoring Wells / Exploratory Borings Permits**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
43.	**Encroachment Permit**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
44.	**Building Permit (Flood Control Improvements)**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
45.	**Transportation Permit**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]
46.	**Sign Permit**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]

Table 5-3
Project Company Governmental Approvals

#	Name of Governmental Approval	Issuing Agency	Role of the Contractor and KRRC in Assisting the Application Process
47.	**Underground Storage Tanks/Leaking Underground Storage Tanks closure/cleanup notification and related sampling and reporting**	Siskiyou County	**KRRC**: None. **Contractor**: [To be finalized]

APPENDIX 6

ALLOCATION OF RESPONSIBILITY BETWEEN THE CONTRACTOR AND THE PROJECT COMPANY WITH RESPECT TO THE KRRC GOVERNMENTAL APPROVALS

APPENDIX 6

ALLOCATION OF RESPONSIBILITY BETWEEN THE CONTRACTOR AND THE PROJECT COMPANY WITH RESPECT TO THE KRRC GOVERNMENTAL APPROVALS

6.1. PURPOSE

The purpose of this Appendix is to, as of the Project Habitat Work Implementation Contract Amendment Date, designate each KRRC Regulatory Term in the KRRC Governmental Approvals as either a Contractor-Allocated KRRC Regulatory Term or a Project Company-Allocated KRRC Regulatory Term. Table 6-1 indicates if a KRRC Governmental Approval is (a) solely a Contractor-Allocated KRRC Regulatory Term, (b) solely a Project Company-Allocated KRRC Regulatory Term, or (c) contains terms and conditions that are allocable to both the Project Company and the Contractor. Table 6-2 allocates the KRRC Regulatory Terms, on a line by line basis, of any KRRC Governmental Approval that containing provisions to be allocated to both the Project Company and the Contractor.

Table 6-1
KRRC Governmental Approvals Responsibility Allocation

#	Name of Governmental Approval	Project Company-Allocated KRRC Regulatory Term, Contractor-Allocated KRRC Regulatory Term, or Both
1.	**NEPA Record of Decision or FERC Order**	[To be determined]
2.	**Approval Establishing Effectiveness of LKP License Transfer**	
3.	**Approval Establishing Effectiveness of LKP License Surrender**	
4.	**CWA Section 404 Individual Permit**	
5.	**WSR Determination Memo**	
6.	**ESA Section 7 Biological Opinions**	
7.	**NHPA Section 106 Consultation and associated plans**	
8.	**CEQA Notice of Determination**	
9.	**Section 401 Water Quality Certification**	
10.	**Lake and Streambed Alteration Agreement**	
11.	**Incidental Take Permit**	

Table 6-1
KRRC Governmental Approvals Responsibility Allocation

#	Name of Governmental Approval	Project Company-Allocated KRRC Regulatory Term, Contractor-Allocated KRRC Regulatory Term, or Both
12.	**Removal/Fill and In Water Work Period Variance**	
13.	**Fish Passage Approval**	
14.	**State Lands Surface and Submerged Lands Lease**	
15.	**Dam Removal Permit**	
16.	**Dam Safety/ Decommissioning**	
17.	**California Coastal Zone Consistency Review**	
18.	**Land Use Permits**	
19.	**Community Development Department – Building Division and Septic On-Site Division Permits (e.g., structural, electrical, mechanical, plumbing permits)**	
20.	**Site Development Permit**	
21.	**Development and Demolition Permit**	
22.	**Building Permit (Hatchery Work)**	
23.	**CLOMR/LOMR**	

Table 6-2

KRRC Regulatory Terms Allocation – For KRRC Governmental Approvals Containing Both Project Company-Allocated KRRC Regulatory Terms and Contractor-Allocated KRRC Regulatory Terms

#	Name of Governmental Approval	Project Company-Allocated KRRC Regulatory Terms	Contractor-Allocated KRRC Regulatory Terms
1.		[To be determined]	[To be determined]
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
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14.			

APPENDIX 7

ASSUMED CONTRACTOR REGULATORY COMPLIANCE TERMS

APPENDIX 7

ASSUMED CONTRACTOR REGULATORY COMPLIANCE TERMS

7.1. PURPOSE

This Appendix sets forth the assumed material terms and conditions that the Contractor will be expected to comply with during the Term, and upon which the Contractor's Contract Compensation is established as of the Contract Date. Upon finalization of the Habitat Project Work Implementation Contract Amendment, the assumed terms and conditions set forth herein will be referenced in determining if any adjustment to the Contract Compensation is justified prior to executing the Habitat Project Work Implementation Contract Amendment.

7.2. LIST OF ANTICIPATED CONTRACTOR-ALLOCATED KRRC REGULATORY TERMS[1]

(a) U.S. Army Corps of Engineers ("USACE") Clean Water Act ("CWA") Sec. 404 Permit

(b) US Fish and Wildlife Service ("USFWS") / National Marine Fisheries Service ("NMFS") Endangered Species Act ("ESA") Sec. 7 Biological Opinion

(c) USFWS Eagle Take Permit

(d) California State Water Resources Control Board ("SWRCB") CWA Sec. 401 Certificate

(e) California Department of Fish and Wildlife ("CDFW") Permits or MOU

(f) Oregon Department of Fish and Wildlife ("ODFW") Permits or MOU

(g) Oregon Department of Environmental Quality ("ODEQ") CWA Sec. 401 Certificate

(h) Management Plan – Sucker Management Plan

(i) Management Plan – Water Quality Monitoring Plan

(j) Management Plan – Restoration Plan

(k) Management Plan – Reservoir Area Management Plan

(l) Management Plan – Chemical Vegetation Control Proposal (IEV Management) Plan

(m) Management Plan – Amphibian and Reptile and Relocation Plan

(n) Management Plan – Fish Presence Monitoring Plan

(o) Management Plan – Juvenile Salmonid Rescue and Relocation Plan

(p) Management Plan – Spawning Habitat Availability Report and Plan,

[1] Includes anticipated permits, MOUs and management plans.

(q) Management Plan – Tributary-Mainstem Connectivity Plan

(r) Management Plan – Reservoir Sediment Assessment and Stabilization

7.3. INTRODUCTION

The ultimate restoration objective of the Project is to restore lands formerly inundated by the reservoirs behind the dams and establish free-flowing conditions on the Klamath River and in key fish-bearing perennial tributaries. This requires, among other things, (1) minimizing impacts to terrestrial and aquatic resources, (2) revegetating lands that were formerly inundated, (3) restoring connectivity between the Klamath River and key fish-bearing perennial tributaries, (4) removing barriers to fish passage as the system returns to a natural condition, and (5) monitoring and maintenance to ensure performance criteria are met. These restoration objectives are expected to be reflected in the Contractor-Allocated KRRC Regulatory Terms, as well as the performance criteria that must be met for the objectives to be met.

Multiple permits, MOUs and management plans refer to the same performance criteria. For example, the requirement to monitor barriers to fish passage and remove those barriers are described in the SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion.

This list of anticipated Contractor-Allocated KRRC Regulatory Terms is organized by reference to performance criteria (e.g., monitoring barriers to fish passage) rather than permit (e.g., SWRCB CWA Sec. 401 Certificate).

7.3.1 Regulatory Background

This exhibit describes the terms and conditions that are anticipated to be included within the Contractor-Allocated KRRC Regulatory Terms. This is based on Contractor's extensive discussions and in-person meetings with the regulators over several months, drafts of permits and MOUs, Contractor's work on other projects, and precedent transactions. Many of these anticipated terms are included in drafts, or finalized versions, of permits and MOUs that have been reviewed, and approved by, the applicable regulators.

In developing the Anticipated Contractor-Allocated KRRC Regulatory Terms, the Contractor team has worked along-side the state and federal regulators to establish common expectations for a successful river restoration for volitional fish passage in the Klamath River Project Area. This effort began with the Project Company holding in-person workshops with the state and federal regulators at the 30 percent design phase. Three separate all-day meetings/workshops were held to introduce the design teams, review the approach for dam removal and restoration, and establish resource agency needs and interests for the development of the 60 percent designs. In addition to the Contractor's 30 percent design review workshops, the Contractor held several on-site meetings to address specific design needs with key regulators. The regulatory design review meetings built the foundation for the 60 percent restoration design approach, establishing a common set of restoration objectives. Concurrently, the Contractor project team met with regulatory staff to identify the regulatory approval terms and conditions that would be expected to address the restoration design, construction, and post-construction adaptive management. This partnership with the resource agencies will continue as the regulatory requirements are formalized.

7.3.2 Design Background

Not all means and methods for achieving the restoration objectives are described below, or will be described in the Contractor-Allocated KRRC Regulatory Terms. For example, the

Contractor-Allocated KRRC Regulatory Terms requires the removal of certain barriers to fish passage. To achieve this objective, Contractor anticipates mobilizing sediment during drawdown using airboats but, depending on a number of factors, may elect to use more conventional means. Contractor has engaged in an extensive design process to establish the feasibility of implementing the Contractor-Allocated KRRC Regulatory Terms for the Contract Compensation. This included (1) a review of existing reports and data (The Definite Plan and its predecessors, supporting literature, and appendices; topographic data; historical data and accounts; and flow and climatological data), (2) multiple weeks of field work to collect stream channel dimension data (planform, section, and profile) and reference vegetation data both within the project area and within nearby reference drainages and (3) restoration design and pricing completed by Contractor and its team.

7.3.3 Management Plans

KRRC, working with Contractor, will develop certain management plans for submittal to FERC. These management plans will reflect and expand on the permits and MOUs, but are subject to FERC's review and approval and FERC may impose new conditions. Contractor has included key management plans below that support the direct restoration of the Klamath River, but not all management plans are included in this Exhibit as others are dam facility removal related. Contractor has assumed that the management plans will reflect restoration obligations that are consistent with (1) Contractor's 60 percent-level design and (2) the other Contractor-Allocated KRRC Regulatory Terms.

7.4. SPAWNING HABITAT CREATION OBLIGATION

Under the Spawning Habitat Creation Obligation (Definite Plan, DEIR, CDFW MOU, Draft SWRCB CWA 401), (1) 44,100 yd2 of mainstem spawning gravel will be required to offset the effects to 2,100 mainstem-spawning fall Chinook salmon redds and (2) 4,700 yd2 of tributary spawning gravel will be required to offset the effects to 179 tributary-spawning steelhead redds. To determine if there is adequate mainstem spawning gravel, a survey of the Hydroelectric Reach and newly accessible tributaries (as determined in accordance with the Spawning Habitat Availability Report and Plan) following reservoir drawdown will be completed. If the survey reveals that the mainstem spawning gravel availability is less than the target values following reservoir drawdown, Contractor will meet with the Aquatics Technical Work Group (ATWG) to design, and Contractor will implement, a spawning gravel augmentation or habitat restoration action.

To support the above, Contractor will develop a Spawning Habitat Availability Report and Plan (SHARP) and a related management plan which summarizes the survey of newly accessible anadromous fish spawning habitat and, if necessary, propose actions to augment spawning habitat. The SHARP will be developed in consultation with staff from the State Water Board, North Coast Regional Board, CDFW, NMFS, USFWS, ODEQ, and ODFW and submitted to the SWRCB Deputy Director for review and approval no later than December 31 of the year in which drawdown is completed.

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- A spawning survey protocol was prepared by River Design Group, with assistance from Contractor, and reviewed by ATWG. Contractor has thus assumed that such survey protocol will be adequate to satisfy the SHARP. For example, this protocol states that the mainstem survey will be completed with drone imagery.

- The Project Company constructed work pads downstream of Iron Gate and Copco 1 dams will contain fish-friendly aggregate (river-rounded gravel and cobble) and, based

on a desktop assessment of potential mainstem spawning areas, no additional augmentation will be required.

The applicable Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, Spawning Habitat Available Report and Plan (SHARP).

7.5. JUVENILE SALMONID RELOCATION AND MONITORING OBLIGATION

The Juvenile Salmonid Relocation and Monitoring Obligation requires the relocation of coho salmon as well as monitoring, maintenance and adaptive management measures.

Programmatic Relocation:

Up to 500 juvenile coho salmon will be sampled and relocated from the Klamath River between Iron Gate Dam and the Trinity River prior to reservoir drawdown. Sampling and salvage sites will focus primarily on alcoves, side channels, and backwatered floodplain features adjacent to the mainstem Klamath River. This work would occur in the Fall of the pre-drawdown year. Additionally, between March 1 through July 1 of the drawdown year juvenile salmonids will be relocated from up to 13 key tributary confluences between Iron Gate Dam and the Trinity River if water temperature and turbidity thresholds are exceeded. The Programmatic Relocation addresses a large downstream area and impacts associated with sediment release during drawdown.

Site Specific Relocation:

Relocation will be required at specific locations where in-water construction work could impact coho salmon. For these locations, relocation and exclusion of juvenile coho salmon below Iron Gate Dam is expected for planned in-water work by the Project Company prior to the start of drawdown. In-water work activities include the installation of the access road at the base of the Iron Gate Dam spillway, diversion tunnel, and the temporary bridge installation. Work for fish salvage and exclusion will be timed to the start of in-water construction actions downstream of Iron Gate Dam. Fish salvage and exclusion will also be used as an in-water work Best Management Practice (BMP) for the restoration period and maintenance period as part of minimization measures with the NMFS/USFWS Biological Assessment.

Monitoring and Adaptive Management:

With respect to monitoring and adaptive management, two plans will be created:

- A monitoring and adaptive management plan (Juvenile Rescue and Relocation Plan) will be created to monitor juvenile coho salmonids and water quality conditions in 13 key tributaries downstream of Iron Gate Dam between March 1 and July 1 of the drawdown year. If water quality triggers are exceeded, Contractor will take steps to salvage juvenile salmonids from the tributary confluences in coordination with the ATWG.

- No later than 24 months following issuance of a FERC license surrender order, a Fish Presence Monitoring Plan (Fish Presence Plan) will be submitted to the SWRCB Deputy Director for review and approval. The Fish Presence Plan will be developed in consultation with staff from the State Water Board, North Coast Regional Board, CDFW, and NMFS.

Contractor will draft a Fish Presence Monitoring Plan and Juvenile Salmonid Rescue and Relocation Plan for submission to FERC. The contents of the plans will address the following:

Fish Presence Monitoring Plan

- List of anadromous fish species covered by the plan
- California survey reaches
- Frequency and duration of surveys
- Survey methods
- Reporting

Juvenile Salmonid Rescue and Relocation Plan

- Methods that will be used to find and relocate juvenile salmonids
- Potential relocation areas and/or criteria that will be used to identify potential relocation areas

Description of water quality monitoring to be performed at each confluence of the Klamath River and the 13 tributaries listed in AR Measure 2, Action 3Description of proposed rescue efforts that includes duration, method of rescue, target number of fish, locations for capture and relocation

- Provisions for incidental rescue and relocation of Pacific lamprey encountered in tandem with any juvenile salmonid rescue and relocation efforts
- Reporting

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- The drawdown will be conducted January 1 through March 15 in the drawdown year.
- No fish rescue and relocation will occur during drawdown activities, and fish salvage and exclusion actions prior to the restoration of volitional fish passage conditions (i.e., October 1, 2022) as a minimization measure will be limited to the area immediately below Iron Gate Dam. The applicable permits will allow the extent and duration of fish exclusion activities to be determined by the lead fisheries biologist. (For Site Specific Relocation)
- In respect of the Juvenile Rescue and Relocation Plan, weekly water quality data will be sufficient to evaluate the need to relocate juvenile coho salmon between March 1 and July 1. No additional temperature and turbidity monitoring nor fish relocation work will be required for this measure following July 1 of the drawdown year.
- No follow-up monitoring of relocated coho salmon will be required.
- None of the plans described above or in any Contractor-Allocated KRRC Regulatory Terms will require any additional actions if fish presence is not detected or recovery is not achieved at any location as Contractor cannot guarantee the presence of species.

- The juvenile coho salmon relocation will be completed only once prior to drawdown (For Programmatic Relocation)

- Only a single relocation event would be required between March 1 and July 1 if water temperature and turbidity exceed identified thresholds.

- Fish Presence Survey work will take place once in the spring/summer period and once in the fall/water period from 2022 until 2026.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, CDFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, Fish Presence Monitoring Plan, Spawning Habitat Availability Report and Plan and Juvenile Salmonid Rescue and Relocation Plan.

7.6. FISH PASSAGE BARRIER MONITORING AND REMOVAL OBLIGATION

The Fish Passage Barrier Monitoring and Removal Obligation requires that Contractor monitor tributary-mainstem connectivity at four sites, Spencer Creek, Shovel Creek, Fall Creek, and Jenny Creek, in the Hydroelectric Reach and five sites, Bogus Creek, Dry Creek, Little Dry Creek, Willow Creek, and Cottonwood Creek, in the 8-mile reach from Iron Gate Dam (RM 193.1) to Cottonwood Creek (RM 185.1) (the "Monitoring Area"). If barriers to fish passage occur within the monitoring area, Contractor will monitor and/or remove such barriers. Contractor will use a variety of means and methods to prevent barriers to fish passage from arising during the drawdown and after, including reconnection and re-grading of key fish bearing perennial tributaries, mobilization of sediment during drawdown, revegetation, and other means and methods.

The requirement to monitor and remove fish passage barriers will be contained in a monitoring and adaptive management plan, as well as in various Contractor-Allocated KRRC Regulatory Terms:

- Contractor will monitor barriers to fish passage within the Monitoring Area, provided that after the first two years, beginning in the drawdown year, the requirement to monitor the 8-mile portion downstream of Iron Gate will no longer require monitoring. Fish passage monitoring and reporting will be required (1) three times in the drawdown year, (2) twice the year after and (3) annually thereafter for a total of 6 years in aggregate. Fish passage monitoring results will be coordinated with the ATWG and summarized in annual reports. In addition, monitoring and reporting will occur following a 5-year flow event of 10,895 cfs or greater on the Klamath River recorded at the USGS Klamath River Below Iron Gate Dam CA gage (#11516530) (note: SWRCB Draft CWA Sec. 401 Certificate requires after a 10-year flow event), if that 5-year flow event occurs within the aforementioned 6-year monitoring period..

- Contractor will develop a monitoring plan to monitor tributary-mainstem connectivity (Tributary – Mainstem Connectivity Plan) in the Monitoring Area. The monitoring requirements will be consistent with the fish passage monitoring requirements described above.

Contractor will develop management plans related to the removal of fish passage barriers including a Tributary-Mainstem Connectivity Plan detailing and describing the methods, timing, duration, frequency, locations, and reporting for tributary mainstem connectivity and a Reservoir Sediment Assessment and Stabilization plan describing stabilization of sediment, including by revegetation.

Based on discussions with the applicable regulators the Contract Compensation reflects the following assumptions:

- Monitoring will be conducted with biologists in the field and using unmanned aerial vehicles (i.e. UAVs/drones). Meaning, fish passage monitoring will be primarily observation based and will not require extensive labor-intensive quantitative field surveys nor measurements.

- Fish passage monitoring criteria include the following:

    - Manmade structures (as identified and described in the FERC filing authorizing the Project) will be removed in accordance with the 60 percent design plan, but other pre-existing non-manmade fish passage obstructions will not be removed (i.e., naturally occurring barriers will not be modified or removed);

    - New culverts in fish-bearing streams installed by the Project Company will comply with the fish passage stream simulation design method;[2] and

    - Residual reservoir sediment headcuts of 6 inches[3] or greater (a "Fish Passage Barrier") will be identified and monitored and evaluated as follows:

        - In the drawdown year, Contractor will monitor within the Monitoring Area to identify localized residual reservoir sediment accumulations that pose a threat to fish migration.

        - The Contractor will identify vertical headcuts likely resulting in a water surface elevation drop greater than 6 inches[2] in the mainstem and fish-bearing tributaries during prescribed monitoring period.

        - The Contractor will evaluate barriers and determine whether the obstruction is due to residual sediment or pre-dam channel bed during the prescribed monitoring period. Headcuts due to factors beyond dam removal (i.e. naturally occurring sediment loads due to fire or storms or residual headcuts) will not be removed.

        - If a non-naturally occurring barrier is identified per the above, Contractor will

            - Estimate the erodibility of residual sediment.

            - Assess whether there is likely fish passage around the headcut and

            - Take active measures to address headcuts that are located in erosion-resistant deposits of residual reservoir sediment, and/or pose an immediate threat to fish passage given lack of alternate fish passage route past the residual reservoir sediment.

[2] See [NMFS] National Marine Fisheries Service. 2019. *Addendum NMFS 2001 Guidelines for salmonid passage at stream crossings.* Santa Rosa, California

[3] NMFS (2019) *Guidelines for salmonid passage at stream crossings addendum* standards allow for juvenile jump heights of 12 inches. Following the drawdown year, in coordination with NMFS and CDFW, the residual reservoir sediment headcut threshold for the California portion of the Project will be adjusted from 6 inches to 12 inches. A similar monitoring adjustment will be made to the Oregon portion pending ODFW coordination.

- Contractor will revisit identified barriers during future monitoring to re-evaluate the need to take active measures.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, Tributary-Mainstem Connectivity Plan and Reservoir Sediment assessment and Stabilization Plan.

7.7. RESERVOIR SUCKER RELOCATION OBLIGATION

The Reservoir Sucker Relocation Obligation requires that Contractor salvage and relocate adult Lost River sucker and shortnose sucker (i.e. protected suckers). CDFW has defined the salvage effort, for the California portion of the project, as up to 100 suckers of each species (200 total) or a total of 14 sampling days, whichever comes first, at each reservoir (two reservoirs Copco and Iron Gate) (CDFW). It is assumed the Oregon (ODFW) requirement will be up to 100 suckers of each species (6400 total) or a total of 14 sampling days, whichever comes first. Therefore, it is assumed the entire project will include up to 400 suckers or 14 total sampling days, whichever comes first. Salvage and relocation in the Project Area reservoirs will occur prior to drawdown and collected protected suckers will be relocated to Tule Lake.

To effectuate the above, Contractor will prepare a sampling, salvage, and relocation plan (Sucker Plan) for protected suckers. In addition, Contractor will develop a management plan for submission to FERC which will describe Contractor's proposed actions in greater detail.

Based on discussions with the applicable resource agencies, the Contract Compensation reflects the following assumptions:

- USFWS and ODFW will not require a minimum number of protected suckers to be salvaged and relocated.

- Following the salvage and relocation effort, no further salvage and relocation work for protected suckers will be required (i.e. during or following drawdown). No follow-up monitoring of relocated protected suckers will be required.

- Genetic samples provided by KRRC to USFWS Abernathy Laboratory for evaluation of sampled protected suckers will not result in USFWS changing the salvage effort requirement.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB Draft CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, Adaptive Management Plan (Suckers).

7.8. WATER QUALITY MONITORING OBLIGATION

The Water Quality Monitoring Obligation requires that Contractor complete water quality monitoring and develop two water quality management plans ("WQMPs"), one under the SWRCB Draft CWA 401 Certification and under the ODEQ CWA 401 Certification.

Based on discussions with KRRC, the Contract Compensation reflects the following assumptions:

- There are 6 operational & adequate USGS stations already existing to facilitate Water Quality Monitoring for the Klamath River Project.

- Contractor will install no additional USGS stations for a total of 6 existing stations at which water quality monitoring will be performed.

- Assumes that Contractor will provide O+M costs for the 6 USGS stations, but major improvements (upgrades to existing equipment, including telemetry, power, DCP, etc., or additional equipment installation) to the 6 existing stations are not needed.

- Includes installation of water quality data sondes at 5 of the existing USGS stations.

- No additional requirements re: water quality will be required, other than the monitoring requirements described above (including in respect of adaptive management)

- The ODEQ CWA Sec. 401 Certificate and the SWRCB Draft CWA Sec. 401 Certificate do not include water quality monitoring associated with pre-construction activities.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate and ODEQ CWA Sec. 401 Certificate. Additional potential approvals include (CA MOU, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, USACE CWA Sec. 404 Permit)

7.8.1 CALIFORNIA (SWRCB DRAFT CWA SEC. 401 CERTIFICATION)

- Drawdown duration is from January 1, 2022 to March 15, 2022. Post-Drawdown monitoring sampling will begin on March 16, 2022. Pre-Drawdown monitoring and sampling will begin January 1, 2021.

- Condition 2 of the SWRCB Draft CWA Sec. 401 Certificate will not require additional monitoring past 36 months.

Requirements of the Water Quality Monitoring Plan are anticipated to include the following:

- Continuous water quality monitoring (6 parameters) required at a minimum frequency of hourly readings (average of 15-minute intervals) during pre-drawdown and post-drawdown for 36 months at 12 locations.

- Collection and laboratory analysis of water quality grab samples (16 parameters) at a monthly frequency during pre-drawdown and every two weeks frequency during drawdown and post-drawdown for 36 months at 12 locations.

- Collection and laboratory analysis of sediment grab samples (10 parameters) to be collected at one event during pre-drawdown and at one event within 3 to 6 months following completion of drawdown at 7 locations.

7.8.2 OREGON (ODEQ CWA SEC. 401 CERTIFICATION)

- Drawdown duration is from January 1, 2022 to March 15, 2022. Post-Drawdown monitoring sampling will begin on March 16, 2022. Pre-Drawdown monitoring and sampling will begin January 1, 2021.

- Section 3 of the ODEQ CWA Sec. 401 Certificate will not require additional monitoring past 24 months.

Requirements of the Water Quality Management Plan are anticipated to include the following:

- Continuous water quality monitoring and flow monitoring (6 parameters) are required at a minimum frequency of 15-minute intervals during pre-drawdown and post-drawdown for 4 years after initiating drawdown at 2 locations

- Collection and laboratory analysis of water quality grab samples and flow monitoring (11 parameters) at a monthly frequency during pre-drawdown and post-drawdown for four years after initiating drawdown at 2 locations

- Quantification of suspended sediment load

- Monitor turbidity at 4 locations (not during established compliance schedule)

7.9. ENVIRONMENTAL COMPLIANCE AND BIOLOGICAL MONITORING OBLIGATION

The Environmental Compliance and Biological Monitoring Obligation requires that, during construction, Contractor monitor Covered Activities to help minimize and/or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat during construction (as those terms are defined within the draft CDFW). While a "Designated Biologist" is required by the CDFW, the biological monitors will also satisfy conditions under certain management plans or other permits (e.g., relocation of western pond turtles, monitoring requirements related to nesting birds and eagle nests, ensuring that in-water work BMPs are functioning, etc.). In addition, a Worker Environmental Awareness Program (WEAP) will cover biological and natural resources management plan requirements and permit conditions that workers will need to follow. WEAP training will be required for all persons employed or otherwise working in the project area.

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- A biological monitor will be required each day in the vicinity of construction activities; full-time monitoring of construction activities will not be required.

- All work sites will not require the full-time presence of the Designated Biologist; e.g. the Designated Biologist will cover an “area” that has multiple construction efforts.

- The Designated Biologist will serve as a lead monitor for the California and Oregon work areas and will train crew foremen (or equivalent) to cover basic compliance.

- The Civil Contractor will have adequately trained their staff to avoid known resource constraints, and the Contractor compensation does not include regulatory coordination, repairs, or mitigation due to the Civil Contractor not conforming to compliance conditions.

- If there are multiple requests at the same time for support, the project could have minor delays – Contractor would not be responsible for those delays.

- Biological monitoring would occur in the pre-drawdown year, drawdown year, and year following drawdown.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW, USFWS Eagle Take Permit, and Amphibian and Reptile and Relocation Plan.

7.10. REVEGETATION AND REVEGETATION MONITORING AND MAINTENANCE OBLIGATION

The Revegetation and Revegetation Monitoring and Maintenance Obligation requires that Contractor revegetate any areas that were formerly inundated by the reservoirs using a native seed mix, and manage invasive exotic species (IEV) to allow the native species to establish. These lands will be divided into riparian, wetland, and upland areas.

Satisfying this obligation will require monitoring and annual reporting for natural revegetation establishment until performance criteria are met. Vegetation monitoring is required twice annually and is anticipated to include species richness, tree and shrub density, and percentage of vegetation cover (as described below). In addition, Contractor will monitor and remove high-priority IEV until certain performance criteria are met.

To effectuate the above, the Contractor will develop an annual report for the applicable regulators. In addition, Contractor will draft a Chemical Vegetation Control Proposal (IEV Management) Plan for submission to FERC. The contents of the plan will address the following:

- Description of the implementation of chemical vegetation management, including any public noticing or additional measures.
- Timeline for the application of chemicals and any potential impacts to beneficial uses of water, including Native American culture uses.
- Comments and recommendations made in connection with the consultation.
- Description of how the proposal incorporates or addresses agency comments and recommendation.

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- Reference areas established by KRRC/Contractor ("Reference Sites") will provide suitable and obtainable standards for revegetation performance and associated monitoring.
- Two annual monitoring events will be required, and annual reporting will occur post drawdown each year until the earlier of (1) 5-years and (2) when the performance criteria are met.
- Performance targets will cap the maximum percent cover of high (3%) and medium (10%) priority IEV species within 500 feet of the reservoir rim, based on agency and Cal-IPC ratings.
- A chemical vegetation control proposal will be submitted to the SWRCB Deputy Director and approved. Herbicides accepted by SWRCB will be compatible with NMFS requirements for use of herbicides near waterbodies.
- Reference areas will provide suitable and obtainable standards for revegetation performance and associated monitoring.
- Riparian performance criteria for irrigated sites: Richness: Year 1 = 60% cover, Year 2 = 65% cover, Year 3 = 70% cover, Year 4 = 75% cover, and Year 5 = 80% cover as

compared to Reference Sites; tree and shrub density: Year 1 = 50% cover, Year 2 = 55% cover, Year 3 = 60% cover, Year 4 = 65% cover, and Year 5 = 70% cover as compared to Reference Sites; and vegetation cover: Year 1 = 50% cover, Year 2 = 55% cover, Year 3 = 65% cover, Year 4 = 70% cover, and Year 5 = 80% cover as compared to Reference Sites.

- Upland performance criteria: Richness: Year 1 = 60% cover, Year 2 = 65% cover, Year 3 = 70% cover, Year 4 = 75% cover, and Year 5 = 80% cover as compared to Reference Sites; and vegetation cover: Year 1 = 15% total cover, Year 2 = 30% total cover, Year 3 = 50% total cover, Year 4 = 60% cover, and Year 5 = 70% cover as compared to Reference Sites (Years 4 and 5 only).

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion, USACE CWA Sec. 404 Permit, Chemical Vegetation Control Proposal (IEV Management) Plan.

7.11. NESTING BIRD SURVEY OBLIGATION

The Nesting Bird Survey Obligation requires the removal of vegetation or structures that may impact nesting birds occur between September 1 and January 31 in order to avoid impacting nesting birds. If vegetation removal or structure modification/demolition is necessary between February 1 and August 31 (i.e. the nesting season) nesting bird surveys are required in order to locate nesting birds prior to habitat removal and implement measures to avoid or minimize impacts. If nesting birds are detected in vegetation or structures slated for removal, state wildlife agencies will be contacted and coordination on minimization measures will be discussed.

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- The applicable Contractor-Allocated KRRC Regulatory Terms will not provide that stoppage of work is a remedy.

- The removal of vegetation or structures required by this Obligation will be the responsibility of the contractor who is working in an area with potential impacts to Nesting Birds in accordance with agency regulations.

- Full time nest monitoring will not be required.

- Nesting bird exclusion will not be required.

- No protocol level surveys are required.

- A biological survey supervisor selected by Contractor and/or biological monitor(s) will oversee any tree and vegetation trimming, removal, and structural removal/modification that occurs within the nesting season in the pre-drawdown and drawdown year and during restoration activities.

- Post dam removal nesting bird surveys would be minimal/not required as no significant vegetation clearing nor ground disturbance actions are anticipated.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, CDFW, ODFW, USFWS / NMFS ESA Sec. 7 Biological Opinion.

7.12. BALD AND GOLDEN EAGLE SURVEY OBLIGATION

The Bald and Golden Eagle Survey Obligation requires that, as part of the USFWS permit authorizing "take" of Bald and Golden Eagle, "non-protocol" level eagle nest surveys will be conducted in the pre-drawdown, drawdown, and 1 or 2 years post-drawdown years to monitor the implementation of the terms of the permits. Take of golden eagle territories will require the payment of mitigation funding to retrofit electric transmission lines at the time of permit issuance – this cost is not included in the Contract Compensation.

Based on discussions with the applicable resource agencies and KRRC the Contract Compensation reflects the following assumptions:

- Permit conditions will not restrict timing, scope, or duration of the construction.
- No eagle nest exclusion.
- No protocol level surveys will be required.
- KRRC will be responsible for any mitigation funding payment required by the permit.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, and USFWS Eagle Take Permit.

7.13. WETLAND BUFFER DEMARCATION OBLIGATION

The Wetland Buffer Demarcation Obligation requires that Wetlands not specifically authorized to be impacted will be flagged or fenced off to protect them from disturbance and/or erosion. This demarcation for protective purposes applies to wetlands within or near construction "limits of work". A 20' buffer zone is included in the California DEIR, as a recommended measure and as a terrestrial resource measure in the NMFS/USFWS draft Biological Assessment. Demarcation of wetlands would occur in the pre-drawdown year, drawdown year, and year following drawdown.

In developing the Contract Compensation Contractor made the following assumptions:

- The project is self-mitigating, and will not require compensatory mitigation for wetlands, waters, or riparian.
- The jurisdictional wetland delineation report, being prepared by KRRC or its consultants, will be accepted by the US Army Corps of Engineers and will serve as the project reference for what wetlands require demarcation in the field.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB Draft CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, ODFW, USACE CWA Sec. 404 Permit.

7.14. BAT MANAGEMENT OBLIGATION

The Bat Management Obligation requires that certain bat protection and exclusion actions will be taken, including pre-construction surveys of buildings prior to demolition, timing demolition of structures to non-occupied periods when possible, and the use of exclusion or deterrence actions when necessary and feasible. Protocols to remove facilities that contain roosting bats

will be developed in the form of a Bat Exclusion Plan. Bat management actions would occur in the pre-drawdown year, drawdown year, and year following drawdown.

Based on discussions with the applicable resource agencies, the Contract Compensation reflects the following assumptions:

- The bat management plan to avoid and minimize impacts will be consistent with state agency recommendations, which are assumed to be limited to pre-construction surveys, and timing the demolition and removal of structures to minimize directly impacting roosting bats to the extent feasible.

- Implementing these measures will be the responsibility of the civil contractor who is impacting potential roosting structures.

- Measures to minimize and avoid impacts to bats would be implemented as reasonable and practicable.

- No additional field studies are necessary.

- Compensatory mitigation will not be required for the project.

- The USFWS Biological Opinion will not include any bat protection measures since they are not a listed threatened or endangered species.

- The applicable Contractor-Allocated KRRC Regulatory Terms will not provide that stoppage of work is a remedy.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB Draft CWA Sec. 401 Certificate.

7.15. AMPHIBIAN AND REPTILE MANAGEMENT OBLIGATION

The Amphibian and Reptile Management Obligation requires Contractor to develop an amphibian and reptile rescue and relocation management plan describing the protective measures to be implemented during the project. The plan will identify species to be covered, survey protocols, locations, and frequency; rescue and relocation techniques; and reporting requirements.

To effectuate the above, a construction monitoring plan is required to be developed in coordination with CDFW, USFWS, and NMFS. The monitoring plan will address all monitoring, biologist qualifications, resources to be monitored, and reporting requirements. In addition, Contractor will draft an Amphibian and Reptile and Relocation Plan for submission to FERC. This plan will include the Western Pond Turtle Rescue and Relocation Plan required by the Draft EIR. The contents of the plan will address, as informed by the draft permit language, the following:

- The amphibians and reptiles covered by the plan.

- Surveys and protocols that will be implemented to identify and relocate amphibians and reptiles.

- Identification of the minimum qualifications for the individual(s) that will conduct the surveys and relocations, if necessary.

- Timing and locations where surveys will be conducted, including all areas of the Project affected by drawdown and land-disturbing activities in California with known amphibian or reptile habitat or presence.

- Identification of potential relocation areas.

- Monitoring and reporting that will be implemented to document compliance with this condition, including notification and reporting.

Based on discussions with the applicable resource agencies Contract Compensation reflects the following assumptions:

- ODFW will lead any required pond turtle monitoring, rescue and relocation in Oregon, with minimal Contractor involvement.

- No additional or protocol level surveys or follow-up monitoring of relocated amphibians and reptiles will be required.

- No compensatory mitigation will be required for impacts to amphibians and reptiles.

- It is assumed all authorization to collect and relocate amphibians and reptiles will be granted through project governmental approvals (i.e. permits, MOU's, etc.).

- The covered species are those species specifically identified in the SWRCB CWA Sec. 401 Certificate, and ODEQ CWA Sec. 401 Certificate.

- Measures will be limited to the year prior to drawdown, the drawdown year and the year after drawdown.

- Required abundance and overwintering study identified in the ODEQ CWA Sec. 401 Certificate has been completed by AECOM.

- The applicable Contractor-Allocated KRRC Regulatory Terms will not provide that stoppage of work is a remedy.

The Governmental Approvals that explicitly or implicitly require this restoration condition be satisfied include the following: SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate, CDFW, ODFW.

7.16. RESERVOIR AREA MANAGEMENT PLAN

The Reservoir Area Management Plan is a requirement under SWRCB CWA Sec. 401 Certificate, ODEQ CWA Sec. 401 Certificate. Under the SWRCB CWA Sec. 401 Certificate, it is also characterized as the "Restoration Plan". For this purpose, they are considered the same Plan. The Plan will be a comprehensive management plan, which both CWA 401s require submittal to FERC and serve as an update to Definite Plan Appendix H – Reservoir Area Management Plan. The contents of the plan will include aspects of the other Anticipated Contractor-Allocated KRRC Regulatory Terms.

In drafting the Reservoir Area Management Plan, Contractor will incorporate terms and conditions that are consistent with the other Contractor-Allocated KRRC Regulatory Terms and, as applicable and in Contractor's discretion, Contractor's 60%-level design. The Contractor Compensation assumes that this management plan, as ultimately drafted by Contractor, will be approved by FERC without material changes.

Potential measures covered by this management plan include:

- The material elements of Contractor's restoration plan for the Project.
- Detailed description of proposed restoration activities and map identifying proposed locations for restoration activities. The preliminary map will be updated following drawdown, as necessary. The description of proposed restoration activities will include associated water quality protection measures KRRC will implement as part of restoration.
- Use of native plants, with preference for plants that promote soil stabilization.
- Description of how KRRC will ensure floodplain connectively within the reservoir footprint.
- Description of how KRRC will monitor for and address invasive weeds in the restored area.
- Plan for installation of large woody material in the Hydroelectric Reach in California that includes:
    - Number or volume of large woody material to be installed.
    - Placement of a portion of large woody material at or above the OHWM to create habitat at higher flows.
    - Consistency with practices in California Salmonid Stream Habitat Restoration Manual (CDFG 2010) or guidance provided through consultation with staff from CDFW, NMFS, North Coast Regional Board, and State Water Board.
    - Timeline for placement of large woody material, which will not occur until active dam and facilities removal work is complete.
- Monitoring and reporting on the implementation of the Restoration Plan, including adaptive management measures that will be implemented over time to ensure successful restoration (e.g., measures to address the loss of newly planted vegetation, soil instability, etc.).
- Reservoir Restoration Activities:
    - Procedures to stabilize and restore the former reservoir area following dam removal.
    - Performance criteria for evaluating restoration efforts to meet the following objectives:
        - Unobstructed stream continuity.
        - Fish passage.
        - Sediment stability.
- IEV abatement and native vegetation cover establishment.

- Proposed actions for meeting plan objectives including:
    - Actions to ensure tributary connectivity following drawdown.
    - Strategies to create or enhance wetlands, floodplain, and off-channel habitat features.
    - Actions to improve revegetation success by enhancing floodplain roughness; Locations for placement of large wood or other structures to improve channel margin complexity.
- Monitoring:
    - Annually conduct aerial LiDAR reconnaissance surveys of the affected area to measure sediment stability and estimate the volume of sediment export following reservoir drawdown. Annual sediment stability monitoring will be supplemented with visual inspections, physical measurements, and photo- documentation at monitoring locations identified in the Reservoir Area Management Plan.
    - Conduct surveys to determine the area of invasive exotic vegetation and native vegetation cover in the reservoir restoration area.
    - Annually inspect mainstem Klamath River and affected tributaries for the presence of physical barriers to volitional fish passage.
- Sediment Management: If monitoring demonstrates that runoff from exposed embankment areas may cause erosion, sedimentation, or a lowering of water quality Contractor may be required to propose an appropriate corrective response. Corrective actions may include measures to increase soil stability through additional plantings, irrigation to maintain revegetated areas, contouring sediment to reduce slope, adding energy dissipating features such as large wood or boulders, modifying stream channel slope, or other methods deemed appropriate to achieve the goals and objectives of the plan.

Many of the assumptions underpinning this management plan are described elsewhere in this Appendix.

APPENDIX 8

GENERAL HABITAT RESTORATION WORK REQUIREMENTS

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GENERAL HABITAT RESTORATION WORK REQUIREMENTS

8.1. PURPOSE

The purpose of this Appendix is to set forth certain requirements for the performance of the Habitat Restoration Work. The Contractor shall perform the Habitat Restoration Work in accordance with the Contract Standards, including the requirements set forth in this Appendix.

8.2. MANAGEMENT AND COORDINATION

8.2.1 Coordination.

The Contractor shall hold meetings that are separate from and in addition to Habitat Restoration Work progress meetings described in Section 8.4.2 (Habitat Restoration Work Progress Meetings - Scheduling and Attendance) of this Appendix, and shall prepare correspondence and make any other arrangements as necessary to coordinate the Habitat Restoration Work. The Contractor shall coordinate its activities with other contractors performing work at or near the Habitat Project Work Area. The Contractor shall identify other construction or operations work that may be in progress in close proximity to or bordering on the Habitat Restoration Work. The Contractor shall coordinate all Habitat Restoration Work activities that could impact existing Utility services and installations (e.g., conduits, pipelines, transmission mains and other Utility equipment and appurtenances) with the Utilities. Coordination meetings may include review of the Habitat Restoration Work Schedule and installation procedures of other contractors to identify potential conflicts, allocation of space on the Habitat Project Work Area, drawing/design interchange among contractors, establishment and modification of schedules and sequences of construction, demolition and restoration, and planning of future meetings. Such obligations described in this paragraph shall be in addition to the Contractor's obligations to coordinate its Habitat Restoration Work with the Project Company's Project Implementation Work, as further described in the Related Projects Coordination Protocol.

8.2.2 Partnering Sessions.

The KRRC and the Contractor shall use good faith efforts to promote the formation of a successful formal partnering relationship in order to effectively perform this Agreement to the benefit of both parties. The purpose of this relationship is to establish and maintain cooperative communication and to mutually resolve conflicts at the lowest responsible management level. The establishment of a formal partnering relationship will not change or modify the terms and conditions of this Agreement and will not relieve any party of the legal requirements of this Agreement.

The KRRC and the Contractor shall implement the partnering relationship through at least one pre-commencement partnering workshop ("Partnering Sessions"). The purpose of the Partnering Sessions is to deepen working relationships, develop common goals and objectives for the Habitat Restoration Work, achieve a cooperative partnership environment among Habitat Restoration Work participants, and mutually develop a strategy for forming a successful partnering relationship. The KRRC and the Contractor may participate in additional facilitated workshops during the Term as they mutually agree is necessary and appropriate.

The scheduling of a Partnering Session, selection of the facilitator and workshop site, and other administrative details will be coordinated by the KRRC and the Contractor's project managers. The parties shall use good faith efforts to schedule the initial Partnering Session before

commencing the Habitat Restoration Work and to select the facilitator for the workshop as soon as reasonably possible following the Habitat Project Work Implementation Contract Amendment Date.

Each party shall bear their respective costs of formal partnering (including costs involved in providing the pre-commencement Partnering Session, any subsequent, additional Partnering Sessions, and the facilitator for the Partnering Sessions). All other costs associated with the Partnering Sessions will be borne separately by the party incurring the costs, such as wages and travel expenses, and no additional compensation will be allowed therefor.

8.3. HABITAT RESTORATION WORK SCHEDULE

8.3.1 Initial Habitat Restoration Work Schedule.

All activities comprising the Habitat Restoration Work shall be scheduled and monitored by use of a Gantt or Bar Chart which sets forth all tasks and key subtasks in a logical and efficient work sequence that the Contractor intends to utilize in taking the Habitat Restoration Work from the Habitat Restoration Work Technical Requirements to Habitat Restoration Work Completion. The "Initial Habitat Restoration Work Schedule," prepared in accordance with these requirements, is set forth as Attachment 8A to this Appendix. The Initial Habitat Restoration Work Schedule, as updated periodically pursuant to this Section, is referred to herein as the "Habitat Restoration Work Schedule." The Contractor shall undertake and complete the Habitat Restoration Work in accordance with the Habitat Restoration Work Schedule.

8.3.2 Habitat Restoration Work Schedule Updates.

The Contractor shall, as required from time to time during the Habitat Restoration Work Period, but no less than once per calendar month, in consultation with the KRRC update the Initial Habitat Restoration Work Schedule so that it is at all times an accurate, reasonable and realistic representation of the Contractor's plans for the completion of the Habitat Restoration Work in accordance with the requirements of this Agreement. The updates shall include:

(a) Adjustments resulting from Uncontrollable Circumstances and Habitat Restoration Work Technical Requirements Changes, if any, as permitted by this Agreement and as provided in Section 8.3.4 (Events Affecting the Habitat Restoration Work Schedule) of this Appendix;

(b) As the design progresses, proposed changes in the:

(i) Start and completion dates for design work described in this Appendix; and

(ii) Commencement of Habitat Restoration Work;

(c) Start and completion dates of the major activities of Habitat Restoration Work; and

(d) The date on which the Habitat Restoration Work Completion Date is expected to occur.

The Contractor shall deliver to the KRRC and the Program Manager on a monthly basis the updated Habitat Restoration Work Schedule. The monthly updated Habitat Restoration Work Schedule shall be accompanied by a report that (1) shows current work progress and the

status of work completed for each task and subtask included in the Initial Habitat Restoration Work Schedule; (2) contains information on the resources to be employed and work to be completed in the upcoming month, including a 60-day look-ahead that reflects all agreements made by the parties as to Habitat Restoration Work Schedule revisions in sufficient detail for the KRRC to be able to verify agreed-upon work schedule and milestone date changes; and (3) describes conditions that have affected or may accelerate or decelerate the Habitat Restoration Work Schedule then in effect, together with proposed Habitat Restoration Work Schedule adjustments and mitigation measures.

8.3.3 KRRC Review.

The KRRC shall review the updated Habitat Restoration Work Schedule and advise the Contractor as to any of its concerns, along with proposed changes. Every three months, or more frequently if requested by the KRRC, in addition to the weekly progress meetings, the Contractor shall meet with the KRRC to discuss Habitat Restoration Work progress and the updated Habitat Restoration Work Schedule. The Contractor shall respond to KRRC concerns and indicate how the proposed changes or revisions thereto can be made to satisfactorily address KRRC concerns. Upon KRRC approval, the changes shall be incorporated in the updated Habitat Restoration Work Schedule and replace any previously issued Habitat Restoration Work Schedule. Habitat Restoration Work Schedule updates are for the purpose of providing the Contractor with flexibility in its work activity durations and sequences, but in no event shall such updates result in a change in the Scheduled Habitat Restoration Work Completion Date. The Scheduled Habitat Restoration Work Completion Date shall be adjusted solely as provided in Section 7.3 (Effect of Unexcused Delay in Achievement of Habitat Restoration Work Completion) of this Agreement.

8.3.4 Events Affecting the Habitat Restoration Work Schedule.

No later than 15 days following the occurrence of an Uncontrollable Circumstance, the Contractor shall submit a report containing an analysis of the effects of such events on the Habitat Restoration Work Schedule, including any new dates for work task and major subtasks, Habitat Restoration Work Completion and Scheduled Habitat Restoration Work Completion Date. The Contractor shall present mitigation measures that were considered to offset potential work delays; those proposed for KRRC review and acceptance; and a revised Habitat Restoration Work Schedule incorporating the Contractor's proposed changes.

8.4. HABITAT RESTORATION WORK MEETINGS AND REPORTS

8.4.1 Pre-Commencement Conference.

The Contractor shall hold a pre-commencement conference prior to commencement of the Habitat Restoration Work. The Contractor shall prepare an agenda which shall be reviewed with the KRRC prior to the conference, and shall preside at the conference, contribute appropriate items for discussion, provide any data requested, record minutes to summarize significant proceedings and decisions, and distribute the minutes to all parties in attendance. The agenda shall include, but shall not necessarily be limited to, the status of the following items:

(a) Designation of responsible personnel during the Habitat Restoration Work Period.

(b) Subcontractors, and their roles on the Habitat Restoration Work.

(c) Coordination with other contractors and projects.

(d) Habitat Restoration Work Schedule.

(e) Contractor submittals and KRRC review.

(f) Schedule of Contractor submittals.

(g) Requests for information and clarification.

(h) Required Insurance.

(i) Contractor's site-specific Health and Safety Plan.

(j) Security.

(k) Housekeeping.

(l) Record drawings.

(m) Proposed Habitat Restoration and Maintenance Commencement Date.

(n) Contractor Governmental Approvals.

(o) Emergency telephone numbers.

(p) Temporary Utilities/Utilities coordination.

(q) Any other Habitat Restoration Work-related items.

The pre-commencement conference shall be scheduled by the Contractor at a time reasonably acceptable to the KRRC and shall be attended by the Program Manager, the Habitat Project Work Manager, the Habitat Restoration Manager and the Contractor's principal Subcontractors' project managers or superintendents and representatives of major suppliers as the Contractor deems appropriate. Other attendees may include a representative from the Contractor's executive team, the quality assurance/quality control manager ("QA/QC Manager"), local police and fire departments and other Governmental Bodies with jurisdiction over the Habitat Restoration Work, any other contractors whose work affects or is affected by restoration work and others as deemed appropriate by these parties. The Contractor shall conduct the conference at the Habitat Project Work Area and make all arrangements for space, facilities and food services and shall notify all participants of the arrangements.

8.4.2 Habitat Restoration Work Progress Meetings – Scheduling and Attendance.

The Contractor shall schedule, hold, and facilitate regular weekly Habitat Restoration Work progress meetings from the time mobilization for Habitat Restoration Work commences through Habitat Restoration Work Completion, and at other times if requested by the KRRC or as the Contractor deems necessary. The Habitat Restoration Work progress meetings shall be attended by the Contractor Habitat Restoration Work Manager and the Contractor's principal Subcontractors' project managers or superintendents and representatives of major suppliers, as the Contractor deems appropriate. The Contractor, Habitat Restoration Work Manager and representatives from the Contractor's executive team shall attend progress meetings periodically as requested by the KRRC. Other attendees may include the QA/QC Manager, any other contractors whose work affects or is affected by, restoration work, and others deemed appropriate by these parties. The KRRC shall attend the weekly progress meetings. Habitat Restoration Work progress meetings shall be held at the Habitat Project Work Area.

8.4.3 Habitat Restoration Work Progress Meetings – Agenda.

At such meetings, discussions shall be held concerning all aspects of the Habitat Restoration Work including, but not limited to, the Habitat Restoration Work Schedule, coordination of work with others, Habitat Restoration Work Technical Requirements Changes, Contractor Governmental Approvals and Habitat Restoration Work submittals, and any test results. The Contractor shall prepare an agenda, preside at meetings, record minutes to include significant proceedings and decisions, and distribute the minutes to all parties in attendance within 10 Business Days of the meeting. The agenda shall include, but shall not necessarily be limited to, the status of the following matters:

(a) Summary of previous meeting issues, actions and assignments.

(b) Progress since last meeting (Contractor and Subcontractors).

(c) Schedules, including updates on planned progress for next four to six weeks, off-site fabrication and delivery schedules; corrective action measures, if required and when to be implemented.

(d) Problems, issues and considerations.

(e) Contract Administration Memoranda and Agreement Amendments.

(f) Status of submittals, including to be submitted, submitted, responses requiring corrective actions and resubmittal and approved.

(g) Requests for Information, including those to be submitted, submitted, responses and whether adequate or more information is required.

(h) Quality standards and control.

(i) Quality assurance/quality control ("QA/QC") reviews, findings, issues and actions.

(j) Coordination among parties.

(k) Safety program update, concerns, accidents, and injuries, if any.

(l) Visits by regulatory agencies.

(m) Public affairs and issues or concerns of nearby residents.

(n) Habitat Project Work Area visits by KRRC, KRRC's representatives, representatives of Governmental Bodies and Contractor's representatives.

(o) Compliance with CEQA mitigation requirements and any environmental issues.

(p) Status of record drawings and specifications.

(q) Other business.

(r) Next meeting date.

8.4.4 Monthly Progress Reports.

Monthly progress reports required to be submitted by the Contractor shall include:

(a) A summary of Habitat Restoration Work activities during the reporting month.

(b) A schedule of upcoming Habitat Restoration Work activities.

(c) A listing of submittals delivered during the reporting month and their status;

(d) A listing of submittals scheduled for delivery the following month.

(e) The Contractor's verification that the record documents have been updated as appropriate.

(f) A summary of activities involved with obtaining Contractor Governmental Approvals.

(g) A listing of any violations of Contractor Governmental Approvals or Applicable Law and actions taken or to be taken to eliminate any subsequent violations.

(h) A listing of issues needing resolution.

(i) A listing of all telephone calls received during the reporting month involving material inquiries or complaints.

(j) Habitat Restoration Work Schedule updates.

(k) The Contractor's plan for accelerating the Habitat Restoration Work Schedule to meet the Scheduled Habitat Restoration Work Completion Date should the Contractor's progress-to-date indicate that the Contractor's Habitat Restoration Work is behind schedule and at risk of not being completed by the then applicable Scheduled Habitat Restoration Work Completion Date (as adjusted for extensions of time permitted under this Agreement).

(l) Expenditures for the most recently completed month and for the Habitat Restoration Work to date, and a comparison to the Schedule of Values; explanations for significant deviations from the Schedule of Values for both over expenditures and under expenditures; corrective actions proposed by the Contractor to bring spending in-line with Schedule of Values or proposals to KRRC for an adjustment in the Schedule of Values or acceptance of the deviations.

(m) Progress payment requests as described in Article 8 (Compensation for Habitat Restoration Work) of this Agreement. The format of the payment request shall be matched with the description of work activities completed for the reporting month so that the KRRC can easily relate the breakdown of the payment request to work progress on specific tasks and subtasks. Supporting documentation shall be provided so that the KRRC can readily determine the basis for the requested payment amounts for Habitat Restoration Work performed during the month by task or subtasks in terms of labor hours, Habitat Restoration Work equipment costs, capital improvements equipment and materials expenditures, specialty Subcontractors including similar breakdowns for Subcontracts in excess of $500,000 and other Habitat Restoration Work costs incurred during

the month. Current retainage and total retainage to date shall be included in the monthly report. Payment request information shall include similar information for changes made pursuant to Sections 6.6 (Changes to the Habitat Restoration Work Technical Requirements at Contractor Request) and 6.7 (Other Changes to the Habitat Restoration Work Technical Requirements) of this Agreement.

The monthly progress report shall also provide a description of (1) any concerns or issues raised by the KRRC or other parties regarding the Habitat Restoration Work, and the Contractor's approach to promptly addressing and resolving such concerns or issues, and (2) a Section containing health and safety statistics and a description of any accidents or injuries that occurred and the follow up investigations as to cause and subsequent corrective actions to be taken or already implemented by the Contractor. The format of the monthly report shall be developed by the Contractor and approved by the KRRC prior to the commencement of any construction or demolition on the Habitat Project Work Area.

8.4.5 Habitat Restoration Work Records.

The Contractor, in connection with the Habitat Restoration Work generally, shall maintain and provide the following records:

(b) Record Drawings and Specifications: The Contractor shall:

(i) Throughout the Habitat Restoration Work, update the Habitat Restoration Work Design Documents (with respect to the drawings, such update shall be in hard copy and "CAD" or other electronic format reasonably acceptable to the KRRC), including approved shop drawings that are available from Subcontractors in CAD format, so as to produce accurate and complete record documents for the Habitat Restoration Work.

(ii) As requested from time to time during the Habitat Restoration Work, make available such record drawings and specifications to the KRRC for review to permit the KRRC to monitor the Contractor's compliance with the requirements of this Section.

(iii) Provide seven hard copies (in architectural D size and electronically in PDF format and current version of Bentley Microstation CAD file) of the completed record drawings and specifications to the KRRC as a condition to Habitat Restoration Work Completion. The record drawings shall not be deemed to have satisfied the condition to the applicable Habitat Restoration Work Completion unless reviewed and deemed final by the KRRC.

(b) Design Records: The Contractor shall retain records of the design development.

(c) Minutes of Meetings: The Contractor shall retain minutes of meetings between the KRRC and the Contractor relating to the Habitat Restoration Work, and shall circulate such minutes to the KRRC and the KRRC Technical Representative for review and comment.

(d) Inspection Reports and Tests Results: The Contractor shall retain official reports and certified test records of all inspections and tests which were undertaken as part of the Habitat Restoration Work.

(e) Utility Plans: The Contractor shall retain Utility plans for the Habitat Restoration Work and the Habitat Project Work Area.

(f) Landscape and Irrigation Plans: The Contractor shall retain landscape and irrigation plans for the Habitat Restoration Work and the Habitat Project Work Area.

(g) Copies of all Contractor Governmental Approvals: The Contractor shall retain copies of all Contractor Governmental Approvals for the Habitat Restoration Work.

(h) Signed Habitat Restoration Work Quality Management Plan: The Contractor shall retain a signed copy of the Habitat Restoration Work Quality Management Plan for the Habitat Restoration Work and all records of the QA program implemented as required by this Agreement.

The records referred to in this Section shall be retained for at least five years following the Habitat Restoration Work Completion Date.

8.5. HABITAT RESTORATION WORK GENERALLY

8.5.1 Deliverable Material.

The Contractor shall deliver to the KRRC all Deliverable Material required to be delivered under this Appendix, Appendix 9 (Habitat Restoration Work Quality Control Requirements), and Appendix 10 (Habitat Restoration Work Review Procedures).

8.5.2 Signs.

The Contractor shall provide and maintain temporary identification and information signs during the Habitat Restoration Work Period. No signs shall be erected until their appearance, content, and location have been fully reviewed and approved by the KRRC, which approval shall not unreasonably be withheld, conditioned or delayed. The Contractor shall remove temporary signs from the Habitat Project Work Area when they are no longer necessary.

8.5.3 Laydown Areas and Field Office Space.

Laydown and staging areas for materials shall be located at the Habitat Project Work Area or at other locations arranged and paid for by the Contractor. At a minimum, field office facilitates shall include the following:

(a) Field office facilities for the Contractor;

(b) Field office facilities for the KRRC's construction management team and inspectors;

(c) At a minimum, separate office facilities shall be provided at J.C. Boyle and Copco/Iron Gate;

(d) Each office facility shall provide a minimum of two private offices with doors and keyed locksets, two restrooms, one enclosed conference room, one breakroom with refrigerator, microwave oven, coffee brewer, bottled water and waste receptacle, copier/scanner/printer/fax and security system;

(e) All office desks or offices shall have duplex power receptacles, telephone, broadband internet connection, and appropriate lighting at desktop; and

(f) The cost of the KRRC's construction office furniture, fixtures, equipment, supplies, consumables, or telephone/internet service provider fees shall be borne by the Contractor.

1.1.2 Maintenance of the Habitat Project Work Area.

During performance of the Habitat Restoration Work, the Contractor shall be responsible for the overall maintenance of the Habitat Project Work Area. The Contractor shall keep the Habitat Project Work Area neat and orderly at all times, and shall clean up and remove all rubbish and restoration debris from the Habitat Project Work Area as they accumulate in accordance with the Contract Standards.

8.5.4 Temporary Utilities.

The Contractor shall supply all necessary temporary Utilities, including electricity, telecommunications services, potable water (at no unit charge from KRRC), fire protection, lighting, and sanitary facilities, during the performance of the Habitat Restoration Work. Prior to the Habitat Restoration Work Completion Date, the Contractor shall disconnect and arrange for the disconnection and removal of all temporary Utility connections and services. The Contractor shall coordinate with the KRRC on all temporary Utilities.

8.5.5 Relocation of Existing Utilities.

The Contractor shall be responsible for all construction activities required with regard to existing Utility services and installations (e.g., conduits, pipelines, transmission mains and other Utility equipment and appurtenances), including after KRRC review and approval of any relocation of Utilities.

8.5.6 Noise Control.

The Contractor shall comply with all noise regulations required pursuant to Applicable Law. Habitat Restoration Work will be allowed as defined in Section 7.2.4 (Required Design Criteria – On-Site Work Hours) of Appendix 7 (Habitat Restoration Work Technical Requirements). In the event that the work hours are restricted further than as described therein, such restrictions will be considered an Uncontrollable Circumstance, as and to the extent provided in Article 12 (Uncontrollable Circumstances) of this Agreement.

8.5.7 Notice of Default.

The Contractor shall provide to the KRRC, promptly following the receipt thereof, copies of any notice of default, breach or non-compliance received under or in connection with any Governmental Approval or Subcontract that may have a material and adverse effect on performance by the Contractor of its obligations under this Agreement.

8.6. HABITAT RESTORATION WORK SAFETY AND SECURITY

8.6.1 Safety and Security.

The Contractor shall maintain safety and security at the Habitat Project Work Area at all times at a level consistent with the Contract Standards. The KRRC will neither assume

administration nor direct control and responsibility for maintaining the Contractor's health and safety program.

Nothing contained in this Section shall relieve the Contractor, or any Subcontractor or Supplier, from the obligations set forth above and obligations as required by Applicable Law. If a provision of this Section conflicts with any applicable provision of this Agreement or any Applicable Law, the more stringent requirements that maintain a greater level of safety shall apply.

Without limiting the foregoing, the Contractor shall:

(a) Implement a zero incident philosophy on the Habitat Restoration Work and establish a goal of zero accidents and zero injuries with work tasks designed to minimize or eliminate hazards to personnel, process, equipment, environment and the general public.

(b) Be committed to protecting the health and safety of individual employees, their co-workers, and the public at large from the hazards caused by the misuse of drugs and alcohol on the job. The safety of the public, as well as the safety of fellow employees, dictates that employees are not permitted to perform their duties while under the influence of drugs or alcohol. Accordingly, the Contractor agrees to develop and comply with an appropriate substance abuse policy. Contractor shall select and use a qualified, approved substance abuse third party administrator to perform all required substance abuse testing.

(c) Include a description of the process of notification, reporting, and investigating incidents or near-miss incidents. The results of investigations of incidents shall be documented in final root cause analysis and corrective actions reports. Investigations of incidents shall be documented in investigation reports.

(d) Take appropriate precautions for the safety and security of the Habitat Restoration Work and provide appropriate protection to prevent damage, injury or loss related to the performance of the Habitat Restoration Work over the Habitat Restoration Work Period for:

(i) Workers at the Habitat Project Work Area and all other persons who may be involved with deliveries or inspections;

(ii) Visitors to the Habitat Project Work Area;

(iii) Passersby, neighbors and adjacent properties with respect to the Habitat Restoration Work activities;

(iv) Materials and equipment under the care, custody or control of the Contractor or Subcontractors on the Habitat Project Work Area;

(v) Other property constituting part of the premises or the Habitat Restoration Work; and

(vi) KRRC Property;

(e) Establish and enforce appropriate safeguards for safety and protection, including posting danger signs and other warnings against hazards;

(f) Provide temporary fencing of all open or partially open trenches and excavations, all open or partially completed structures, and all work and storage areas at all times while unattended by workmen;

(g) Implement a comprehensive safety program in accordance with Applicable Law;

(h) Give all notices and comply with all Applicable Law relating to the safety of persons or property or their protection from damage, injury or loss;

(i) Operate and maintain all equipment in a manner consistent with the manufacturer's safety requirements;

(j) Provide for safe and orderly vehicular movements;

(k) Develop and implement a written Habitat Project Work Area-specific Health and Safety Plan that includes management commitment, maintaining a safe workplace, employee participation, hazard evaluation and controls, employee training and periodic inspections ("Health and Safety Plan");

(l) Designate an appropriately certified and experienced safety professional to develop and sign the Habitat Project Work Area-specific Health and Safety Plan, including all safety rules at the Habitat Project Work Area;

(m) Designate a qualified safety professional at the Habitat Project Work Area during on-site Habitat Restoration Work activities who shall be responsible for the implementation of safety rules at the Habitat Project Work Area, the prevention of fires and accidents, monitoring compliance with the Contractor's Habitat Project Work Area-specific Health and Safety Plan, and the coordination of such activities as shall be necessary with the KRRC and all Governmental Bodies related to health and safety; and

(n) Require all Subcontractors to work in accordance with and implement the Health and Safety Plan, comply with the Contractor's on-site safety requirements, and designate a qualified safety professional whose duty shall be the implementation of safety rules at the Habitat Project Work Area and monitoring compliance of Subcontractor employees with the Subcontractor's Habitat Project Work Area-specific Health and Safety Plan.

(o) The Contractor shall maintain Habitat Restoration Work safety audits, equipment safety inspection logs, incident reports, and all reports covering the implementation of Health and Safety Plan on the Habitat Project Work Area for review upon request by the KRRC.

(p) If the Contractor repeatedly fails to comply with applicable health and safety-related Applicable Law and contract safety requirements, the KRRC reserves the authority to have work performed by others and to deduct corresponding costs from Contractor's progress payment(s) and/or suspend progress payments.

(q) The Contractor's non-compliance with health and safety-related Applicable Law and Agreement safety requirements shall be considered failure by the Contractor to perform a provision of the Agreement, and may be cause for the suspension of the Habitat Restoration Work and/or the discharge from the Habitat Restoration Work of an employee, Subcontractor or Supplier as set forth in the Agreement.

The Contractor will be responsible for all costs for stoppage of Habitat Restoration Work and/or replacement of employee(s).

8.6.2 Perimeter Security.

The Contractor shall develop, maintain and comply with a Habitat Project Work Area perimeter security plan that is approved by the KRRC and the Project Company and constitutes part of the Health and Safety Plan. The perimeter security plan shall assure the security of the Habitat Project Work Area when perimeter fencing cannot be continuously maintained.

8.7. ENVIRONMENTAL REVIEW AND PROTECTION

8.7.1 Wildlife and Protected Species Protection.

In accordance with the Contractor Governmental Approvals, the Contractor shall develop and implement a plan that is consistent with required measures for wildlife and protected species that may be affected by restoration activities of the Contractor. Prior to implementing the plan, the Contractor shall obtain KRRC approval.

8.7.2 Contractor Environmental Monitor.

If required by the Environmental Mitigation Measures, the Contractor shall assign a Contractor Environmental Monitor ("CEM") to ensure that its mitigations plan is properly and fully implemented. The CEM shall be the single, identified entity or person responsible for, at a minimum, the following duties:

(a) Planning of environmentally compliant Habitat Restoration Work methods.

(b) Oversight of Habitat Restoration Work activities to determine compliance with mitigation measures.

(c) Ensuring that all training has been conducted, and signage, marking and barriers to protected areas have been installed.

(d) Ensuring compliance with the Stormwater Pollution Prevention Program (SWPPP).

(e) Coordination with the KRRC on implementation of environmental mitigation measures.

(f) Coordination with Governmental Bodies that have administrative oversight of the environmental sites to be protected, if required.

(g) Compliance with environmental Contractor Governmental Approvals.

(h) Meeting or interacting with representatives of Governmental Bodies with environmental oversight authority, if required.

All environmental monitoring duties conducted by the CEM shall be recorded in the form of a standard report and photographic log (as required). The photographic log shall be kept in both electronic and hardcopy form. All reports shall be submitted to the KRRC in summary form on a monthly basis or more frequently if required by KRRC. Copies of all daily monitoring records shall be maintained at the Habitat Project Work Area by the CEM.

8.7.3 Regulated Substances Management Program.

The Contractor shall develop, maintain and implement a Regulated Substances management plan that includes as a minimum, but is not limited to, the requirements specified in this Section ("Regulated Substances Management Program"). A copy of the Regulated Substances Management Plan shall be submitted to the KRRC for review and approval. The intent of the plan is to prevent accidental spills, site contamination, and injury or illness of all personnel on the site due to contact or exposure to Regulated Substances. The KRRC shall notify the Contractor of any observed conditions that may be in violation of the plan. If the Contractor fails to address KRRC-reported concerns about observed conditions that may be in violation of the plan in a timely and appropriate manner, the KRRC may notify all appropriate Governmental Bodies, and report the observed conditions to them, and request that they inspect the sites involved that are under the Contractor's control. All documents required by the Regulated Substances Management Plan shall be made available to the KRRC immediately upon request.

8.7.4 Contractor Regulated Substances.

Any Regulated Substances generated by the Contractor shall be the responsibility of the Contractor. The Contractor shall obtain an Environmental Protection Agency identification number for all Contractor Regulated Substances, listing the Contractor's name and address as the generator of the Contractor Regulated Substances. The Contractor shall be responsible for the identification, analysis, profiling, documentation, reporting, transport and disposal of Contractor Regulated Substances. Any fines that are levied against the KRRC for violations of Applicable Law as determined by any Governmental Body relating to Contractor Regulated Substances shall be reimbursed immediately by the Contractor after payment by KRRC.

8.7.5 Emergency/Spill Response Plan.

The Contractor shall develop an Emergency/Spill Response Plan ("Emergency Response Plan"), for each Regulated Substance or class/group of Regulated Substances either known to be on the Habitat Project Work Area or intended to be brought to the Habitat Project Work Area by the Contractor. At a minimum, the Response Plan must include the following:

(a) A description of on-site equipment available to contain and respond to an emergency/spill of the Regulated Substance.

(b) Notification procedures, including notification to potentially impacted residents adjacent to the Habitat Restoration Work.

(c) Response coordination procedures between the Contractor and the KRRC.

(d) A Regulated Substance site map showing the location of stored Regulated Substances and location spill containment/response equipment.

(e) A description of the Regulated Substances handling and spill response training provided to the Contractor's employees and Subcontractors.

8.7.6 Dust Control.

The Contractor shall be responsible for dust control during the performance of the Habitat Restoration Work and shall comply with all air pollution control Applicable Law and Contractor Governmental Approvals. The Contractor shall furnish all necessary labor, materials and equipment for dust control.

APPENDIX 9

HABITAT RESTORATION WORK QUALITY CONTROL REQUIREMENTS

APPENDIX 9

HABITAT RESTORATION WORK QUALITY CONTROL REQUIREMENTS

9.1. PURPOSE

The purpose of this Appendix is to describe the minimum requirements for the Habitat Restoration Work Quality Management Plan, including quality assurance ("QA") and quality control ("QC") procedures that shall be implemented during the Habitat Restoration Work Period. QA/QC shall include inspection, sampling and testing, and other requirements.

9.2. KRRC'S QUALITY OBJECTIVES

The Habitat Restoration Work Quality Management Plan, including QA/QC, shall be consistent with and support the following quality objectives for the Habitat Restoration Work:

(a) Ensure that the Habitat Restoration Work is consistent with the Contract Standards.

(b) Ensure that Governmental Approval requirements are effectively incorporated into Habitat Restoration Work.

(c) Develop and implement procedures to ensure that problems are discovered early, resolved in a timely manner, and do not recur.

(d) Ensure that adequate QA/QC procedures and resources are provided by the Contractor to effectively assess and ensure high quality in all work products and services, warranty requirements, safety, security and environmental compliance requirements.

(e) Provide timely reporting and documentation of QA/QC inspections, technical reviews, testing, analysis and determinations of compliance with the Contract Standards.

(f) Provide follow up inspections, analysis and testing if conditions are found to be non-compliant with the Contract Standards and verify through special reports and direct communications with the KRRC that all corrective actions have been effectively implemented and that the resultant product or service is of acceptable quality.

9.3. HABITAT RESTORATION WORK QUALITY MANAGEMENT PLAN DEVELOPMENT AND IMPLEMENTATION

9.3.1 General Requirements.

The development and implementation of the Habitat Restoration Work Quality Management Plan shall be the responsibility of the Contractor. The Habitat Restoration Work Quality Management Plan shall integrate the permitting, design, and restoration phases of the Habitat Restoration Work during the Habitat Restoration Work Period and shall include detailed QA and QC programs as attachments. Other Habitat Restoration Work Quality Management Plan requirements are defined in Section 9.4 (Habitat Restoration Work Quality Control Requirements) of this Appendix.

9.3.2 Habitat Restoration Work Quality Management Plan Requirements.

The "Habitat Restoration Work Quality Management Plan" shall include a description of how the Contractor will provide the following:

(a) Adequate resources for effective plan implementation throughout all phases of the Habitat Restoration Work. Information on QA/QC staff to be assigned to the Habitat Restoration Work and their qualifications for performing required QA/QC functions;

(b) Programs, procedures, methods, tests, analyses and communications procedures, reports, photographs and comments on drawings and specifications and other documents used by the Contractor to assess Habitat Restoration Work quality and compliance with the Contract Standards;

(c) How the QA/QC program shall function independently of Contractor's production staff and be empowered to enforce plan objectives, define quality requirements, independently verify quality of Habitat Restoration Work products and services, identify potential causes of unacceptable quality of work and provide safeguards to prevent unacceptable work quality, and require prompt corrective action for identified deficiencies;

(d) A communications plan for demonstrating that quality requirements have been established and communicated to all Subcontractors prior to their commencement of providing products or services on the Habitat Restoration Work. This shall include information on the roles, responsibilities and authorities of identified QA/QC staff; and

(e) The Contractor shall submit its Habitat Restoration Work Quality Management Plan for KRRC review for all phases of the Habitat Restoration Work, including verification of compliance with the Contract Standards as part of its initial document submittal package. KRRC will provide comments on the Habitat Restoration Work Quality Management Plan and the Contractor shall make required changes and include the final KRRC-approved Habitat Restoration Work Quality Management Plan as an attachment to this Agreement.

9.3.3 Changes to the Habitat Restoration Work Quality Management Plan.

Revisions and updates to the Habitat Restoration Work Quality Management Plan may be proposed by the Contractor as the Habitat Restoration Work progresses. Changes to the initial Habitat Restoration Work Quality Management Plan require written approval of the KRRC. Proposed revisions or updates shall be provided to the KRRC at least 30 days prior to the start of the Habitat Restoration Work to which the revision applies. The KRRC will review and respond in a timely manner to Habitat Restoration Work Quality Management Plan proposed changes. The Contractor shall not initiate any of the Habitat Restoration Work that is impacted by such proposed revision or change until the KRRC has reviewed and accepted the change.

9.4. HABITAT RESTORATION WORK QUALITY CONTROL REQUIREMENTS

9.4.1 Habitat Restoration Work Quality Control Program.

The Habitat Restoration Work Quality Management Plan shall include the details of the Contractor's Habitat Restoration Work Quality Control Program ("CQCP"). Instructions for

performing inspections must be clearly defined, including the work attributes to be inspected, acceptability criteria, frequency of inspections, and the requirements for documenting the inspection results. Documentation requirements shall include Contractor production reports, Contractor quality control reports, field test reports, testing plan and log, inspection reports, rework items list and quality control meeting minutes. The CQCP shall require inspection during the performance of the Habitat Restoration Work by inspectors who are not responsible, in whole or in part, for the scheduling or performance of the Habitat Restoration Work being inspected. Inspection records must be kept current, have sufficient detail to enable the KRRC to identify inspections which have been performed, and the results of these inspections. Inspections must be made throughout the Habitat Restoration Work Period, including the initial work, in-process inspections, final inspections, and testing during the performance of the Habitat Restoration Work. The CQCP shall describe methods to be implemented, including a daily quality control report, to identify and track all unsatisfactory, deviating, and nonconforming work until the required repair, rework, or replacement is performed, and the work has been re-inspected and accepted. The CQCP shall detail the means and methods for identifying and correcting all deficiencies such that the Habitat Restoration Work quality meets the Contract Standards and the Contractor's Habitat Restoration Work Design Documents. The Contractor shall be informed of all unsatisfactory conditions that the Contractor will correct and for any nonconforming conditions for which the Contractor intends to request the KRRC's acceptance in accordance with Section 6.11 (Correction of Work) of this Agreement.

9.4.2 Materials and Equipment.

The CQCP shall ensure the quality of all material and equipment. Procedures shall be used to verify that the procurement documents meet all Contract Standards and the Contractor's Habitat Restoration Work Design Documents, and that quality has been controlled during the manufacture and testing of all equipment which is being fabricated for the Habitat Restoration Work. The CQCP shall require written documentation of inspection of all material and equipment to ensure that it meets all Contract Standards and the Contractor's Habitat Restoration Work Design Documents. Documentation such as material test reports, certifications, and equipment tests results must be delivered to the KRRC and KRRC-designated representatives to demonstrate compliance with all Contract Standards and the Contractor's Habitat Restoration Work Design Documents. The CQCP shall include monitoring procedures to ensure that material and equipment delivered to the Habitat Project Work Area are undamaged, in the proper quantities and in accordance with the specification requirements, and that all materials and equipment are stored and maintained on the Habitat Project Work Area according to the Contract Standards, including the requirements of the designer and the manufacturer. Procedures and controls shall be provided to ensure that inspections are being performed using the latest Habitat Restoration Work Design Documents and approved shop drawings. Procedures shall ensure that an adequate number of inspection personnel are available at all times, and that all inspectors are qualified, trained, and proficient in performing inspections for the Habitat Restoration Work to which they are assigned.

9.5. INSPECTION OF HABITAT RESTORATION WORK

9.5.1 Inspection and Correction.

All Habitat Restoration Work performed by the Contractor or its Subcontractors shall be inspected by the Contractor. All nonconforming Habitat Restoration Work and any safety hazards in the work area shall be noted and promptly corrected. The Contractor is responsible for the performance of the Habitat Restoration Work safely and in conformance with Section 8.6 (Habitat Restoration Work Safety and Security) of Appendix 8 (General Habitat Restoration Work Requirements).

9.5.2 KRRC Access.

The KRRC, its employees, agents, representatives and contractors shall be permitted access to all parts of the Habitat Restoration Work, including plants where materials or equipment are manufactured or fabricated. The presence of the KRRC, its employees, agents, representatives and contractors shall not relieve the Contractor of the responsibility for the proper execution of the Habitat Restoration Work in accordance with all requirements of this Agreement. No act or omission on the part of the KRRC, its employees, agents, representative and contractors (other than KRRC Fault) shall be construed as relieving the Contractor of this responsibility.

9.5.3 Materials Inspection.

All materials and articles furnished by the Contractor shall be subject to documented inspection, by qualified personnel, and no materials or articles shall be used in the Habitat Restoration Work until they have been inspected and accepted by the QA/QC Manager or other designated representative. Any Habitat Restoration Work covered in the absence of inspection shall be subject to uncovering as set forth in Section 6.10 (Monitoring, Observations, Testing and Uncovering of Habitat Restoration Work) of this Agreement.

9.6. INSTALLATION

9.6.1 Inspection and Measurement.

The Contractor shall inspect materials or equipment upon the arrival at the jobsite and immediately prior to installation, and remove damaged and defective items from the jobsite. The KRRC shall be provided the opportunity to observe any such Contractor inspections in accordance with Section 6.10 (Monitoring, Observations, Testing and Uncovering of Habitat Restoration Work) of this Agreement. The Contractor shall verify measurements and dimensions of the work as an integral step of starting each installation.

9.6.2 Manufacturer's Instructions.

Where installations include manufactured products, the Contractor shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than the Contract Standards, so as not to violate manufacturers' warranty conditions.

APPENDIX 10

HABITAT RESTORATION WORK REVIEW PROCEDURES

APPENDIX 10

HABITAT RESTORATION WORK REVIEW PROCEDURES

10.1. OVERVIEW

10.1.1 Purpose.

The purpose of this Appendix is to set forth the procedures for the KRRC's review of each aspect of the Habitat Restoration Work to verify that the Habitat Restoration Work has been performed in accordance with the Habitat Restoration Work Technical Requirements and the terms and conditions of this Agreement.

10.2. DOCUMENTS TO BE SUBMITTED

At a minimum, the documents to be submitted during the Habitat Restoration Work Period shall include the following:

(a) Monthly progress schedule updates

(b) Intermediate submittals for review sessions and workshops on various materials, facilities, systems, equipment, and disciplines

(c) Draft Issued for Habitat Restoration Work Specifications

(d) Applications and supporting documents required for Contractor Governmental Approvals

(e) Record drawings and specifications

Such documents shall be submitted in accordance with the Document Submittal Procedures.

10.2.1 Habitat Restoration Work Package Information.

The Contractor shall have flexibility with how it organizes and performs Habitat Restoration Work packages so that it can proceed with ordering any necessary equipment or commence with any necessary restoration activities such as civil-site work prior to the 100% design; provided, however, such restoration or ordering of equipment prior to the 100% design shall not negatively affect the remaining Habitat Restoration Work, the Habitat Restoration Work Price or the Habitat Restoration Work Schedule. The Contractor shall provide the following information, as applicable, in the appropriate Habitat Restoration Work package in accordance with the Document Submittal Procedures:

(a) Specifications, Design Narratives and Lists:

(i) Habitat Restoration Work design criteria

(ii) Specifications

(iii) Process systems piping line list

(iv) Major equipment list (process, mechanical, electrical, instrumentation and control, support systems, other)

(v) Proprietary technology/equipment list

(b) Drawings, in both three dimensional electronic and standard design formats:

(i) Cover sheet

(ii) Drawing index

(iii) Layout of the Habitat Project Work Area

(iv) Habitat Project Work Area master planning layouts

(v) Landscape inventory plan

(vi) Landscape and irrigation plans

(vii) Habitat Project Work Area grading and Utility plans, with sections as needed for restoration clarity or dimensioning

(viii) Surface drainage system and features plans and details

(ix) Fire protection and security system plans

(x) Habitat Project Work Area sections and details

(xi) Major structure foundation plans and sections

(xii) Major structure exterior elevations and sections

(xiii) Architectural renderings

(xiv) Electrical site plan

10.3. KRRC DOCUMENT REVIEW

10.3.1 KRRC Review Responsibilities.

On or before the Habitat Project Work Commencement Date, the Contractor shall submit updated Document Submittal Procedures that address the submittal of the draft Issued for Habitat Restoration Work Specifications (the "Final Design Submittal Protocol"). In accordance with the Final Design Submittal Protocol, the KRRC shall review the Contractor's draft Issued for Habitat Restoration Work Specifications for compliance and consistency with the final 90% Habitat Restoration Work Design Documents for compliance and consistency with the draft Issued for Habitat Restoration Work Specifications and both for overall compliance with the requirements of this Agreement. The KRRC's input during finalization of the Habitat Restoration Work Design Documents and preparation and finalization of Habitat Restoration Work packages shall be solicited by the Contractor on a timely basis so as to provide adequate periods for review by the KRRC, revisions by the Contractor and final review by the KRRC without negatively impacting the Habitat Restoration Work Schedule. The KRRC shall make reasonable efforts to bring staff or representatives with review and decision-making authority to the work sessions as requested and scheduled by the Contractor. The Contractor shall provide the KRRC with advance notice of the work sessions and agenda topics to facilitate the KRRC's scheduling of the appropriate participants for the work sessions. The Contractor shall provide the KRRC with Final Habitat Restoration Work Design Documents before commencing

any Habitat Restoration Work activity, except as provided in Section 10.2.1 (Habitat Restoration Work Package Information) of this Appendix. Habitat Restoration Work activities shall not vary from the Final Habitat Restoration Work Design Documents submitted to the KRRC except where such variations are allowed, subject to the KRRC's and applicable Governmental Bodies' review and approval. Adherence to the draft Issued for Habitat Restoration Work Specifications during work completion shall be a factor used by the KRRC in its review and approval of the Contractor's Payment Requests during Habitat Restoration Work.

10.3.2 Time for KRRC Review.

The KRRC shall complete its review of each submittal in a timely manner in order to determine that the Habitat Restoration Work conforms to the Habitat Restoration Work Technical Requirements and other Contract Standards. The Contractor and the KRRC shall periodically review the Document Submittal Procedures, which define key submittals and the target submittal dates, and develop a submittal review schedule for each submittal based on the content and criticality of each submittal.

10.3.3 Time for Contractor Response.

For each submittal, the KRRC shall provide written comments in a tabular summation describing any concerns, problems, or assertions of non-compliance with the applicable Contract Standards. The tabular summation shall be on a form created mutually by the Contractor and the KRRC, with provisions on the form for the Contractor's responses. The Contractor shall provide a written response to the KRRC's comments within 15 Business Days of receipt of the KRRC's comments, primarily through use of the tabular summary form, including documentation of responses and agreed-upon action items.

10.3.4 Habitat Restoration Work Progress Meetings.

For the purpose of facilitating a timely review process, the Contractor shall schedule design-build progress meetings with the KRRC on a routine basis and at least monthly (unless both parties agree that more frequent meetings are required) throughout the design finalization and Habitat Restoration Work package development period. Any outstanding review comments not satisfactorily resolved shall be transferred to an issues tracking form by the Contractor for subsequent follow-up. The primary purpose of these meetings shall be to discuss overall Contractor work progress, the conformance of the design and Habitat Restoration Work packages to the Habitat Restoration Work Technical Requirements, and to address outstanding issues arising from the review and response process. The status and issues of related permitting and may also be included as agenda items for each Habitat Restoration Work progress meeting. These meetings shall be held in the KRRC's offices, or another location agreed to by the KRRC. Contractor representatives with responsibility for the Habitat Restoration Work shall participate in the meeting. Similarly, the KRRC shall be appropriately represented by individuals with knowledge and authority for decision making at the meeting.

10.3.5 Design Submittals During Habitat Restoration Work.

It is anticipated that there could be some redesign or design clarifications needed during the performance of the Habitat Restoration Work. Additional design work by the Contractor shall be subject to the KRRC's review for compliance and consistency with applicable Habitat Restoration Work Technical Requirements. Design changes to a particular Habitat Restoration Work Design Document performed following the issuance of the Habitat Restoration Work Design Document for the Habitat Restoration Work shall be issued under a Design Change Notice ("DCN") process that accurately tracks and documents changes to the design. No later than 30 days prior to initiation of the Habitat Restoration Work, the Contractor shall submit to

the KRRC additions to the Document Submittal Procedures to include the DCN. The KRRC shall be provided with copies of all DCNs in a timely manner to allow review, comment, and, where appropriate, approval in the same manner as set forth with respect to the initial design. Design clarifications shall be issued in a timely manner using a similar procedure. If a DCN requires a material change from what was reflected in the applications for Contractor Governmental Approvals, the DCN must be approved by the appropriate Governmental Body if required by Applicable Law.

10.3.6 Design Change Authority.

The Contractor shall be responsible for providing design changes to the Habitat Restoration Work Design Documents necessary to complete the Habitat Restoration Work in accordance with this Agreement. All such changes shall be implemented in accordance with the DCN process described above, and in accordance with this Appendix. No DCN shall operate to change the Habitat Restoration Work Technical Requirements unless approved by the KRRC in writing. Any DCN which requests a change to the Habitat Restoration Work Technical Requirements shall be subject to the KRRC's rights under subsection 10.3.2 (Changes to Habitat Restoration Work Technical Requirements) of this Appendix.

10.4. KRRC HABITAT RESTORATION WORK INSPECTION

10.4.1 Habitat Restoration Work Review Intent.

The KRRC and its designated representatives, including the Program Manager, shall have the right, as provided in this Appendix, periodically to review and inspect Habitat Restoration Work activities and participate in Habitat Restoration Work progress meetings as needed to verify compliance with the Contract Standards. In addition, the KRRC shall have the right to monitor the progress of the Habitat Restoration Work and verify all applications for payment covering all Habitat Restoration Work performed during the preceding calendar month in accordance with the procedures set forth in Article 8 (Compensation for Habitat Restoration Work) of this Agreement. Notwithstanding the KRRC's review of Habitat Restoration Work activities, the Contractor shall be fully responsible for means, methods, techniques, sequences, and procedures of the Habitat Restoration Work, as well as safety precautions and programs in the performance of the Habitat Restoration Work. The KRRC's review and involvement in the Habitat Restoration Work activities is intended for the informational purposes of the KRRC and to monitor compliance with this Agreement. Such activities shall also be a part of the KRRC's independent QA process and shall not be viewed as an additional layer or integral part of the Habitat Restoration Work Quality Management Plan.

10.4.2 "Or Equals".

Whenever an item of material or equipment is specified in the Habitat Restoration Work Technical Requirements by using the name of a proprietary item or the name of a particular supplier, and is followed by the words "or equal", material or equipment of other suppliers may be considered. The KRRC shall determine, acting reasonably, the acceptability of proposed "or equal" items associated with the Habitat Restoration Work. The Contractor shall allocate adequate time in the Document Submittal Procedures for the KRRC to review and approve all "or equal" items for the Habitat Restoration Work. Any delays resulting from submittal of "or equal" items later than as set forth in the Document Submittal shall be the responsibility of the Contractor. The Contractor's design personnel shall be permitted to review proposed "or equal" suppliers for the balance of the Habitat Restoration Work.

10.4.3 Named Suppliers.

Whenever an item of material or equipment is specified in the Habitat Restoration Work Technical Requirements by using the name of a proprietary item or the name of a particular supplier, and is not followed by the words "or equal", the Contractor shall provide the named material or equipment.

10.4.4 Functionally Equal.

If, in the KRRC's reasonable discretion, an item of material or equipment proposed by the Contractor for the Habitat Restoration Work is functionally equal to that named, it may be considered by the KRRC as an "or equal" item. A proposed item of material or equipment shall be considered functionally equal to an item so named if:

(a) The KRRC determines that:

(i) it is at least equal in quality, durability, appearance, strength, and design characteristics; and

(ii) it shall reliably perform at least equally well the function imposed by the design concept of the completed Habitat Restoration Work as a functioning whole; and

(b) The Contractor certifies that it shall conform substantially, even with deviations, to the detailed requirements of the item named in this Agreement.

10.4.5 Corrections and Changes.

The procedures to be followed for correction of non-conforming Habitat Restoration Work and for instituting changes and additions to such work are set forth in Article 6 (Habitat Restoration Work) of this Agreement.

10.5. RECORD DRAWINGS

At Habitat Restoration Work Completion, the Contractor shall prepare and submit to the KRRC two complete sets of record drawings for the Habitat Restoration Work as implemented. The record drawings shall be submitted in accordance with the Document Submittal Procedures. The record drawings shall be prepared in accordance with the Contract Standards and shall include any applicable electrical and control wiring schematics/diagrams.

APPENDIX 11

INSURANCE REQUIREMENTS

APPENDIX 11

INSURANCE REQUIREMENTS

11.1. REQUIRED CONTRACTOR HABITAT PROJECT WORK INSURANCE

In connection with the performance of the Habitat Project Work, the Contractor shall obtain, pay for and maintain, or cause to be obtained, paid for and maintained, the insurance coverage listed below beginning on the Habitat Project Work Implementation Contract Amendment Date through each applicable statute of repose.

11.1.1 Professional Liability

A professional liability errors and omissions insurance policy covering negligent acts, errors or omissions arising out of the Contractor's professional services, which policy shall:

- be in an amount not less than $15,000,000 per claim and in the aggregate;
- be on a "claims-made" basis;
- provide for rectification coverage;
- not contain any exclusion for punitive damages, where punitive damages are insurable;
- contain modified workmanship and liquidated damages exclusions, per industry practice; and
- have an extended reporting or discovery "tail" period, or be renewed for a period, of not less than the statute of repose.

Such policy shall have a retroactive date effective before the commencement of any Preliminary Services.

The primary design professional shall maintain its practice policy for the discovery period required above in an amount not less than $15,000,000. Such practice policy shall not include any exclusionary language relating to habitat restoration joint ventures or partnerships, or both.

11.1.2 Commercial General Liability

A commercial general liability insurance policy, written on an occurrence basis and be at least as broad as the most recently issued Insurance Services Office (ISO) Form CG 0001, and covering liabilities arising out of the performance of the Habitat Project Work, including independent contractors, products and completed operations, personal and advertising liability, and liability assumed under an insured contract, and (unless covered under separate professional liability insurance) professional services provided in connection with the performance of the Habitat Project Work. The policy shall not include exclusions for property damage from explosion, collapse or underground hazard, or inadvertent construction defects. The products and completed operations liability coverage shall be maintained through the statute of repose. The insurance shall apply separately for each insured against whom a claim is made or a lawsuit is brought, subject only to the insurance policy limits of liability. This insurance policy shall:

- have coverage for any one occurrence or claim of not less than $2,000,000 per occurrence, $4,000,000 general aggregate, and $4,000,000 products completed operations with project specific limits;

- be maintained throughout the Term through the statute of repose; and

- also include terrorism, premises-operations, blanket contractual liability, and host liquor liability.

11.1.3 Commercial Automobile Liability

A commercial automobile liability insurance policy with limits of liability of not less than $5,000,000 combined single limit for bodily injury and property damage, which requirement may be met by any combination of primary and excess coverage so long as the excess is written on a "follow form" (or as broad as) basis. The insurance must cover liability arising from any Contractor's motor vehicle, including owned, non-owned, leased, hired, rented, borrowed or otherwise assigned to or used in connection with the performance of the Habitat Project Work.

11.1.4 Workers' Compensation and Employer's Liability

Workers' compensation as required by Applicable Law, and employer's liability insurance having coverage limits of $1,000,000 for each accident, $1,000,000 for disease (each employee), and $1,000,000 for disease (policy limit). Workers' compensation insurance shall be in accordance with the requirements of the laws of each of the States, as amended from time to time. The required workers' compensation insurance shall include other states' coverage, voluntary compensation coverage, and if applicable, federal longshoreman and harbor workers coverage.

11.1.5 Excess Liability

An excess liability insurance policy with limits of liability of not less than $75,000,000. The insurance coverage shall be as broad as and follow form of the commercial general liability, commercial automobile liability, watercraft and aircraft liability, and employer's liability coverages required pursuant to Section 11.1 (Required Contractor Habitat Project Work Insurance) of this Appendix. The policy shall include a drop-down provision over the primary policies and a priority of coverage endorsement.

11.1.6 Watercraft and Aircraft Liability

If the Contractor or any Subcontractor intends to utilize any watercraft, aircraft, helicopters or drones as part of the Habitat Project Work, the Contractor or such Subcontractor must procure and maintain insurance, through the general corporate polices of the Contractor or its affiliates, project-specific policies, a contractor controlled insurance program or a combination of the foregoing, for claims arising from bodily injury and property damage, with limits not less than the following amounts:

- Watercraft: $5,000,000 per occurrence;

- Aircraft: $5,000,000 per occurrence;

- Helicopters: $10,000,000 per occurrence; and

- Drones: $5,000,000 per occurrence.

Watercraft and aircraft liability insurance is not required if the Contractor or a Subcontractor is exclusively using drones under 10 kilograms in weight, so long as such smaller drones are covered by the commercial general liability policy described in Section 11.1.2 (Commercial General Liability) of this Appendix.

11.1.7 Contractors' Machinery, Tools and Equipment Insurance

Contractors' machinery, tools and equipment insurance sufficient to cover physical damage to all owned, leased, rented, or borrowed machinery, tools and equipment used on the jobsite, including rental charges. All contractors' miscellaneous tools shall be covered by the individual Contractor or Subcontractor. Coverage for machinery, tools and equipment insurance shall include a provision which waives all of the Contractor's rights against the KRRC or Contractor Indemnitees for damages covered by such machinery, tools and equipment insurance.

11.2. GENERAL CORPORATE INSURANCE AND PROJECT SPECIFIC POLICIES

11.2.1 Corporate Insurance Policies Generally

For the insurance coverages required pursuant to Section 11.1.3 (Commercial Automobile Liability), Section 11.1.4 (Workers' Compensation and Employer's Liability), Section 11.1.6 (Watercraft and Aircraft Liability) and Section 11.1.7 (Contractors' Machinery, Tools and Equipment Insurance) of this Appendix, the Contractor may provide insurance coverage through its general corporate insurance policies, so long as such corporate policies meet the coverage limits and the other requirements set forth in Section 11.1 (Required Contractor Habitat Project Work Insurance) of this Appendix.

11.2.2 Project Specific Policies or Corporate Policies with Dedicated Project Limits for Professional Liability Insurance

The insurance coverage required by Section 11.1.1 (Professional Liability), shall be a project specific policy.

In the event that, during the Term of this Agreement, the Contractor puts in place a corporate professional liability policy that (a) provides coverage meeting the requirements set forth in Section 11.1.1 (Professional Liability); and (b) such replacement corporate professional liability policy contains dedicated project limits of at least $15,000,000, then the requirement set forth in this subsection that the Contractor maintain a project specific insurance policy shall no longer be applicable. For these purposes, a corporate professional liability policy with dedicated project limits means a policy under which at least $15,000,000 is available to pay claims related to the Project notwithstanding the erosion of coverage that results from other insured claims made against the Contractor or the Guarantor. The determination of whether the replacement corporate professional liability policy meets the elements of this subsection shall be made by the KRRC, acting reasonably.

11.2.3 Project Specific Policies or Corporate Policies with Dedicated Project Limits for Commercial General Liability and Excess Liability Insurance

The insurance coverages required by Section 11.1.2 (Commercial General Liability) and Section 11.1.5 (Excess Liability) of this Appendix shall be project specific policies (the "**Commercial Liability Policies**").

As of the Contract Date, the Contractor's general corporate insurance policies do not meet the requirements for the Commercial Liability Policies. In the event that, during the Term of this

Agreement, the Contractor puts in place new general corporate insurance policies that (a) provide coverage meeting the requirements for the Commercial Liability Policies; and (b) such replacement general corporate insurance policies contain dedicated project limits of at least (i) $75,000,000 for excess liability and (ii) $2,000,000 per occurrence, $4,000,000 general aggregate, and $4,000,000 products completed operations with project specific limits for commercial general liability, then the requirement set forth in this subsection that the Contractor maintain project specific insurance policies shall no longer be applicable. For these purposes a corporate insurance policy with dedicated project limits means a policy under which at least the amounts set forth in clause (b) of this subsection is available to pay claims related to the Project notwithstanding the erosion of coverage that results from other insured claims made against the Contractor or the Guarantor. The determination of whether the replacement corporate insurance policy meets the elements of this Section shall be made by the KRRC, acting reasonably.

11.2.4 KRRC Approval of General Corporate Policies

To assist the KRRC in the exercise of its approval rights for the Contractor's use of dedicated project limits under its general corporate insurance policies pursuant to this Section, the Contractor shall make redacted copies of such insurance policies available for review by the KRRC and its representatives, subject to the execution of an appropriate non-disclosure agreement.

11.3. INSURANCE CERTIFICATES

The insurance described in this Appendix, and any renewal thereof, shall be evidenced by certificates of insurance issued or countersigned by a duly authorized representative of the issuer and delivered to the KRRC and each Contractor Indemnitee. The certificates of insurance shall provide for 60 days' written notice to the KRRC and each Contractor Indemnitee of cancellation, non-renewal or reduction in limits by the insurance company, except 10 days' notice shall be provided in the event of cancellation, non-renewal or reduction in limits due to nonpayment of premium. Upon request of the KRRC or Contractor Indemnitee the Contractor shall deliver proof of payment of premiums for insurance required to be effected pursuant to this Appendix. Upon request by the KRRC, the Contractor shall also deliver to the KRRC a copy of the policies, or in lieu thereof, a copy of the declarations pages, main coverage forms and endorsements applicable to this Agreement; provided that the Contractor acting reasonably, may redact proprietary information from such copies. No review or approval of any insurance certificate or insurance policy by the KRRC shall derogate from or diminish the KRRC's rights under this Agreement

11.4. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any of the policies of insurance required in this Appendix may provide that the amount payable in the event of any loss shall be reduced by a deductible amount to be paid by the Contractor, which deductible amount shall be commercially reasonable. Alternatively, any of the policies of insurance required in this Appendix may provide for a self-insured retention by the Contractor, which self-insured retention amount shall be commercially reasonable. The Contractor shall be a co-insurer to the extent of the amount deducted from the insurance monies paid in the event of any loss, or the amount of any self-insured retention, and such deductible or self-insured retention amount shall be included as part of the insurance monies payable and paid. Such deductibles and self-insured retentions shall be in accordance with those as are commercially available. In no event shall the KRRC be required to pay any deductible or self-insured retention amount for the insurance described in Section 11.1 (Required Contractor Habitat Project Work Insurance) of this Appendix.

11.5. ADDITIONAL INSUREDS

Using ISO endorsement CG 2010 (1985 version), CG 2033 and CG 2037 or equivalent substitutions, the Contractor shall name the KRRC, each Contractor Indemnitee, Del Norte County and Siskiyou County, and each of their respective officers, officials and employees, as "Additional Insureds" on all policies required in this Appendix; provided, however, no additional insured endorsement shall be required for the insurance required by Section 11.1.1 (Professional Liability) and Section 11.1.4 (Workers' Compensation and Employer's Liability) of this Appendix.

11.6. CHANGES IN INSURANCE COVERAGE

The Contractor shall use its best efforts to obtain such additional insurance as the KRRC may request from time to time, and the costs of such additional insurance shall be a pass-through cost to the KRRC.

11.7. COST OF INSURANCE

If the KRRC chooses to arrange for the insurance outlined in this Appendix, the KRRC may elect to obtain such insurance, provided that:

- written notice is received by the Contractor at least 90 days prior to the expiration date of the insurance placed by the Contractor;
- the KRRC may at any time during the Term, upon 90 days' written notice, require the Contractor to assume the responsibility to obtain the Required Insurance;
- the KRRC names the Contractor and the Guarantor as additional insureds upon assumption of such responsibility; and
- the KRRC pays any cancellation penalty (or short-rate) arising out of canceling the Contractor provided coverage required this Appendix, prior to the expiration date.

The Contractor shall reduce its Habitat Restoration Work Price or Habitat Maintenance Services Fee, as applicable, in proportion to the costs of such insurance as a result of the Contractor no longer needs to provide such insurance.

11.8. QUALIFICATIONS OF INSURERS

The Contractor is required to obtain the insurance set forth in this Appendix with insurance companies that are licensed or allowed to transact business in each of the States and that carry a minimum rating of "A-VIII," or equivalent, by A.M. Best's key rating guide.

11.9. SUBCONTRACTORS

The Contractor shall be responsible for ensuring that all Subcontractors, which are working on the Habitat Project Work Area or otherwise, secure and maintain all insurance coverages (including workers' compensation, general liability, automobile liability and umbrella liability insurance) and other financial sureties required by the law of each of the States in connection with their presence and other insurance commensurate with the scope of their services. The additional insured parties listed in Section 11.5 (Additional Insureds) of this Appendix shall also be listed as additional insured under any Subcontractor's automobile liability policy.

11.10. WAIVER OF SUBROGATION

Each party to the Agreement shall waive the subrogation rights of its various insurance carriers in favor of the other party for the policies required in this Appendix.

11.11. NON-RECOURSE PROVISION

All insurance policies required in this Appendix shall provide that the insurers shall have no recourse against the KRRC or Contractor Indemnitees, as additional insureds, for payment of any premium or assessment and shall contain a severability of interest provision in regard to the Contractor's liability policies. The coverages provided by mutual coverage liability insurance policies required hereunder shall be the primary source of any restitution or other recovery for any injuries to or death of persons or loss or damage to property incurred as a result of an action or inaction of the Contractor or its Subcontractors, of their respective Suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance or self-insurance program maintained by the KRRC.

11.12. INSURANCE SHALL BE PRIMARY AND NON-CONTRIBUTING

All insurance policies in this Appendix, except for the insurance described in Section 11.1.4 (Workers' Compensation and Employer's Liability) of this Appendix, shall be primary and non-contributing with any other insurance available to any insureds or additional insureds, including the KRRC and Contractor Indemnitees.

11.13. INSURANCE COVERAGE FORMS

Unless the KRRC approves of the use of the Contractor's general corporate insurance policies pursuant to Section 11.2 (Project Specific and General Corporate Insurance Policies) of this Appendix, the following forms shall be used with respect to the applicable insurance required in this Appendix:

- any commercial general liability insurance shall be written on an industry standard Commercial General Liability Occurrence form (CG 00 01) or equivalent;

- any comprehensive auto liability insurance shall be written on an industry standard Business Auto Liability policy form (CA 00 01) or equivalent; and

- any workers' compensation insurance shall be written on an industry standard Workers' Compensation and Employer's Liability policy form (WC 00 00 00) or equivalent, where applicable.

11.14. CONTRACTOR ACTIONS RESULTING IN CANCELLATION OF INSURANCE

The Contractor shall comply promptly with the requirements of all insurers. The Contractor shall not knowingly do or permit anything to be done that results in the cancellation or the reduction of coverage under any insurance policy relating to the Habitat Project Work.

APPENDIX 12

KEY PERSONNEL AND APPROVED SUBCONTRACTORS

APPENDIX 12

KEY PERSONNEL AND APPROVED SUBCONTRACTORS

12.1. PURPOSE

The purpose of this Appendix is to identify (1) the key management and supervisory personnel proposed to be used by the Contractor in performing the Contract Obligations and (2) those Subcontractors that the KRRC has approved for use by the Contractor in performing the Contract Obligations.

12.2. KEY PERSONNEL

12.2.1 Key Personnel Generally.

As referenced in Section 10.1 (Management) of this Agreement, certain key management and supervisory personnel were proposed by the Contractor and shall be used by the Contractor in connection with the performance of the Contract Obligations (the "Key Personnel"). The Key Personnel are identified in the Contractor's organization chart(s) as set forth in Attachment 12A to this Appendix. Any change in the Key Personnel shall be subject to review and approval of the KRRC in accordance with Section 10.1 (Management) of this Agreement. Resumes for the Key Personnel are included in Attachment 12B and establish the general level of qualifications for the role identified.

12.2.2 Key Personnel.

At a minimum, the Key Personnel shall include the following:

	Contractor Party	Position	Name
1.	Contractor	Contractor Contract Representative	[Insert Name]
2.	Contractor	Project Executive	[Insert Name]
3.	Contractor	Habitat Project Work Manager	[Insert Name]
4.	Contractor	Habitat Restoration Manager	[Insert Name]
5.	Contractor	Senior Supervisor	[Insert Name]
6.	[Subcontractor]	Safety Manager	[Insert Name]
7.	[Subcontractor]	QA/QC Manager	[Insert Name]
8.	[Subcontractor]	[Supply]	[Insert Name]

12.3. SUBCONTRACTORS

12.3.1 Required Subcontractors.

The Subcontractors with whom the KRRC requires the Contractor to enter into a Subcontract for the performance of certain aspects of the Project are the following:

	Subcontractor	Role
1.	[Insert Name/Entity]	[Insert Role]
2.	[Insert Name/Entity]	[Insert Role]

3.	[Insert Name/Entity]	[Insert Role]

12.3.2 Approved Subcontractors.

The Subcontractors that the KRRC has approved as of the Habitat Project Work Implementation Contract Amendment Date, and the Contractor is permitted to engage for the Contract Obligations in the roles identified below, are the following:

	Subcontractor	Role
1.	[Insert Name/Entity]	[Insert Role]
2.	[Insert Name/Entity]	[Insert Role]
3.	[Insert Name/Entity]	[Insert Role]

ATTACHMENT 12A

KEY PERSONNEL ORGANIZATION CHART

[CONTRACTOR TO SUPPLY].

ATTACHMENT 12B

KEY PERSONNEL ROLES

[CONTRACTOR TO SUPPLY].

APPENDIX 13

CONTRACTOR-SUPPLIED INFORMATION

APPENDIX 13

CONTRACTOR-SUPPLIED INFORMATION

[TO BE IDENTIFIED AND AGREED TO BY THE KRRC AND THE CONTRACTOR.]

APPENDIX 14

DEDUCTIONS

APPENDIX 14

DEDUCTIONS

[TO BE SPECIFIED AND AGREED TO BY THE KRRC AND THE CONTRACTOR.]

ATTACHMENT I

Corporate Headquarters
6575 West Loop South, Suite 300
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February 12, 2020

LOCAL IMPACT MITIGATION FUND

In 2010, PacifiCorp, California, and Oregon entered into the Klamath Hydroelectric Settlement Agreement (the "KHSA"), which was further amended in 2016 (as amended, the "AKHSA"). Under the AKHSA, the Klamath River Renewal Corporation (the "KRRC") will be responsible for removing four dams owned and operated by PacifiCorp (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate) along the Klamath River, subject to regulatory approval. As part of this process, the KRRC has developed a comprehensive plan for the dam removal project, as reflected in the Definite Plan and now the 60% design specifications. This plan includes a Risk Management Plan (the "RMP") detailing the various mechanisms used to protect PacifiCorp, California, and Oregon (along with KRRC, the "Indemnified Parties") from damages arising from the removal of the dams – including claims by third-parties – in a defined, organized, and comprehensive fashion. Below is an overview of the legal and technical analyses used to ensure that one of the component parts of the RMP, the Local Impact Mitigation Fund (the "LIMF"), is adequately capitalized to address the claims it is intended to cover. The Attachments (listed below) provide additional details regarding how the scope and magnitude of key risks were evaluated and accounted for in preparing the overall framework.

I. Overview of Risk Management Approach

KRRC's indemnification obligations are set forth in Section 7.1.3 and Appendix L of the AKHSA, provided as Attachments A and B, respectively. Section 7.1.3 requires that KRRC indemnify the principals from and against any monetary or non-monetary harms, claims, or expenses, which may result from the dam removal process. Appendix L further details the required Contractor Qualifications, Insurance, Bonding, and Contractual Indemnifications (as defined therein) that KRRC must put in place in order to effectuate the commitments made in Section 7.1.3. Taken together, these provisions provide a cumulative, integrated, and synergistic approach to insulating and defending the Indemnified Parties from potential liabilities associated with the removal of the dams. KRRC has provided for this liability protection through a series of relationships and agreements including:

Kiewit Indemnification

- KRRC's contract with Kiewit contains an indemnification addressing contractor non-performance and impacts arising from Kiewit's removal of the dams. Kiewit's obligations are backstopped by insurance, a performance bond, and a parent guarantee. A summary of this agreement is provided as Attachment C.

RES Indemnification

- KRRC's contract with RES will contain indemnification addressing contractor non-performance and impacts arising from RES's habitat maintenance and restoration work associated with the dam removal (including certain impacts to natural resources). RES's obligations will be backstopped by insurance, a performance bond, and a parent guarantee.

Consolidated Insurance Program

- Consistent with Aon's *Revised Risk and Insurance Due Diligence Report* (February 2020), a variety of insurance policies will cover Kiewit's and RES's activities. KRRC will either hold the policies or be named as an Additional Insured to provide direct contractual rights of recovery. A summary of the policies and their coverage limits is provided as Attachment D.

Performance Bonds

- Bonds will be secured in connection with Kiewit's and RES's activities.

II. Overview of the LIMF

The LIMF will operate in parallel with the other liability protection mechanisms. In consultation with PacifiCorp regarding its experience on prior dam removals, RES (on behalf of KRRC) analyzed potential claims, reviewed available litigation related to prior dam removal projects, and worked with technical advisors to understand (1) the type, scope, and magnitude of risks associated with the dam removal and (2) KRRC's insurance and contractual coverage. Through that process, RES and KRRC identified potential damages and claims that were not covered by insurance or contract. For certain of these risks, KRRC will carry a contingency (e.g., "uncontrollable circumstances" as defined in the Kiewit/RES contracts). For others, RES and KRRC have quantified the potential range of damages, and have determined that the most cost-effective mechanism to address those claims is via the LIMF. In addition, RES believes that resolving certain claims in a transparent manner will contribute to the success of the project.

Broadly speaking, the LIMF will cover claims related to property damages arising through no fault of RES or Kiewit and, therefore, not covered by their respective contractual indemnification obligations. This includes the potential for increased flooding, issues related to the potential instability of the reservoir rims, and certain impacts to groundwater wells. Separately, KRRC has elected to establish a Facilities Removal Defense Fund (the "Defense Fund") to cover (1) claims that are foreseeable, but where the legal risk associated with such claims is low and/or the Indemnified Parties have agreed that such claims are not compensable (including diminution in property value due to loss of reservoir views or speculative economic impact claims) and (2) unforeseen claims. To effect the above, KRRC will establish two balance sheet reserves, one for the LIMF equal to *[redacted]* and one for the Defense Fund equal to *[redacted]*.

To administer the LIMF, KRRC will select an independent third-party. That administrator will assist KRRC in finalizing a methodology for each of the covered claims. The methodology will (1) describe the types of claims that are eligible for compensation, (2) the range of compensation available and the criteria for determining that compensation, and (3) the level of proof required by a claimant.

Developing this methodology will involve proactive participation and input from key stakeholders, including the Indemnified Parties. The draft methodology will be made available for public comment through town halls and other meetings. After a limited amount of time, the protocol will become final and, at some point, the fund will be "opened." When the fund is opened, parties impacted by the dam removal will inform the fund administrator that they will like to participate in the fund. The fund administrator will determine if a payment should be made, working within the methodology described above. Importantly, the LIMF will be capped and voluntary. If an impacted party does not sign-up when the fund is open, they will not have access to the fund at a later point and time; such a person might still bring a legal claim, and that claim will be defended by KRRC (unless otherwise agreed by the Indemnified Parties) using resources from the Defense Fund. For potential claimants who have opted into the LIMF, the administrator will determine if they are qualified for compensation and potentially authorize a payment in exchange for a legal release covering all of the Indemnified Parties. As described below, many claims will depend on specific facts and circumstances that are unique (e.g., whether a home is a primary residence, the type of well a landowner has, etc.). The fund administrator will be supported by a technical team but will ultimately have the discretion to determine the legitimacy of covered claims, subject to the methodology and guardrails established by the Indemnified Parties.

The timeline for opening the fund will be determined as the project moves forward. For example, the fund may be opened prior to the dam removal for flooding claims, but after dam removal for long-term impacts to groundwater wells.

KRRC will (1) determine if any damage claim will be defended by the Defense Fund or RES/Kiewit as the contract entities, (2) pay deductibles and other amounts and make any claims, (3) direct the Defense Fund. Upon the latter of the satisfaction of all restoration obligations and the applicable statute of limitations, KRRC will sunset any amounts remaining on KRRC's balance sheet will be dealt with in a manner agreed to by its funders.

In conclusion, and as described in more detail below, the analysis described herein was used to scope the size of the fund as follows:

	Low Amount	High Amount	Recommended Fund Amount
Rim Stability - Damage to property	*[redacted]*	*[redacted]*	*[redacted]*
Rim Stability - Additional Studies	*[redacted]*	*[redacted]*	*[redacted]*
Rim Stability - Monitoring	*[redacted]*	*[redacted]*	*[redacted]*
Rim Stability - Damages to Copco Road	*[redacted]*	*[redacted]*	*[redacted]*
Per Diem	*[redacted]*	*[redacted]*	*[redacted]*
Downstream Flooding - Damage to Property	*[redacted]*	*[redacted]*	*[redacted]*
Groundwater Wells	*[redacted]*	*[redacted]*	*[redacted]*
Emergency Water Supply	*[redacted]*	*[redacted]*	*[redacted]*
Monitoring and Modeling Costs	*[redacted]*	*[redacted]*	*[redacted]*
Administrative Costs	*[redacted]*	*[redacted]*	*[redacted]*
Total	*[redacted]*	*[redacted]*	*[redacted]*
Contingency (15%)			*[redacted]*
Revised Total			*[redacted]*

III. Technical and Legal Analyses Performed

A number of technical and legal analyses have been performed to assess the type, scope, and magnitude of anticipated liabilities associated with the dam removal project, including:

- In January 2019, Perkins Coie completed a memorandum summarizing the claims that may be brought under Federal, California, and Oregon law along with the associated defenses that may be available to these claims. *[redacted]*
- In May 2019, Stantec performed a full analysis of the technical risks associated with the project. This analysis included review and analysis of the relevant reports, permits, permit applications, studies, and other documents related to the project, which is provided at Attachment F. Based on this analysis, Stantec identified the primary risks associated with the project and the costs associated with the measures used to mitigate those risks. This report has been supplemented and refined by the memoranda described below.
- In January 2020, Cox, Castle, Nicholson completed an expanded analysis focused specifically on the LIMF and the risks identified in the Stantec Report. *[redacted]* As part of this analysis, Cox, Castle, Nicholson completed an extensive survey of litigation related to other dam removal projects, which informed their analysis. *[redacted]* Cox, Castle, Nicholson also produced a supplemental analysis focused specifically on the size and scope of the Defense Fund. *[redacted]*

With the risks of liability identified and extensively assessed by qualified technical and legal experts, the LIMF is expected to be properly capitalized to ensure that it has the resources necessary to satisfy legitimate claims and defend against or otherwise resolve non-meritorious claims.

IV. LIMF Capitalization

Based on these analyses, the LIMF will be capitalized with *[redacted]* to address potential flooding impacts, rim stability, and groundwater well impacts claims and other issues that may arise. This amount is being updated based on ongoing work by KRRC and its technical advisors. These funds are expected to be paid to landowners and other third parties with legitimate and verifiable claims. In addition, *[redacted]* will be allocated to legal defense to respond to foreseen claims where the legal risk is low and unforeseen claims. Although these funds are primarily intended to address these claims, the Defense Fund will be used to defend claims across all categories. The technical and legal analyses that underlie these calculations are summarized below.

A. Flooding Impacts

1. Technical Analysis

As further detailed in Attachment H, 97 structures, located across 32 parcels, could be impacted by the dam removal. Of these 97 structures, only 36 are habitable structures, with the balance composed of mobile homes, bridges, and miscellaneous small structures (sheds, garages, barns, etc.). The analysis indicates that these structures could be impacted due to the potential increased depth and scope of flooding downstream of the dams after removal. Based on this information, conceptual structural flood mitigation strategies and the associated costs were developed to address the impacts these structures are expected to experience post-dam removal. In addition, based on RES's experience, RES estimated the potential reduction in market value based on increased flooding risk at *[redacted]* (assuming increased flooding but no loss of habitable structure) and *[redacted]* (assuming a structure would not be habitable, and the only value for land was as raw land). Market value was calculated using the assessed value of a property increased by *[redacted]*, supported by other sources, including the last sale price (if available).

2. Legal Analysis

[redacted] a nuisance, trespass, or negligence claim would be the most likely claims asserted for downstream flood damage.

- Trespass: if there is a physical impact or entry onto the property due to the dam removal (e.g., flooding).
- Nuisance: if there is interference with the landowner's use or enjoyment of their property, regardless of physical impact.
- Negligence: if the impact on the property is the result of improper conduct.

Given the similar elements of these claims, a single set of facts could give rise to multiple claims from the same landowner. Depending on the facts at issue, a negligence claim may be covered by insurance, depending on its nexus to the actions of a contractor.

Of note, there are defenses to the legal claims described above, including a lack of intent and, in California, special immunity for private parties acting pursuant to statute. Therefore, this summary should not be read to suggest that any claim would be successful. However, when viewing flooding claims in connection with KRRC's mandate to prudently address the direct impacts associated with dam removal, the principals have elected to include a reserve within the LIMF to compensate impacted property owners.

3. Conclusion

Based on the above, *[redacted]* is allocated to address downstream flooding impacts. This is based on the technical work done by Stantec to assess properties impacted. These funds are comprised of the lesser of (1) the costs of building a flood improvement to protect the property, or (2) the high reduction in land value (i.e., *[redacted]* reduction in the value of the land, assuming any property would be essentially uninhabitable). This assumes that all flooding would result in the loss of a habitable structure, which is likely a conservative assumption.

B. Rim Stability

1. Technical Analysis

As further detailed in Attachment I, across the entire project area, rim instability is only anticipated along the Copco No. 1 Reservoir. This area includes 3,700 linear feet of slopes along a road adjacent to the reservoir and 2,800 linear feet of slopes adjacent to private property. Localized failures along the road could occur that may require rerouting or abandonment. 579 parcels surround the perimeter of the Copco No. 1 Reservoir, 137 of which contain habitable structures. The analysis indicates that slowing the reservoir drawdown rate would allow saturated soils adequate time to drain, which can help to improve the stability of the materials. Based on this information, certain high-risk properties have been identified along with other properties that would require additional monitoring during the reservoir drawdown. Knight Piesold and Kiewit are in the process of performing a further hazard analysis. That report should be finalized by the end of February – based on initial conversations, the results are similar to those described in Attachment I.

RES worked to assess market value for each property using the methodology described above. The Stantec/AECOM report did not purport to distinguish between risks to specific properties, other than to categorize properties into one of three categories (low risk, medium risk, or high risk). RES assumed that rim instability would result in either minimal damage (a *[redacted]* reduction in market value) or near total loss (a *[redacted]* loss in market value). RES also conservatively assumed that all high-risk homes were primary residences, although based on in-field work we understand that many homes are not primary residences, and that every high-risk property would be evacuated for 6 months following drawdown. We used *[redacted]* per night based on federalpay.org data, for a total of *[redacted]* to estimate the cost of relocation.

If landowners are unwilling to relocate during drawdown, KRRC will need to work with the county to determine the best path forward.

2.Legal Analysis

[redacted] landowners impacted by rim instability could raise nuisance, trespass, and negligence claims similar to the claims associated with flooding impacts in Section IV.A.2. Furthermore, these claims would be subject to defenses similar to those discussed in association with flooding impacts in Section IV.A.2.

3.Conclusion

Based on the above, *[redacted]* is allocated to address rim stability impacts. There is a material difference between the low amount assuming minimal impacts *[redacted]* and the high amount assuming near total loss for all high-risk properties *[redacted]*. In addition, there is a risk of an impact to Copco Road which, based on feedback from Kiewit, is not expected to exceed *[redacted]*. KRRC elected to use the mid-point between the high and low points *[redacted]* for Copco Road, and *[redacted]* for additional studies and monitoring for a total of *[redacted]*.

This is based on the technical work done by Stantec to assess properties potentially impacted. These funds will be used to cover (1) purchasing the impacted property for market value, (2) payment of relocation per diem while the property is monitored, or (3) monitoring and additional studies. The precise approach taken will depend on the nature of the impact and may involve a combination of approaches if rim instability is not anticipated but later develops. In addition, the fund administrator will need the flexibility to determine (1) if a home is a primary residence, entitling the owner to a range of compensation between minimal impacts and total loss.

C. Groundwater Well Impacts

1.Technical Analysis

As further detailed in Attachment J, across the entire project area, groundwater well impacts are only anticipated for wells within 1000 feet of the Copco No. 1 Reservoir. There are approximately 70 residences served by approximately 66 wells that meet these criteria, but a smaller subset is expected to experience actual impacts. The groundwater well impacts studied include both well depth and water quality. If wells are impacted, planned mitigation measures include deepening the well, resetting the pump depth, filtration, or well replacement. Based on the attached memorandum as well as discussions with KRRC and their technical advisor, McMillan Jacobs, it was assumed that *[redacted]* would be materially impacted, *[redacted]* of which would require a new well to be drilled at *[redacted]* per well *[redacted]*, *[redacted]* of which would require deepening or limited work at *[redacted]* per well *[redacted]*, and *[redacted]* of which would require minimal work at *[redacted]* per well *[redacted]* – for a total of *[redacted]*. In addition, RES allocated *[redacted]* to emergency water supply (based on limited research, the average price from various companies appears to be between *[redacted]* and *[redacted]* for each delivery of 2,500 gallons with the cost depending on distance).

2.Legal Analysis

[redacted] landowners that experience diminished well capacity after dam removal are not expected to have a viable legal claim. To the extent that a reservoir is supporting a specific level of production from a well, the owner of the well has no enforceable legal right to the continued maintenance of that artificial condition. As to water quality, landowners could raise nuisance, trespass, and negligence claims similar to the claims associated with the flooding impacts discussed in Section IV.A.2. Furthermore, these claims would be subject to defenses similar to those discussed in association with flooding impacts in Section IV.A.2.

3.Conclusion

Based on the above, *[redacted]* is allocated to address groundwater well impacts. These funds will be used to cover drilling a new well, deepening a well, installing a storage tank or filtration system, or other work. The precise approach taken will depend on the nature of the impact and may involve a combination of approaches. Of key importance, testing of groundwater wells has determined that arsenic is naturally present in groundwater (i.e., a pre-existing condition), although levels of arsenic may be exacerbated by drawdown. Even levels of arsenic in the groundwater are not exacerbated by drawdown, arsenic levels are a public health issue that will require coordination with various counties and agencies.

D. Diminution in Property Values (Views)

1. Technical Analysis

The project area contains 1 designated, scenic overlook, 21 developed recreation sites, and 7 dispersed recreation sites. Additionally, 140 residences are located on Copco No. 1 Reservoir, *[redacted]* of which are vacation homes.

2.Legal Analysis

[redacted] although landowners may attempt to bring nuisance claims in this context, these claims are not expected to be successful. A change in appearance, unsightly appearance, or interference with views alone does not rise to the level of interference that is actionable as a nuisance. Although not a separate claim, such impacts may be considered as an element of a nuisance claim based on a cognizable physical interference as described above.

3.Conclusion

Based on the above, the Defense Fund would be used to defend claims of diminution in property value. These funds will be used to defend, and if necessary, litigate one case through to judgment to demonstrate there is no viable claim. A successful verdict will then be used to dismiss or otherwise resolve similar claims.

E. Economic Impacts (Fishing and Recreation)

1. Technical Analysis

Individual businesses that rely on current fishing and recreation conditions may experience lost profits as a result of the changing conditions. Additionally, construction may produce other short-term profit losses, primarily as a result of increased turbidity.

2.Legal Analysis

[redacted] business owners' solely economic losses are not compensable. Although California and Oregon tort law imposes a general duty to protect others from personal injury or property damage, no such duty exists to protect others from purely economic damage. As such, it is not expected that a business owner, or any other individual, could successfully assert a claim based on economic loss alone.

3.Conclusion

Based on the above, the Defense Fund would be used to defend claims of economic loss. These funds will be used to defend, and if necessary, litigate one case through to judgment to demonstrate there is no viable claim. A successful verdict will then be used to dismiss or otherwise resolve similar claims.

F. Defense Fund

In addition, KRRC will establish a Defense Fund to respond to claims that are not otherwise covered by insurance or contract. Analysis of similar projects suggests that a large majority of the legal claims will be addressed through the permitting and approval process or addressed by the LIMF. The remaining foreseen claims with low legal risk and unforeseen claims that are litigated are expected to number in the single digits. Although only a handful of litigious and aggressive claimants can drive up defense costs, an appropriately capitalized and administered Defense Fund can limit these costs. Furthermore, as mentioned above, a single favorable decision can be used to discourage or dismiss future claims. Outside analysis estimates the range of total defense costs to be between *[redacted]*. This analysis is provided as *[redacted]*.

G. Contingency

In addition to the above, KRRC has reserved a *[redacted]* contingency. Subject to further work, that contingency may also be used to address sediment issues raised by Del Norte County, dust related impacts, or impacts to downstream water users.

V. CONCLUSION

Based on the analysis of legal and technical advice described herein, there is a range of cost outcomes for the anticipated claims that are compensable and have a specific reserve assigned to them (e.g., flooding impacts, rim stability and groundwater well impacts). The total amount allocated to such impacts is *[redacted]*, *[redacted]* for administrative costs, and a *[redacted]* contingency *[redacted]* for a total of *[redacted]*. As described above, RES relied on outside counsel to allocate a total of *[redacted]* to the Defense Fund.

List of Attachments:

Attachment A - AKHSA Section 7.1.3

Attachment B - AKHSA Appendix L

Attachment C - Klamath Project Agreement Executive Summary

Attachment D - Aon Insurance Report

Attachment E - Potential Liability for Damages (redacted)

Attachment F - Stantec Report

Attachment G - LIMF Analysis (redacted)

Exhibit A - *[redacted]*

Exhibit B - *[redacted]*

Attachment H - Flooding Technical Analysis

Attachment I - Rim Stability Technical Analysis

Attachment J - Groundwater Well Technical Analysis

Disclaimer: This document provides a high-level overview of the various mechanisms used to protect the Indemnified Parties from damages arising from removal of the dams. None of the information contained herein should be relied upon as legal or other advice, and no waiver of attorney-client privilege or other confidentiality is intended in the preparation or disclosure of this summary or the attachments. While this memo and certain attachments are being provided to the Board of Consultants, KRRC is redacting confidential attorney-client information from the public record.

ATTACHMENT J

Attachment A Risk Register (Retired Risks)

New risks retired since July 29, 2019

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Risk Status
92	Environmental & Permitting	**Objections to Iron Gate Fish Hatchery Management Plan** Tribes may not support the Iron Gate Fish Hatchery Management Plan and as such may file a lawsuit, or require longer duration of operations. This will result in additional cost.	Tribes do not support and file lawsuit, or require longer duration of operations	Design	1 Very Unlikely (1-9%)	3 Moderate	3	Low	Accept	Outreach to tribes.	CDFW/ PacifiCorp	Retire - Within the contract, the Owner has responsibility if IFC docs are not ready in time for Kiewit to begin construction; however, the risk would be passed on to CDFW/PacifiCorp who are ultimately responsible for design and funding related to the hatchery.
106	ROW	**Property Restrictions** The title search may uncover easements or other property instruments that affect the implementation of the work.	Difficulty in completing the title report in a timely manner and/or research reveals challenge to design or construction	Design	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Manage	Work proactively to manage this task so that it does not become critical path.	Owner	Retire - property search has been completed.
18	Procurement	**Guaranteed Maximum Price Agreement** Failure to agree to GMP during detailed design. This may lead to a schedule delay.	Disconnect between DB and Owner	Design	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Robust Engineer's estimate to include Monte Carlo analyses; Independent review of Engineer's estimate, Include adequate contingency for project risk; Utilize project delivery method that provides Contractor's progress cost estimates to control budget (PDB). Close coordination and transparency on costs and associated assumptions during progress cost estimated prepared by DB; Provide contract exit strategy that Owner can terminate for convenience and implement alternate delivery approaches.	Owner	Retire - GMP has been reached.
29	Field Conditions	**Quantity Overruns** Quantity overruns on earthwork, concrete demolition, etc.	Existing as-built data, exploratory data not adequate or accurate	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Manage	Obtain new topographic and bathymetric data for use by Designer and Contractor; Rigorous QA by Owner on design calculations and assumptions related to earthwork volumes.	Owner	Retire - this risk has been transferred to Kiewit as part of the GMP.
17	Design	**Disputes** DB Designer and Contractor disputes may lead to schedule delays and cost increases	Breakdown in PDB team relationship	Design	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Consider contractual measures to maximize design/contractor collaboration such as require Designer to be a partner rather than a subcontractor and provisions that oblige Contractor to continue work even when dispute arises.	PDB	Retire - project team remains on track and has negotiated key agreements.
81	Construction	Risk of failure for concept of using existing upstream diversion tunnel at Irongate: Full season of LDs, Full Season of time related overhead, redo concept.		Construction	1 Kiewit assumes 0	5 Very High	5	High	Manage	$15M LDs, $8M new tunnel, $3M. 8-6-2019 decision not to use diversion tunnel outlet.	Owner	Retire - this risk has been transferred to Kiewit as part of the GMP.
201	Construction	CCIP insurance deductibles / expected losses		Construction	5 Very Likely (60-100%)	3 Moderate	15	High	Manage	CCIP deductible for expected losses not included in Kiewit pricing. KRRC to carry/cover costs for any deductibles paid for each occurrence.	Owner	Retire - this risk has been eliminated since we have moved away from a CCIP. Deductibles for KRRC insurance is carried in the register.
6	Construction	Existing Bridges Load Rating		Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low		Equipment, material causes bridge to fail. 8-6-2019 load rating complete and mitigated for risk in design	PDB	Retire - Kiewit has considered this risk and no longer consieders it a risk; regardless, any impact would flow to Kiewit.
77	Construction	Unknown quantity/size of steel needed to drill through at Copco dams for drill and shoot operations		Construction	1 Kiewit assumes 0	2 Low	2	Low	Manage	Captured in estimate assumptions of LF of drilling/CY of demo	Owner	Retire - Kiewit has considered this risk and no longer consieders it a risk; regardless, any impact would flow to Kiewit.

ATTACHMENT K

Attachment A Risk Register (KRRC-Owned Risks)

New risks identified since July 29, 2019
New risks identified or changed probabilities/impacts since February 25, 2020

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Risk Status
Environmental & Permitting												
4	Environmental & Permitting	**Unanticipated Dam Safety Requirements** Significant unanticipated Project requirements from dam safety agencies, FERC, or DSOD (including through BOC or PFMA processes) may cause delays to the project and increase costs.	Agency, FERC, DSOD, BOC, or PFMA reviews result in unanticipated requirements	Post-GMP	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Close coordination where possible with referenced agencies; Prepare technical assessments that can hold up to scrutiny. Proactive agency coordination and field studies are underway.	Owner	Open
8	Environmental & Permitting	**Unanticipated Other Permit Requirements** Unanticipated permit requirements (outside of dam safety agencies) that increase contract price if not known at time of preparation of the Guaranteed Maximum Price (GMP).	Permitting agencies require offsite mitigation or any other requirements beyond anticipated requirements	Post-GMP	4 Likely (40-59%)	3 Moderate	12	Med	Manage	Continued close consultation with agencies; Sound approach to restoration. Proactive agency coordination and field studies are underway.	Owner / LTC Owner: Prior to permit finalization: Changes from expected permit conditions are Owner risks. A table of expected permit terms is attached to the contract and informs the GMP and the LTC has an obligation to negotaite an amendment in good faith. Any new permit previously not considered would be an Owner risk. LTC: After permit finalization: if there is a change is to an existing permit, the LTC takes that risk.	Open
15	Environmental & Permitting	**KRRC-Managed Permitting Delays** Permit acquisition may take longer than anticipated, resulting in Project delay. Includes FERC transfer/surrender (including NEPA), USACE 404, ESA Section 7, CDFW/ODFW MOUs, County MOUs, etc.	Agency unable to process permit to allow for required construction start date	Post-GMP	4 Likely (40-59%)	3 Moderate	12	Med	Manage	Ongoing early consultation with agencies and early permit application submittal. Proactive agency coordination and field studies are underway. Proactive response to FERC requests and strict adherence to FERC standard protocol and processes.	Owner	Open
75	Environmental & Permitting	**Dredging Permit** Unable to get a permit to dredge upstream of dams prior to drawdown.	Upstream dredging becomes infeasible due to access or permitting constraints	Post-GMP	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Early coordination with PacifiCorp and applicable regulatory agencies.	Owner	Open
93	Environmental & Permitting	**Listed Species - Western Pond Turtle** Western Pond Turtle becomes Federally listed during permitting process. This may result in additional cost.	Project effect on listed species	Construction	1 Very Unlikely (1-9%)	3 Moderate	3	Low	Manage	Proactive coordination with appropriate regulatory agencies on likely requirements and associated field work; Address contingency in consultations. Proactive agency coordination and field studies are underway.	Owner / LTC Owner: If the western pond turtle is listed prior to permit finalization date, this may result in changes in obligations that would be the Owner's responsibility. LTC: If there are any changes to obligations in respect of the western pond turtle after the permit finalization date.	Open
88	Environmental & Permitting	**Flood Mitigation Delays** Flood mitigation improvements delay reservoir drawdown.	Implementation of downstream flood improvements take longer than anticipated and are not completed prior to reservoir drawdown	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Complete early outreach to residents and owners in affected areas; Evaluate decision to proceed with drawdown even if some owners do not allow/desire flood improvements.	Owner	Open
87	Environmental & Permitting	**JC Boyle LOW Expansion:** Expanding of the permit boundaries to facilitate construction and provide access to make the work site safe (i.e. rock scaling, slope stabilization ,etc.) is not accepted.	Expanded Limit of Work required to complete the work, which needs to get incorporated into CEQA and permit processes, as needed	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Manage	KP to prepare 60% Design to allow permitting and approvals to proceed, and to coordinate through compliance lead and KRRC legal to make sure expansion is covered.	Owner	Open
103	Environmental & Permitting	**Copco No. 2 LOW Expansion:** Copco 2 - New permit area required for overflow spillway. This will include helicopter access to place galvanized steel bulkhead. Risk of not getting revised work boundary.	Expanded Limit of Work required to complete the work, which needs to get incorporated into CEQA and permit processes, as needed	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Manage	KP to prepare 60% Design to allow permitting and approvals to proceed, and to coordinate through compliance lead and KRRC legal to make sure expansion is covered.	Owner	Open
Right-Of-Way or Easements												
28	ROW	**Easement Restrictions** ROW/construction easements may be denied for modification of access roads or other improvements.	Insufficient communication and compromise with property owner	Construction	2 Less Likely (20-39%)	1 Very Low	2	Low	Manage	Proactive communication with access road owners; Contingency planning for use of access roads without modification.	Owner	Open
83	ROW	**Adjacent Properties Impacted** Unforeseen impact to adjacent properties during construction.	Unanticipated impacts during roads work or downstream mitigations	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Share	Contractor required to develop final design that considers adjacent properties; Early identification of property impacts.	Owner / PDB Owner: Responsible to the extent there are unanticipated, unavoidable impacts. PDB: To the extent their negligent performance causes damage to downstream properties.	Open

Attachment A Risk Register (KRRC-Owned Risks)

New risks identified since July 29, 2019
New risks identified or changed probabilities/impacts since February 25, 2020

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Risk Status
Post-GMP												
13	Post-GMP	**Increased development** Increased development within the floodplain beyond mitigations already included requires additional flood mitigation beyond what is planned.	City/county allows construction permits to be issued to developers	Post-GMP	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Coordination with appropriate agencies; Consider an early CLOMR application to Counties.	Owner	Open
100	Post-GMP	**Irongate Flow Continuation FERC Req:** The additional redundancy for a 3rd IFR release facility is still required. Currently not being designed by KP/Kiewit. Risk of being required in the future.	Flow continuation requirement results in constraint on design that increases cost or lengthens schedule	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Manage	Pursue clarity on this requirement ASAP through discussions with PacifiCorp and FERC.	Owner	Open
Field Conditions												
19	Field Conditions	**Field Conditions** General changed field condition (geotechnical, existing utilities, hazardous materials, and biological resources) leads to redesign, project delays and/or cost overruns.	Field condition differs from documented findings	Construction	5 Very Likely (60-100%)	1 Very Low	5	Med	Manage	Comprehensive field investigation and documentation.	Owner / LTC Owner: To the extent that items are not included in Existing Conditions Report (ECR); PDB: To the extent that they did not properly assess conditions. LTC: To the extent that they did not properly assess conditions; LTC also takes liability for changing circumstances after dam removal leading to greater than anticipated work/changed permit conditions.	Open
41	Field Conditions	**Non-burial Related Cultural Resource Discoveries** Unanticipated non-burial related cultural resources (foundations, barns, etc.) discovered during reservoir drawdown or construction (beyond current allowance). Costs exceed allowances	Non-burial cultural resource not disclosed or already known about	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Identification of existing cultural resources to the extent feasible; Ongoing coordination with Native American groups-and local historical societies; Development of treatment measures that would implemented following drawdown or during construction.	Owner / LTC Owner: Responsible for monitoring, delay, or transporation costs related to unknown site conditions; PDB: Responsible for not disrupting known site condition. LTC: In respect of unknown site conditions that are discovered, subject to regulatory and permit language being finalized, LTC will be responsible for modifying design without compensation. Responsible for not disrupting known site conditions.	Open
43	Field Conditions	**Burial Related Cultural Resource Discoveries** Unanticipated burial related conditions may exist. Including sites, human remains, or funerary items discovered within reservoir areas during reservoir drawdown - requiring cessation of construction activities for a long duration. Discovery impacts ability to perform construction - primarily Yreka waterline, Fall Cr Hatchery, Iron Gate Hatchery, and bridges.	Burial site not disclosed or already known about	Construction	4 Likely (40-59%)	3 Moderate	12	Med	Transfer	Identification of existing cultural resources to the extent feasible; Ongoing coordination with Native American groups and local historical societies; Development of an Inadvertent Discovery Plan, Monitoring Plan, and NAGPRA Plan of Action, and rapid response plan to address the possibility of burial sites becoming exposed during drawdown.	Owner / LTC Owner: Responsible for monitoring, delay, or transporation costs related to unknown site conditions; PDB: Responsible for not disrupting known site conditions. LTC: In respect of unknown site conditions that are discovered, subject to regulatory and permit language being finalized, LTC will be responsible for modifying design without compensation. Responsible for not disrupting known site conditions.	Open
16b	Field Conditions	**Cultural Resource Damage** Damage to UNKNOWN sites. Would trigger an un-controlled circumstance. Delay to construction.		Construction	5 Very Likely (60-100%)	2 Low	10	Med	Manage		Owner	Open
Construction												
33	Construction	**Cofferdam Failure** Failure of temporary cofferdams result in demolition delays.	Unconservative design of cofferdams; unanticipated foundation conditions	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Comprehensive field investigation, review of original construction, and design review.	Owner / PDB Owner: Responsible for unknown site conditions. PDB: Has design liability for known site conditions.	Open
35	Construction	**Hazardous Material - Unforeseen Condition** Discovery or release of unknown hazardous material (other than from construction activities) to river during construction (unforeseen condition) may lead to cost impacts.	Project results in unanticipated release of hazardous material into river	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Completion of the Phase 1 hazardous material assessments and follow-up evaluations, appropriate health and safety qualifications, experience and other requirements during the procurement process, implementation of BMPs to avoid or contain the release of hazardous material, as well as active overview and enforcement of the Contractor's Hazardous Material Management Plan.	Owner	Open
51	Construction	**Diversion Blockage** Rapid-drawdown causes slope instability leading to rock slope failure, blocking the diversion intake. This failure will lead to schedule delays and significant cost impacts.	Design analyses unable to cover all geologic conditions and slope geometries; insufficient data	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Share	Comprehensive field investigation and design review; Develop slope monitoring plan for implementation during drawdown; Stockpile riprap for repairs of slope if local failures occur.	Owner / PDB Owner: Responsible for unknown site conditions. PDB: Has design liability for known site conditions.	Open

Attachment A Risk Register (KRRC-Owned Risks)

New risks identified since July 29, 2019
New risks identified or changed probabilities/impacts since February 25, 2020

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Risk Status
192	Construction	**Dredging upstream results in unforeseen conditions** that increase cost and delay schedule**.**	If exploratory dredging is completed upstream of Copco No. 1 and significant debris is identified, it may result in increased costs to remove prior to drawdown	Construction	3 Less Likely (20-39%)	4 High	12	Med	Manage	PDB to attempt to complete 2020 dredging.	Owner	Open
85	Construction	**JC Boyle Power Canal Scaling:** Power Canal Concrete Removal (Full), requires extensive scaling, slope stabilization, worker safety mitigation.	Unanticipated safety related slope scaling/stabilization is necessary to maintain worker safety	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Kiewit to compare cost of alternatives (Partial versus Full Removal). KRRC decision.	Owner	Open
86	Construction	**JC Boyle Scour Hole:** Scour Hole filling from the top as proposed by Kiewit is not accepted, will require more extensive laying back of the slopes to facilitate safe access from the bottom, as proposed in the Definite Plan.	BLM does not agree to current design approach to filling the scour hole.	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Manage	KP to prepare 60% Design to allow permitting and approvals to proceed. KRRC BLM lead to coordinate with BLM on acceptance of proposed approach.	Owner	Open
184	Construction	**PacifiCorp Early Exit:** PacifiCorp walks away from site early, cannot manage water thru powerhouses during pre-drawdown year, dams just spilling and unable to appropriately control during dam modification work.	PacificCorp negotiates an early exist from the site, thereby requiring KRRC to operate facilities during drawdown	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Update O&M agreement with needed new items.	Owner	Open
202	Construction	**Builders Risk Deductibles**	Kiewit excluded a certain number of builders risk incidents. IF these are required, costs may increase	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Kiewit excluded a certain number of builders risk incidents. Would be $100k per incident. Assuming overall risk is 2-3 instances.	Owner	Open
180	Construction	**Process Water Treatment:** Water treatment needed for process water.	If regulatory process results in a requirement to treat process and dewatering water, it could increase cost	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Proative discussion/negotiation with applicable regulatory agencies.	Owner	Open
196	Construction	**Unanticipated Debris Loads:** More garbage than expected after drawdown.	Significant amount of unanticipated trash and debris remains post-drawdown and requires removal	Construction	4 Likely (40-59%)	1 Very Low	4	Med	Manage	Consider allowance for debris removal.	Owner	Open
210	Construction	**Jenny Creek Stability Analysis:** not accepted by Siskiyou County.	Siskiyou Co. reviewers do not agree with assessment, requiring additional work and cost	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Manage	KP developed report provides options of creek stabilization based on differing flow analysis. Original Jenny Creek Bridge design based off old hydraulic data, risk of requiring new stabilization with updated analysis.	Owner	Open
Reservoir Drawdown												
46	Drawdown	**Unanticipated Erosion** Reservoir drawdown and subsequent operations results in a greater than anticipated level of erosion at bridges or along channel creating passage barrier. This is likely to lead to additional cost.	Local hydrodynamics result in greater than modeled erosion or scour	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Comprehensive design review; Design additional scour protection for bridges if determined to be needed; Develop monitoring and mitigation plan for during and post reservoir drawdown.	Owner / PDB Owner: Responsible for unknown site conditions. PDB: Has design liability for known site conditions.	Open
47	Drawdown	**Unanticipated Effects on Diversion Intakes** Reservoir dewatering and subsequent operations have greater than anticipated effects on diversion intakes for irrigation/livestock. This may lead to additional cost.	Greater than predicted suspended sediment and bedload movement	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Share	Comprehensive field investigation and design review; Develop plan for monitoring/mitigating intakes during reservoir drawdown.	Owner / PDB Owner: Responsible for unknown site conditions. PDB: Has design liability for complying with plans and approach.	Open

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48	Drawdown	**Unanticipated Effects on Groundwater Wells** Reservoir dewatering and subsequent operation has greater than anticipated effects on groundwater wells. This may lead to additional cost.	Difficult to investigate and analyze groundwater relationships	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Accept	Comprehensive field investigation and design review; Implement Groundwater Well Management Plan for evaluating changes in groundwater post-reservoir drawdown and proactively mitigate impacted wells.	Owner (LIMF) / PDB Owner: While owner has certain responsibilities, this is handled separately in the funding set aside for the LIMF and does not add to post-GMP contingency. PDB: Has design liability for complying with plans and approach.	Open
49	Drawdown	**Unanticipated Effects on Channel Flooding** Reservoir dewatering and subsequent operations have greater than anticipated effect on downstream channel aggradation/flooding. This may lead to additional cost.	Evacuated coarse sediment is greater than anticipated leading to increased channel aggradation and associated flooding	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Accept	Rigorous assessment on transport and flooding during detailed design; Monitoring post-drawdown; Raise awareness that active channel management program needed; Implement measures to manage channel aggradation and flood risk.	Owner (LIMF) / PDB Owner: While owner has certain responsibilities, this is handled separately in the funding set aside for the LIMF and does not add to post-GMP contingency. PDB: Has design liability for complying with plans and approach.	Open
50	Drawdown	**Downstream Public Safety** Public safety risk in downstream channel during the reservoir drawdown.	Outreach and public safety measures insufficient to keep out public creating potential risk to public safety during drawdown (increased flows)	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Share	Comprehensive education and outreach plan; Detailed review and QA of safety program; Development of a Reservoir Dewatering Awareness Plan that will include procedures for notifying public of the schedule and anticipated flows for reservoir drawdown.	Owner / PDB Owner: To the extent this risk is unavoidable. PDB: To the extent that safety issues are due to contractor fault.	Open
Contractor Performance												
84	Contractor Performance	**Labor Strike** Construction shutdown due to labor strike may impact schedule and cost	Labor conditions results in a strike by construction workers	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Share	Include Contract requirements for living conditions in camps and worker safety.	Owner / PDB Owner: Responsible for a national strike. PDB: Responsible for this risk which is due to labor conditions.	Open
Dams, Powerhouses, Reservoirs												
32	Dams	**Slope Failure** Copco lake reservoir rim or local slope failure along access roads may lead to additional cost and schedule delay.	Slope instability, inadequate access road condition assessment prior to construction. Design analyses unable to be made for all geologic conditions and slope geometries; insufficient data	Construction	2 Unlikely (10-19%)	4 High	8	Med	Share	Comprehensive field investigation and design review; Develop plan to address slope failures along Copco Road if they were to occur during reservoir drawdown.	Owner (LIMF) / PDB Owner: While Owner has certain responsibilities, this is handled separately in the funding set aside for the LIMF and does not add to post-GMP contingency. PDB: Has design liability for complying with plans and approach.	Open
55	Dams	**Diversion Tunnel Intake Blocked** Copco No. 1 and/or Iron Gate Dam diversion tunnel intake blocked by debris during drawdown reducing flow capacity. This may lead to schedule delays and increased costs.	Debris within reservoir blocks intake	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Share	Maximizing the size of the intakes to match the size of the gates; Design debris grating for intake with ability to clear debris from grating.	Owner / PDB Owner: To the extent this risk is unforseen. PDB: Aware that there will be some debris and contractor responsible for designing appropriate solution.	Open
65	Dams	**Dam Failure** Iron Gate Dam or J.C. Boyle Dam overtopped during excavation by storm water flows in excess of 100-year event resulting in dam failure. This would lead to additional cost.	Climate change; increased variability in precipitation patterns	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Require that the dam height during excavation not be less than needed to safely pass a 100-year event through the diversion tunnel; Completion of the FERC Potential Failure Modes Analysis process; Implement EAP, if necessary; Close coordination with the FERC regional office and state dam safety authorities.	Owner	Open
66	Dams	**Hatchery Delay** Iron Gate and/or Fall Creek Hatchery is not brought online in time to begin drawdown. This may lead to schedule delay.	PacifiCorp does not move forward with planning, designing, costing, and seeking approval for hatchery designs. Inadequate planning, equipment, staff, technical issues, or unfavorable weather	Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Manage	Rigorous design of replacement supply; Pilot treatment technology; Proactive QA/QC during construction.	Owner / PDB Owner: Within the contract, the owner has responsibility if IFC docs are not ready in time for Kiewit to begin construction; however, the risk would be passed on to CDFW/PacifiCorp who are ultimately responsible for design and funding related to the hatchery. PDB: Responsible to the extent that they have the agreed upon time to do the work and do not meet their schedule.	Open
Yreka Water Supply Pipeline												
74	Yreka	**Design Changes by City of Yreka** Design review by City of Yreka may result in changes to design. Coordination or other design delays related to City of Yreka water system design.	Lack of coordination or agreement on design process or details	Post-GMP	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Proactive coordination with City engineers on process and design requirements; Strict adherence to schedule milestones and KRRC QA process; Keep Designer under KRRC/AECOM control so payments can be withheld due to schedule delays.	Owner	Open

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100	Yreka	**Yreka Water Supply Construction Delays** Yreka Water System Pipeline Crossing is not constructed in time for dam removal start. If this happens it pushes the dam removal to next calendar year. Differing Site Condition claim during Yreka Water Supply Pipeline Crossing Construction. On-site investigation shows much more complex.	Unforeseen seasonal flow condition in-river, and other unforeseen adverse conditions (e.g., geology) impacting construction schedule.	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Consider obtaining permits early; consider approved in-river work window for fish protection and other potential risks to construction schedule in planning for contingencies - in order to complete construction in-time for the dam removal start.	Owner / PDB Owner: To the extent IFC docs and permits aren't obtained in time for PDB to begin work. PDB: To the extent that they begin work on schedule but don't complete it on time.	Open
External Events												
9	External Events	**Uncontrolled Circumstances** Uncontrollable circumstances (e.g. force majeure, war, terrorism)	Uncontrolled circumstances	Construction	1 Very Unlikely (1-9%)	3 Moderate	3	Low	Accept	Prepare Emergency Response Plan (PERP) and require Contractor to prepare their own PERP.	Owner / LTC Owner: To the extent this risk is unforseen (as defined in the Project Company agreement). LTC: Within the RES agreement, uncontrollable circumstances are extremely limited such that the LTC has to cover the majority of them.	Open
20	External Events	**Extreme or Wet Weather** Hotter- or colder-than-expected weather causes work stoppage and schedule delays. Wetter-than-expected weather or flows higher than expected during instream construction window increases costs and causes delays.	Climate change; Hydrology	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Weather analysis during construction planning needs to foresee heat/cold delays; consider including greater than average number of excessive heat/cold days; for hot weather, consider ways to increase night work without affecting noise levels. Rigorous flow analyses during planning/design; Consider defining anticipated rain days in contract as a number greater than average; Define flow return period; Contract requirement for contractor plan for wetter-than-expected weather.	Owner / LTC Owner: To the extent this risk is unforseen (as defined in the Project Company agreement). LTC: Within the RES agreement, LTC would be responsible for this risk.	Open
22	External Events	**On-site Fire** Fire in watershed causes on-site fire damage	Lightning; Accidental; Arson	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Share	Fire Management Plan has been developed and Contractor will be required to prepare their own Fire Management Plan.	Owner / PDB / LTC Owner: Responsible for force majeure. PDB: For fire resulting from fault. LTC: Responsible for any item resulting from LTC fault; LTC does not have relief for this type of force majeure event once their work begins.	Open
24	External Events	**Earthquake - During Construction** Earthquake damages temporary construction leading to additional cost and schedule delays.	Earthquake occurs near project	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Accept	Consider specifying a contract defined design earthquake for temporary construction.	Owner / PDB / LTC Owner: Responsible for force majeure. PDB: Builder's Risk may apply in some instances (depending on exclusions ultimately negotiated). LTC: Does not have relief for this type of force majeure once the work begins.	Open
79	External Events	**Domestic Terrorism** Domestic terrorism or actions to disrupt or stop project during construction may lead to schedule delays.	Extreme opposition to project	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Accept	Develop site security plan that includes project response to different scenarios for disruption of project by domestic terrorists.	Owner	Open
114	External Events	**Confiscation by Governmental Body** Government confiscates resources or stops work.	External events (disaster, etc.)	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Accept	N/A	Owner	Open
115	External Events	**Circumstances Affecting Suppliers** External events (disaster, etc.) affect the ability of PDB to acquire supplies and materials.	External events (disaster, etc.)	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Accept	Early coordination with suppliers to avoid supply limitations.	Owner	Open
72	External Events	**PacifiCorp - Access challenges/ Coordination of Work Delays**	PacifiCorp access constraints result in schedule delays	Post-GMP	3 Less Likely (20-39%)	2 Low $1.5M	6	Med	Manage	Develop plan during prelim services for needed PacifiCorp involvement during construction. Address in a revised O&M agreement.	Owner	Open

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Other												
211	Contract Issues	**Conract Disputes -** Contract disputes between contractors increase as a result of splitting Kiewit/RES contracts.	Disagreement over who is responsible for work or issues pertaining to work	Post-GMP	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Work closely on related work protocol, ongoing partnership meetings and conversations to determine where there may be overlap.	Owner	Open
212	Insurance	**Pollution Events -** Construction resulting in pollution / enviornmental issues cause KRRC to pay for deductibles on pollution policies.	Pollution event requires triggers insurance	Post-GMP	4 Likely (40-59%)	1 Very Low	4	Med	Accept	Carefully implement BMPs and review all documentation and devlop plans to mitigate exposure to this risk.	Owner	Open
213	Field Conditions	**Reliance Documents** - Reliance documents may be **inaccu**rate, leading to errors in design.	Once on site, PDB discovers reliance documents were inaccurate	Post-GMP	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Manage	Limit number of reliance documents since not finalized until project implementation date.	Owner	Open
214	Insurance	**Cost of Premiums** - Estimated costs of premiums for insurance are too low given that estimates are determined over a year in advance.	Estimat for premiums is too low since estimate was made over a year in advance of securing insurance	Post-GMP	4 Likely (40-59%)	2 Low	8	Med	Accept	Seek pricing updates regularly; regularly review insurance approach in light of changing insurance industry.	Owner	Open
215	Contract Issues	**Contract QA/QC Issues** - Given the complexity of the contract, the contract ends up being difficult to interpret or operationalize.	Once project implemntation begins, it is determined that there are either errors in the contract that need to be renegotiated or terms that are vague and difficult to operationalize.	Post-GMP	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Manage	Work closely with the project team, peer review of contracts, clarity on related work protocol, etc.	Owner	Open

Attachment A Risk Register (PDB-Owned Risks)

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Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	Risk Management Measure	Risk Owner	Risk Status
Environmental & Permitting											
112	Environmental & Permitting	**Permit Reopener** Changes during construction that require an amendment to a permit.	Unforeseen or changed site condition requires altering planned construction and project impacts which require a change to a permit. Design change by PDB to save costs or time.	Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Flexible project descriptions that allow for design options; Comprehensive field investigation and documentation.	PDB / LTC	Open
27	Environmental & Permitting	**Construction Permits** PDB may be unable to obtain construction permits (e.g. County encroachment permits) in time for construction. This may lead to schedule delays.	Poor planning, insufficient communication, difficulty negotiating requirements	Post-GMP	3 Less Likely (20-39%)	2 Low	6	Med	Owner coordination with Contractor for proactive communication with Counties; Contingency planning for delayed start during first year of construction.	PDB	Open
42	Environmental & Permitting	**Cultural Resource Damage** Known cultural resource may be damaged during construction. This may lead to a cost impact.	Mitigation measures fail to protect resource	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Identification of existing cultural resources to the extent feasible; Ongoing coordination with tribes and local historical societies to assess potential damage and identify measures.	PDB / LTC	Open
68	Environmental & Permitting	**Downstream Biological Resource Damage** Greater than anticipated effect on downstream biological resources may lead to additional costs.	Effect of suspended sediment causes greater than anticipated impact to given species	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Develop appropriate aquatic resource measures through coordination with the regulatory agencies; Implement risk management measures to address effect on downstream resources.	PDB / LTC	Open
71	Environmental & Permitting	**Bat Loss** Bat roosts do not meet success criteria requiring additional mitigation, which may lead to additional cost in fines.	Predictive model of bat roost effectiveness is incorrect	Post-Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Agency input into performance requirements in DB contract and design; Proactive QA/QC during construction. Cost estimates should assume prudent amount of replanting or other habitat maintenance.	PDB / LTC	Open
72	Environmental & Permitting	**Habitat Restoration** Unanticipated maintenance or repair required during regulatory monitoring and reporting period (e.g. plant establishment, tributary passage blockage, etc.). Habitat restoration may lead to additional cost.	Constructed project component does not meet agency expectations	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Agency input into performance requirements in DB contract and design; Proactive QA/QC during construction. Cost estimates should assume prudent amount of replanting or other habitat maintenance.	PDB / LTC	Open
86	Environmental & Permitting	**Restoration Materials Unavailable** Local restoration materials (seed, plants) may not be available. This may lead to schedule delays and increased costs.	Insufficient quantities available for collection or insufficient quantities produced by propagation	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Early collection of seed and nursery propagation of plants for restoration prior to award of DB contract.	PDB / LTC	Open
96	Environmental & Permitting	**Proliferation of Weeds** Weeds outcompete native plants and site restoration goals are not met. This may lead to a cost impact for the project. More monitoring at the end of tail end.	Proliferation of weeds	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Contract warranty period; Post-construction maintenance requirements in contract.	PDB / LTC	Open
Post-GMP											
25	Post-GMP	**Contractor Rework** Design errors or omissions lead to Project delays or cost overruns	Designer error	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Comprehensive design review; proactive QA/QC.	PDB	Open

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Field Conditions											
36	Field Conditions	**Sediment Access** Reservoir sediment may be more difficult to access than anticipated, causing construction delays (restoration)	Lack of material properties understanding	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Comprehensive investigation and testing during planning and detailed design phase (with PDB).	PDB / LTC	Open
Construction											
82	Construction	**Hazardous Material - Construction Activities** Discovery or release of hydraulic oil or other hazardous material from construction equipment or remediations may be released into the river during construction. This may lead to additional costs.	Contractor mechanical equipment failure results in unanticipated release of hazardous material into river	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Contractor required to develop a Spill Prevention, Control, Countermeasure (SPCC) Plan and active overview and enforcement of the SPCC Plan.	PDB	Open
70	Construction	**Circumstances Affecting Suppliers** External events (disaster, etc.) affect the ability of PDB to acquire supplies and materials	Economic supply/demand or regional availability	Construction	1 Very Unlikely (1-9%)	3 Moderate	3	Low	Lock in pricing early, secure bonds to backup contracts	PDB	Open
74	Construction	Unable to fully seal temporary cofferdams/ divert water	Unknown condition of existing cofferdams, how much repair needed unknown.	Construction	3 Less Likely (20-39%)	2 Low	6	Med	More pumping needed, add 2x the pumping required	PDB	Open
78	Construction	Damage to downstream access road at Copco 1 (put in place year prior) during drawdown	Drawdown flows coming out of adit(s) damage work pad at base of Copco 1, requring rebuilding.	Construction	5 Very Likely (60-100%)	1 Very Low	5	Med	If required to rebuild post drawdown. Spillway flow	PDB	Open
90	Construction	Copco 1 - Kiewit Concept of drilling two new tunnels (with an upstream steel cofferdam/gate) proves to impact the dam stability and safety resulting in it being not technically feasible.	Agency disagreement with approach	Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	KP to assess dam safety, and design new tunnel outlet facilities to mitigate risks.	PDB	Open
91	Construction	Copco 1 - New diversion tunnel outlet scour	high flows coming from adit cause damge to river channel	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	KP to design outlet, energy dissipation structure and/or plunge pool to mitigate risks of excessive scour during drawdown.	PDB	Open
100	Construction	Drawdown Rates different than anticipated, cause rim stability or other issues requring correction/mitigation	Unknown conditions under reservior water level prove to be greater risk of instability.	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Control of drawdown rate defined by capacity of drawdown tunnels. (5-10yr) flow event; Contractor defines rate.	PDB	Open
178	Construction	Labor Shortage - challanging to draw craft to the area	Economic supply/demand and strong construction market driving demand for craft elsewhere.	Construction	4 Likely (40-59%)	2 Low	8	Med		PDB	Open
179	Construction	Fuel Escalation in excess of estimate	Commodity price fluctuation	Construction	4 Likely (40-59%)	2 Low	8	Med	Fuel Escalation in excess of estimate (>$4/GAL AVG)	PDB	Open
182	Construction	Subcontractor(s) fail to complete scope / insolvency / buyout to higher subcontractor to complete scope	Subcontractors take on contracts that a stretch to achieve for their capabilities. They underestimate cost or some external factor causes their business failure.	Construction	4 Likely (40-59%)	4 High	16	High	Subcontractor performance failure. Assuming Kiewit subcontracts 60% of $250M contract. Delay impacts.	PDB	Open
187	Construction	Additional Roadway maintenance required	Copco road unable to handle heavy loads to any extent, causes more damage than anticipated	Construction	3 Less Likely (20-39%)	2 Low	6	Med	MOU with Siskiyou County in estimate, but more damage results are additional.	PDB	Open
196	Construction	Vandalism/ Theft	Site not secure from all sites, large and open. Positioned guards to not mitigate issue	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Hire Security in sufficient quantities and lock up tools/equipment.	PDB	Open

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New risks identified since July 29, 2019

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	Risk Management Measure	Risk Owner	Risk Status
189	Construction	Headcutting at Jenny, Camp, Scotch. River cuts back more than anticipated/undermines structures	Heavy flow year before all stablilzation has taken root	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Design to reasonable flow conditions. Monintor after installation.	PDB	Open
190	Construction	Professional Liability policy included in 60% estimate is $2.2M. This is just an indicitive market price, but policy wont' be purchased until 2021. Risk of escalation	Surging insurance industry in northern california.	Construction	4 Likely (40-59%)	1 Very Low	4	Med	Lock in pricing as early as possible.	PDB	Open
193	Construction	Production rate risk, unable to achieve productions as outliend in cost estiamte.	Site conditions or operations prove more difficult than anticipated	Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Base estimate of comparable project experience.	PDB	Open
194	Construction	Unable to take geotech borings for scotch/camp foundations. May need to re-design/increase cost of foundations for crossings.	Unable to access site due to pacifiCorp access restrictions/red tape	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Design reasonable foundations until conditions are known.	PDB	Open
195	Construction	QSD/QSP california process for erosion control yields much greater scope than currently designed.	BMP conrtrols requried prove in excess of current plan	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Have QSD./QSP professsional analyze erosion control plans during the design phase.	PDB	Open
197	Construction	Liquidated Damages (Daily LD's)	Contractor late	Construction	4 Likely (40-59%)	1 Very Low	4	Med	Manage schedule and critical path	PDB	Open
198	Construction	Liquidated Damages (Lump Sump exceedence of longstop date	Contractor late	Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Manage schedule and critical path	PDB	Open
203	Construction	Potential that subcontractor escalation assumption not sufficient to cover actual escalation experienced at time of construction.	Current construction market very strong. Many places for subs to work and they are commanding higher prices.	Construction	4 Likely (40-59%)	2 Low	8	Med	Forecast and estimate escalation	PDB	Open
205	Construction	Airboats can not keep up with the rate of draw down to evacuate sediment.		Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Sediment will then have to be removed with conventional earthmoving equipment	PDB	Open
206	Construction	Availabilty of qualified labor from unions could reduce production		Construction	5 Very Likely (60-100%)	4 High	20	High	Ability to dictate quality and production rates	PDB	Open
Reservoir Drawdown											
34	Drawdown	**Dam Failure** Dam or similar structure fails during drawdown, leading to additional costs.	Failure mode not investigated or analyzed properly	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Rigorous detailed design analysis surrounding dam safety during drawdown; Completion of the FERC Potential Failure Modes Analysis process; Close coordination with the FERC regional office and state dam safety authorities; Implement FERC Emergency Action Plan, as appropriate.	PDB	Open
89	Drawdown	**Ice Impediment** Reservoir ice impedes sediment flushing during reservoir drawdown leading to cost increases.	Ice on one or more reservoirs during drawdown might impede sediment erosion	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Incorporate management measures into design where possible.	PDB	Open
55	Drawdown	**Diversion Tunnel Intake Blocked** Copco No. 1 and/or Iron Gate Dam diversion tunnel intake blocked by debris during drawdown reducing flow capacity. This may lead to schedule delays and increased costs.	Debris plugs tunnel.	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Develop plan for pre-dredging area in 2020.	PDB	Open
Contractor Performance											
26	Contractor Performance	**Construction Errors** Construction errors (quality control) may lead to additional costs.	EOR fails to properly inspect or direct work in the field; QC failures	Construction	4 Likely (40-59%)	1 Very Low	4	Med	Clear contract requirements; Owner review and enforcement of Contractor QA/QC Plan and rigorous Owner audit and spot testing to confirm results.	PDB	Open
195	Contractor Performance	**Production Inefficiencies**	Site constraints or climate hinder operations more than anticiapted	Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Plan operations around seasonal weather patterns and flow period.	PDB	Open

Attachment A Risk Register (PDB-Owned Risks)

New risks identified since July 29, 2019

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	Risk Management Measure	Risk Owner	Risk Status
Dams, Powerhouses, Reservoirs											
52	Dams	**Large Gate Procurement** Copco No. 1 and/or Iron Gate Dam large gate procurements delay gate installation resulting in delay of reservoir drawdown	Manufacturer requires additional information; (note: E&O covered elsewhere)	Post-GMP	4 Likely (40-59%)	2 Low	8	Med	Early detailed design; Early involvement of the Contractor to initiate gate procurement activities including input from the gate fabricator; Contractual milestones with liquidated damages; Early Contractor input including planning underwater work to modify/demo the existing Iron Gate Dam gate structure.	PDB	Open
53	Dams	**Tunnel Modifications** Copco. No.1 and Iron Gate Dam tunnel modifications are more difficult to construct causing schedule and cost overruns	Changed site condition or design omission	Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Comprehensive field investigation and design review; Early Contractor input as well as transparent Contractor progress cost estimates based on proven means and methods.	PDB	Open
54	Dams	**Dam Diversion Malfunction** Copco No. 1 or Iron Gate Dam diversion gate malfunctions during drawdown resulting in delay of reservoir drawdown	Faulty equipment or equipment failure (note E&O covered elsewhere)	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Proactive QA/QC during design; Include backup systems for operating the gates in the design and construction including special inspections and testing of the gates prior to drawdown.	PDB	Open
External Events											
31	External Events	**Onsite Public Safety** Public safety at construction site. Injuries or damage may lead to additional cost and schedule delays.	Public safety measures insufficient to keep out public	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Development of appropriate health and safety qualifications, experience and other requirements during the procurement process, as well as active overview and enforcement of the Contractor's health and safety and site security plans. No public access to work areas.	PDB	Open
104	External Events	**Wildfire** Wildfire ignited by construction activities spreads and affects other properties.	Hot work, or other activities during the dry months generate sparks or heat that ignite dry grass and brush around the project that then spreads to neighboring populated areas.	Construction	1 Very Unlikely (1-9%)	5 Very High	5	High	Fire Management Plan has been developed and Contractor will be required to prepare their own Fire Management Plan.	PDB	Open

Attachment A Risk Register (LTC-Owned Risks)

New risks identified since July 29, 2019

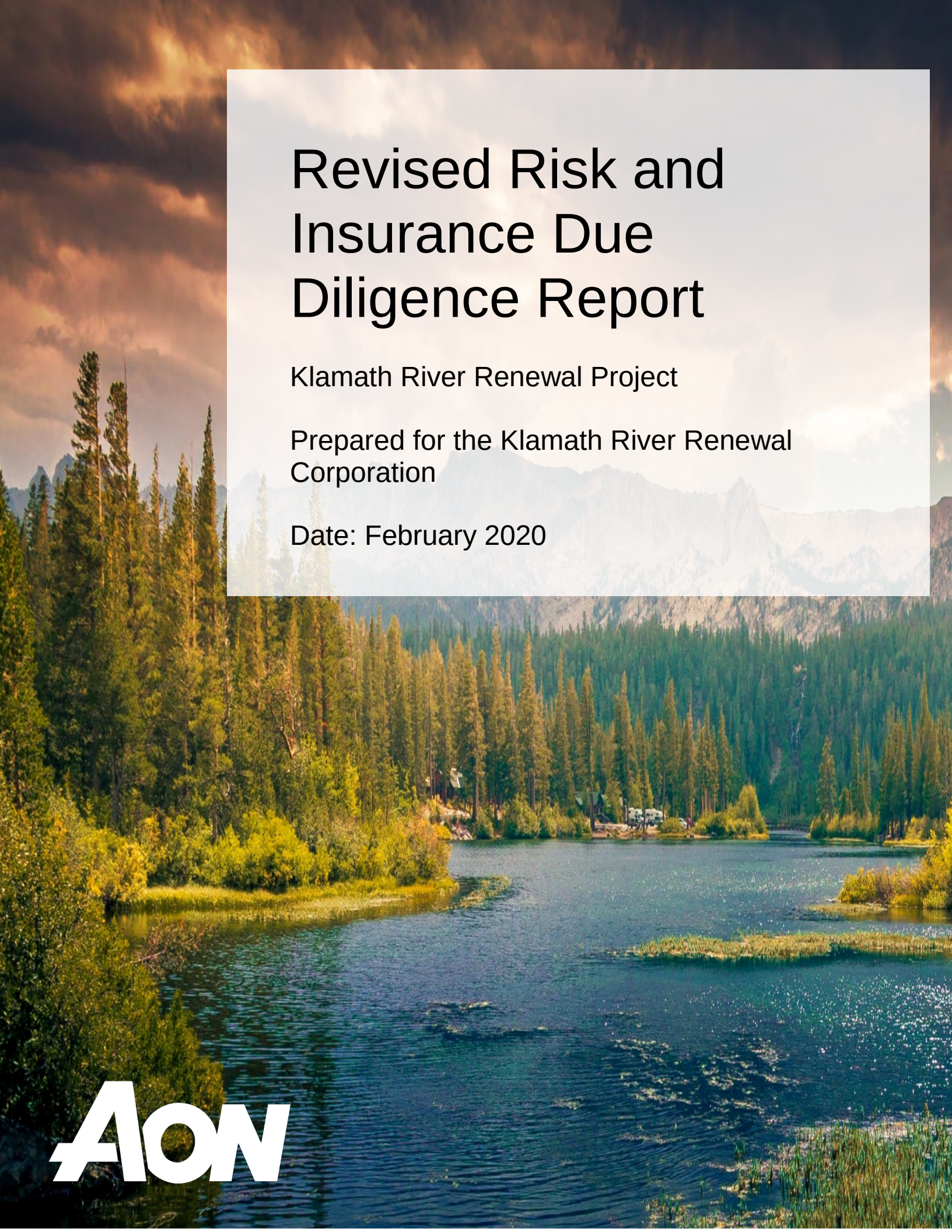
Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	Risk Management Measure	Risk Owner	Risk Status
Environmental & Permitting											
12c	Environmental & Permitting	**Permit Reopener** Changes during construction that require an amendment to a restoration permit.	Changes during construction that require an amendment to a restoration permit.	Post-Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Maintain positive relationships with regulators and have contingency plan in place for permit amendments.	LTC	Open
37	Environmental & Permitting	**Special-Status Species Presence** Special-status species (incl. bald and golden eagles) presence delays construction	Unanticipated species found onsite cause stop work	Construction	4 Likely (40-59%)	2 Low	8	Med	Additional surveys to identify nest locations in the years leading up to construction; Implementation of the avoidance and minimization measures identified in the Definite Plan; Effective transfer of risk through Contract terms to Design-Builder. Pre-construction surveys; Design planning; Require work areas to be cleared prior to nesting season; Proactive surveys for nesting activity during nesting season; Proactive nesting mitigation measures during nesting season. Draft permits so that stop work is not a remedy, absent negligence by restoration company.	LTC	Open
40	Environmental & Permitting	**Permit Requirements Not Satisfied** Mitigation measures or permit requirements may not be satisfied. This may lead to delays and additional costs.	Responsible party (PDB or LTC) does not meet expectations of permitting agencies in meeting permit requirements	Post-Construction	4 Likely (40-59%)	1 Very Low	4	Med	Coordination between Designer, Contractor, and permitting agencies; Satisfy permit requirements.	LTC	Open
70	Environmental & Permitting	**Protected Species Loss** Coho or Bald and Golden Eagle net loss within 5 years of construction completion may lead to additional cost in fines.	Mitigation and rehabilitation measures provide insufficient protection	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Proactively monitor species before and during construction; Implement additional risk management measures.	LTC	Open
190	Environmental & Permitting	**Non-CEQA Related Mitigation**	Unanticipated mitigation requirements included in final permits that increase cost	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Maintain close coordination with regulatory agencies.	LTC	Open
Construction											
91	Construction	**Fish Barriers** Unknown fish passage barriers are found during drawdown. Their discovery will lead to additional cost.	Unknown pre-existing barriers exposed during drawdown	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Review of historic documents for evidence of barriers; Require Contractor to develop contingency plan to evaluate for barriers following reservoir drawdown and actions to remove barriers during dam removal.	LTC	Open
92	Construction	**Insufficient Dam Foundation Removal** Copco 1 - Removal of concrete foundations of the dam do not go deep enough to ensure long-term fish passage.	Fish passage barrier develops at Copco No.1 former dam location	Post-Construction	1 Very Unlikely (1-9%)	3 Moderate	3	Low	COVERED BY LTC - dependent on timing Assess removal designs and fish passage designs to ensure long term fish passage, including assessment of river bed erosion downstream and impact on the river grades and future river bed levels.	LTC	Open
95	Construction	**Insufficient Dam Foundation Removal** Copco 2 - Removal of concrete foundations of the dam do not go deep enough to ensure long-term fish passage.	Fish passage barrier develops at Copco No. 2 former dam location	Post-Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	COVERED BY LTC - dependent on timing Assess removal designs and fish passage designs to ensure long term fish passage, including assessment of river bed erosion downstream and impact on the river grades and future river bed levels.	LTC	Open
207	Construction	**Landslide during drawdown**	Landslide occurs creating issue with passage	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Develop contingency plan.	LTC	Open

Attachment A Risk Register (LTC-Owned Risks)

New risks identified since July 29, 2019

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	Risk Management Measure	Risk Owner	Risk Status
208	Construction	**Any Stop work due to species**	Species presence results in a stop work, thereby increasing cost and delaying schedule	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Draft permits so that stop work is not a remedy, absent negligence by restoration company.	LTC	Open
209	Construction	**Change in labor agreement rates for restoration**	-	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Develop contingency plan.	LTC	Open
Reservoir Drawdown											
45	Drawdown	**Regulatory Shutdown - Water Quality** Reservoir drawdown impacts water quality more severely than anticipated causing project regulatory shutdown, delaying the project.	Permit conditions and/or inadequate modeling of water quality; duration of drawdown extends past March due to extreme weather	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Perform comprehensive water quality studies prior to construction; Implement risk management measures needed to comply with water quality requirements.	LTC	Open
External Events											
73	External Events	**Earthquake - Post Construction** Large seismic event up to design Maximum Credible Earthquake (MCE) occurs after project completion that results in blockage of Klamath River, leading to additional costs.	Large seismic event causes catastrophic landslide or slope failure	Post-Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Develop clear design requirements for PDB contract; Work with dam safety authorities to set reasonable design criteria and associated durations.	LTC	Open

ATTACHMENT L



Revised Risk and Insurance Due Diligence Report

Klamath River Renewal Project

Prepared for the Klamath River Renewal Corporation

Date: February 2020

AON

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Reliance Statement

This report is prepared for the Klamath River Renewal Corporation (KRRC or Client) in respect to the procurement of the Klamath River Renewal Project (Project). It may be relied on by the following parties (Parties):

- Klamath River Renewal Corporation
- The State of California
- The State of Oregon

We confirm that the Parties may rely upon this report in connection with and for the purpose of:

- The provision or underwriting (as the case may be) of financial accommodation, equity, debt or hybrid investment, leasing finance or residual value guarantees to facilitate the Project
- Pre or post financial close debt financing or sale, transfer or assignment of the above financial accommodation, equity or debt investment, hybrids issues, including the issue of a disclosure document to finance the Project, leasing finance, residual value guarantees or underwriting positions which occurs within 12 months of financial close (together, the Financing)
- FERC license transfer to Klamath River Renewal Corporation

We confirm that the Parties are permitted to extract parts of the report to be inserted into any information memorandum and/or disclosure document (IM) used in connection with any Financing of the Project or any part of it, provided that:

- A full copy of the report is made available to each recipient of the IM
- Each extract is a complete and accurate transcription of the relevant part of the report
- It is clearly stated in the IM that the extract is an extract from the report
- It is clearly stated in the IM that the recipients may not rely upon the extract but only rely on the full Report and then subject to any limitations or disclaimers in the report

We also confirm that we are prepared to answer queries with respect to this report raised by any of the Parties or potential Financiers or underwriters in any syndication or sell down process, which may arise in the six-month period following financial close of the Project. We further confirm that we are prepared to answer queries with respect to this report raised by FERC, the State of California, or the State of Oregon which may arise in the six-month period following FERC license transfer.

For the purposes of this reliance statement, Financiers means each person who provides or participates in financing including:

a) Each arranger, underwriter, note holder or participant in the facilities related to the Financing and any agent or trustee (including any security trustee or security agent) acting for any of them
b) Each working capital facility provider
c) Each interest rate, foreign exchange or other hedge counterparty
d) Each person who provides Financing as a lessor under a financing or operating lease or as a residual value guarantor on or post financial close including each arranger, underwriter, dealer, participant or note holder in the Leasing Arrangements related to the financing or any agent or trustee acting for any of them
e) Any credit support provider to a borrower under a financing

in each case as at financial close; and

- Each and any person who becomes a substitute, transferee or assignee of any of the persons referred to in (a), (b) and (e) within 12 months of financial close.

This report is based upon the information that the Client and its representatives have provided. The Client is responsible for the accuracy and completeness of the information, and we accept no responsibility arising from the Client's failure to provide complete and accurate information.

Executive Summary

This report has been produced by Aon at the request of the Klamath River Renewal Corporation for the benefit of the KRRC and related parties (collectively referred to as the "Stakeholders"), involved in the Project. KRRC engaged Aon for certain Insurance Advisory services ("Insurance Services). This report is provided for the benefit of all Stakeholders and may be relied upon by the Stakeholders.

This report summarizes the Insurance Services and provides certain recommendations based upon those Insurance Services including but not limited to:

- Risk Assessment including analytics and risk modelling which is set forth in Appendix C of Aon's July 2019 Risk & Insurance Due Diligence Report:
  - The analytic and risk modelling reveals that the total exposure (general liability, errors and omissions, haul away auto, and workers compensation) at a 99.5% confidence level is $120.61M.
  - As seen in Appendix C, dam failure presents the greatest risk. At a 99.5% confidence level, the total estimated cost associated with a dam failure is $119.97M.
  - Wildfire does not present a significant risk and at a 99.99% confidence level the exposure is estimated to be no greater than $6.26M.
  - The revised insurance program outlined by Aon will provide greatest value for money; sufficient limits; and, based upon advice of the Hawkins, Delafield and Wood firm, the coverage and indemnity necessary to cover these risks.

- Risk Assessment including Project Risk Register:
  - Working in conjunction with AECOM and the Stakeholders, Aon has attempted to identify all of the potential causes of loss.
  - Based upon the original Project Agreement[1], Aon identified which party "owns' the risk and the risk mitigation tools available.
  - For those risks where insurance is "potentially available", the determination for whether insurance is available is based upon the facts associated with the loss (assumes that the loss is not otherwise excluded) and the damages being claimed.

- Risk Assessment including Project Insurance Program:
  - The Definite Plan made several insurance recommendations, including but not limited to:
    - A general liability only owner-controlled insurance program (OCIP)
    - KRRC, Kiewit, and all contractors procuring their own workers compensation insurance program
    - Builder's Risk /Inland Marine limit based upon 100% of the replacement value of any salvaged material or property and procured by KRRC
    - Professional Liability to be purchased by Kiewit with limits as high as 20% - 40% of the construction value.

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[1] It is Aon's understanding that the scope of work under the original Project Agreement has been split between Kiewit Infrastructure West (Kiewit) for civil work and HGS, LLC (HGS) for restoration work.

- Given the current insurance marketplace, Aon concludes that certain changes to the original Project Insurance Program should be allowed to create the greatest value for money and provide the sufficient protections to the Project and the Stakeholders:

Kiewit Insurances

- Allow Kiewit to use its corporate insurance program for the general liability and umbrella liability coverage with dedicated project limits of $200M which will renew annually;
- Allow Kiewit to use its corporate insurance for the auto and workers compensation coverage;
- Builder's Risk/Inland Marine limit based upon the probable maximum loss ("PML") vs. replacement value and to be procured by Project Co/Kiewit. By utilizing the PML, the limit will account for the increased value in the roads, bridges and other project improvements;
- Allow Kiewit to use its corporate insurance program for the professional liability with dedicated project limits of $25M which will renew annually. This will provide the same protections as a project specific placement while eliminating the costs associated with a project specific placement.
- Watercraft and Aircraft Liability with $5M limits for each of the exposure, except helicopters which should be $10M: watercraft, aircraft, helicopters, and drones to the extent there is exposure. The watercraft liability and aircraft liability should be scheduled on the excess policy. However, if the drones are under 10 kg, use of the general liability is permissible.

HGS Insurance

- Allow HGS to use its corporate insurance program for the general liability and umbrella liability coverage with dedicated project limits of $75M which will renew annually.
- Allow HGS to use its corporate insurance for the auto and workers compensation coverage
- Professional Liability Limits of $15M and allow HGS to use its corporate program to satisfy this requirement if it can provide dedicated project specific limits.
- Watercraft and Aircraft Liability with $5M limits for each of the exposure, except helicopters which should be $10M: watercraft, aircraft, helicopters, and drones to the extent there is exposure. The watercraft liability and aircraft liability should be scheduled on the excess policy. However, if the drones are under 10 kg, use of the general liability is permissible.

KRRC Insurance

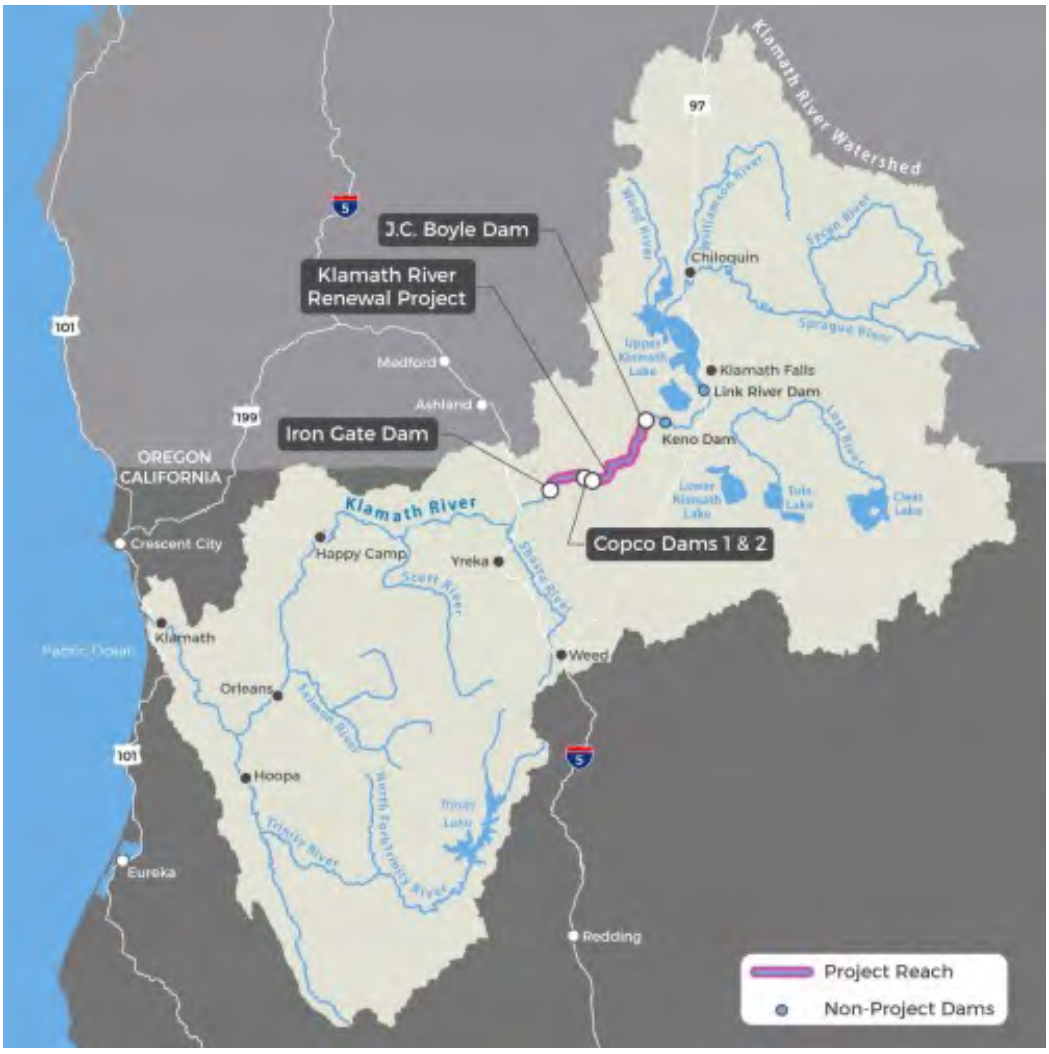
- General Liability Owner's Interest Policy with limits of $50M.
- Contractor's Pollution Liability and Pollution Legal Liability with linked limits of $50M and procured by KRRC.

It must be clearly understood that, at this time, no project insurances have been bound and no insurance premium costs have been incurred. KRRC does maintain its corporate insurance program, which was renewed on June 30, 2019. The project insurances will be placed prior to Project Implementation Work.

Project Overview

The Klamath River Renewal Project (the "Project") comprises the removal of four dams on the Klamath River – J.C. Boyle, Copco 1, Copco 2, and Iron Gate, along with appurtenant structures. The Project is intended to restore the natural, free-flowing condition and restore volitional fish passage through river miles 193.1 to 234.1. In addition to the deconstruction activities, the Project Company will be responsible for remediating and restoring the reservoir sites, minimizing adverse impacts downstream, ensuring project completion with available funds, and avoiding damages and liabilities to PacifiCorp, the States, and third parties. The estimated cost of the progressive design-build contract is estimated to be $237.6M million. The estimated cost of project oversight, liability transfer, environmental compliance, technical support, construction management, mitigation measures and monitoring and reporting is estimated to be $133.3M with a contingency of $62.8M.

Project Map



Method of Approach

The review and commentary on insurance and risk management issues are based on the review of project documentation. This documentation includes the Definite Plan and other data as provided by the Klamath River Renewal Corporation and its advisors.

Specifically, Aon has reviewed the following documents:

- Klamath Hydroelectric Settlement Agreement dated February 18, 2010, Amended April 6, 2016 and November 30, 2016 ("KHSA")
- Definite Plan dated June 2018 and July 2, 2019
- Request for Proposal dated December 21, 2018
- Project Agreement dated April 24, 2019
- Operations & Maintenance Agreement dated September 20, 2017
- FERC Board of Consultants Letter Report No. 1 and KRRC Response Letter dated December 12, 2018

Risks that have been identified through the review of the above documentation and through consultation with Stakeholders, have been discussed and matched with solutions utilizing the following approach:

Aon has utilized its Project Enterprise Risk Assessment (PERA) approach in its analysis of the risks on the Project. PERA is a proprietary enterprise risk management solution which is tailored to complex construction projects. The PERA methodology involves the following:

- Risk Identification
- Map to potential risk solutions, including transfer by insurance, transfer by contract, transfer by alternative method, and risk controls
- Certain proposed solutions, if possible, could be vetted through meetings with various Stakeholders in order to test the integrity of the solution

This method will also attempt to address risks outside of the usual hazard quadrant and will provide the Stakeholders with a project wide "risk matrix" that includes identified risks and potential solutions. Some solutions may not involve transferring risk to insurance carriers, and Aon will discuss with Stakeholders techniques for implementing these solutions.

Aon's risk matrices were then compared to the Aecom risk register to ensure that all risks were identified and properly classified. The combined risk matrix/risk register were then used to conduct the risk analytic and modelling and quantify the potential risk. This allowed Aon to determine the appropriate levels of insurance and avoid over insuring the project, which would not have delivered good value for money. Aecom utilized the combined risk matrix/risk register to produce a roll-up contingency estimate.

Project Risk Commentary

Below Aon has provided a summary of critical risk clauses within the Definite Plan and the Project Agreement.

Key Project Risks

The following discussion of project risks explores the risks that were highlighted by Stakeholders during the February 19, 2019 risk workshop held at the Aon San Francisco office. The risks raised by Stakeholders were then quantified and analyzed by Aon Global Risk Consulting (AGRC) to provide estimates of the risk of potential losses by line of coverage and by risk. Below is a summary of potential losses by line of coverage:

	GL	E&O	Haul Away–AL	Workers Comp	Total Before Insurance
Average Loss	$6.19	$0.53	$1.15	$3.72	$11.58
CAT Loss	$62.12	$10.62	$3.78	$12.37	$70.50

Confidence Level	Years/Event					
10%		$0.26	$0.00	$0.39	$1.95	$3.62
20%		$0.39	$0.00	$0.54	$2.26	$4.21
30%		$0.53	$0.00	$0.67	$2.53	$4.74
40%		$0.70	$0.00	$0.80	$2.78	$5.31
50%	2	$0.93	$0.00	$0.94	$3.05	$6.04
60%	2.5	$1.34	$0.00	$1.11	$3.36	$7.09
70%	3.3	$2.26	$0.00	$1.31	$3.77	$9.19
80%	5	$6.64	$0.00	$1.59	$4.40	$13.45
90%	10	$16.93	$0.00	$2.09	$5.90	$24.48
95%	20	$29.01	$0.00	$2.62	$8.04	$36.19
99%	100	$67.92	$18.04	$4.28	$14.48	$78.72
99.38%	161	$109.38	$25.71	$4.89	$17.05	$120.61
99.5%	200	$125.98	$28.87	$5.27	$18.19	$135.36
99.90%	1,000	$254.81	$69.71	$8.97	$28.27	$264.49
99.95%	2,000	$303.28	$106.86	$11.75	$33.35	$308.11
99.99%	10,000	$394.77	$195.56	$21.18	$46.28	$404.89

For the Aon Risk Modeling Report, see Appendix C of the Risk and Insurance Due Diligence Report.

Wildfire

Wildfire is the is one exposure that has risen to the top of the list for casualty insurers. Though the amount of work associated with disconnecting the electrical transmission lines from the hydroelectric dams is small in comparison to the overall project it is and will most certainly become a major concern from an underwriting perspective. Unfortunately, starting with the San Diego brush fires to the recent fires in Southern California and most certainly Northern California, wildfire has now reached catastrophic stature in the industry and will become a driving force in the ability to place general liability coverage. Based on an analysis by KRRC's attorneys, of the three potential theories of liability for wildfire damage – negligence, trespass by fire, and inverse condemnation – inverse condemnation would not apply to KRRC as it is not an investor-owned regulated utility. Additionally, PacifiCorp maintains all operational risk until the dams are disconnected from the power grid (decommissioned). Consequently, KRRC or the Project Company would only be liable for damages due to negligence and trespass by fire and general liability policies should cover most potential claims for property damage and bodily injury. However, as KRRC's attorneys note, punitive damages cannot be covered by insurance under California law. According to the analysis done by Aon, the potential liability exposure from wildfire is relatively low with losses estimated to be $6.26M at a 99.99% confidence level. This is primarily due to the rural nature of the project area and PacifiCorp's historic wildfire losses.

Downstream Sediment Deposits

The potential for a negative impact on downstream water quality is of significant concern, especially if there are issues related to contamination of the sediments. There could also be a negative impact at the point at the Klamath empties into the ocean. Much of this risk should be covered by the pollution legal liability coverage.

Dam Failure

The product of the annual probability of dam failure from a particular failure mode and the magnitude of the resulting consequences. Statistically, over 50% of dam failures in the U.S. can be linked to geologic and geotechnical problems. Professional liability underwriters view any dam work substantially more challenging because of the potential for catastrophic loss. According to the analysis by Aon, the potential liability exposure from dam failure is somewhat significant, with projected losses estimated to be $119.97M at a 99.5% confidence level. However, PacifiCorp is responsible for all operational risks until decommissioning. Consequently, KRRC's exposure is limited to post-decommissioning through dewatering, a period which is estimated to be less than a year.

Failure of the Substation

Damage to the substation during the period between license surrender by PacifiCorp and decommissioning could add significant costs to the project as substations not easily replaced. Also, should there be substation failure, there could be negative impacts to the environment. The potential losses from substation failure can arise from any time after the project starts to the last date of power generation. Aon estimates that losses at a 99.5% confidence level would be $20.79M. However, KRRC and/or ProjectCo/Kiewit would only be responsible for losses arising out of damage caused by the deconstruction of the dam, not the operational exposure.

Hatchery Failure or Fish Kill

If the water intake is compromised, there is the risk of losing endangered species. Additionally, there is a risk of loss through KRRC or contractor negligence that causes the hatchery work to fail. Aon estimates that losses at a 99.5% confidence level would be $113.71M. However, per the KHSA, California Department of Fish and Wildlife ("DFW") will have continued responsibility for operation of the hatcheries. As such, any losses associated with operational exposure would not fall to KRRC.

Discovery of Tribal Cultural Resources

There is a good chance that during the decommissioning and facilities removal, a contractor will discover tribal cultural resources. If that occurs, work may have to stop while until an investigation can be Conducted which could prolong the construction period; depending on where in the facilities removal cycle process the discovery occurs, there may be a need for work not originally within the scope of work to ensure embankments are stable. This would be considered an uncontrollable circumstance.

Yreka Water Supply Pipeline Move

There is risk that KRRC or contractor negligence may cause the Yreka water supply pipeline to fail or fail to operate properly. Key inputs to understanding the liability implications of this risk would be the duration of the failure and the water usage by the citizens of Yreka. Aon estimates the losses at a 99.5% confidence level would be $49.49M.

Uncontrollable Circumstances

As defined in the Project Agreement, the Uncontrollable Circumstances are intended to ensure that project risks are transferred to the party best capable of managing, mitigating or transferring each risk. The Uncontrollable Circumstances are comprehensive and have the KRRC retaining risks that are typically retained by Owners on large, complex infrastructure projects. These risks are typically either in the relative control of the KRRC, such as errors, omissions, or insufficiencies in information provided on behalf of the KRRC; are uninsurable, such as labor disputes or strikes affecting specific trades at a regional or national level; or would be considered acts of God, such as earthquakes, fires, tornadoes, or floods. Having the KRRC carry responsibility for these foreseen events allows the Project Company to reduce some of the contingencies that they would otherwise be carrying in their bids.

Definite Plan and KHSA Appendix L Insurance Requirements

Corporate Program

The KHSA does not have any requirements for a corporate program.

The Definite Plan has the following requirements:

KRRC was to procure a corporate insurance program which is intended to address KRRC's general risks as a business entity and include the following coverages:

- $1,000,000 Commercial General Liabilitypolicy which is supplemented by a $5,000,000 Umbrella policy
- $10,000,000 Directors and Officers policy that protects the KRRC's board members
- Worker's Compensation and Employer's Liability policy with a $1,000,000 limit for the KRRC employee(s)

Commercial Automobile policy with $1,000,000 in limits

· Commercial Property policy that covers the KRRC's scheduled property

KRRC's corporate insurance program was to name PacifiCorp, the State of Oregon, the State of California, and their respective officers, agents, employees, and members as additional insureds in accordance with the requirements of the Amended KHSA.

Project Insurance Program

The KHSA provides that DRE agrees to follow, or to contract with a contractor(s) that will follow, the consolidated insurance program approach so the DRE, or the contractor(s) that it contracts with, will purchase the General Liability insurance and Worker's Compensation insurance for all the contractors involved in Facilities Removal. The Definite Plan provides that the Project Insurance Program will be an "owner-controlled insurance program" or OCIP for purposes of securing certain project coverages. Under an OCIP, the owner establishes a Commercial General Liability and Umbrella insurance program in which contractors and subcontractors enroll for coverage, rather than requiring each contractor or subcontractor to procure insurance independently.

Policy Type	Definite Plan – Appendix A	KHSA	Aon Commentary
General Liability	Limits of $2M occ. / $4M prod. comp ops /$4m general aggregate Policy to cover KRRC, the dam removal contractor and all eligible subcontractors for their work at the Project. The goal was to provide a comprehensive, seamless, and efficient insurance program which: (1) precludes insurers from denying coverage based upon other available coverage; (2) removal of cross-litigation costs caused by multi-party losses on a construction project; (3) allows the project sponsor/owner to control and design the coverage it intends to procure and the costs of coverage.	No limits specified. Policy to cover third-party property damage and third-party bodily injury that occurs from activity performed at the dam deconstruction site.	Neither the Definite Plan nor the KHSA address allowable deductibles and/or self-insured retentions. KRRC should not have to pay for any SIRs or deductibles associated with this coverage The rationale for switching from a CCIP to allowing for the use of the corporate programs of Kiewit and HGS is explained later in this document. Our recommendation is that the products completed operations cover be maintained through the statute of repose or the period within which to file a lawsuit.

Policy Type	Definite Plan – Appendix A	KHSA	Aon Commentary
Umbrella/Excess Liability as part of the CCIP	Limits of $200M This policy is to follow form to the CGL and will cover all enrolled parties, which is an added value for smaller contractors who cannot afford these limits.	To provide excess coverage for general liability and auto liability	As set forth in the revised GL comments and later in Aon's Risk and Insurance Commentary, the use of corporate programs delivers the greatest value for money while providing sufficient coverage for KRRC and the Stakeholders. The general liability, auto liability and employer's liability policies are to be listed on the schedule of underlying coverage. It is recommended that the aircraft liability and the marine liability be listed on the schedule of underlying coverage too.
Worker's Compensation/Employer's Liability	Limits: **Workers Comp** – applicable statutory requirements **Employer's Liability** - $1M Requires all contractors and subcontractors to procure this coverage separate and apart from the CIP. The reasoning for not covering under an CIP is because the coverage is statutory.	Includes requirement for USL&H To provide coverage for injuries that occur on the dam deconstruction site to individual workers.	Neither the Definite Plan nor the KHSA address allowable deductibles and/or self-insured retentions. There are no statutory prohibitions to including the worker's compensation and employer's liability in the CCIP. As set forth in the revised GL comments and later in Aon's Risk and Insurance Commentary, the use of corporate programs delivers the greatest value for money while providing sufficient coverage for KRRC and the Stakeholders.
Commercial Auto Liability	$1M CSL per accident for bodily injury and property damage. Required of all contractors and subcontractors for all owned, leased, and non-owed vehicles used in connection with the work.	To provide coverage for third-party property damage and third-party bodily injury for the auto fleet used related to the construction activities.	Given the exposure, Aon would recommend at least $5M in coverage for Kiewit and HSG, LLC and then allow Kiewit and HSG, LLC to determine the appropriate limits for its subcontractors but not less than $2M. Auto to include MCS 90 and CA 9948.

Policy Type	Definite Plan – Appendix A	KHSA	Aon Commentary
Builder's Risk/Inland Marine or Commercial Property	Applies a slightly unconventional analysis to the limit. 100% of the replacement value of any salvaged material or property Will be purchased by KRRC as a project specific property cover.	To provide property coverage for damage to any equipment or components of the dam that will be restored or salvaged;	This coverage should only be required from Kiewit and not from RES for reasons explained later in this report. Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions. As explained in greater detail in Aon's Risk and Insurance Commentary, we believe there are greater advantages to having Kiewit procure the builder's risk coverage.
Contractor's Pollution Liability ("CPL") and Fixed Site Pollution Liability	CPL Limit - $100M PLL Limit - $100M KRRC to procure both policies. The CPL will cover all contractors and subcontractors at the project site. The PLL go into effect when KRRC acquires title to the dam facilities and should be written with the same insurers as the CPL to address any pre-existing environmental damages.	CPL will provide third-party coverage for clean-up and remediation costs, bodily injury, property damage (including natural resources damages, loss of use and diminution in value) and legal defense expenses, as a result of pollution conditions arising from operations performed by or on behalf of the contractor.	Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions. Aon further recommends that the CPL/PLL be a combined policy with limits of $50M. Based upon our actuarial analysis, $50M in limit should be sufficient to cover the potential pollution risk. However, Aon is pricing an additional $50M in coverage so KRRC can consider the cost/benefit tradeoff of additional insurance.

Policy Type	Definite Plan – Appendix A	KHSA	Aon Commentary
Professional Liability/ Errors and Omissions	Limits up to $25M This coverage will be required under the terms of KRRC's design contract procurement, whether on a stand- alone basis or as part of a design-build procurement. It will go into effect when KRRC retains the design professional. Coverage limits may be as high as 20% - 40% of the construction value.	To provide coverage to protect an insured if their client is financially harmed from the rendering of their professional services or advice (including lack thereof) and for which the insured is held legally liable	Discussions have been had with Kiewit about their corporate program, and they have demonstrated that they have the same types and kinds of coverages as a CPPI. As such, it is permissible for Kiewit to use their corporate program if they can provide dedicated, project-specific limits which they have agreed to do. HGS can either use their corporate program with dedicated, project-specific limits, or they will be purchasing a project specific policy. Aon agrees that the Project Company and all design professionals should carry professional liability coverage. Limits of 20% - 40% of the construction values could raise red flags for the insurers and raise the overall cost of coverage.
Watercraft and Aircraft Liability	The Definite Plan does not require these insurances	The KHSA does not require these insurances	If no other aircraft are being used, drones can often be scheduled on the general liability policy if they are below 10 kg. It is recommended that the watercraft and aircraft liability policies be scheduled on the umbrella/excess policy(ies).

Other Obligations under Definite Plant and KHSA

Each of these polices shall name PacifiCorp, the State of Oregon, the State of California, and their respective officers, agents, employees, and members as additional insureds. KRRC will provide certificates of insurance evidencing that policies of insurance providing such provisions, coverages, and limits as set forth above to PacifiCorp and the States before any contract for dam removal is effective and before dam removal work begins and/or Facilities Removal Work begins. The Definite Plan adds the following requirement:

ADDITIONAL INSURED: PacifiCorp, the State of Oregon, the State of California, and their respective officers, employees and agents are Additional Insureds for the CONTRACTOR's activities to be performed under this Contract. Coverage is primary and non-contributory with any other insurance and self-insurance.

Specialty Corporate Indemnitor

Appendix L to the KHSA requires KRRC to identify and contract with a specialty corporate indemnitor (a Liability Transfer Corporation, or LTC) to protect the States or Oregon, California and PacifiCorp from potential liability that may be uninsurable or underinsured. The LTC can be structured contractually, through third-party indemnities or with potentially with additional special insurance products. The LTC may perform portions of the Project and will assume responsibility for various project risks, both during project execution and post-project.

Aon's Risk and Insurance Commentary

Builder's Risk

The unique deconstruction nature of the project leads to a challenge in identifying to adequate coverage requirements for the builder's risk policy. Builder's risk insurance is typically purchased to protect an asset that is increasing in value as the project continues whereas the Klamath River Renewal Project will be primarily focused on the removal of assets. For example, if a covered peril were to occur that causes substantial damage to the existing assets, such as a fire, the builder's risk would not necessarily step in to cover the costs of removal of the damaged assets as dam removal is a key aspect of the Project scope.

The current requirements in the Project Agreement require that the builder's risk policy cover the full value of any salvage material or property at the Project Site. Considerations for the recommended limits for the builder's risk policy should include the values of the road improvements, the Yreka water supply work, recreational facilities, and the revegetation work.

Additionally, the current requirements in the Project Agreement have KRRC procuring the builder's risk policy. In assessing the efficiency of KRRC taking this approach to the builder's risk policy, there may be some concern that insurance markets may not necessarily be interested in participating on the project. Our recommendation is to require Kiewit to purchase the builder's risk coverage. By doing so, KRRC and the other stakeholders should be able to take advantage of Kiewit's bargaining leverage with its insurers. This should provide more efficiency in terms of pricing for the project as well as fulsomeness of coverage if the project can be scheduled on the Kiewit's master builder's risk policy.

If KRRC does procure the builder's risk policy, KRRC should consider how it the deductibles should be paid. There should be some, if not all, of the deductible responsibility assigned to the Kiewit or contractor who caused the damage.

General Liability and Worker's Compensation/Employer's Liability Program Structure

While there are many exposures associated with this project, such as lowering the water level in the river so Kiewit will work in dry conditions versus wet, there is one exposure that has risen to the top of the list and that is the wildfire exposure. Though the amount of work associated with disconnecting the electrical transmission lines from the hydroelectric dams is small in comparison to the overall project it is and will most certainly become a major concern from an underwriting perspective. Unfortunately, starting with the San Diego brush fires to the recent fires in Southern California and most certainly Northern California, wildfire has now reached catastrophic stature in the industry and will become a driving force in the ability to place coverage for contractors and projects alike where there is exposure to wildfire. However, as evidenced in the PacifiCorp's analysis of CALFIRE data sources vs. Tier Designation, the wildfire exposure is minimal.

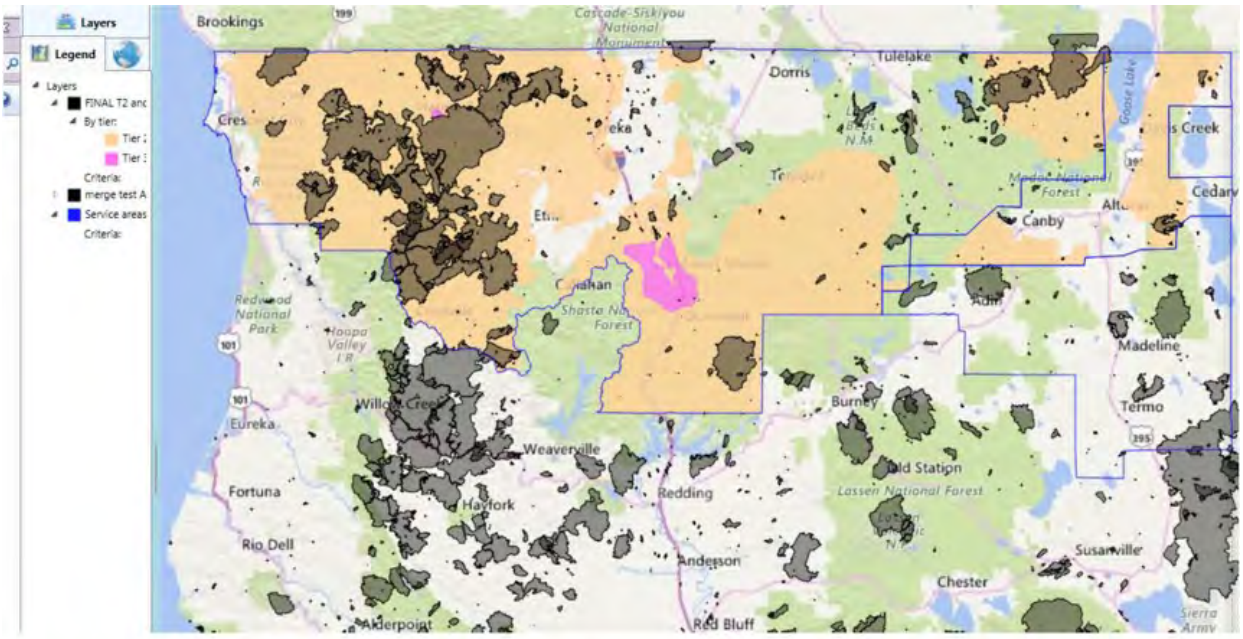


Figure 8 Comparison of Historic Fires (Fire Perimeters) versus Tier Designation

From a casualty or third-party liability, inclusive of worker's compensation/employer's liability, perspective there are three ways to approach this project risk. The project can be insured utilizing: 1) an Owner Controlled Insurance Program or OCIP, 2) a Contractor Controlled Insurance Program or CCIP or 3) the use of the Kiewit and HGS' corporate policies. Each of these approaches are valid ways in which to insure the risks associated with the Project and all three have proven to work over time. Neither one of these ways is necessarily the right or wrong way to approach insuring the Project. Each method has advantages and disadvantages from a KRRC perspective, which will be explored in detail below.

Controlled Insurance Programs Generally:

To understand why controlled insurance programs ("CIPs") are often chosen to insure a project, one must look to how insurance law has developed over the years.

The commercial general liability insuring agreement reads as follows:

> We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply.
>
> * * *
>
> This insurance applies to "bodily injury" and "property damage" only if:
> **(1)** The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";
>
> **(2)** The "bodily injury" or "property damage" occurs during the policy

period;

As such, for there to be coverage under the policy, the insured must prove:

1. That there was an “occurrence”;
2. That there was “bodily injury” or “property damage” caused by the “occurrence”;
3. That the “bodily injury” or “property damage” resulted in “damages”;
4. That the insured is legal obligated to pay those damages;
5. That the “occurrence” took place in the “coverage territory”; and
6. That the “bodily injury” or property damage” occurred during the policy period.

The ‘legally obligated’ wording raises two legal issues: (1) joint and several liability and (2) anti-indemnity. California is a modified joint and several state which means that a defendant can be held 100% responsible for economic damages and severally liable for noneconomic damages. Oregon, with the exception of environmental torts, follows the rule of several liability only unless part of the judgment is uncollectible and then it may be reallocated. As for anti-indemnity, California Civil Code §2782 states that neither public nor private owner can force subcontractor to indemnify or insure another party for that other party’s “active negligence or willful misconduct,” for defects in the project’s design provided to the subcontractor, or for claims arising out of the scope of the subcontractor’s work. Oregon Revised Statute §30.140 prohibits intermediate indemnity, which is when the subcontractor assumes responsibility for the other’s negligence in whole or in part.

Given these differences in law and the potential for KRRC to be sued in California or Oregon, this creates uncertainties as to whether KRRC is protected under the contractors’ and subcontractors’ insurance policies. A controlled insurance policy eliminates these uncertainties, to a certain extent, by having all parties insured under a single policy. The CIP will respond to claims against all enrolled contractors thereby eliminating the need for apportionment of fault and indemnification.

The “occurrence” requirement raises issues with respect to trigger of coverage and how the primary policies in effect will be exhausted. California is a continuous trigger state for environmental claims and there is a split in authority for construction defect, but the rulings are trending toward a continuous trigger. Oregon is an “injury-in-fact” state which means that coverage exists under every policy that is in effect during the time periods in which damage to property actually occurs. Since both “triggers” can implicate multiple policies, one must now look to how California and Oregon apply the “exhaustion of coverage” principle. In California, certain courts have adopted a horizontal exhaustion position, but the Supreme Court has yet to rule on the issue. Oregon has yet to rule on the issue. Horizontal exhaustion is the principle that all primary policies that could respond to a loss must be exhausted before each joint tortfeasor’s excess policies can be tapped for defense and indemnity.

Trigger and exhaustion are moot when a CIP is placed because all enrolled contractors are insured under a single policy and the policy is for the term of the project.

Owner Controlled Insurance Program

Advantages

1) Control of coverage for both general liability and worker’s compensation, although worker’s compensation is not currently contemplated under the current OCIP.
2) Assurance all contractors working on the project will be insured and insured with the same coverage as all other contractors, consistency of coverage.
3) Project risks are addressed all in a single policy without the concern for a market renewal.
4) Complies with current Federal Regulators understanding of how the project will be insured.

Disadvantages

1) Financial obligations for the risk and losses under the program, (i.e. deductible payments) both during and after the completion of the project.
2) Project insurance costs (i.e. economies of scale)
3) Underwriter focused attention to the risks associated with this single project.

Though an Owner Controlled Insurance Program has certain advantages around control of coverage and limits, it does bring with it the financial obligation that potentially could happen post dissolution of KRRC. This financial obligation is a variable that could pose problems based on the structure of the OCIP. The greater concern is the issue of wildfire coverage and the ability to obtain a program with this coverage. Currently unknown to Aon is whether PacifiCorp's current liability program contains wildfire or excludes it. PacifiCorp may also maintain a separate wildfire only liability program and being an insured party in this program may cause problems in the placement of a dedicated project liability program, as carriers may go over line and not be able to support an OCIP. If we are ultimately required to place a GL only OCIP for this project, we would endeavor to place such coverage including wildfire and would attempt to eliminate any deductible obligations for KRRC post dissolution.

Contractor Controlled Insurance Program

Advantages

1) Relieves KRRC of the financial obligations for the risks and losses associated with the project.
2) Control of coverage can still be established via contract with the Project Company, (i.e. types of policies and coverage terms – certain coverages have to be included in the CCIP)
3) Project Insurance Costs – Project Company will likely have more influence in the marketplace due to the scale of its insurance program vs. that of a single KRRC placement.
4) Project risks are addressed all in a single policy without the concern for a market renewal.

Disadvantages

1) Underwriter focused attention to the risks associated with this single project. However, if the Project Company has a rolling CIP, it will not be as highly scrutinized.

A CCIP has advantages that may serve this project better than an OCIP. Foremost, it takes away the financial obligations with the potential to be slightly more expansive in coverage. Similar to the OCIP approach, the CCIP would address the project risk without the need for a market renewal eliminating the worry of a renewal and underwriters changing view to possibly insuring the project. While the CCIP approach will bring attention to the project and the associated risks, the Project Company will likely seek coverage from its current corporate insurer and have greater bargaining power. If the Project Company has a rolling CIP program, the project will likely get rolled into the program with little scrutiny.

Project Company's Practice Program

Advantages

1) Relieves KRRC of the financial obligations for the risks and losses associated with the project.
2) Control of coverage can still be established via contract with the Project Company, (i.e. types of policies and coverage terms – certain coverages have to be included in their practice program)
3) Project Insurance Costs – Project Company probably has greater bargaining power in the marketplace due to its economy of scale vs. a single KRRC placement.
4) Dedicated project-specific limits which are annually renewing
5) Avoids CIP costs

Disadvantages

1) Project Company's insurance is subject to renewal every year which may have impact on pricing and coverage.

2) Reliance on Project Company's ability to manage subcontractors insurance and potential lack of consistent coverage.
3) Insurer unlikely to add KRRC as an insured on the policy, thus requiring an Owner's Interest policy.

The Project Company's Practice Program approach has the advantage that this project would just be one of many that the contractor has and would not necessarily receive the same direct underwriting scrutiny that would be done on a project specific basis, either OCIP or CCIP. One potential source of uncertainty in this approach is that the Project Company and its subcontractors will have to deal with their respective insurance renewals and possible changing market conditions during the Project Implementation Work. However, if they are contractual obligated to provide the required limits and coverages then KRRC has that to rely on but with the caveat that the terms required may not be able to be met in year 3 of the program as an example. The other concern is how the legal issues are addressed if there are multiple parties at fault with multiple policies

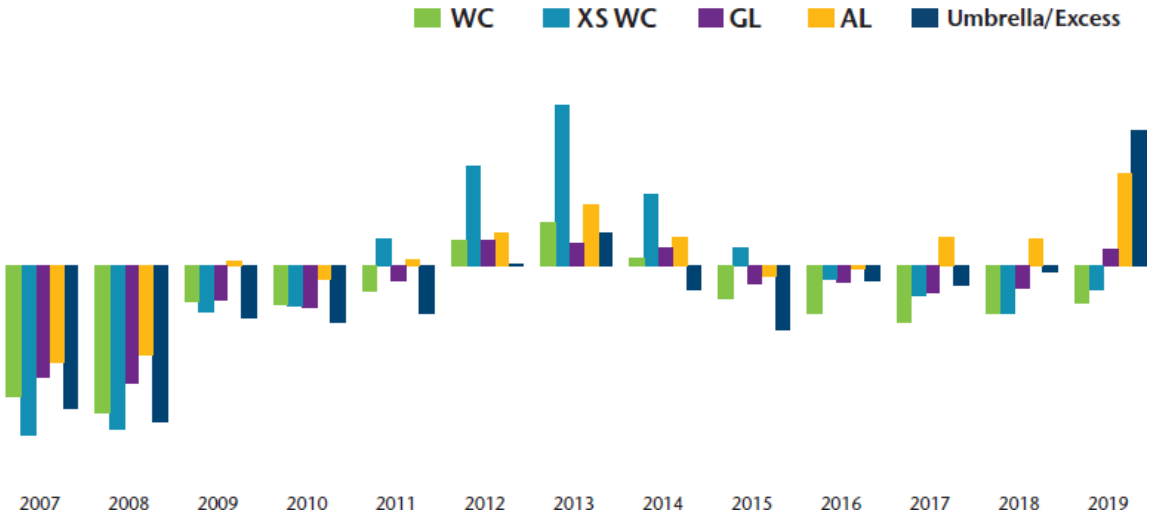
Owners Interest Liability Program

If a Project Company directed program is selected an option to consider would be to purchase a dedicated "Owners Interest" only liability program that would protect KRRC in the event KRRC is held legally liable for a loss that arises out of its sole negligence or willful misconduct. Though most liability will be driven through the Project Company's operations, such a policy would provide coverage for the unknown or unintended loss. Limits for an Owners Interest program should be evaluated based on how much direct involvement KRRC staff will have in overseeing the project.

Recommendation

As mentioned previously all three approaches to insuring the project will work. It is just deciding which one will work best for KRRC and the successful restoration of the Klamath River and which delivers the greatest value for money. Since the original recommendation, insurance rates have increased significantly:

Exhibit 1
Average Rate Change 2007-2019



Additionally, carriers have significantly reduced the limits that they are willing to offer and narrowed the terms and conditions of their policies.

As such, it is important to assess which insurance approach delivers the greatest value for money while affording the best coverage; that is by allowing Kiewit and HGS to use their corporate insurance programs and requiring project specific limits that are annually renewing; and by having KRRC purchase an owner's interest policy and naming the key Stakeholders as additional insureds.

Auto Liability

We recommend that KRRC consider requiring higher limits ($10M) of Kiewit and HGS and allow Kiewit and HGS to determine the appropriate limit for its subcontractors, but not less than $2M. We further suggest that Kiewit and HGS schedule the auto liability on their umbrella/excess policies, if possible.

Contractors Pollution Liability and Fixed Site Pollution Liability

While similar questions, as those posed in the casualty analysis, can be asked for the pollution cover, the difference is that neither Kiewit nor HGS will not take ownership of the site. As such, the responsibility for procuring fixed site pollution liability ("PLL") cover falls to KRRC. Therefore, we agree that KRRC should procure both the Contractor's Pollution Liability ("CPL") and the PLL cover and would seek to place at least the primary layer of both policies, and preferably the entire tower, with the same insurer. Environmental claims during the course of construction often fall to both the CPL and PLL (site pollution) and can result in additional complications when two or more insurers are involved. Additionally, it may ultimately be more advantageous for the two policies to have linked limits, as currently the policies have two separate $100 million towers specified. As Aon continues to analyze the risks and exposures of the Project, the two separate towers may be over-insuring of the Project, when perhaps a single $50 million may be adequate. However, we will offer pricing for up to $100M.

If Kiewit is willing to do so, KRRC should work with Kiewit to use Kiewit's leverage in the insurance marketplace to negotiate coverage, terms and pricing.

We do recommend that KRRC be permitted to collect any deductible/SIRs from the Project Company or contractor who causes the loss.

Professional Liability Structure

Given the size of the project and the inherent, potential risk of a catastrophic loss resulting from the negligent rendering of professional services, the structure of the professional liability coverage will be critical to the success of the project. Aon has reviewed Kiewit's corporate program and it contains the same types and kinds of coverages that would be in a project specific Contractors Protective Professional Indemnity (CPPI). As such, use of Kiewit's corporate program is permissible as long as there are dedicated, project specific limits.

It would be permissible for HGS to use its corporate program if it can provide dedicated, project specific limits and meets all of the contractual requirements. If it cannot do so, it should be required to buy a project specific policy.

Risk Register

As discussed in the key project risks section of this report, there was a meeting in February 2019 with the States, PacifiCorp, KRRC and its consultants in which the group identified a variety of project risks. Aecom and Aon created a project risk register which incorporated the discussions from that meeting as well as the risks set forth in the Project Agreement. The Risk Register is attached as Appendix D to the July 2019 report. The Risk Register has since been updated and certain risks have been "retired" because the risk has been eliminated or transferred to Kiewit or HGS.

The original risk register is divided into 3 specific sections: risks that are insurable, risks that are potentially insurable, and risks that are uninsurable. It is important to understand that coverage is extremely fact dependent and coverage cannot be guaranteed if the facts reveal that the cause is excluded or that there is some other type of limitation. In breaking the risks into insurable, potentially insurable and uninsurable, Aon has assumed that the insured has complied with all provisions of the policy and that the claim is not otherwise excluded.

For the potentially insurable risks, the facts and alleged damages become even more important in determining coverage. Builder's Risk and Property insurance is what is commonly referred to as a "first-party" coverage, which that the damage must be incurred by the named (or other) insureds. Additionally, for the delay in startup or contractor's continuing expense coverage to be triggered, there must be a loss caused by a peril not otherwise excluded. For the general liability insurance (3rd party coverage), as discussed in controlled insurance program section, there are 5 key factors that go into determining whether there is coverage for the loss. However, there are two key obligations under a general liability policy: defense and indemnification. The duty to defend is broader than the duty to indemnify (pay the damages). As such, often times a carrier will have a defense obligation but as the facts develop, may not have an indemnification obligation. The environmental (1st and 3rd party) and professional coverages (1st and 3rd party) have the same two duties and are also very fact dependent.

Conclusion

Aon has outlined certain recommendations with respect to the insurance program in Appendix A based upon the following factors: (1) a program that delivers the best value for money; (2) the legal advice of Hawkins, Delafield and Wood firm; and (3) the representations of Kiewit and HGS. Those recommendations are as follows.

1. Kiewit and HGS will be permitted to use their corporate general liability, auto liability and workers compensation insurance programs. With respect the general liability coverage, both Kiewit and HGS will be required to provide project specific limits that renew on an annual basis.

2. KRRC will purchase an owner's interest general liability program that covers its independent liability and any vicarious liability assigned to it.

3. Kiewit will procure the Builder's Risk coverage because of its purchasing power and market relationships.

4. Kiewit and HGS will be permitted to use their corporate professional liability insurance programs as it complies with all of the required specifications.

5. KRRC will purchase the Contractor's Pollution Liability and Site Pollution Liability policies.

Appendix A – Aon Proposed Insurance Plan

Insurance		Limit of Liability	Retention/Deductible		Comments
Policy Type	Recommended Procuring Entity	Aon's Recommendations	Project Agreement Requirements	Aon's Recommended Approach	Relevant Notes
Builder's Risk	Kiewit only for the work it will be performing	Builders risk limit to be subject to a Probable Maximum Loss analysis	No Requirements related to Retentions	The AOP deductible should be no higher than $1M Earthquake will have a percentage deductible Flood will have a percentage deductible	There will be multiple sublimits associated with the Project and those sublimits are being evaluated
General Liability	Kiewit, HGS and KRRC and all subcontractors	**Kiewit and HGS (separate policies)**: $2M occurrence / $4M products completed operations / $4M general aggregate **KRRC:** $1M occurrence / $2M products completed operations / $4M general aggregate **Subcontractors**: As required by Kiewit and HGS	No Requirements related to Retentions	A deductible or SIR not greater than $1M for Kiewit and HGS, individually Subcontractors as determined by Kiewit and HGS	Kiewit and HGS will be permitted to use their corporate programs if they can provide dedicated, project specific limits.
Workers Compensation/ Employers Liability	Kiewit, HGS and KRRC and all subcontractors	WC – Statutory Employers Liability- $1M/$1M/$1M	No Requirements related to Retentions	N/A	All parties will use their corporate policies
Excess Liability	Kiewit, HGS and KRRC and all subcontractors	**Kiewit** to provide $200M in project specific limits **HGS** to provide $75M in project specific limits **KRRC** to procure an owner's interest policy with limits of $50,000,000 (but will price $100M)	N/A	Underlying coverage	This should be a follow form policy and should have the following coverages scheduled on the policy: general liability, auto liability and employers liability. It is also recommended that the aircraft liability and watercraft liability be scheduled on this policy.
Commercial Automobile Liability	Kiewit, HGS and KRRC and all subcontractors	$5,000,000 CSL except subcontractors who shall carry $2,000,000 CSL	No Requirements related to Retentions	N/A	All parties will use their corporate policies. In addition to MCS 90 and CA 9948
Contractor's Pollution Liability/Pollution Legal Liability	KRRC	$50M	No Requirements related to Retentions	Not greater than $1M	This will be a combined CPL/PLL policy and an option for $100M in coverage will be explored.

Professional Liability	Kiewit HSG	**Kiewit:** $25,000,000 per claim and in the aggregate **HSG:** $15,000,000 per claim and in the aggregate		No Requirements related to Retentions	Not greater than $1M	Kiewit's corporate program is sufficient as long as they provide dedicated, project specific limits. HSG's corporate program is sufficient as long as they provide dedicated project specific limits. If they cannot do so, then they will need to procure a project specific policy.
Watercraft and Aircraft Liability	Kiewit	$5,000,000 per occurrence and in the aggregate for watercraft, aircraft and drones $10,000,000 per occurrence and in the aggregate for helicopters	Still exploring exposure	No Requirements related to Retentions	TBD	TBD

Appendix B – KRRC's Insurance Budget

Line of Coverage	Coverage Description	Limits	Retentions	Estimated Premium	Cost Period
Builder's Risk	Covers damage to property in the Construction Period	Subject to a Probable Maximum Loss	Not greater than $1M	Included in Kiewit's GMP	Term
KRRC's Owner's Interest Policy	Covers3rd party bodily injury and property damage, and injured employees in the course of their employment	$50M [2]	Not greater than $1M	$2,600,000	Term
Commercial Automobile Liability	Covers liability from use of autos	$5,000,000 combined single limit	Not greater than $1M	$0 (Corporate program)	Annual
Contractor's Pollution Liability/Pollution Legal Liability	Covers liability arising from hazardous materials	$50,000,000 linked limits [3]	Not greater than $1M	$1,200,000	Term
Professional Liability	Covers liability arising out of design errors	Kiewit: $25,000,000 per claim and project aggregate HGS: $15,000,000 per claim and project aggregate	Not greater than $1M	Included in Kiewit's GMP $700,000 for HGS	Term
Watercraft and Aircraft Liability	Covers liability from use of watercraft or aircraft	Depending on exposure	Not greater than $1M	Included in Kiewit and HGS' GMP	Term
Total Estimated Annual Premium during Construction Period (2020 Dollars)				**$4,500,000**	

[2] Aon will price an additional $50M in limit for KRRC's consideration.

[3] Aon will price an additional $50M in limit for KRRC's consideration.

ATTACHMENT M

Reax Engineering Inc.
Job # 19-0739

Quantitative Wildfire Risk Analysis of the Klamath River Renewal Project - Preliminary Assessment

Prepared for Klamath River Renewal Corporation

Revision 0
February 26, 2020

Document Revision History

Job #	Job Name	Client
19-0739	Quantitative Wildfire Risk Analysis of the Klamath River Renewal Project - Preliminary Assessment	Klamath River Renewal Corporation

Revision #	Date	Description	
Rev 0	February 26, 2020	Interim draft provided for KRRC review and comment.	
		Prepared by: Chris Lautenberger Darrell Schulte Delaney Seeburger Maria Theodori	**Approved by:** Chris Lautenberger
		Prepared by:	**Approved by:**
		Prepared by:	**Approved by:**
		Prepared by:	**Approved by:**
		Prepared by:	**Approved by:**

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1.0 INTRODUCTION

Reax Engineering Inc. (Reax) has been retained by the Klamath River Renewal Corporation (KRRC) to quantify the change in fire risk associated with the removal of four dams along the Klamath River and adjacent areas where fire risk may change due to these restoration activities. In order to do so, climatological (long-term) fire risk must be quantified using an analysis that considers, among others, the following factors:

- Vegetation growth in areas that were previously reservoir,
- Reduction in the amount of water available for firefighting purposes,
- Change in land use including increased recreation,
- Removal of potential ignition sources associated with electrical generation, and
- Risk reduction/mitigation countermeasures such as real-time fire detection monitoring, introduction of additional water sources for ground crews, new firefighting equipment for local volunteer fire departments, and possibly fuel treatments.

Reax has developed a methodology that integrates weather modeling and Monte-Carlo simulation fire modeling to quantify geospatial fire risk. Here, risk is considered the product of fire occurrence probability and impacts to assets at risk such as communities/structures, timber, critical species habitat, and cultural resources. The basic methodology, which has been demonstrated to successfully identify areas susceptible to large-scale structure losses and has been applied to map utility-associated fire risk, is described later in this report and forms part of the basis of the work proposed here.

This report is organized as follows:

- Section 2 provides background information regarding the KRRC project.
- Section 3 describes fire history in the analysis area.
- Section 4 analyzes pre- and post-restoration state of the analysis area and the proposed changes in suppression and detection effectiveness.
- Section 5 presets the Monte-Carlo fire spread modeling methodology used to determine burn probabilities and quantify risk.
- Section 6 summarizes preliminary findings, recommendations, and next steps.

Due to the interim nature of this report, several aspects of the work described herein remain ongoing. This report is intended to provide a progress update to the KRRC on preliminary findings, recommendations, and subsequent next steps. A final report will be provided in April 2020.

2.0 BACKGROUND

2.1 Fire management plan

KRRC developed a draft Fire Management Plan (FMP) to address fire prevention and suppression associated with the physical removal of four hydroelectric dams along the Klamath River (Iron Gate, Copco No. 1, Copco No. 2, and J.C. Boyle). The goal of the FMP is to assure that the dam removals will not cause a net diminution in firefighting resources and that, both during and after demolition, the current fire ignition risk that exists will not increase as a result of the dam removal.

Pursuant to this goal, the FMP contains:

- Background on the history of fire in the region,
- Local fire agency jurisdictions and regulatory requirements,
- Descriptions of the short- and long-term FMPs to be implemented by KRRC.

Review and analysis of the FMP is the starting point for the work described in the current report.

2.2 Analysis area and aerial suppression extent

Analyzing fire risk in an area only immediately adjacent to the river course discounts the impact that removing the dams could have on fire risk at greater distances. Conversely, analyzing fire risk in areas at scales approaching the size of California and Oregon is inefficient. For that reason, the analysis area used in this project (Figure 1) is a 50-mile buffer surrounding the four dams slated for removal. The distance of 50-miles was chosen to strike a balance between analyzing an enormous region and capturing the extent of terrain that will be impacted by the dam removal.

The analysis area shown in Figure 1 is used primarily in the Monte-Carlo fire spread analysis (Section 5.0). However, a smaller area known as the Aerial Suppression Extent (ASE) is used as a boundary in the detection effectiveness analysis (Figure 2). The ASE was defined by CALFIRE and delineates the land area where water drafted from the existing reservoirs could be used in aerial fire suppression.

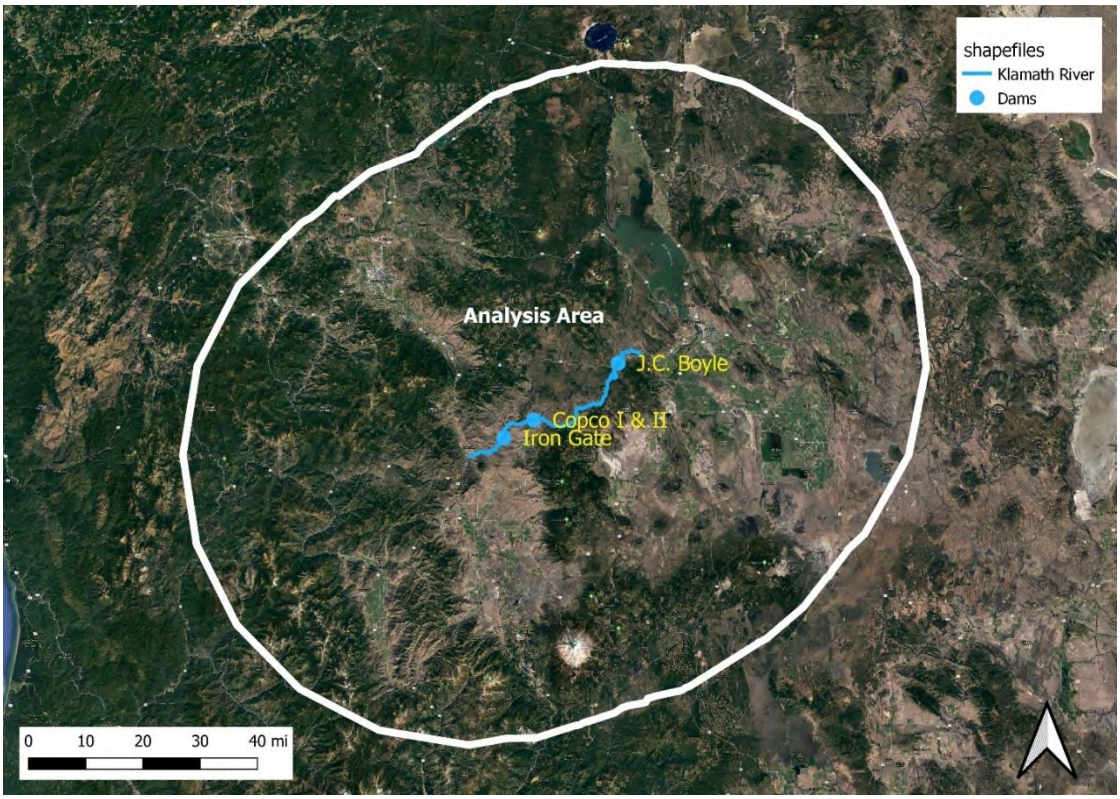


Figure 1. Location of dams in relation to analysis area.

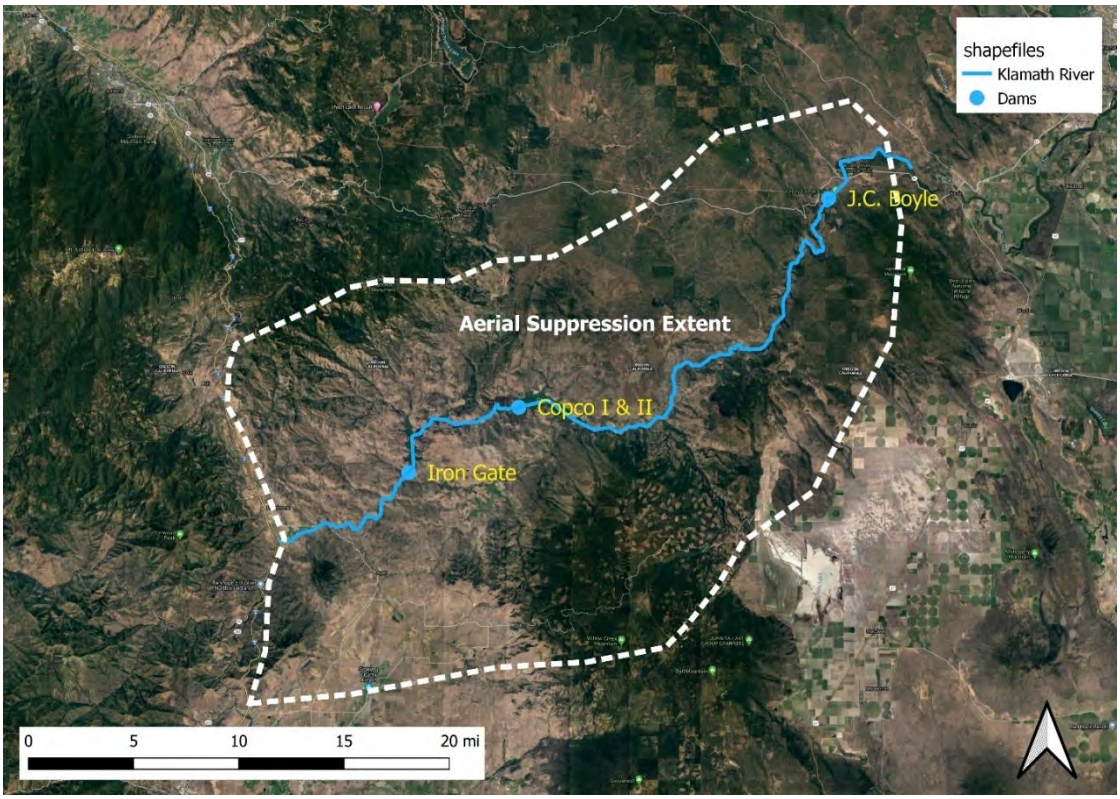


Figure 2. Aerial Suppression Extent.

3.0 FIRE HISTORY

To understand how fire has historically impacted the analysis area, fire history records for Oregon and California were aggregated and analyzed. Such analysis of past fire history provides context for expected fire sizes, locations, causes, and frequency at which fires occur. It can also provide insight into local hazards or weather events that dramatically influence fire behavior.

3.1 Fire occurrence

The US Forest service has published a Fire Occurrence Database (FOD) [1] which contains spatial information for wildfires in the United States between 1992 and 2015. Federal, state, and local fire organizations contributed records with minimum requirement that the records include discovery date, final fire size, and a point location accurate to 1-square mile. Where possible, data were transformed to meet the National Wildfire Coordinating Group's (NWCG) data standards. Error-checking was performed, and redundant records were removed where possible, resulting in a database with 1.88 million geo-referenced wildfire records. The FOD also records fire cause, allowing spatial and temporal distinctions to be made. The difference of greatest interest to the KRRC project is between human-caused and lightning-caused fires.

3.1.1 Human-caused fires

Human-caused fires describe a range of possible ignition causes including debris burning, vehicle, utility, and campfires, among others. The locations of these types of ignitions tend to follow linear features such as roads or be clustered near centers of human activity such as residential neighborhoods, campgrounds, etc. Human-caused ignition locations in the analysis area are shown in Figure 3. These individual ignition locations were used to create the ignition density "heatmap"[1] shown in Figure 4. Road networks and building footprints were overlaid on the heatmap to illustrate the concentration of ignitions near infrastructure (Figure 5, Figure 6).

Human-caused fires tend to be smaller and are more successfully suppressed in the initial attack than lightning-caused fires. However, these ignitions are of significant interest despite the higher probability of success in initial attack because large human-caused fires coincide with unusually high wind speeds, particularly in the western United States [2]. This can be attributed to many factors, including the expansion of human-caused ignitions into regions and during seasons where wind speeds are climatologically higher and the reduced tactical capacities of aerial suppression efforts during high winds [2].

[1] Created using inverse distance weighted kernel density

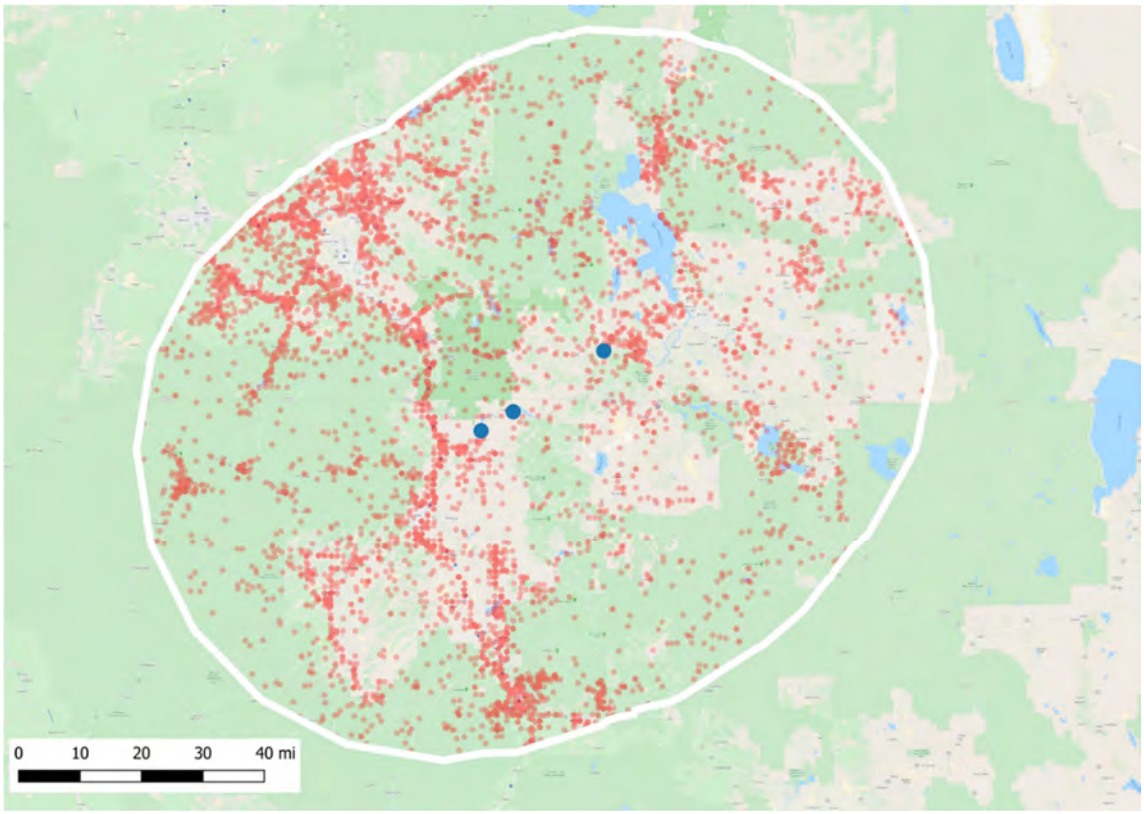


Figure 3. Human-caused ignitions in analysis area. Blue circles are project dams.

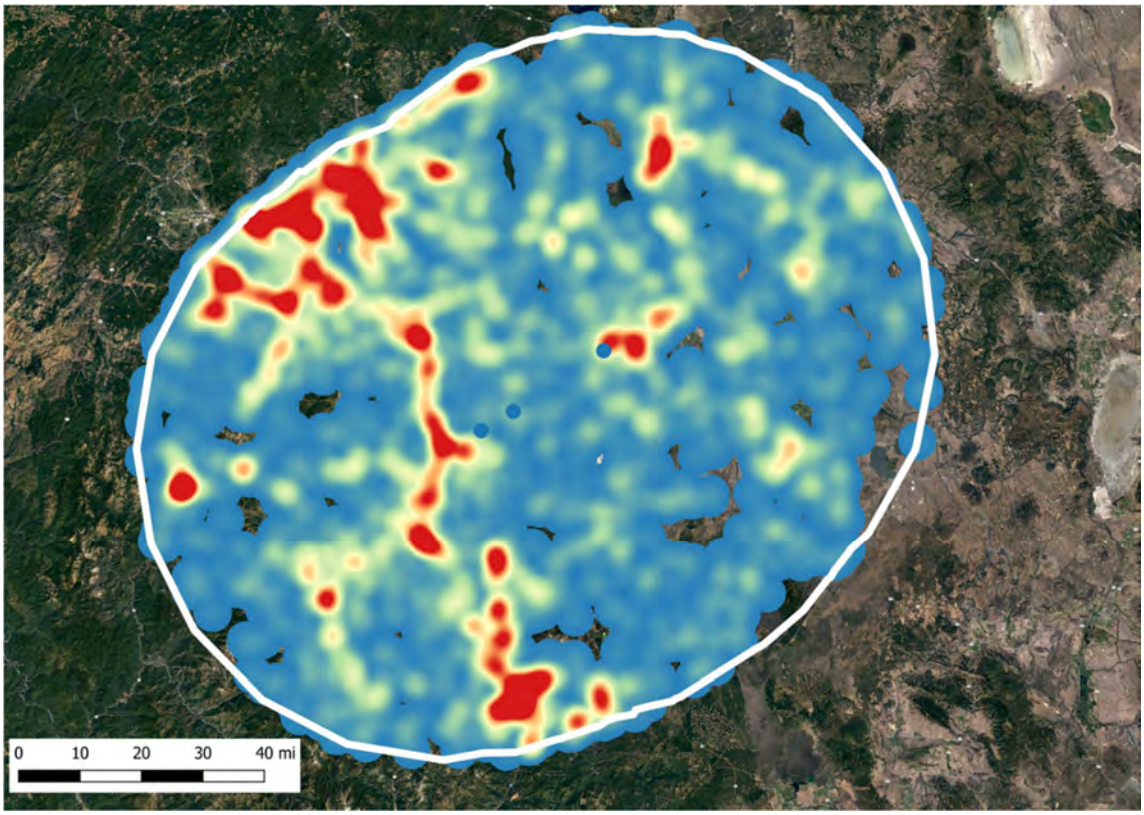


Figure 4. Human-caused fires ignition density. Blue circles are project dams.

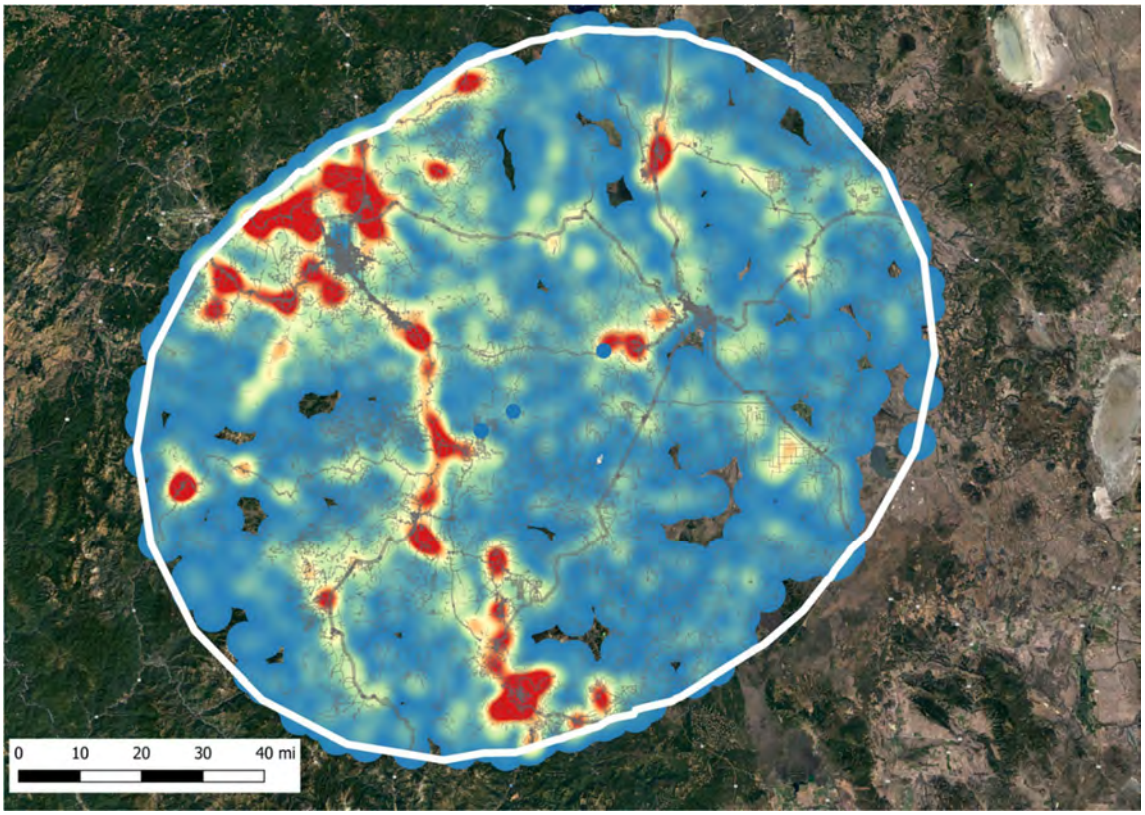


Figure 5. Human-caused fires ignition density and road network.

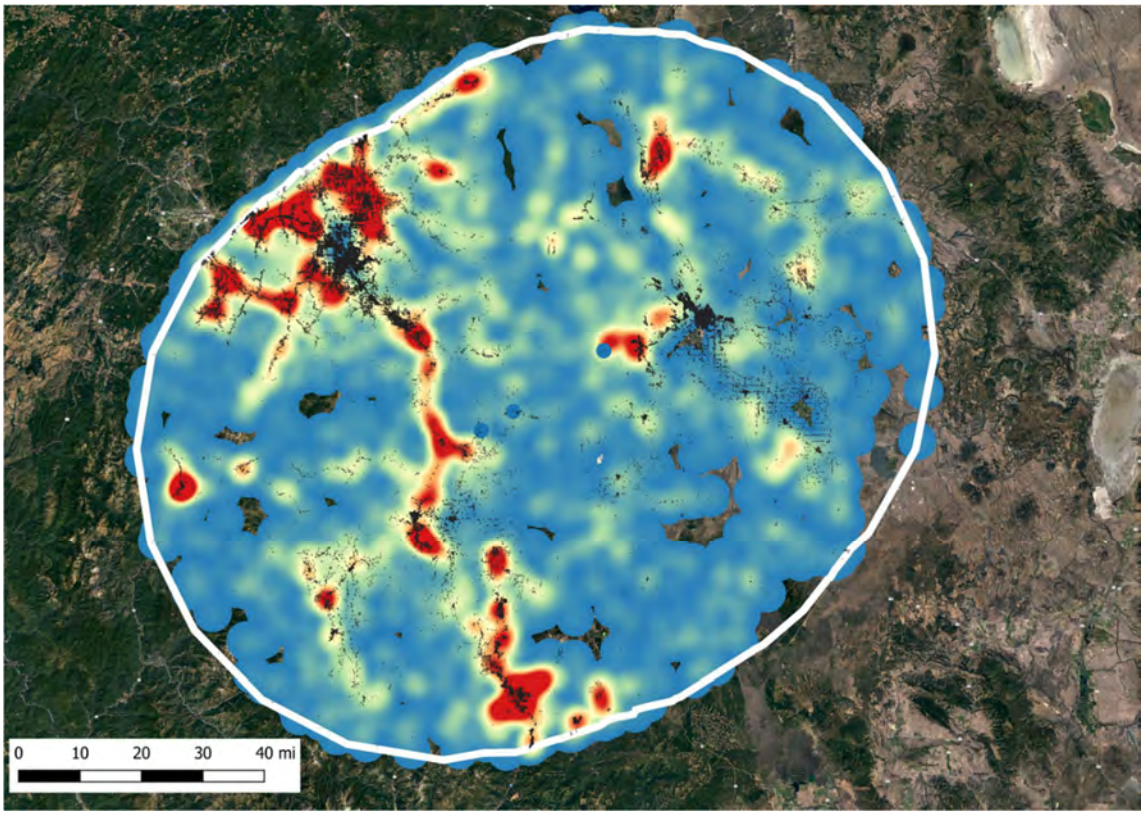


Figure 6. Human-caused fires ignition density and building footprints.

3.1.2 Lightning-caused fires

Locations of lightning-caused ignitions tend to be more randomly and uniformly distributed than human-caused fires (Figure 7). To show the relative location of lightning-caused ignitions with respect to topography, a heatmap was generated (Figure 8). The distribution of lightning-caused ignitions does not achieve the intense localization that human-caused ignitions exhibited. The lightning-caused fire heatmap is overlaid with a hill shade raster in Figure 9, allowing the correspondence between topography and lightning-caused ignitions to be visualized.

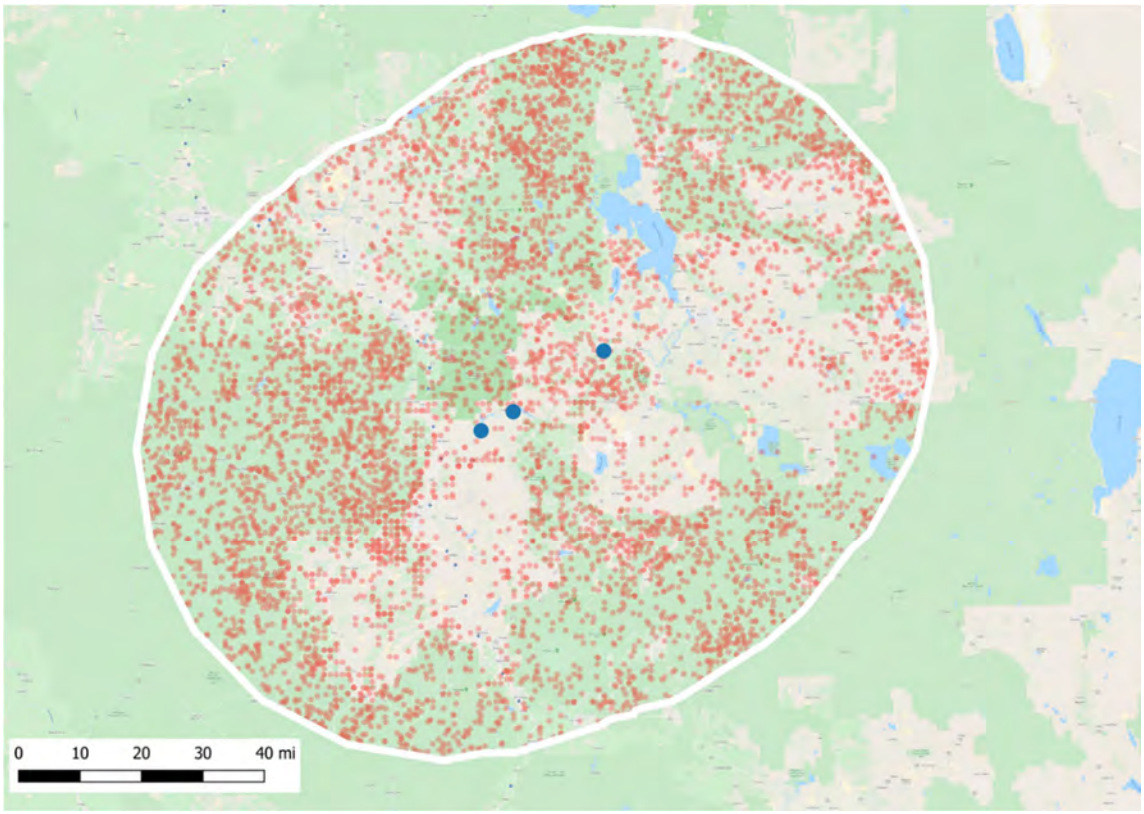


Figure 7. Lightning-caused ignitions in analysis area.

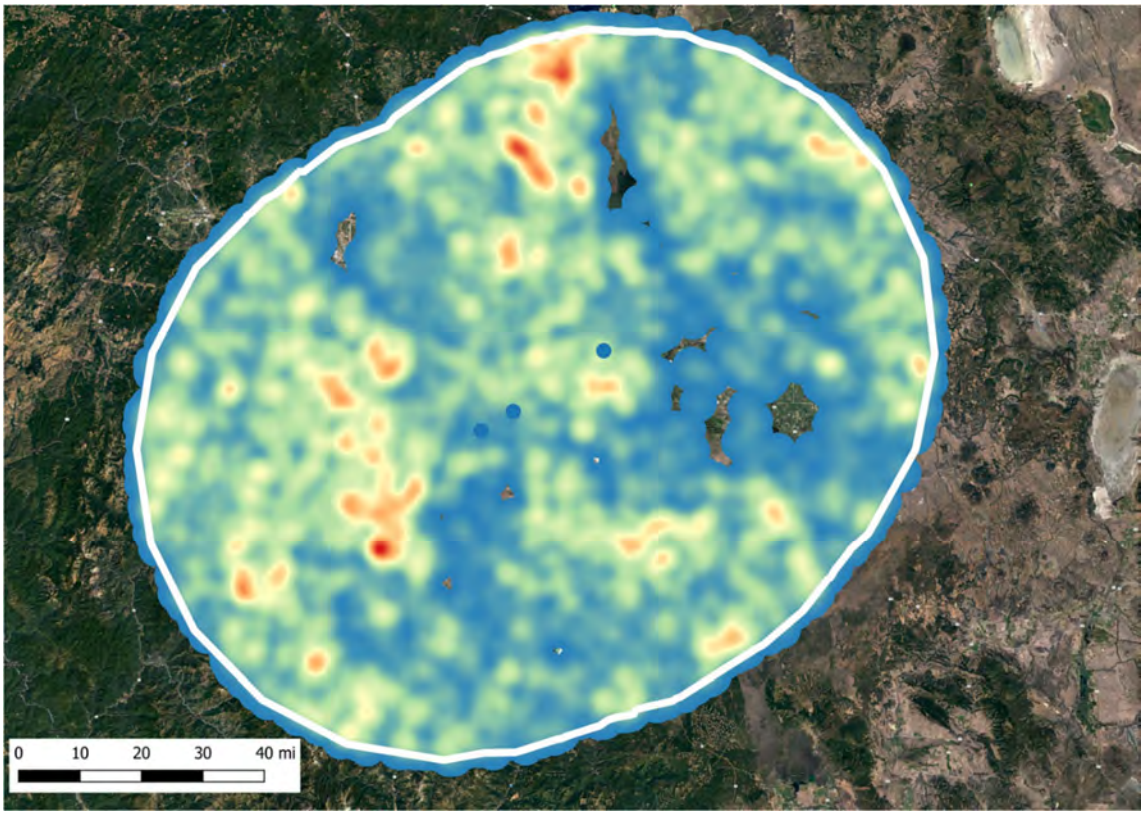


Figure 8. Lightning-caused fires ignition density.

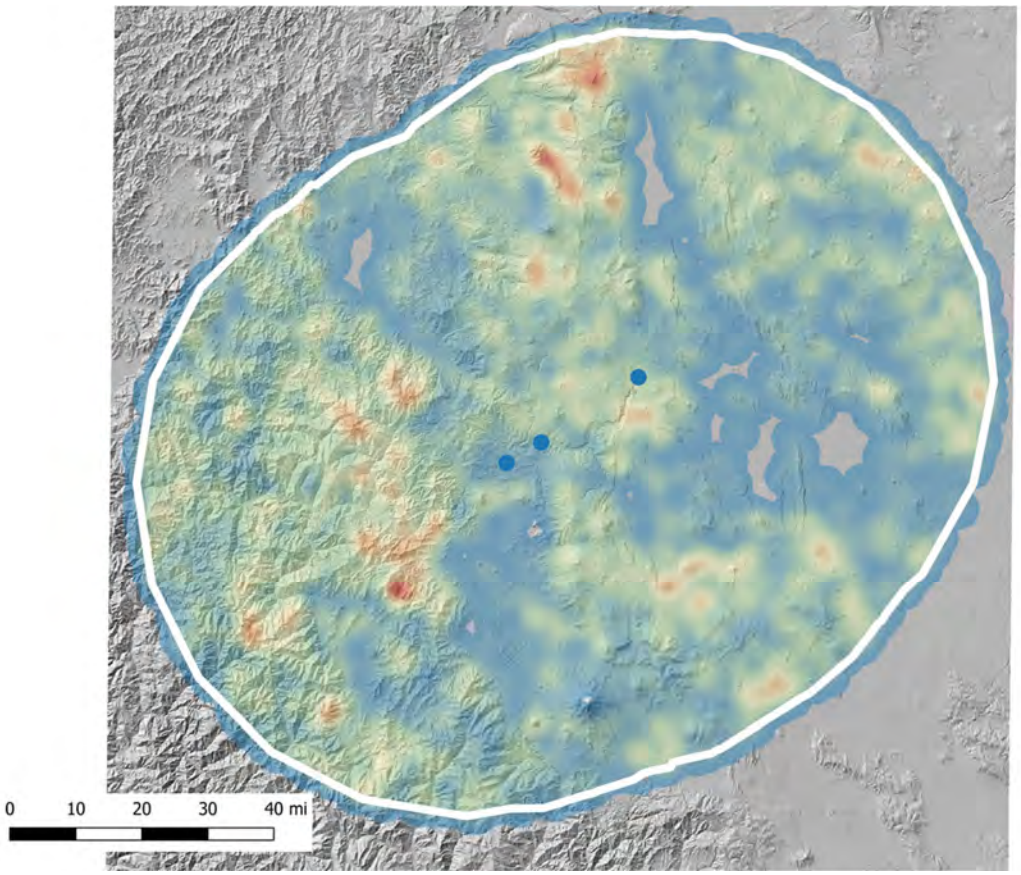


Figure 9. Lightning caused fires ignition density and terrain.

3.1.3 Fires from all causes

Compiling ignitions from human- and lightning-caused ignitions within the analysis area resulted in an additional heatmap (Figure 10). Trends from all ignitions are visible and can be traced back to the contributing cause. For example, the high-density along linear features reflects the human-caused ignitions while the increase in density across the entire analysis area can be ascribed primarily to lightning-caused ignitions.

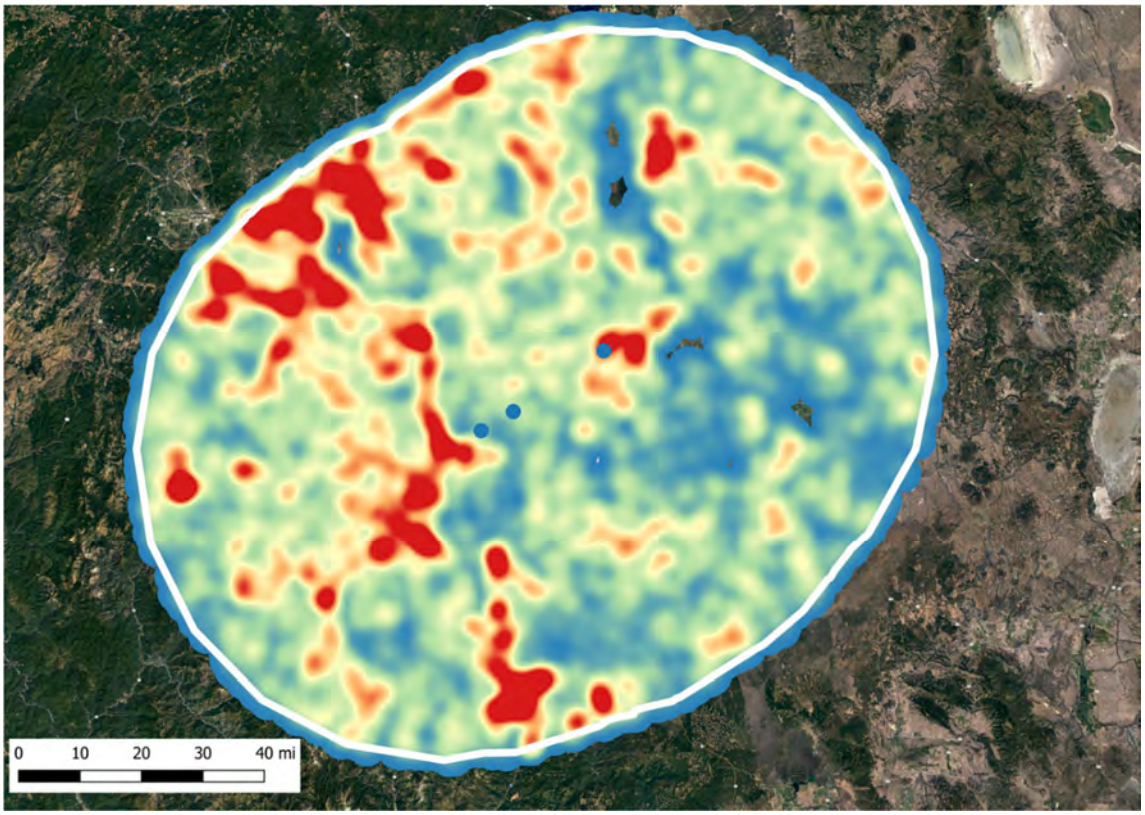


Figure 10. Ignition density – all causes.

3.2 Fire perimeters

Historical fire perimeters in California and Oregon were used to understand historical fire occurrence, particularly large fires, in the analysis area. The CALFIRE Fire and Resource Assessment Program (FRAP) database [3] was used for ultimate perimeters in California, GeoMAC data [4] was used ultimate perimeters in Oregon, and the National Interagency Fire Center (NIFC) [5] database was used to analyze daily progression of significant fires. Figure 11 - Figure 15 present fire perimeters from the FRAP database by decade from 1970 – 2018. Figure 16 presents perimeters in Oregon from 2000-2019 (the period of availability from GeoMAC).

Viewing the perimeters in context with the surrounding landscape shows that most fires in the analysis area have been small, indicating rapid response and effective containment from fire agencies relative to fire spread rates. There were, however, some notable exceptions. Several key larger fires were examined in greater detail to understand the conditions that led to such extensive growth. As part assessing these large historical fires, documentation on suppression resources used by local fire agencies in containing the fires were reviewed because fire agencies have expressed concern over the availability of water for aerial suppression efforts.

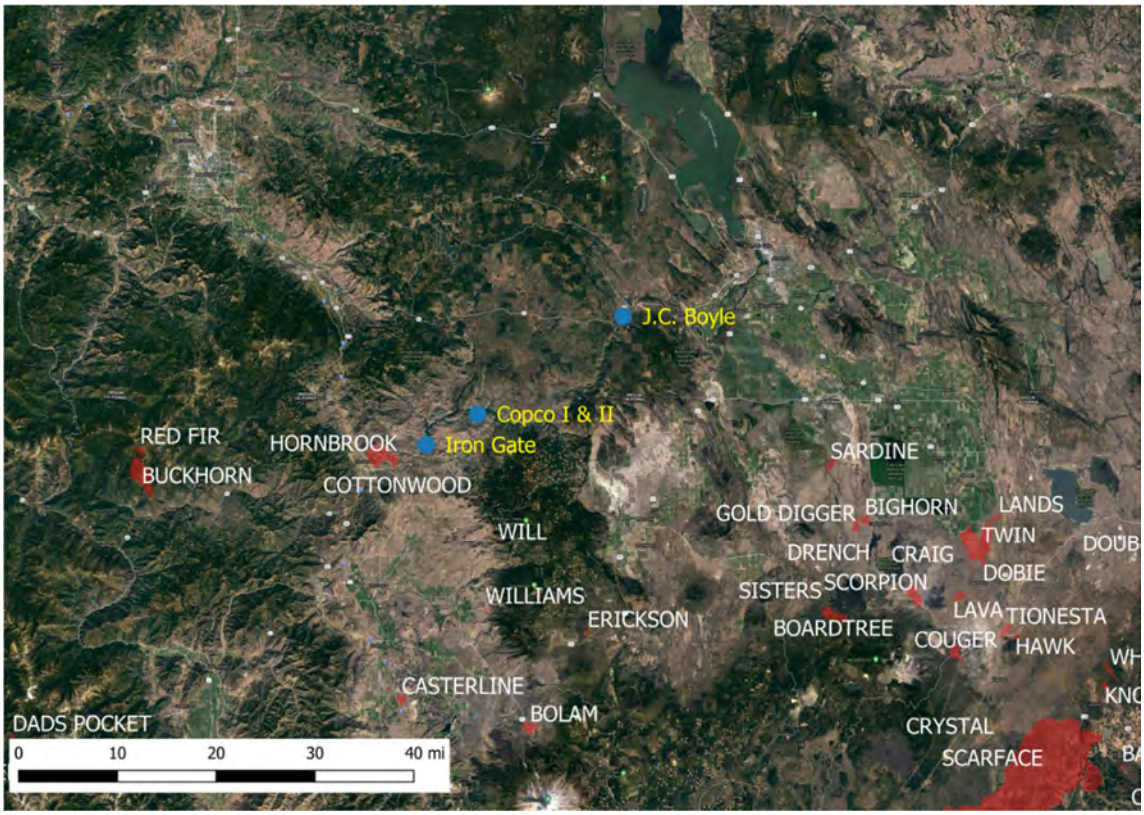


Figure 11. California fire perimeters 1970-1979.

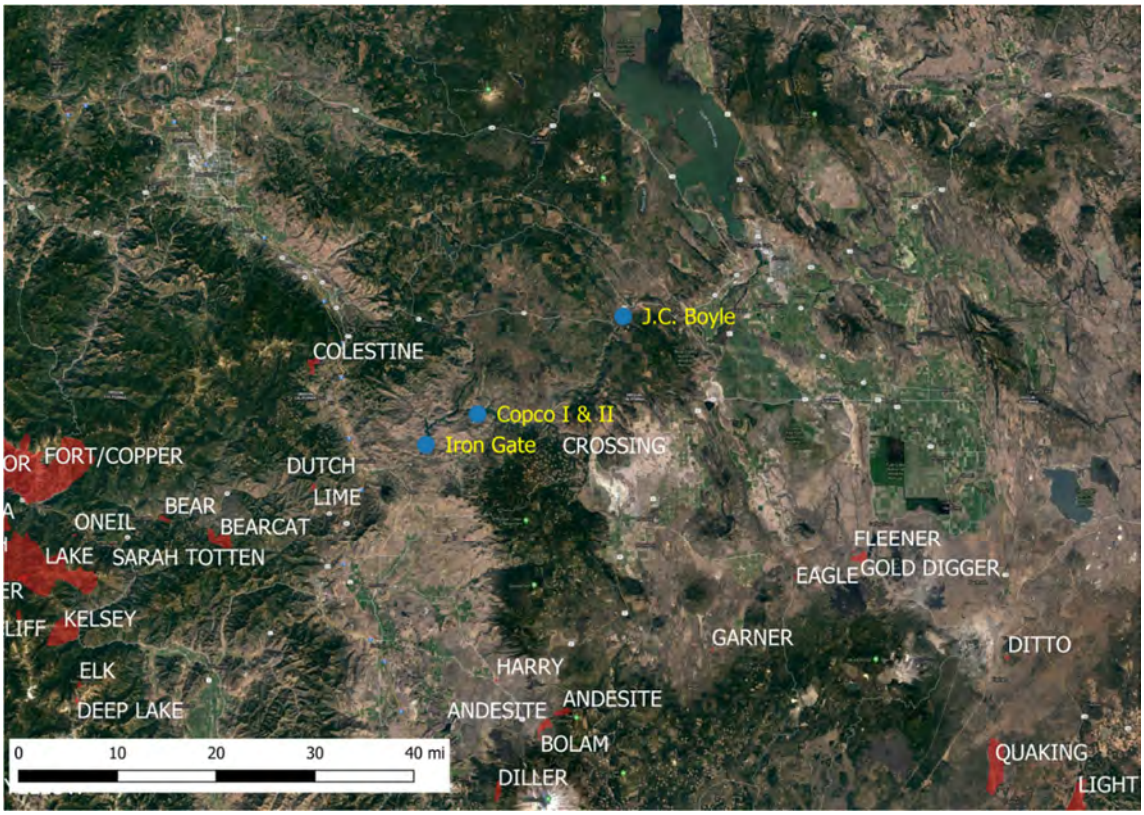


Figure 12. California fire perimeters 1980-1989.

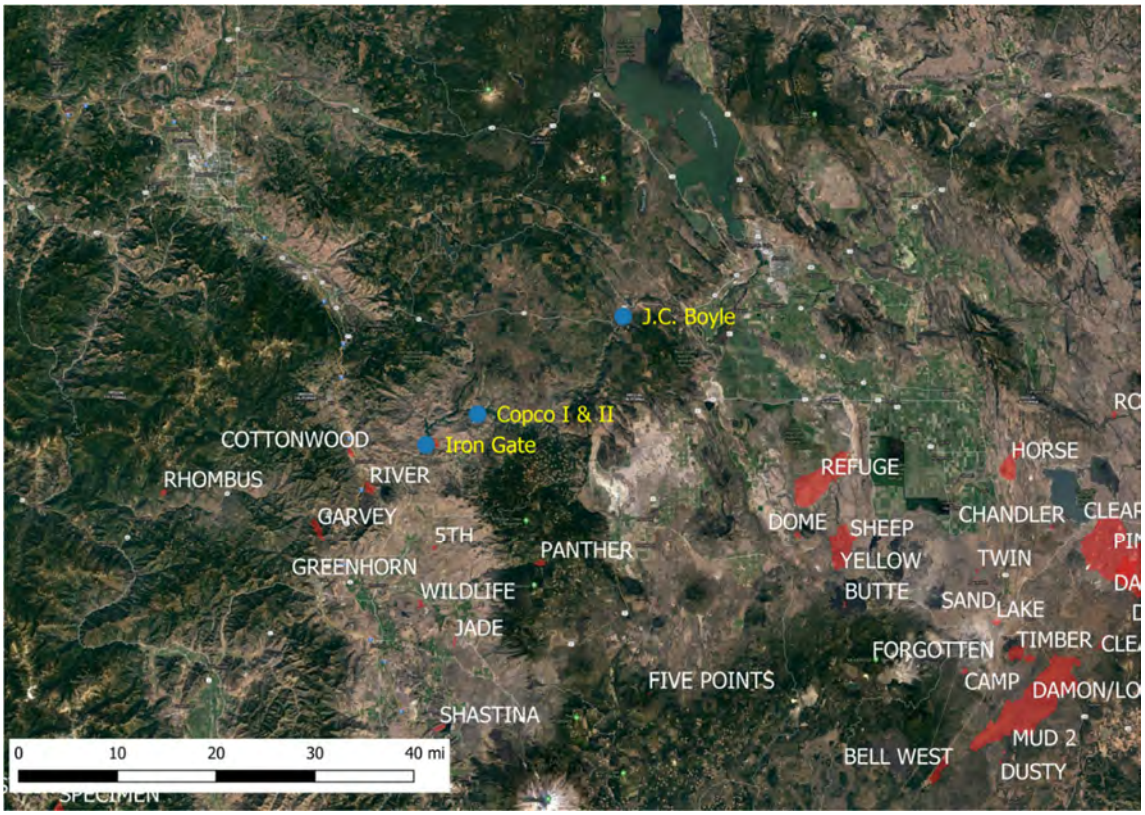


Figure 13. California fire perimeters 1990-1999.

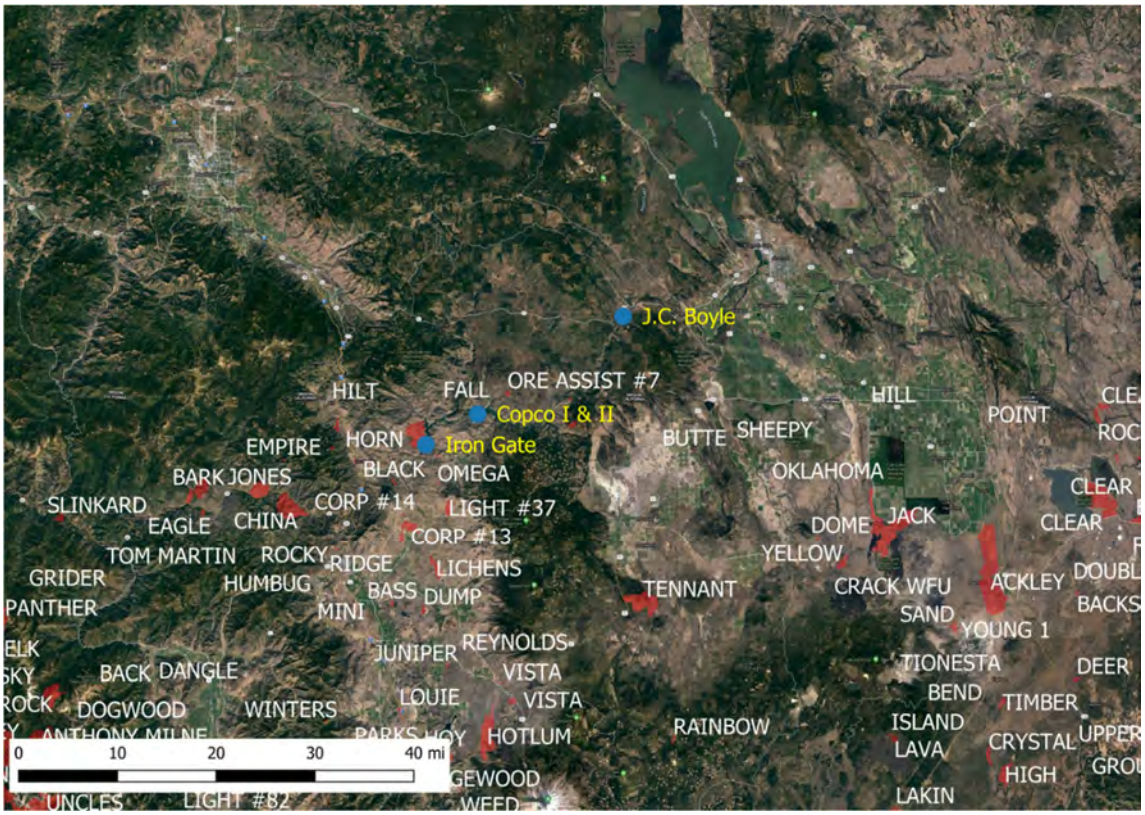


Figure 14. California fire perimeters 2000-2009.

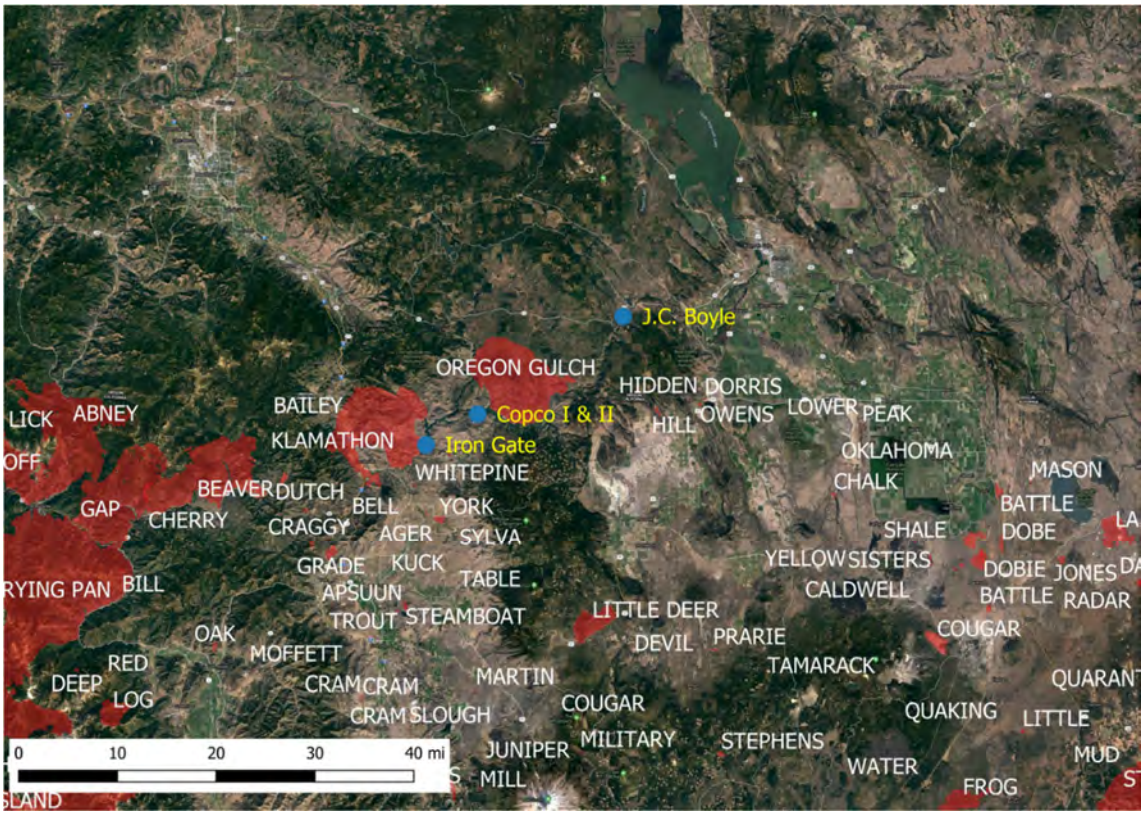


Figure 15. California fire perimeters 2010-2019.

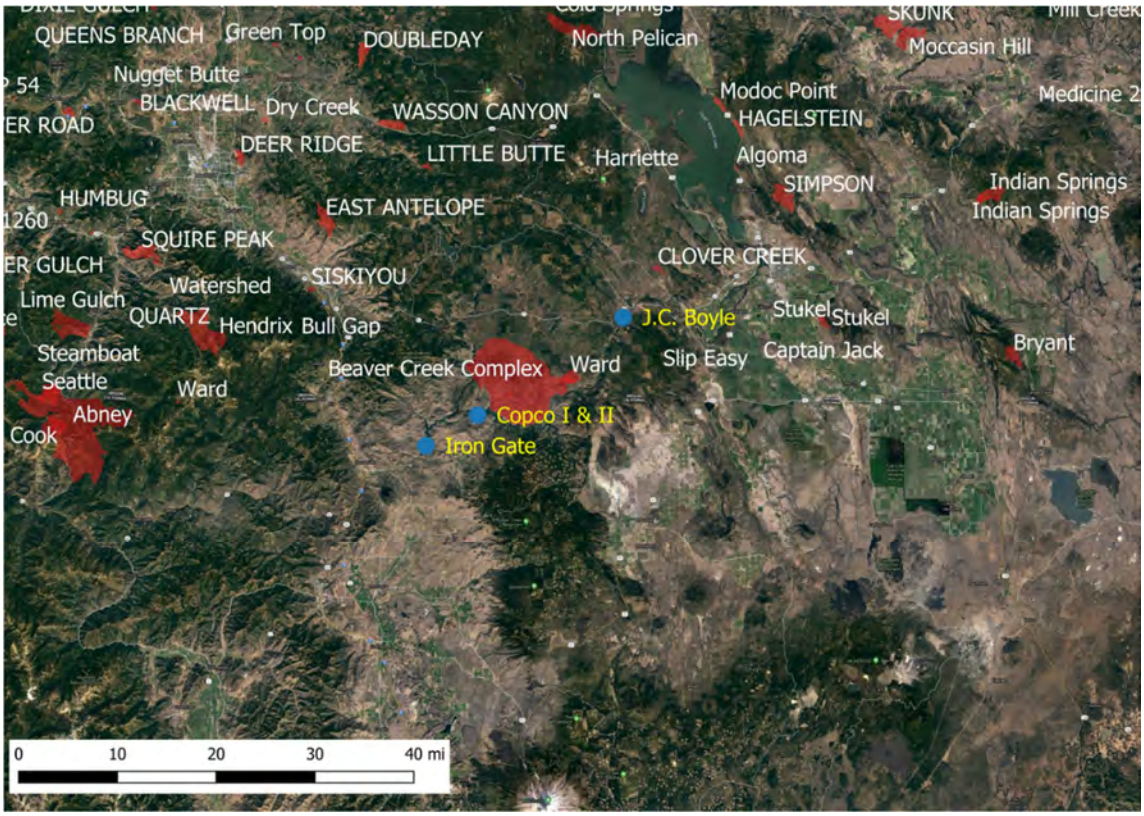


Figure 16. Oregon fire perimeters 2000-2019.

3.3 Large fires occurring in analysis area

As part of the analysis, fire weather conditions associated with historically significant fires in the analysis area surrounding the analysis area were evaluated. The two most significant fires occurring in the analysis area within the last ten years are the 2014 Oregon Gulch Fire (Section 3.3.1) and the 2018 Klamathon Fire (Section 3.3.2).

3.3.1 2014 Oregon Gulch Fire

The Oregon Gulch Fire was ignited on Thursday, July 30, 2014 from a lightning strike. By Friday morning the fire had grown to 7,500 acres. Over the course of two weeks, the fire burned a total of 35,111 acres north and east of the Copco dams. Figure 17 shows approximately daily progression from infrared imaging and satellite fire detection. The southern edge of the fire advanced up to the Klamath River. Oregon Gulch was managed as part of the Beaver Creek Complex and was declared 100% contained on August 13, 2014.

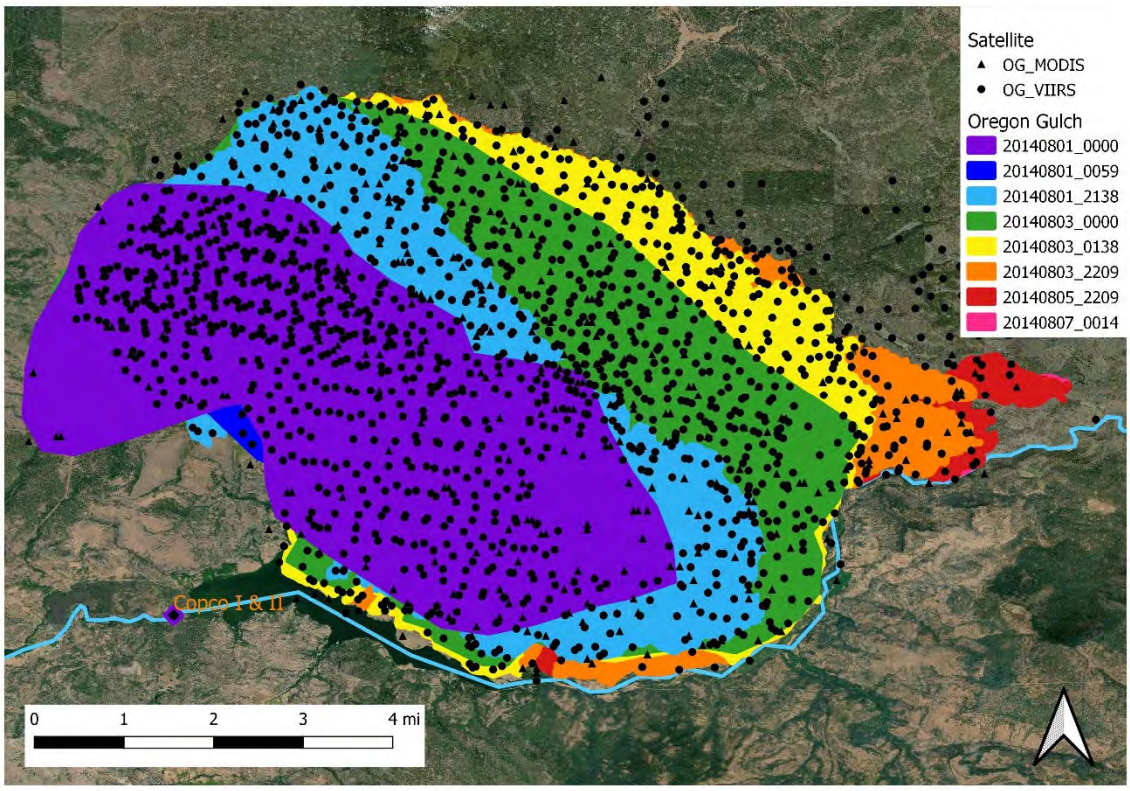


Figure 17. Final perimeter of the 2014 Oregon Gulch Fire.

3.3.2 2018 Klamathon Fire

The Klamathon Fire was reported on July 5, 2018, near Hornbrook, CA. By the following evening the fire had grown to 9,600 acres. Aerial suppression efforts relied on five dip sites, two from the reservoir above Iron Gate dam, one from the Klamath river, and two from runoff ponds. The Incident Action Plans (IAP) available from the National Interagency Fire Center (NIFC) database [5] did not contain ICS 209 forms so the exact tactics and number of drops was not able to be

determined from publicly-available data. The ICS 220 forms that were available provided the type of resource and time at which the resource began operating each day. The communities of Hornbrook, Hilt, and Colestin were evacuated in addition to the area around Iron Gate dam. By July 21, 2018, the fire was reported as contained having burned 38,008 acres (Figure 18). There was one civilian fatality and three non-fatal injuries resulting from the fire. At least 80 structures were damaged or destroyed.

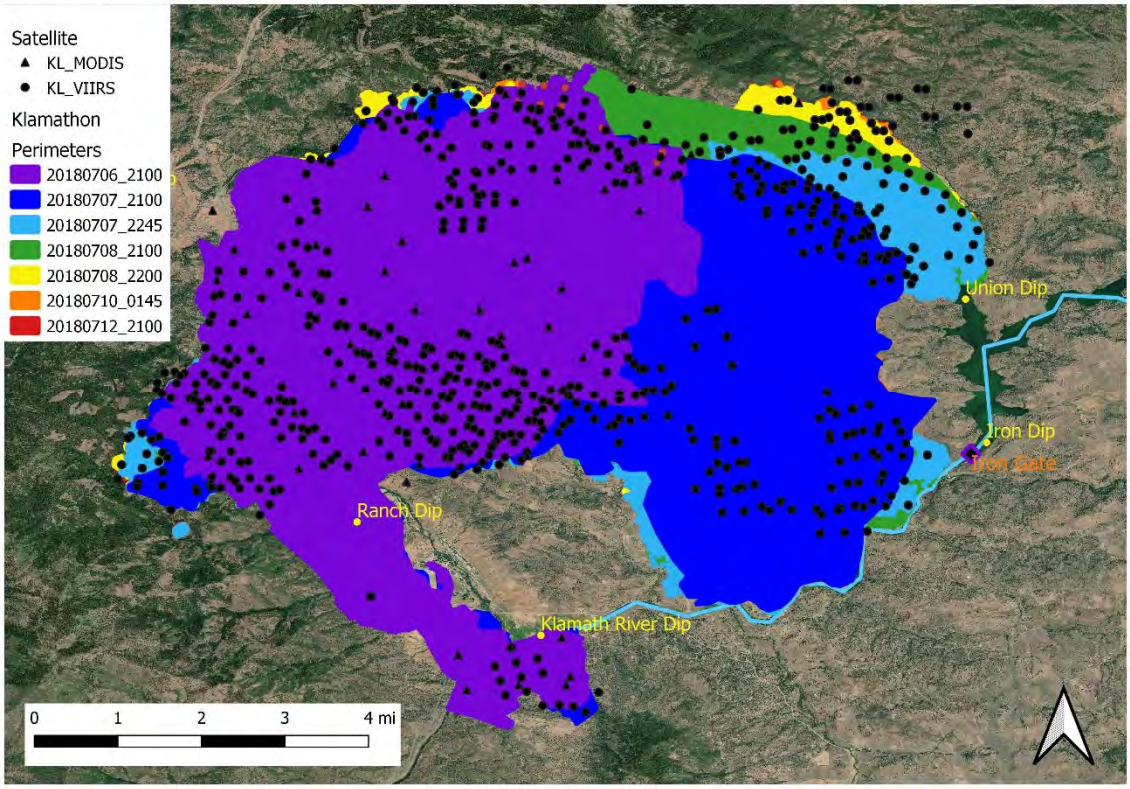


Figure 18. Final Perimeter of the 2018 Klamathon Fire.

3.4 Summary

The historical fire perimeters show that most fires in the analysis area were small with some exceptions. The Oregon Gulch and Klamathon fires were examined in greater detail to understand the conditions surrounding their rapid expansion. Where available, documentation and data regarding aerial suppression were reviewed and analyzed to address the concerns of local fire agencies with respect to the proposed dam removal and its impact on available water sources.

4.0 ANALYSIS OF PROPOSED FIRE MITIGATION MEASURES

The FMP [6] addresses long-term fire management in the Klamath River Basin, incorporating strategies to offset the loss of the three Klamath River reservoirs which have supported fire suppression resources in the past. The FMP also elaborates on the long-term new local and regional fire suppression resources to be implemented in the Basin. KRRC has committed to implement (and oversee through license surrender) effective and feasible strategies and concepts to enhance both short- and long-term fire prevention, detection, and suppression in the Basin. The focus of the analyses described in the current report is change in detection effectiveness (Section 4.1) and suppression effectiveness (Section 4.2).

4.1 Detection effectiveness

Despite best efforts in fire prevention, it is not possible to stop all fire ignitions from occurring. Therefore, the primary goal of a fire management plan is to minimize the likelihood of large-scale fire development such that a fire does not become too difficult to suppress or contain. A critical component of the overall strategy is reliable, rapid fire detection following an ignition, including accurately placing the ignition location and prompt notification of responding authorities. The shorter the length of time between fire start and fire detection, the higher the probability of a successful initial attack. In the past, fires were commonly spotted and reported by personnel at staffed fire lookout towers. Today there are various methods of detection and new technologies available such as the use of sensors, cameras, and satellites.

In California and Oregon, there has been an increase in detection camera installations at fire lookouts that were historically staffed. Fire size at the time of detection by cameras generally scales with distance from the camera, allowing fires to be detected at much smaller sizes than are possible with the human eye alone. ODF reports that it is possible for a camera to detect fires on the order of $1/100^{th}$ of an acre within 10 miles. Beyond 10 miles, cameras can typically detect fires at $1/10^{th}$ of an acre.

Existing fire detection resources and the proposed post-removal resources provided in the Klamath River Basin are discussed in detail in the FMP and are summarized here. A viewshed analysis identifies areas on Earth's surface that are visible from a specific location [7, 8] and is used in this work to:

1. Determine if the proposed post-removal resources provide adequate detection coverage of the protected areas of the Klamath River Basin, and
2. Quantify the change in detection effectiveness between pre- and post-removal schemes.

4.1.1 Proposed post-removal fire detection scheme

As described in the FMP, the post-removal fire detection scheme involves a Monitored Detection System (MDS) consisting of five planned or existing towers equipped with video surveillance cameras for around-the-clock, remote fire monitoring. The MDS technology transmits high definition video and images from cameras to an integrated GIS platform that is monitored by dedicated staff. The software that enables this integration is EnviroVision Solutions (EVS)

ForestWatch [9]. The same software also enables triangulation of the location of a fire if more than one camera captures the fire.

The cameras that are recommended by EVS for use with the ForestWatch system are industrial Pelco cameras that can automatically rotate 360°, have an auto-detection surveillance distance of up to 12.4 miles (20 kilometers), and can be manually and remotely controlled. The infrared and near-infrared capabilities allow the cameras to see through haze and nighttime conditions. The five towers where the MDS cameras would be located and the tower specifications are detailed below (Table 1 and Figure 19).

Table 1. Post-removal MDS camera locations.

Tower Name/Location	*Elevation (ft)*	*Tower Height[a] (ft)*	*Longitude*	*Latitude*
Paradise Craggy, CA	4,890	6	-122.54669	41.81476
Parker Mountain, OR	5,165	50	-122.27865	42.10527
Chase Mountain, OR	6,349	20	-121.99415	42.09461
Soda Mountain, OR	6,049	10	-122.47882	42.06447
Eagle Rock[b], CA	6,863	10	-122.24536	41.88152

[a] Tower heights were determined from online resources [10-13]

[b] This tower is not yet constructed. The elevation and location coordinates are approximated form GIS data provided to Reax. A conservative tower height was assumed based on the heights of existing towers.

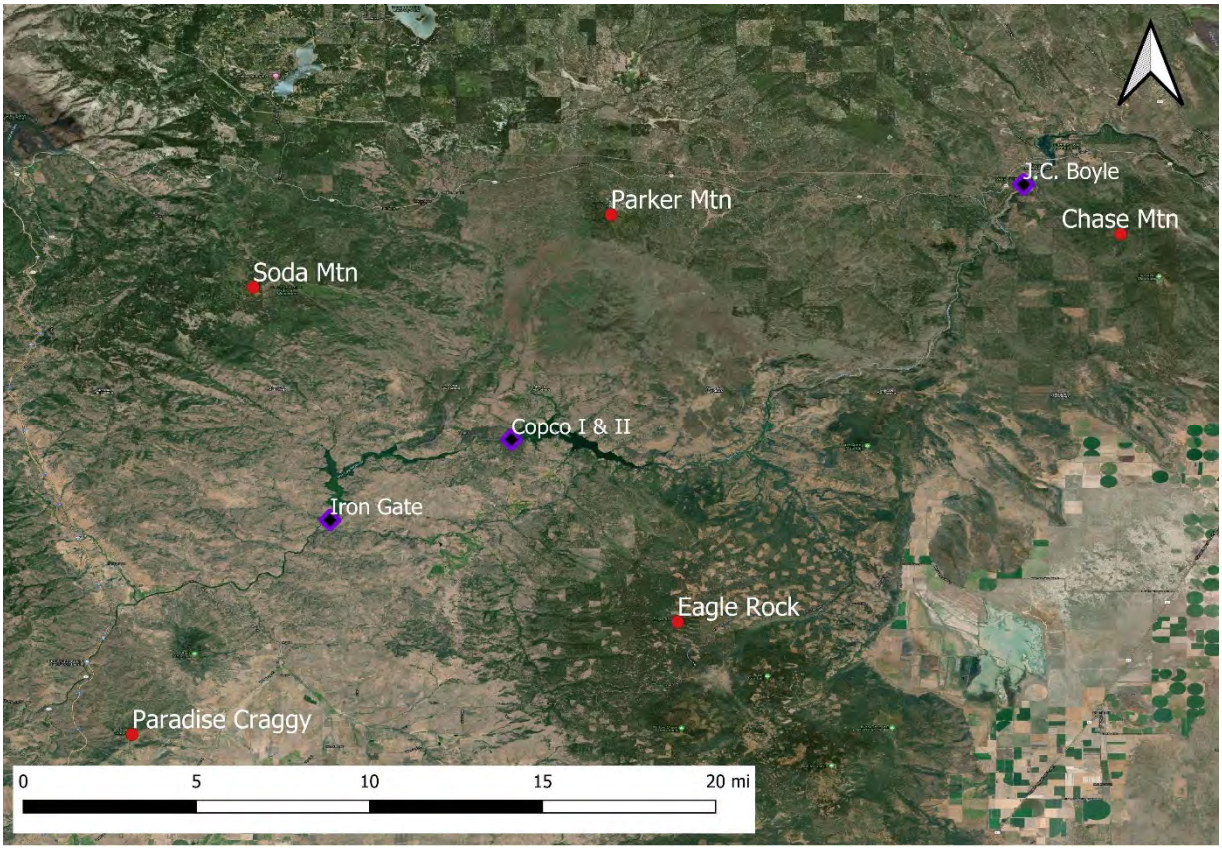


Figure 19. MDS camera locations for post-removal fire detection.

Based on the EVS camera specifications of a 12.4-mile maximum surveillance distance, a rounded value of 12 miles was applied for the radius of visibility in the viewshed analysis. This analysis includes the effect of earth curvature on visibility but does not include visibility obscuration due to haze or smoke in the lower atmosphere. The cameras were assumed to be mounted at the same height as the towers.

The viewshed analysis results illustrate coverage provided by the cameras as well as "blind spots" where no camera has visibility to the ground (Figure 20). The blue areas indicate that one of the five cameras is able to view the ground surface at that location. The green areas indicate that two of the five cameras can directly view the surface at that location; yellow indicates three cameras. There are no locations that are simultaneously visible to four or five cameras.

The results are displayed with an overlay of the ASE as this extent is understood to comprise the area of operation for CALFIRE's aerial suppression equipment (Figure 21). With the planned removal of the four dams, this area was identified as a concern by CALFIRE as the fire risk could increase following restoration of the Klamath River to its natural watercourse.

By visual inspection of the results in Figure 21, the proposed post-removal fire detection scheme provides roughly 60-75% coverage of the protected areas in the ASE. Roughly 5-15% of this surface area is visible to multiple cameras, allowing for rapid triangulation capability in the early stages of fire growth. The proposed MDS scheme also provides detection coverage of up to 12 miles in surrounding areas of interest beyond the perimeter of the ASE. These preliminary results are positive and do not preclude the capability of the MDS to detect fires in the gray areas since the cameras could capture the smoke plume from a potential fire. However, detection and triangulation of the fire is expected to take a longer amount of time where the cameras do not have direct surface visibility.

The viewshed from Eagle Rock appears obstructed from several angles, which could be due to the assumed tower location coordinates and observer height. Additionally, the preliminary results show that there is limited direct surface visibility for about 20% of the western area of the ASE. This may be due to variations in the terrain that obstruct the line-of-sight from the cameras.

Table 2. Camera viewshed analysis inputs

MDS Camera Location	*Radius of Visibility (miles)*	*Observer/Camera Height (ft)*
Paradise Craggy Tower	12	6
Parker Mountain Tower	12	50
Chase Mountain Tower	12	20
Soda Mountain Tower	12	10
Eagle Rock Tower	12	10

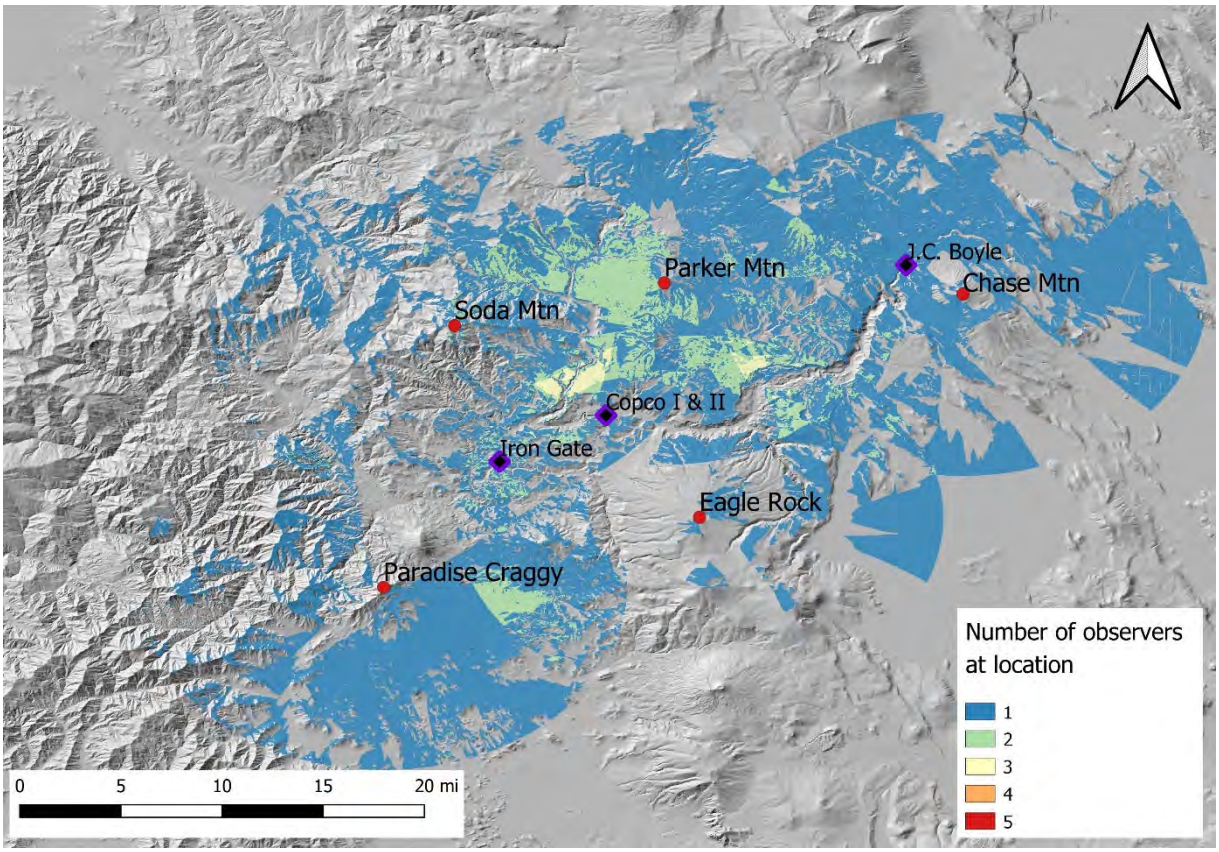


Figure 20. Post-removal fire detection viewshed analysis.

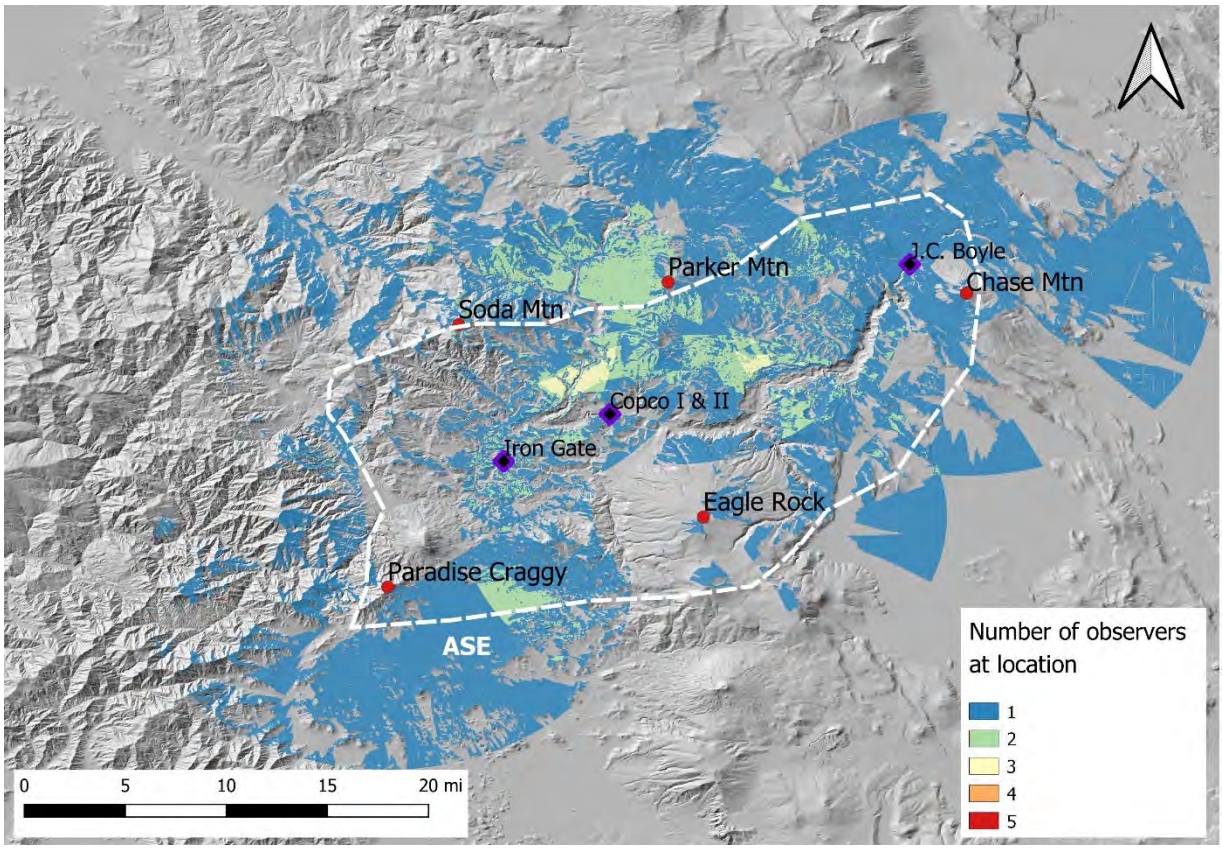


Figure 21. Post-removal fire detection camera viewshed analysis overlaid with the aerial suppression extent.

4.1.2 Alternative proposed fire detection scheme

While the preliminary results are generally positive, there is opportunity for improved robustness of the proposed MDS scheme. By installing an additional camera positioned in the northwest area of the ASE, it may be possible to eliminate some of the "blind spots". In addition, repositioning of the Eagle Rock camera to a location with higher elevation on the mountain might provide improved coverage from Eagle Rock (Figure 22).

Several iterations of viewshed analysis were calculated from Eagle Rock by varying the camera height at its new location coordinates to determine optimal visibility. There was a fire lookout tower located in the northwest area of the Klamath Basin atop Mt. Ashland until 1959 and it is understood that there have been discussions among local fire authorities about reinstating the site for fire monitoring. Therefore, this location was chosen for siting of an additional camera for viewshed analysis of this alternate detection scheme. A viewshed analysis that incorporates these alterations is presented and discussed here (Figure 23). Camera locations that vary from those previously discussed are shown in gray. Results for improved siting of the Eagle Rock camera are presented in Table 5. The overall camera viewshed analysis for the alternate fire detection scheme with the newly added Mt. Ashland camera and the improved Eagle Rock camera location is shown in Table 5.

Table 3. Alternate MDS camera locations with additional locations shown in gray.

Tower Name/Location	*Elevation (ft)*	*Tower Height[a] (ft)*	*Longitude*	*Latitude*
Paradise Craggy, CA	4,890	6	-122.54669	41.81476
Parker Mountain, OR	5,165	50	-122.27865	42.10527
Chase Mountain, OR	6,349	20	-121.99415	42.09461
Soda Mountain, OR	6,049	10	-122.47882	42.06447
Eagle Rock, CA	~6,863[a]	10-50[a]	~-122.24536[a]	~41.88152[a]
Mount Ashland, OR	7,533	10[b]	-122.71688	42.08073

[a] The elevation, tower height, and location coordinates were varied to determine optimal siting [10-14].

[b] A conservative tower height was assumed based on the heights of existing towers.

Table 4. Alternate camera viewshed analysis inputs.

MDS Camera Location	*Radius of Visibility (miles)*	*Observer/Camera Height (ft)*
Paradise Craggy Tower	12	6
Parker Mountain Tower	12	50
Chase Mountain Tower	12	20
Soda Mountain Tower	12	10
Eagle Rock Tower	12	10-50
Mount Ashland Tower	12	10

Table 5. Improved Eagle Rock viewshed analysis siting.

Tower Name/Location	*Elevation (ft)*	*Tower Height (ft)*	*Longitude*	*Latitude*
Eagle Rock, CA (original)	6,863	10	-122.24536	41.88152
Eagle Rock, CA (new)	6,902	10	-122.24175	41.87757

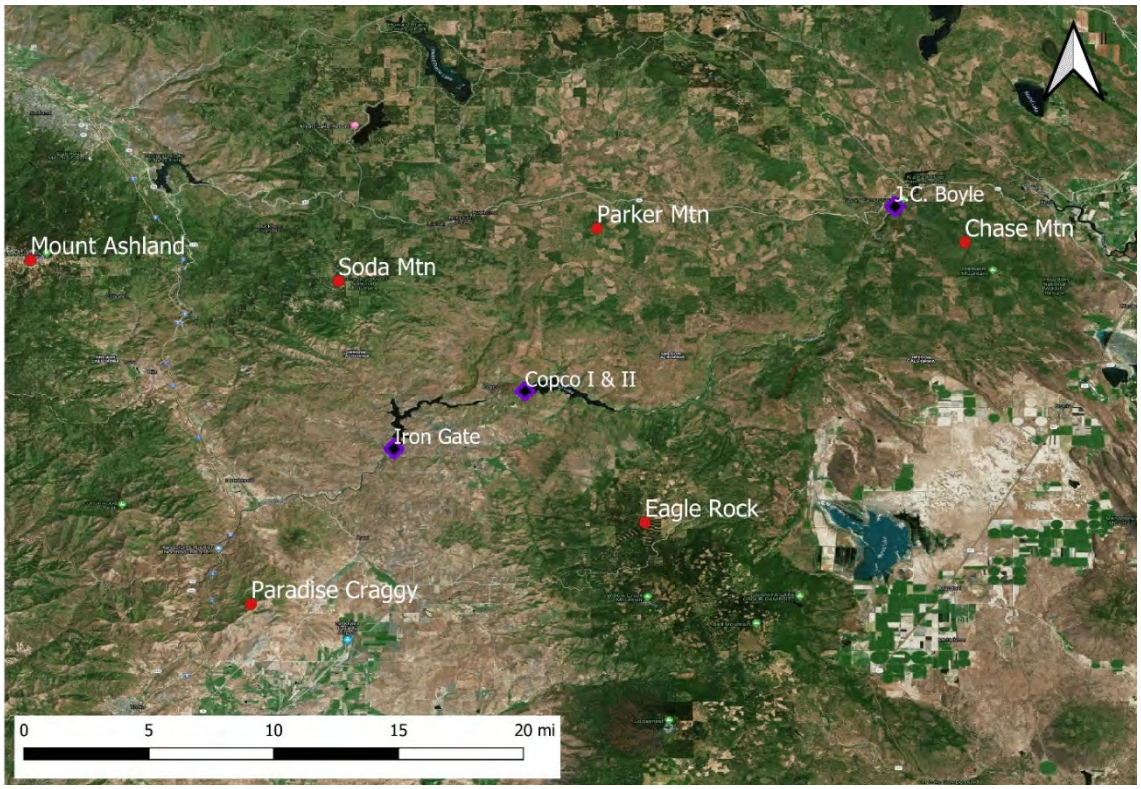


Figure 22. Proposed MDS camera locations for fire detection including Mt. Ashland.

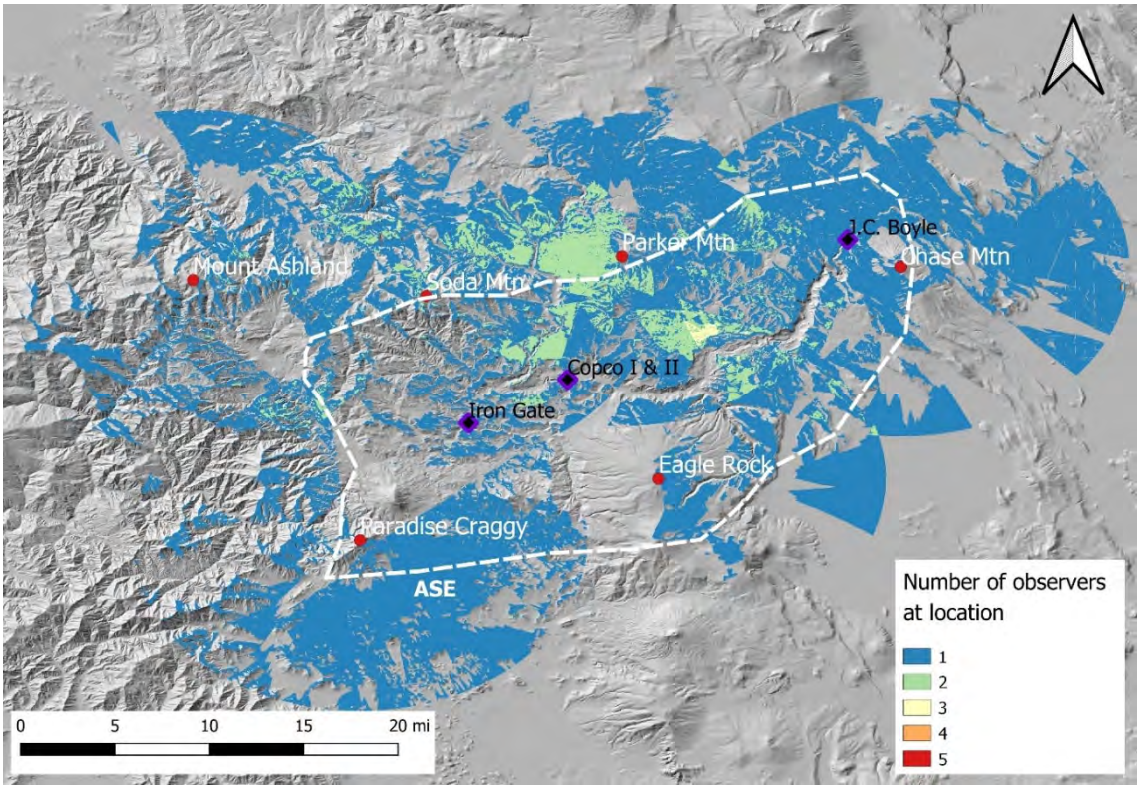


Figure 23. Results of the viewshed analysis for the alternate proposed camera scheme overlaid with the aerial suppression extent.

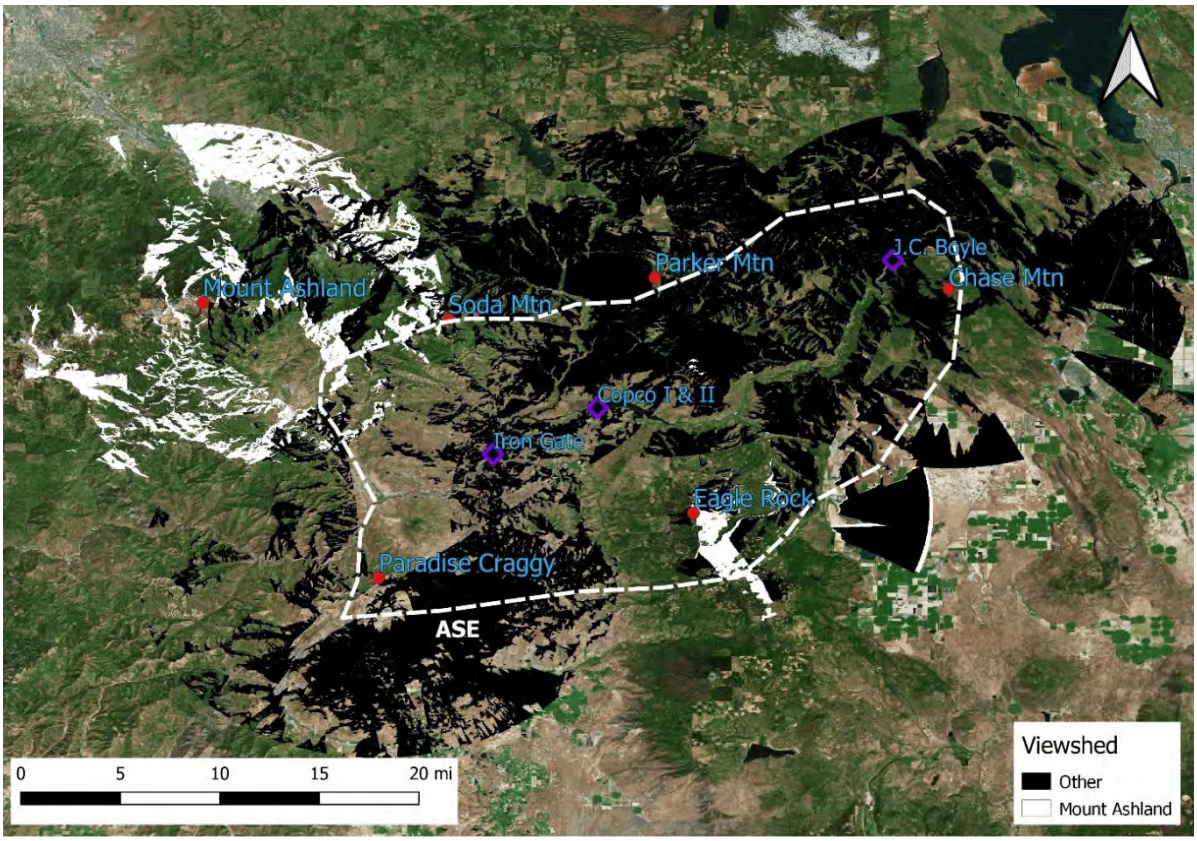
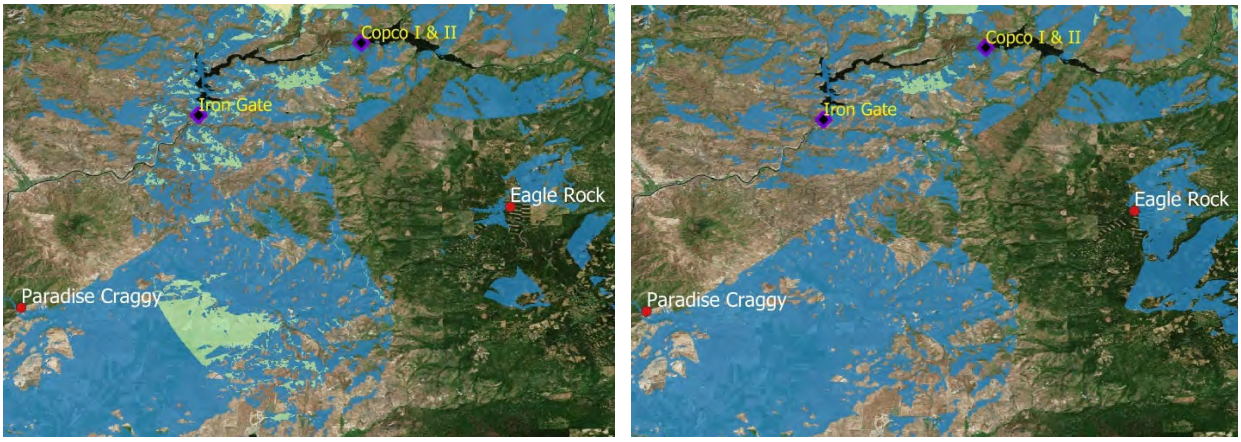


Figure 24. Post-removal viewshed analysis emphasizing Mt. Ashland contribution.

The camera viewshed analysis including Mt. Ashland shows slight improvement within the ASE and substantial improvement in surrounding areas as compared to the results from the original proposed fire detection scheme (Figure 24). The western area of the ASE still shows approximately the same amount of uncovered surface area as before, but the addition of the Mt. Ashland camera provides improved surface area coverage in the immediate vicinity of the protected area. Increasing the height of the Eagle Rock Camera in 10-feet increments from 10 feet to 50 feet above ground elevation did not have a significant effect on the viewshed. Although there was better visibility on the south side of Eagle Rock Mountain, there was a decrease in triangulated visibility between Paradise Craggy and Eagle Rock. Close comparison of the region between Paradise Craggy and Eagle Rock demonstrates this decrease in visibility as areas that were visible to two or three cameras are visible to only one (Figure 25).



(a) **(b)**

Figure 25. Viewshed of region between Paradise Craggy and Eagle Rock. (a) Original Eagle Rock siting. (b) Varied siting.

4.1.3 Limitations of viewshed analysis

The limitations of a viewshed analysis, especially in the context of understanding detection effectiveness, are enumerated below.

1. The reliability of the outputs is dependent on the quality of the inputs. In this case, the analysis was reliant on the assumptions of the camera locations, heights, and radius of visibility. Due to this limitation, improvements to the quality of inputs, and thereby the quality of outputs, were made. These improvements included the manual adjustment of the camera locations based on satellite imagery of tower locations and validation of the Eagle Rock camera height through a manual sensitivity study.
2. The viewshed analysis does not account for visibility obscuration due to possible haze or smoke. Note, however, that the EVS-recommended cameras specifications include the ability to see through haze and smoke.
3. Viewshed analysis output shows camera visibility to a specified target height. In the previous discussion this target height was ground surface. For wildland fires, however, it is more likely that the camera will detect the smoke plume long before it detects actual flames (Figure 26). As part of ongoing work for this project, a refined viewshed analysis and sensitivity study will be conducted to assess detection effectiveness based on the target being a smoke plume, not the ground surface. Basing detection on the smoke plume has limitations of its own because wind and atmospheric stability influence plume height and fire growth, and therefore both would contribute to uncertainty in fire size from the smoke plume alone.

Figure 26. Smoke plume detection from a camera in the ALERTwildfire network [15].

4.1.4 Satellite-based fire detection technology

As part of the FMP detection effectiveness evaluation, the feasibility of implementing satellite-based fire detection technology developed by a commercial vendor. Using artificial intelligence (AI) and machine learning techniques, systems can produce maps in near real-time to support end-user decision-making. When the AI model detects a fire, an alert is transmitted, and the detection is then verified with "ground truth" from high-resolution (3-5 meters) imagery acquired at least once per day. Satellite-based technology provides several benefits over other detection methods, including lower false positives, higher reliability, and better precision and earlier detection.

Initial testing has shown that satellite-based fire detection may detect fire events on average approximately 10 minutes after it was first reported by civilians via phone in populated areas during the day. However, for night-time detections, particularly in areas with low population density, fires may be detected more than an hour before it is detected manually.

Due to the high cost and minimal improvement in daytime detection effectiveness relative to camera technology, this satellite-based fire detection is currently not recommended for implementation. However, several other non-commercial satellite detection systems are being evaluated for potential use as part of KRRC's detection scheme. The non-commercial options span multiple sources including GOES-R [16] and GOES-EFD [17], in addition to work being done at universities, most notably the University of Maryland and the University of Wisconsin at Madison. The various systems emphasize different aspects of improved wildfire satellite detection.

4.1.5 Recommendations for enhanced detection effectiveness

Our recommendations for enhanced detection effectiveness are as follows:

1. As discussed in Section 4.1.3, Reax will refine the viewshed analyses to incorporate detection of smoke plumes at various heights and assess the impact this has on the degree of coverage within the analysis area and ASE. The potential correlation between smoke height and fire size at time of detection will be investigated more thoroughly.
2. The retention of a third party to assess the feasibility of camera tower construction and optimal visibility siting at the vantage of Eagle Rock is recommended. Following this assessment, the viewshed analyses can be refined to determine an optimal tower height. Camera location and height influence the viewshed results and thereby the quantification of detection effectiveness. Therefore, it is recommended that this work be carried out by the end of March so that results can be incorporated into the final analysis.

The next major step for the detection effectiveness evaluation is an analysis of the existing detection scheme to compare against the post-removal scheme. With the pre- and post-removal comparison, we can quantify the change in detection effectiveness as it relates to overall change in fire risk following Klamath River restoration efforts.

4.2 Suppression effectiveness

4.2.1 Pre-restoration

Pre-restoration suppression effectiveness establishes the benchmark for analysis of post-restoration effectiveness. The Oregon Department of Forestry (ODF) was contacted for existing fire reports and the FOD [1] was used to spatially locate past fire occurrences. The stated CALFIRE suppression acreage goal for all fires is 10 acres. ODF has a suppression goal of keeping fires as small as possible.

4.2.2 Post-restoration

The effectiveness of post-restoration suppression will be determined in the Monte-Carlo fire spread analysis presented in Section 5.0. Randomly selected fire ignitions will be analyzed for fire growth in hourly increments over a 12-hour period and the available suppression resources in the KRRC area will be assessed against these modelled fires. Additional suppression resources will be added to the existing inventory to determine if additional resources improve efficiency. This may include engines and hand crews, water tenders, and water source locations in addition to what is already in place over the KRRC area.

4.2.3 Quantification methodology

Statistically, approximately 90 percent of wildland fires in the US are suppressed in the first 48 hours. The other 10 percent which are not successfully suppressed initially due to an extreme but rare combination of fuel conditions and fire weather become campaign fires such as the Klamathon Fire. The federal government has studied this in depth and determined that it is unrealistic to keep increasing the suppression capacity nationally beyond a certain budgetary level. In other words, no matter how many resources are mobilized on a fire, fires occurring during weather events above

the 90th percentile may not be successfully suppressed in the first 48 hours. Typically, the Federal budget is at or near this 90th percentile level of suppression success on a local level.

The few fires that escape initial attack (IA), like the Klamathon Fire, are the ones that burn the most area. Success in IA is dependent on several factors including weather conditions, fire detection time, fire service arrival time, fire spread rates, fire line production rate, and budget constraints. Causes of fire, where known, can be divided into human-caused and lightning-caused. Human-caused fires tend to occur near roads and trails and average significantly lower response times than lightning-caused ignitions. The distinction between the two predominant fire causes is important because it inherently affects many of the factors influencing IA success.

In a study by Rodrigues *et al*. [18], the probability of IA success was calculated as a combination of the time to detection, travel time, fire spread potential, and available resources. Time to detection was based on viewshed analyses from roads and towns. Because the smoke plume is more likely to be seen than the fire itself, a 300 m offset height was added to the Digital Elevation Model (DEM). The greater the number of locations from which a particular pixel could be seen, the more rapid the detection time. Arrival time after dispatch was assessed with variations allowing for paved roads, unpaved roads, and walking trails. Accessibility via paved roads was calculated using the Euclidean distance from the fire stations. Unpaved roads and trails were evaluated using a cost-distance function and the difficulty of walking was estimated using terrain slope from the DEM. The objective of the cost-distance function is to determine the least costly path of travel in terms of time. Aerial resources were modeled using the Euclidean distance to heliports. Resources available for IA efforts are capable of handling most fires under normal circumstances. An exception to this is when multiple fires occur which forces incident command to evaluate where the finite number of resources may be most effective in light of the potential assets at risk. In the study, this was modelled by calculating the number of fires burning simultaneously. Fire spread potential is largely dependent on meteorology, fuel types, and topography therefore the study used gridded weather data corresponding to the date of historical escaped fires, five fuel types from land cover maps, and the DEM.

Results from this study showed the response time from initial detection to first-on-scene to be the most critical factor in success of IA. Stemming from this result, the distance to fire stations and heliports were the next most significant factors. Visibility from road networks followed these contributions in importance. Accessibility on foot was the next contributing factor. Dynamic factors such as weather and available resources constituted the smallest influence. It is important to note that although these dynamic factors appear comparatively insignificant, they are linked to extreme fire events and therefore are crucial for identifying hazardous conditions.

Another study by Reimer *et al*. [19] investigated suppression effectiveness by pairing burn probability and containment probability calculations. Containment probability calculations were based on fire intensity, spread rate, and response time. Success in containment is highly correlated with fire size and intensity at the time of IA and was predicted using these factors. Stochastic ignitions and weather were used for fire growth modeling, with the final result being an estimation of burn probability. Two simulations of this fire growth modeling were completed, one with suppression and one without. Records of ignitions over a 90-year period were analyzed to identify spatiotemporal patterns. Human-caused ignitions clustered around features like roads and

campgrounds while lightning caused ignitions were weather and topography driven. Response times to human-caused fires on average are lower because of proximity to roads and access routes. Because suppression activities during moderate weather prevent ignitions from lasting until fire weather improves, this study assumed that if a fire escapes initial attack suppression activities would not significantly reduce spread rates.

This study did not account for crew size, detection networks, proximity to water, or variations in response time other than cause. Even with these limitations, the study indicates that response time is again a key component in determining IA success. A more insidious component that may prove difficult to quantify is the increased risk in following years from suppression. One of the tributary conclusions addressed this concern, suggesting that permitting certain fires under moderate weather can reduce hazard in subsequent years while keeping short-term risk low.

A methodology similar to Reimer *et al*. [19] will be used to quantify suppression effectiveness within the analysis area. Spatial burn probabilities generated in the Monte-Carlo fire spread analysis will be used and combined with containment probability calculations. These containment probability calculations will be unique to each suppression asset which will allow different combinations of assets to be analyzed. Containment calculations will be based on fire intensity, rate of spread, and response time to each fire.

4.2.4 Conclusions and next steps

The amount and accessibility of water for suppression will not be reduced by the removal of the reservoirs created by the dams (Figure 27). As the FMP illustrates, the planned river access points, boat launches, and fishing access points will provide key drafting points for engines and water tenders. Also, the six planned dry hydrants and the six existing pressurized hydrants will provide viable water access points for ground-based equipment and to support aerial water delivery.

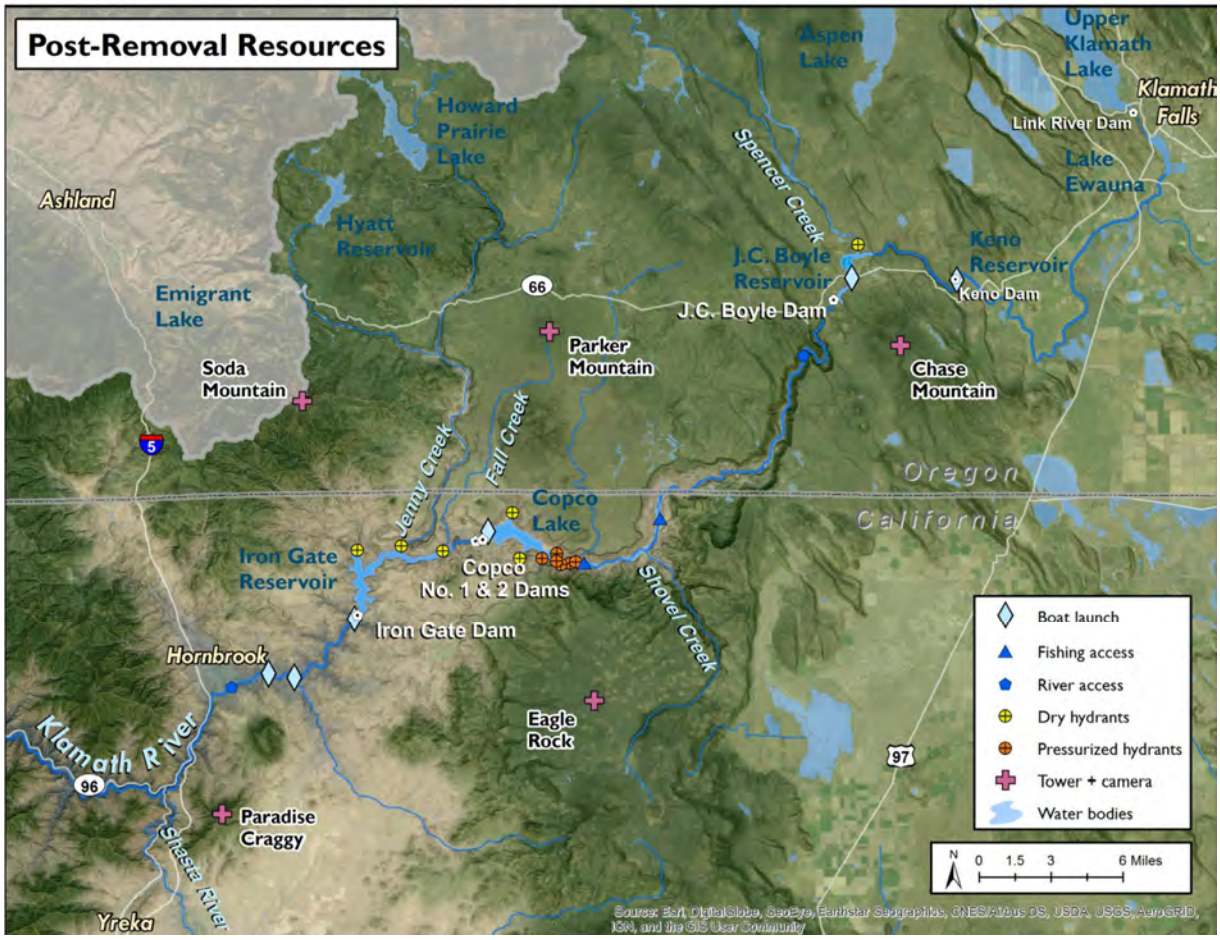


Figure 27. Post-removal management resources provided as part of the long-term FMP [6].

There are currently 96 inventoried river pools of varying risk classes for helicopter bucket work and another predicted 41 helicopter bucket sites of varying risk categories in the current reservoir pool areas (Figure 28). With around 137 pools for helicopter bucket use and a minimum of 18 other river access sites available for drafting, the ability to use water for fire suppression will not be impacted. The convenience of using some sites, such as reservoirs, may be impacted but the overall amount of water available should not be affected by dam removal. The minimum river discharge of 900 ft^3/s will be sufficient to maintain a good water supply for suppression forces.

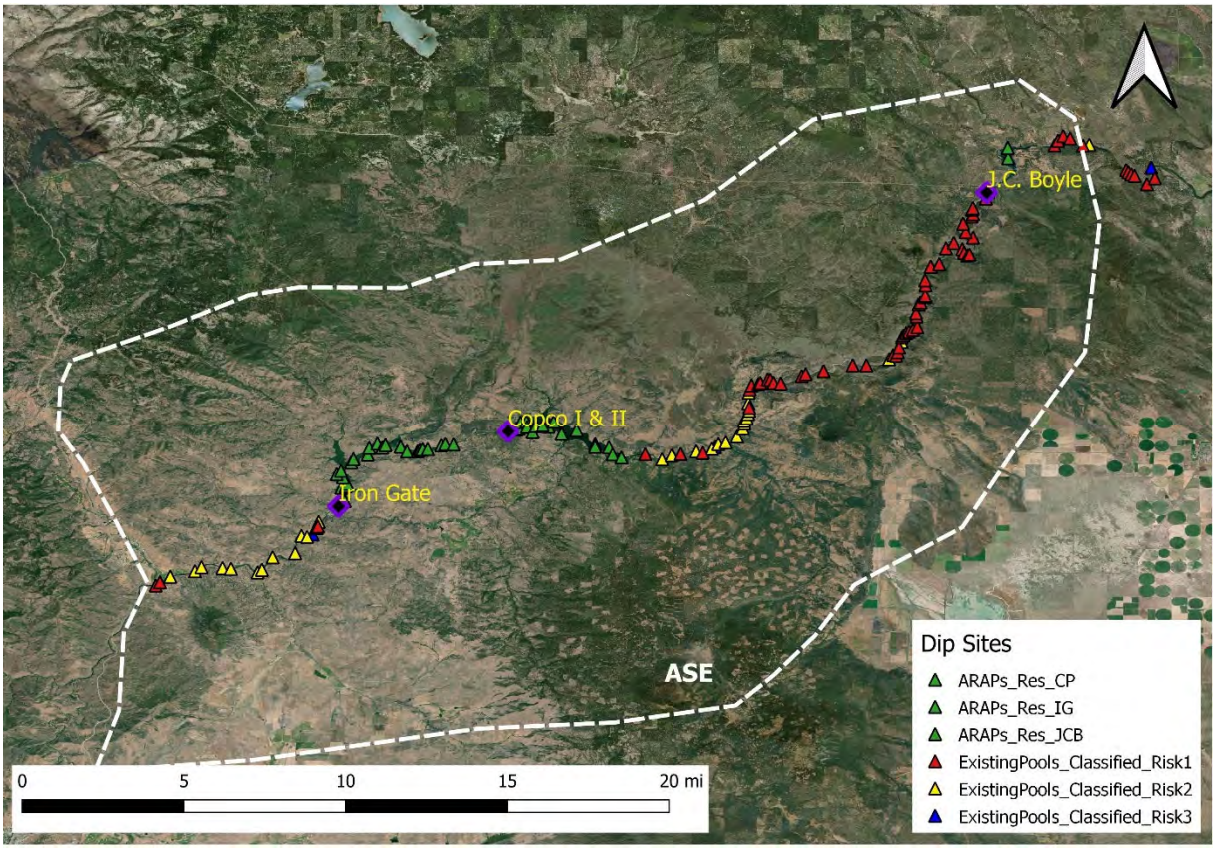


Figure 28. Pre- and Post-restoration dip sites.

Portable rigid tanks (fold-a-tanks) could be staged in pre-determined sites along both sides of the river corridor to supplement aerial and ground-based water supply for engines, helicopters, etc. Fold-a-tanks up to 20,000 gallons in size could be stored, erected, and filled rapidly for initial attack activities at these selected sites or moved and set up at other sites (Figure 29). Portable soft-sided water tanks of up to 360 gallons could be staged at these same sites to be air-lifted by helicopter to remote fire sites needing additional water supply (Figure 30). Additional engines or water tenders will be analyzed as well to see if any gain in effectiveness can be achieved with more of these resources.

Figure 29. Rigid tank model shown with helicopter snorkel.

Figure 30. Soft-sided tank model being airlifted.

5.0 MONTE-CARLO FIRE SPREAD MODELING

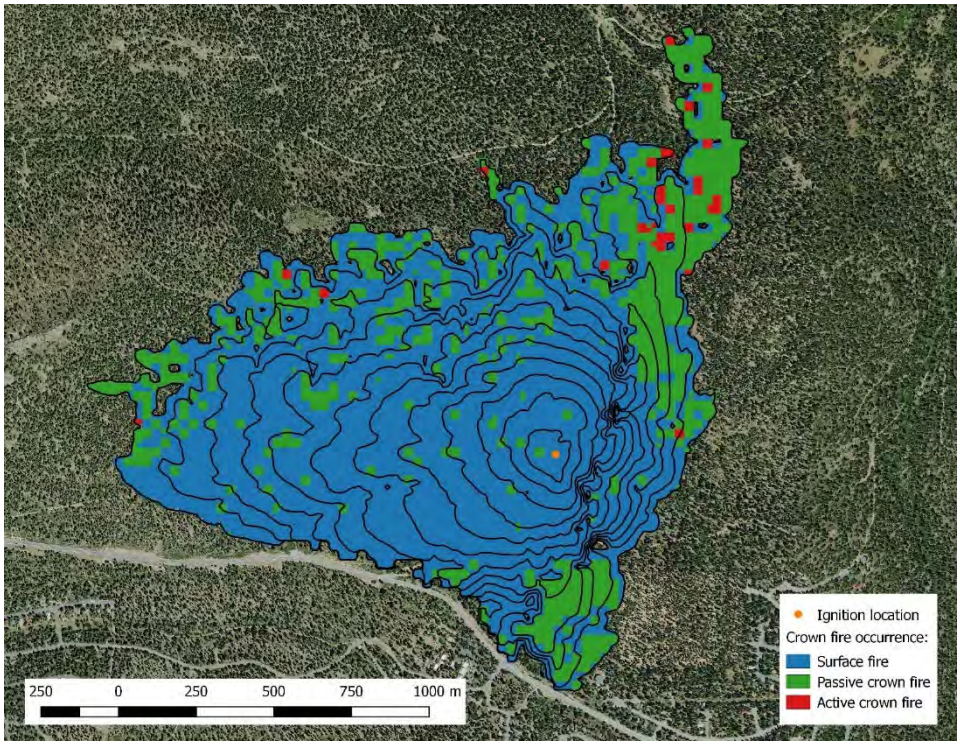
Wildland fire hazard/risk assessment using fire behavior modeling has recently seen increased usage due in part to more powerful computational resources, improved fire models, and readily available geospatial input data. Keane *et al.* [20] highlighted the potential for Monte-Carlo analysis to be used for wildland fire risk quantification, stating "Andrews (2007) FSPRO approach in which maps of fire intensity distributions are computed from thousands of FARSITE [21] runs is perhaps the most significant step towards fine scale risk mapping." One advantage of such an approach is that fire shadows, islands, and related effects can be captured. Monte-Carlo simulations where fire spread is modeled from tens of thousands of separate ignition locations under a range of weather conditions is one of the most promising tools for quantitative wildland fire risk/hazard assessment.

Furthermore, this same basic approach has already been successfully applied in Victoria, Australia, to quantify fire risk associated with overhead electrical utility ignited fires [22-26] and was also applied recently in California [27-34] to map hazard from powerline fires. For this reason, the basic methodology applied in Australia and California to map utility-associated fire risk is used as the basis in the current project to map change in fire risk associated with the removal of the four dams.

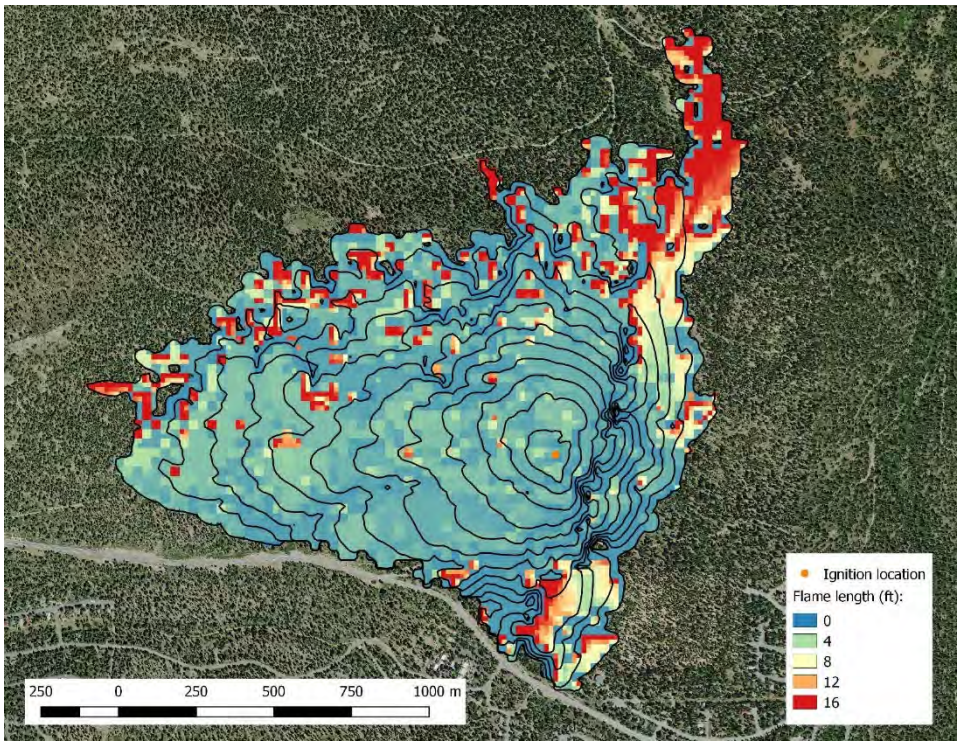
5.1 Monte-Carlo fire spread model: ELMFIRE

The open source software ELMFIRE [32-33] (Eulerian Level Set Model for Fire Spread) is used here to quantify wildland fire hazard via Monte-Carlo analysis. ELMFIRE's computational engine is similar to other two-dimensional fire simulators such as FARSITE [21] or PHOENIX RapidFire [22-26] in that it calculates surface fire spread rate using the Rothermel surface spread model [36, 37], assumes that each point along the fire front behaves as an independent elliptical wavelet [38] with length to breadth ratio determined semi-empirically [21, 39], and simulates transition from surface to crown fire using the Van Wagner criterion [40] (with passive/active crown fire spread rates calculated from Cruz *et al*. [41]). ELMFIRE tracks the fire front using a narrow band level set method [42], a numerical technique for tracking curved surfaces on a regular grid.

To demonstrate how ELMFIRE simulates fire spread, Figure 31 shows 24-hours of fire progression from an individual ignition site. The black contour lines in Figure 31 a represent fire front position at 2-hour intervals. Figure 31a also shows which parts of the burned area experienced surface fire (blue), passive crown fire (green), or active crown fire (red). Figure 31b similarly shows fire perimeter contours and flame length variation within the fire perimeter. Flame length is highest in areas that burn as heading fires or that experience crown fire, and lowest in areas that burn as a flanking or backing fire or as a surface fire. In this example, fire area after 24 hours of spread is approximately 560 acres.



(a)



(b)

Figure 31. Sample ELMFIRE fire spread simulation for individual fire ignition. (a) Fire type (surface fire, passive crown fire, or active crown fire). (b) Flame length.

5.2 Fuels

Fuel and topography layers in the analysis area were obtained from the LANDFIRE Remap (LANDFIRE 2.0.0) database [43-44] at a resolution of 30 m. Topography layers include elevation, slope, and aspect. Fuel layers include surface fuel model (in the Scott and Burgan 40 system [45]), canopy height, canopy cover, canopy base height, and canopy bulk density.

5.2.1 Pre-restoration

Existing vegetation rasters from LANDFIRE Remap were assessed for the types of vegetation expected in the areas surrounding the reservoirs (Figure 32). The numerical values of the fuel types do not provide insight into fire behavior but the descriptions provided by Scott and Burgan [45] do. The major fuel types found around the Iron Gate and Copco reservoirs are described as follows:

- 91 (Urban/Developed) – consists of urban and suburban development that does not support wildland fire spread.
- 98 (Open Water) – land covered by open bodies of water such as lakes and rivers.
- 99 (Bare Ground) – land devoid of sufficient fuel to support wildland fire spread such as deserts, rock outcroppings, and beaches.
- 102 (Low Load, Dry Climate Grass) – primary carrier of fire is semi-continuous grass.
- 121 (Low Load, Dry Climate Grass-Shrub) – primary carrier of fire is grasses and small (1 ft.) shrubs together with moderate fire spread rate.
- 122 (Moderate Load, Dry Climate Grass-Shrub) – primary carrier of fire is grass and medium (1-3 ft.) shrubs together with high fire spread rate.
- 165 (Very High Load, Dry Climate Timber-Shrub) – primary carrier is heavy forest litter with a small tree or shrub understory with moderate fire spread rate.
- 186 (Moderate Load Broadleaf Litter) – primary carrier is moderate load broadleaf litter with moderate fire spread rate.

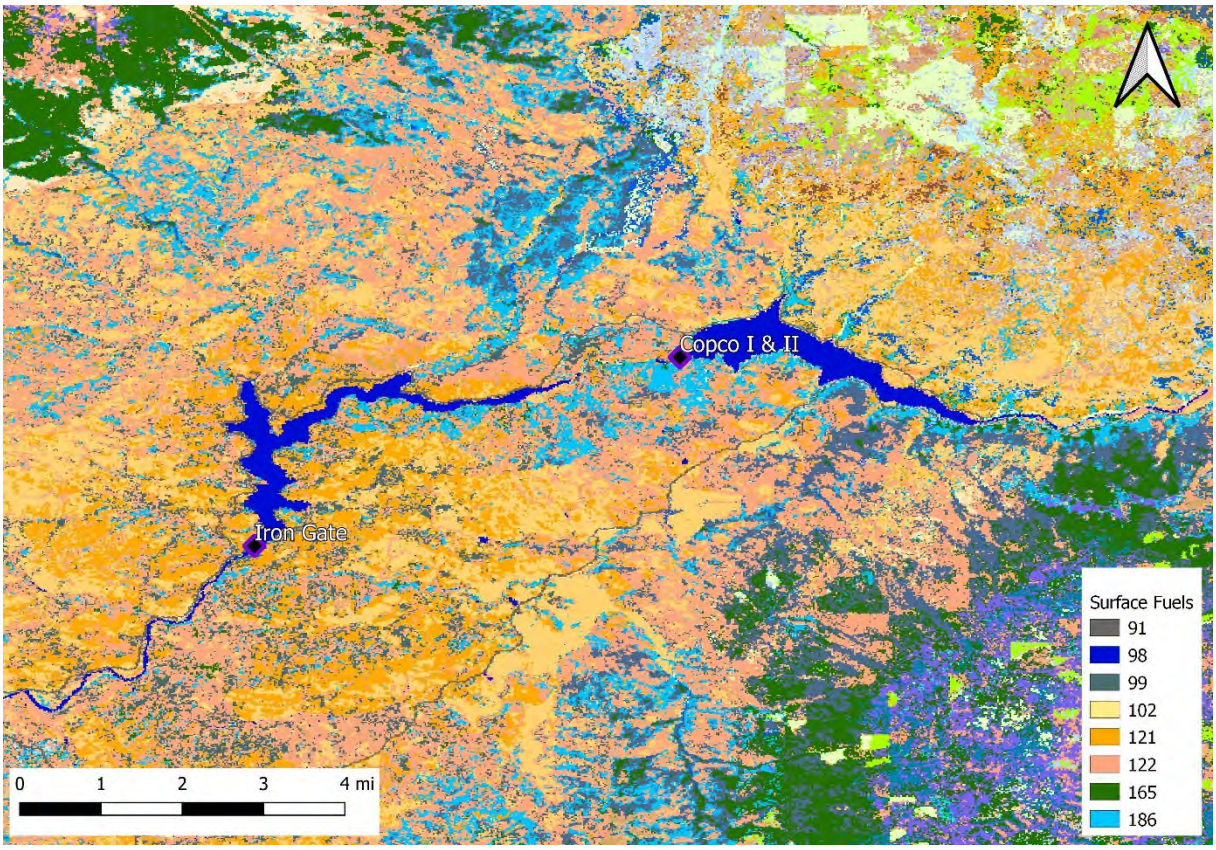


Figure 32. Iron Gate and Copco surface fuel pre-restoration

5.2.2 Post-restoration

Vegetation re-growth after dam removal was estimated using historical imagery and existing vegetation types surrounding the areas to be reclaimed. Existing vegetation typically is a good surrogate for expected re-growth in an area of similar soils, *etc*. The Fuels Classification and Characterization System (FCCS) [46] was utilized as well as LANDFIRE data [43-44] for the analysis area (Figure 33, Figure 34). The LANDFIRE vegetation type was compared to the FCCS existing vegetation to verify the potential vegetation for the site.

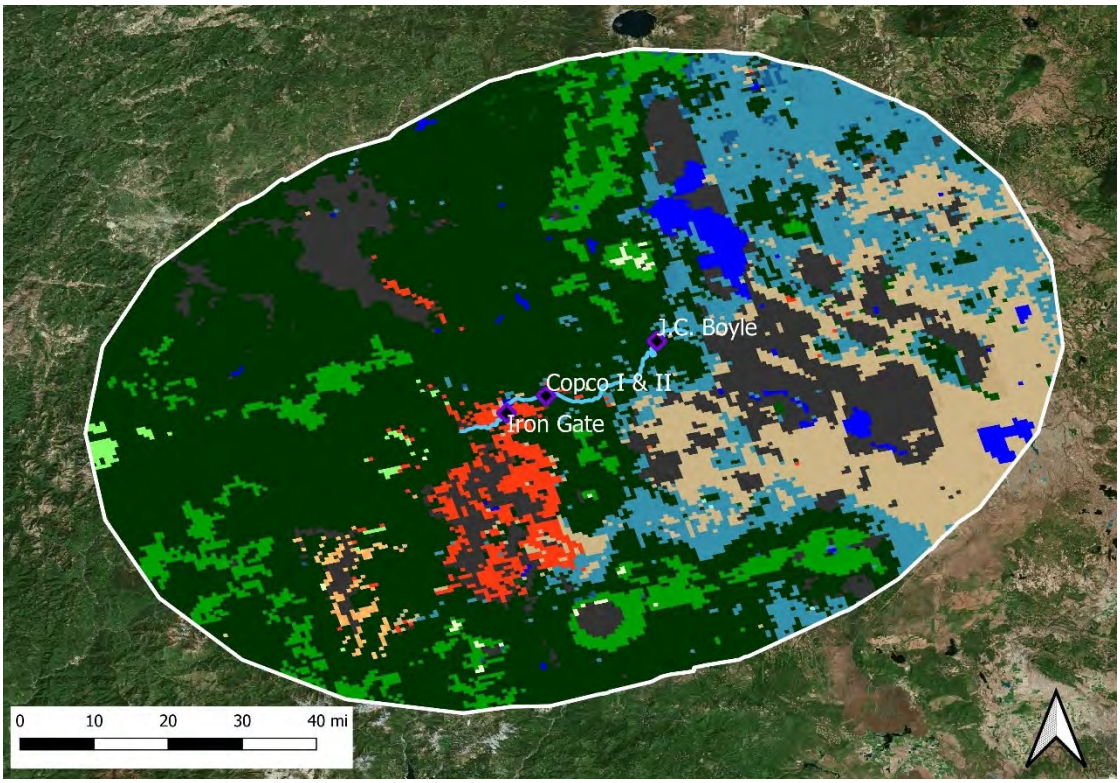


Figure 33. FCCS existing vegetation types.

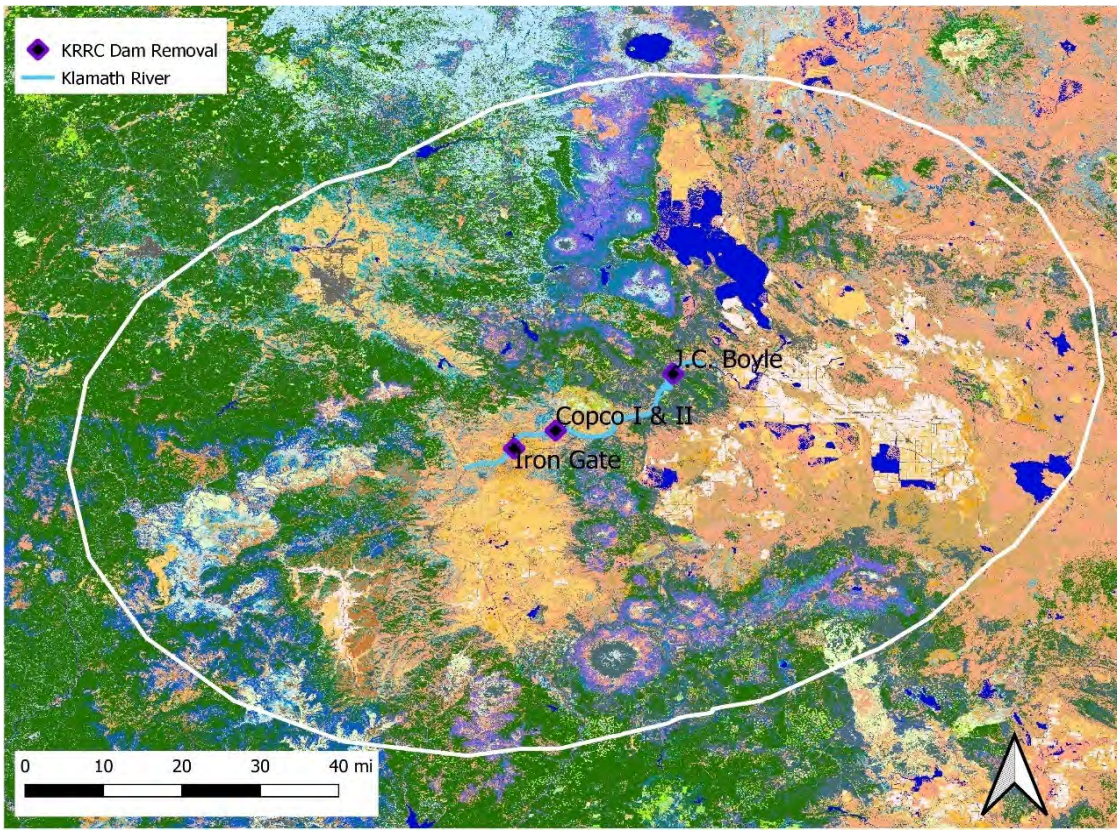


Figure 34. LANDFIRE 2.0.0 (Remap) existing vegetation types.

Initial re-growth is assumed to be in the grass-forb stage for up to the first ten years after the dams are removed. An example of post-restoration fuels is shown in Figure 35 with reclaimed land as fuel model 101 (short grass).

The second decade in grass dominated areas will remain grass. In shrub-chaparral areas the second ten-year increment (10-20 years) will move into a shrub-grass and in the third ten-year increment the vegetation will return to a shrub-chaparral vegetation type, such as the Chamise chaparral shrubland adjacent to the Iron Gate Dam area. Grass-forb and chaparral-shrub vegetation types have a relatively short developmental cycle and are considered mature within 30 years of re-establishment.

After the first ten-year increment forested areas will move into a shrub-grass type for the next ten years, followed by a timber-grass type as reforestation grows above the initial grass-shrub stages. These stages will be followed by a timber type which will mimic the existing timber type in the immediate area, such as the Jeffery pine, Ponderosa pine, and Douglas-fir forests around the Copco I and II site.

Once the revegetated timber areas reach the fifth ten-year increment it is assumed that they will be similar in type to the surrounding areas of vegetation but will not be in a similar age class or stage of development.

Figure 35. Iron Gate and Copco surface fuels post-restoration.

5.3 Fire weather

The general approach to developing wind and weather inputs involves using the North American Regional Reanalysis (NARR) dataset [47] in conjunction with a fire weather filter to identify days of historic weather significance. The Weather Research and Forecasting (WRF) model is then used to generate wind and weather fields only for those days identified as being significant from a fire weather perspective.

The NARR dataset is maintained by the National Centers for Environmental Prediction, the National Weather Service, and the National Oceanic and Atmospheric Administration. It is a gridded meteorological dataset that provides a "snapshot" of the atmosphere every 3 hours at approximately 32 km resolution. Being a reanalysis, NARR is a hybrid of weather modeling and meteorological observations (surface observations of temperature, relative humidity, wind speed/direction, and precipitation, weather balloon observations of wind speed/direction and atmospheric, sea surface temperatures from buoys, satellite imagery for cloud cover and precipitable water, *etc.*). Ingested data include not only surface (meaning near ground level) quantities but also upper atmosphere quantities as well. The NARR dataset is available from 1979 when modern satellites first became available to current day, with a lag of a few weeks.

Although NARR's 32 km resolution is too coarse to be useful for fire spread modeling purposes, it can be used to identify historical fire weather days to be recreated at higher resolution using WRF. The basic idea is to determine dates for each 32 km by 32 km NARR pixel in the analysis area where the most severe fire weather conditions have occurred between 1979 and 2018. The primary advantage of identifying historical fire weather events using reanalysis data, instead of surface (weather station) observations, is that the NARR dataset is both spatially and temporally uniform whereas point observations are not.

5.3.1 Methodology

The first step to identify historical fire weather days is selection of a single criterion that can be used to identify the most severe fire weather conditions in the NARR dataset. While there are many possibilities, a modification to the Fosberg Fire Weather Index (FFWI) [48] was selected. FFWI combines temperature, relative humidity, and wind speed into a single index ranging from 0 to 100, with 100 corresponding to a wind speed of 30 mph and fine fuel moisture content of 0%. The FFWI formula is presented as Equation 1:

$$\mathrm{FFWI} = \eta\sqrt{\left(1+U^2\right)} \tag{1}$$

where U is the 20-ft wind speed in miles per hour and η is a function of equilibrium moisture content, M_{eq}:

$$\eta = 1 - 2\left(\frac{M_{eq}}{30}\right) + 1.5\left(\frac{M_{eq}}{30}\right)^2 - 0.5\left(\frac{M_{eq}}{30}\right)^3 \tag{2}$$

In Equation 2, M_{eq} is calculated as [49, 50]:

$$M_{eq} = \begin{cases} 0.03 + 0.28 \times \mathrm{RH} - 0.00058 \times \mathrm{RH} \times \mathrm{T} & \text{for RH} < 10\% \\ 2.23 + 0.16 \times \mathrm{RH} - 0.0148 \times \mathrm{T} & \text{for } 10 \le \mathrm{RH} < 50\% \\ 21.1 - 0.4944 \times \mathrm{RH} + 0.00557 \times \mathrm{RH}^2 - 0.00035 \times \mathrm{RH} \times \mathrm{T} & \text{for RH} \ge 50\% \end{cases} \quad (3)$$

where RH is relative humidity in percent and T is temperature in °F.

FFWI is very sensitive to wind speed, and less sensitive to relative humidity and temperature. For example, FFWI is 80 for a wind speed of 50 mph and an equilibrium moisture content of 10%, but only 73 for a wind speed of 25 mph and an equilibrium moisture content of 2%. Ignition of a wildland fire and growth to threatening scales may be more likely under the latter conditions, but spread rates for an already established wildland fire could be higher under the former conditions.

It has been found that using a Fosberg Fire Weather Index (FFWI) could result in "off season" (generally, during the winter, *i.e.* after significant rains) days being falsely identified as fire weather days. To avoid these problems, a Modified Fosberg Fire Weather Index (MFFWI) is used in this work to identify wind events that occur simultaneously with low relative humidities and high temperatures. MFFWI is defined as follows:

$$\mathrm{MFFWI} = \mathrm{FFWI} \times \frac{P_{ign}}{100} \quad (4)$$

where P_{ign} is Schroeder's ember ignition probability [51] as given in Table 6 as a function of fuel temperature and fine fuel moisture content. The data were originally published [51] with temperatures in degrees Fahrenheit and this convention is retained here. It is seen that the ember ignition probability is strongly sensitive to moisture content, and less sensitive to temperature.

Table 6. Ignition probability by woody embers/firebrands as tabulated by Schroeder [51].

Fuel	*Fine Fuel Moisture Content (%)*														
Temp (F)	*1.5*	*2.0*	*2.5*	*3.0*	*4.0*	*5.0*	*6.0*	*7-8*	*9-10*	*11-12*	*13-16*	*17-20*	*21-25*	*26-30*	*>30*
30-39	87	80	74	69	59	51	43	34	25	17	10	4	1	0	0
40-49	89	83	77	71	61	53	45	36	26	18	11	5	1	0	0
50-59	92	85	79	73	63	54	47	37	27	20	11	5	2	0	0
60-69	94	88	81	76	65	56	49	39	29	21	12	6	2	0	0
70-79	97	90	84	78	68	59	51	41	30	22	13	6	2	0	0
80-89	100	93	87	81	70	61	53	42	31	23	14	7	2	1	0
90-99	100	96	90	84	73	63	55	44	33	24	15	7	3	1	0
100-109	100	99	93	86	75	66	57	46	35	26	16	8	3	1	0
110-119	100	100	96	89	78	68	59	48	36	27	17	9	3	1	0
120-129	100	100	99	93	81	71	62	51	38	29	18	9	4	1	0
130-139	100	100	100	96	84	74	65	53	40	30	20	10	4	1	0
140-149	100	100	100	99	87	77	67	55	42	32	21	11	5	2	0
150-159	100	100	100	100	90	80	70	58	45	34	22	12	5	2	0

First, 10 m wind components, 2 m temperature, and 2 m relative humidity are extracted from the NARR dataset and converted to GeoTiff files at 3-hour intervals from 1979 to 2019 (41 years). 10 m wind components were used to calculate 20 ft wind speed, in mph, and wind azimuth, in degrees. FFWI and MFFWI were then calculated at 3-hour intervals using the formulas presented above. Because rapidly spreading fires often cause significant damage in the first ~6 hours of a burn period, MFFWI values were averaged over a 6-hour period.

Next, the 6-hr average files were processed to determine the maximum 6-hr average MFFWI that occurred in a particular calendar day. Finally, for each 32 km by 32 km pixel in the NARR dataset, the ~15,000 (41 yr × 365 days/yr) daily maximum MFFWI values were sorted from high to low, with the date carried along and sorted analogously. These were then written to two (MFFWI and date) stacked GeoTiff rasters such that the first band contains the highest MFFWI value over 40 years and the date corresponding to the highest MFFWI. The second band contains the second highest MFFWI and date corresponding to that MFFWI, and so on.

With historical weather dates now identified, a 41-year (1979-2019) fire weather climatology was developed using the Weather Research and Forecasting (WRF) model to recreate historical days of fire weather significance across the analysis area. Approximately 200 days were included in this climatology, but for fire modeling purposes this data set was distilled to the most severe 50 days for a given location within the analysis area. High-resolution (1.2 km) hourly gridded fields of relative humidity, temperature, dead fuel moisture, and wind speed/direction were extracted from this analysis and provided as input to a Monte-Carlo-based fire modeling analysis.

5.4 Stochastic selection of ignition locations and wind/weather conditions

Reax generated GIS data depicting the locations of the four dams and the Klamath River. A 50-mile buffer was applied around these facilities data to create an "analysis area" where random ignitions are distributed within areas defined by the ignition mask layer (Figure 36). In the Monte-Carlo fire spread modeling analysis, 50% of the pixels within this buffer are ignited.

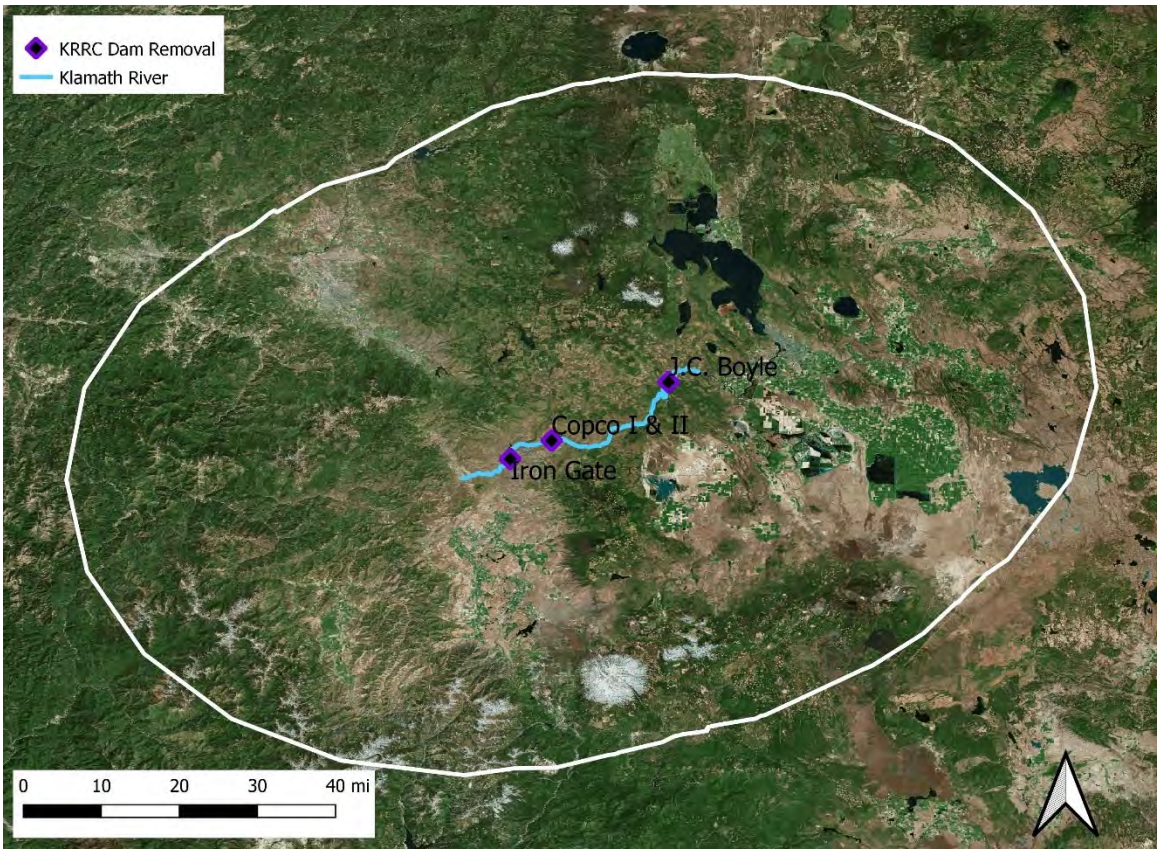


Figure 36. KRRC analysis area and ignition mask.

For each random ignition location, the weather stream is also selected randomly from the 50 most severe fire weather days (based on MFFWI) for that ignition location. Six hours of weather data, corresponding to approximately one burn period, are extracted from the fire weather stream and provided as input to the fire spread simulations.

5.5 Burn probability outputs

Burn probability is the likelihood that a point on the landscape will be impacted by fire during a given period of time, usually a year. By running ELMFIRE with stochastic ignition points and weather data burn probability for individual pixels can be determined. Providing the pre- and post-restoration fuel layers as input results in heatmaps of burn probability conditions before and after the removal of the dams and subsequent dewatering (Figure 37 - Figure 38). The primary region of change occurs in the reservoir basins where land previously covered by water was converted to vegetation. This change does not fundamentally alter the burn probability of the analysis area as a whole (Figure 39). Most importantly, regions with higher burn probability pre-restoration remain the same post-restoration and no new high burn probability regions are added. The burn probability calculated here does not incorporate MDS camera detections and therefore does not reflect any effect the cameras may have on burn probability.

This analysis will be updated to incorporate the detection and suppression effectiveness analyses described earlier in this report.

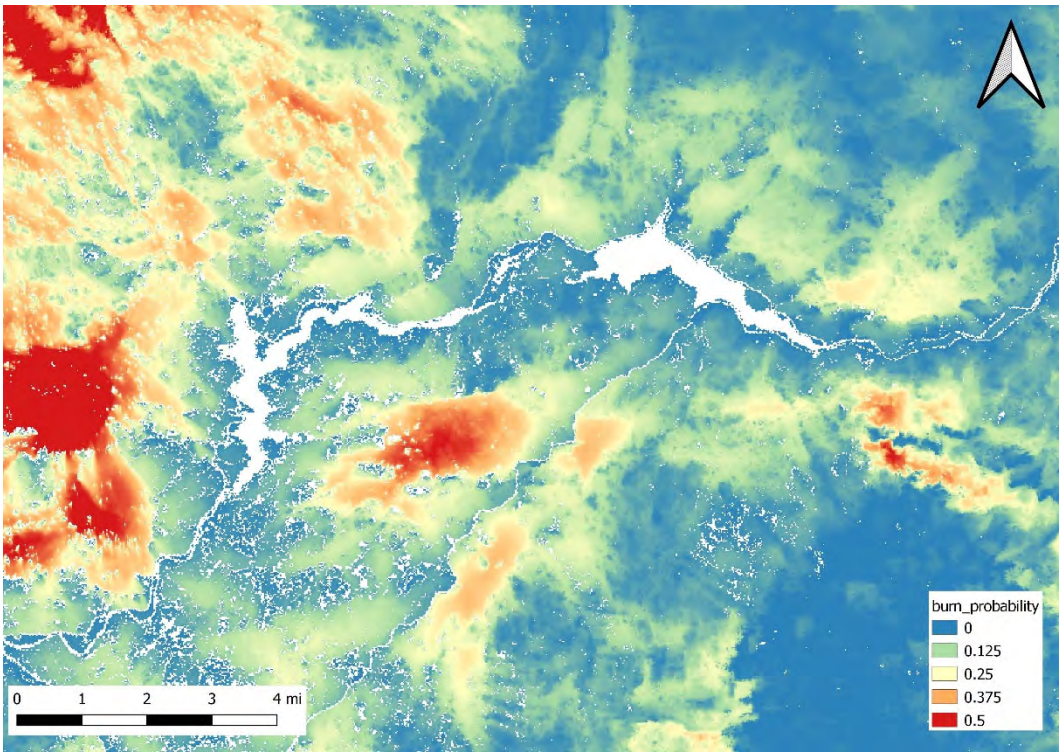


Figure 37. Pre-restoration burn probability.

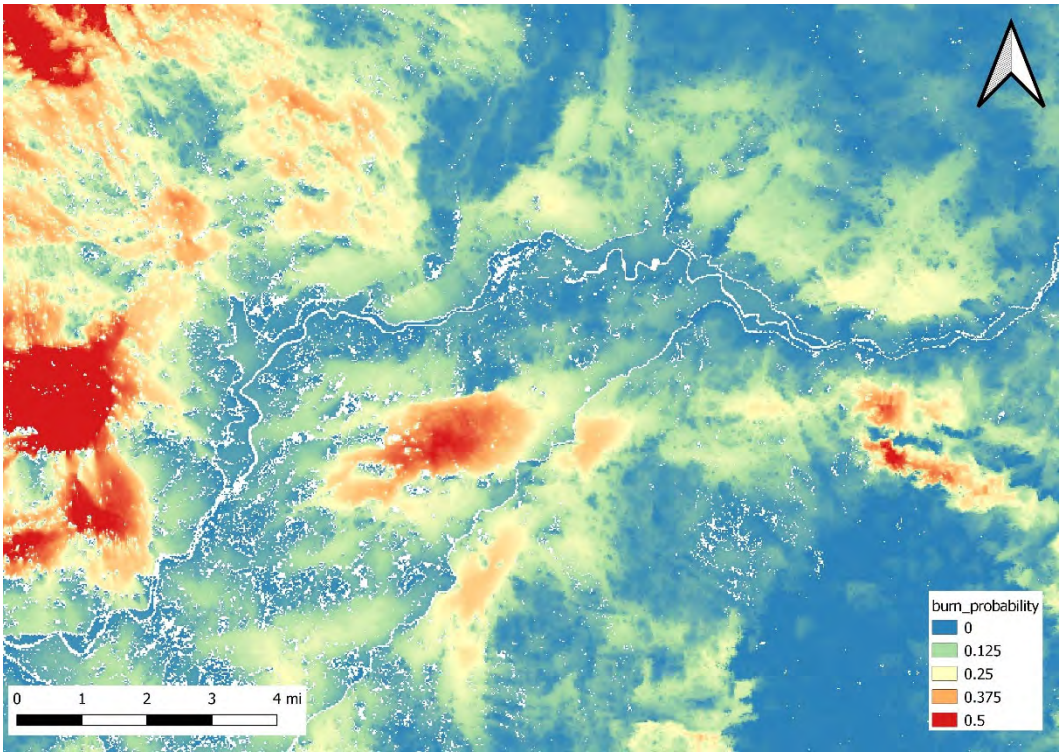


Figure 38. Post-restoration burn probability.

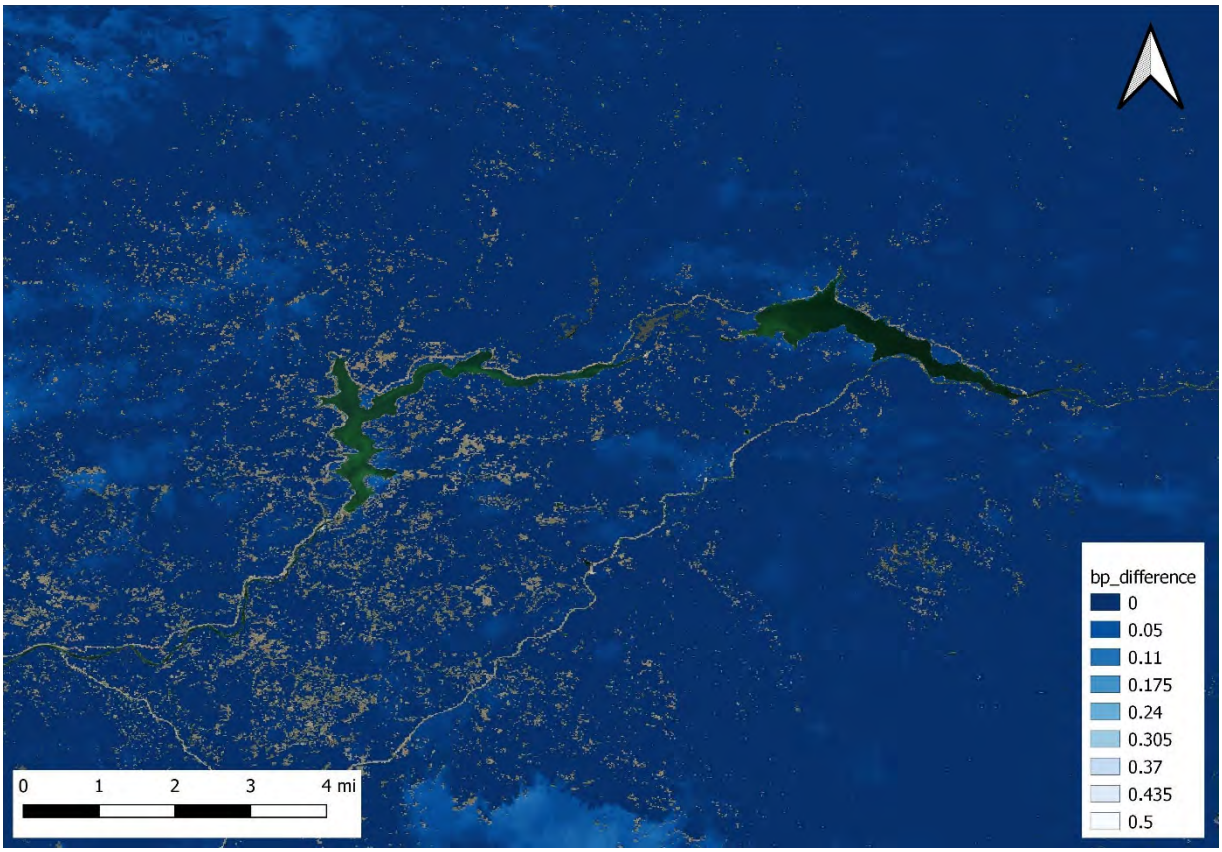


Figure 39. Difference between Pre- and Post-restoration burn probability.

6.0 CONCLUSIONS AND NEXT STEPS

The process of quantifying how the planned removal of four dams on the Klamath River will affect fire suppression capabilities and overall fire risk in the project area is ongoing. Despite the cumulative nature of the work, our analyses have led to some preliminary conclusions and recommendations:

1. Monte-Carlo fire spread modelling shows that dewatering of the project reservoirs and reclamation of approximately 1,000 acres of land will have a negligible effect on annual burn probability.
2. There will be no effective decrease in water availability for firefighting purposes following reservoir drawdown due to implementation of measures described in the November 2019 Draft Fire Management Plan. The convenience of the reservoirs may be impacted but the amount of water available should not be affected by dam removal. We recommend that portable water tanks be installed at several locations and are currently assessing whether installation of additional dry hydrants would be effective.
3. A viewshed analysis indicates that cameras will provide an effective means of early fire detection in the project area. Detection of most fires is expected at 0.1 acres or less. Installation of an additional camera on Mt. Ashland is recommended.

Moving forward, the ignition density maps and fire suppression methodology will be integrated with burn probability modelling. This analysis will be presented in the final report to be delivered in April 2020.

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CERTIFICATE OF SERVICE

I hereby certify that, on this 28th day of February 2020, I have served the public filing of Klamath River Renewal Corporation's Supplemental Response to Independent Board of Consultants' Recommendations; FERC Nos. P-2082-062; P-14803-000); NATDAM-OR00559, CA00323, CA00234, CA00325 via email containing a link thereto, or via U.S.P.S. if no email address was available, upon each person designated on the official service list compiled by the Secretary in these proceedings.

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