SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

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Principal Manager
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Filed Electronically

October 31, 2022

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

Subject: Bishop Creek Hydroelectric Project (FERC Project No. 1394-080) updated measures and supplemental analysis

Dear Secretary Bose:

On June 29, 2022, Southern California Edison Company (SCE) filed its final license application (FLA) for a new license for the Bishop Creek Hydroelectric Project (No. 1394). Since that filing, SCE has responded to FERC's additional information requests; provided draft cultural technical resource reports and a draft Historic Properties Management Plan; and provided progress reports on continued discussions with agencies around flow-related measures, sediment management plan and recreation management measures.

This filing provides FERC with the following updated Protection, Mitigation, and Enhancement (PME) measures:

- Revised measures related to water resources (PME-1) that include:
  - a revised proposal for minimum instream flows (MIFs) and
  - an additional measure that provides enhancements for biotic and abiotic conditions through operational responses to high flows in certain water-years

- An updated Sediment Management Plan (PME-2) that proposes a process for developing a compliance plan that will be necessary to ensure that turbidity standards of Water Quality Control Plan for the Lahontan Region (Basin Plan) are met during plan implementation.

- Minor updates to other PME measures to reflect the status of recently submitted plans.

Enclosure 1 to this letter updates and supplements the environmental analysis previously submitted with the FLA to reflect the revised flow measures. Attachments to the Enclosure contain an updated consultation record (as Attachment 1) and a revised Appendix B to Exhibit E of the FLA (PME measures) with revised management plans (as Attachment 2).

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Not included in this filing is a final Recreation Resources Management Plan (RRMP). This plan is in circulation with US Forest Service, with whom SCE has been actively coordinating around recreation needs at Project facilities. SCE anticipates providing FERC with the final RRMP by December 9, 2022.

SCE appreciates the consistent and collaborative effort from the agencies to develop measures that meet their resource objectives and SCE's operational needs.
Please contact Matthew Woodhall at (626) 302-9596 (matthew.woodhall@sce.com) with any questions or concerns.

Sincerely,

DocuSigned by:
Wayne Allen
106CF18A73D445F...

Wayne Allen
Principal Manager
Regulatory Support Services

Attachments:

Enclosures:	Technical Memorandum
	Attachment 1 – Consultation Record
	Attachment 2 – Revised Appendix B with appendices

ENCLOSURE:
Technical Memorandum with
Attachment 1: Consultation Record
Attachment 2: Revised Appendix E with attachments

MEMORANDUM

To: Federal Energy Regulatory Commission (P-1394-081)

From: Southern California Edison Relicensing Team

Date: October 31, 2022

Re: Supplemented Environmental Analysis

BACKGROUND

On June 29, 2022, Southern California Edison Company (SCE) filed its Final License Application (FLA) for a new license for the Bishop Creek Hydroelectric Project (No. 1394). Since the final filing of the FLA, SCE has continued to consult with stakeholders regarding proposed PMEs (Attachment 1). As a result of this consultation, SCE is submitting a Revised Appendix B to the FLA, PME Measures (Attachment 2). Stakeholder discussions have primarily centered around PME-1, Water Resources Management and PME-2, Sediment Management Plan. Based on these discussions and revisions, this memo amends and supplements the environmental analysis for specific sections of Exhibit E to the FLA as submitted June 2022.

PME-1 WATER MANAGEMENT

Revisions to this measure include i) modifications to the annual consultation process (PME-1.1); ii) changes to the proposed Minimum Instream Flows (MIFs) (PME-1.2); iii) minor modifications to the redd disruption measure (PME-1.3); iv) an adjustment to the timeframe for geomorphic flows (PME-1.4); and v).the addition of a new sub-measure (PME-1.5) that addresses recession flows and management of the descending limb of the hydrograph during certain water years. These changes were made in consultation with stakeholders (see Attachment 1).

PME-2 SEDIMENT MANAGEMENT PLAN

In consultation with The State Water Resources Control Board (SWRCB), SCE has made revisions to the Sediment Management Plan (PME-2) to better reflect necessary steps for development of a final plan (See revised measures, Attachment 2).

ENVIRONMENTAL ANALYSIS

A supplemental environmental analysis is included for the following sections of Exhibit E:

- 9.5.5 Potential Adverse Effects and Issues for Fish and Aquatic Resources
- 9.7.5 Potential Adverse Effects and Issues for Wetlands, Riparian, and Littoral Resources

9.5.5 FISH AND AQUATICS UPDATED EFFECTS ANALYSIS (REVISED)

The Bishop Creek Project reaches currently have minimum flows (MIFs) in place to ensure suitable habitat for brown trout and other resident fish species. As described in PME-1.2 of the Revised Appendix B, SCE is proposing seasonal or year-round modifications to MIFs in reaches 1, 3, 4, and 5. This section describes the potential changes to habitat as a result of the proposed MIFs as compared to the existing baseline.

Based on results of the fish and aquatics studies as described in Exhibit E to the FLA and because the Proposed Action anticipates neither significant changes to the MIF limits nor operational changes beyond those for PME measures, SCE has identified no significant impacts on resident fish or aquatic habitat in the Bishop Creek Project affected stream reaches, including current minimum instream flow releases and channel maintenance.

The minimum instream flows proposed under PME-1 will continue to support the habitat objectives and, in some cases, enhance the ability of the reaches to meet agency management objectives. Table 9.5-13 summarizes the percentage of maximum habitat suitability in each reach by the proposed MIFs.

Table 9.5-13. Percent of Maximum Habitat Suitability of Target Species and Life Stages Provided by MIF in Each Reach of the Bishop Creek Study Area

Study Reach	Owens Sucker		Brown Trout		Owens Speckled Dace (YoY)	Owens Speckled Dace Spawning	Brook Trout
	Juvenile	Adult	Juvenile	Adult			
Reach 1 (below Intake No. 6)	66	19	57	20	-	-	-
Reach 2 (below Intake No. 5)	86	28	88	15	-	-	-
Reach 3 (below Coyote Creek)	99	60	100	41	86	62	-
Reach 4 (below Intake No. 4)	-	-	79	61	-	-	-
Reach 5[1] (below Intake No. 3)	-	-	78	18	-	-	-
Reach 5[2] (below Intake No. 3)	-	-	69	13		-	
Reach 6[1] below South and Middle Fork confluence)	-	-	92	98	-	-	-
Reach 6[2] below South and Middle Fork confluence)	-	-	90	96	-	-	-
Reach 7[1] (below Intake No. 2)	-	-	72	8	-	-	-
Reach 7[2] (below Intake No. 2)	-	-	63	7	-	-	-
Reach 8[1] below Lake Sabrina	-	-	95	28	-	-	-
Reach 8[2] below Lake Sabrina	-	-	-	-	-	-	
Reach 9[1] below South Fork diversion	-	-	96	46	-	-	-
Reach 9[2] below South Fork diversion	-	-	99	36	-	-	
Reach 10[1] Below South Lake	-	-	93	65	-	-	-
Birch Creek	-	-	-	-	**90**		**76**
McGee Creek	-	-	-	-	**100**		**87**

[1] April – October
[2] November – April
[3] Braided Channel. This habitat was analyzed using the Habitat Criteria Method (HCM) approach.
Note: Reach 1 proposed MIF is below the calibration range of the model
Note: Table does not reflect dry years.

BISHOP CREEK REACH 1 (BELOW INTAKE 6)

Results from SCE's Fish Distribution Baseline Studies (AQ 3 and AQ 4) indicate that self-sustaining brown trout populations occur in segments of Bishop Creek below Bishop Creek Project reservoirs and bypass reaches. Although no Owens suckers or Owens

speckled dace were detected in Bishop Creek, the management priority for the three lowermost reaches (below Intake Nos. 4, 5 and 6) is for native species (represented by Owens sucker and Owens speckled dace), according to CDFW (Nick Buckmaster, personal communication).

Under the Proposed Action, the required MIF for Reach 1 (i.e., below Intake No. 6) is increased from zero to 5 cfs. This would result in 66 and 19 percent maximum suitability for the Owens sucker juveniles and adults, respectively. Brown trout juvenile and adult life stages would achieve 57 and 20 percent maximum habitat suitability, respectively. While this proposed MIF is below the calibration limits in the PHABSIM model, it would be expected to provide ecological benefits to this reach, in the absence of a formal native fish management plan or active native fish management. Additionally, PME-1.3 describes two, short term pulse flows on an annual basis (outside of dry years) in Reaches 1-4 during winter in an effort to disrupt redds established by non-native brown trout. Keeping these pulse flows short in duration, approximately 4-hours, the intent of this proposed enhancement is to support a native fish population in these reaches at the suggestion of CDFW. The precise timing of these pulse flows may vary annually and will be determined in consultation with CFDW.

BISHOP CREEK REACH 2 (BELOW INTAKE 5)

Results from AQ 3 in Reach 2 indicate that no native species (i.e., Owens suckers or Owens speckled dace) were detected, however, a self-sustaining brown trout population occurs in the reach. Under existing operations, flow in this reach is maintained at 18 cfs providing very good nursery habitat for most species, including 94 percent of maximum habitat suitability for juvenile Owens sucker, 41 percent for adult Owens sucker, 92 percent for juvenile brown trout, 23 percent for adult brown trout and 43 percent of maximum habitat suitability for Owens speckled dace (Kleinschmidt, 2022a).

No changes in MIF are included under the Proposed Action for this Reach. PME-1.3 does include two, short-term pulse flows on an annual basis (outside of dry years) in Reaches 1 to 4 during winter in an effort to disrupt redds established by non-native brown trout. Keeping these pulse flows short in duration, approximately 4-hours, the intent of this proposed enhancement is to support a native fish population in these reaches at the suggestion of CDFW. The precise timing of these pulse flows may vary annually and will be determined in consultation with CFDW.

BISHOP CREEK REACH 3 (BELOW BOTH THE CONFLUENCE WITH COYOTE CREEK AND INTAKE NO. 4)

Reach 3 is in a relatively inaccessible part of Bishop Creek. CDFW's management priority for this reach was initially self-sustaining brown trout; therefore, only brown trout were originally included in the flow needs assessment for this reach. This is a gaining reach: under existing operations, flow in this reach is released at the Intake No. 4 spillway and is supplemented by unregulated discharge from Coyote Creek, typically 3 cfs during summer months. SCE has historically released 5 cfs from Intake No. 4 which was

supplemented by the Coyote Creek inflows. Overall, this reach has poor public access and provides relatively limited habitat suitability for brown trout at any flow. However, current operational flows provide 99 percent of the available maximum habitat suitability for juvenile brown trout and 55 percent for adult brown trout (Kleinschmidt, 2022a).

Under the Proposed Action, SCE would effectively reduce the flows in this reach from 5 cfs to 2 cfs by releasing 2 cfs from the Intake No. 4 spillway. This release combined with the flow from Coyote Creek would provide 3 to 4 cfs to Reach 3 and would result in 99 and 60 percent maximum suitability for the Owens sucker juveniles and adults, respectively. Dace young of year and spawning life stages achieve 86 and 62 percent, and brown trout juveniles and adults would achieve 100 and 41 percent maximum habitat suitability, respectively. In designating this reach for native fish management, the CDFW indicated a desire to discourage trout spawning in this reach. For this reason, pulse flows to disrupt trout redds will be implemented in this Reach (PME-1.3); the precise timing of these pulse flows may vary annually and will be determined in consultation with CDFW.

BISHOP CREEK REACH 4 (BELOW INTAKE NO. 4 AND ABOVE THE CONFLUENCE WITH COYOTE CREEK)

Reach 4 is in an extremely inaccessible, high gradient part of Bishop Creek consisting mostly of cascades and plunge pools and is inaccessible to the public. Inflow to this reach results from releases at Intake No. 4. Under existing operations, flow in this reach provides 98 percent of maximum habitat suitability for juvenile brown trout and 85 percent for adult brown trout (Kleinschmidt, 2022a), and is not suitable for native fish species. CDFW indicated that this reach has inadequate public access and therefore does not lend itself to supporting a brown trout recreational fishery. Since this reach is adjacent to Reach 3 where native fish management is a higher priority, a change in flows to discourage trout may be warranted.

Under the Proposed Action, SCE is planning to reduce MIFs in this reach from 5 cfs to 1; because the Creek gains approximately 3 cfs from Coyote Creek as it enters reach 3. PME-1.3 also includes two, short-term pulse flows on an annual basis (outside of dry years) in Reaches 1-4 during winter in an effort to disrupt redds established by non-native brown trout. Keeping these pulse flows short in duration, approximately 4-hours, the intent of this proposed enhancement is to support a native fish population in these reaches at the suggestion of CDFW; the precise timing of these pulse flows may vary annually and will be determined in consultation with CFDW.

BISHOP CREEK REACH 5 (BELOW INTAKE NO. 3 SPILLWAY)

Reach 5 is in a publicly accessible part of Bishop Creek. Inflow to this reach is influenced by releases at Intake No. 3. CDFW's habitat management priority for this reach is brown trout, and the reach generally consists of shallow runs and riffles. Under existing operations, flow in this reach provides 76 percent of wetted useable area (WUA) for juvenile brown trout and 16 percent for adult brown trout (Kleinschmidt, 2022a).

Under the Proposed Action, SCE would keep the existing MIF (13 cfs) through the summer months (last Friday in April to October 31), when recreational angling is highest and reduce flows to 10 cfs in the winter. The winter flows would only slightly reduce WUA values and provide approximately 69 percent of maximum WUA for juvenile brown trout and 13 percent for adults. CDFW anticipates continuing to manage this area for recreational fishing through its stocking program.

BISHOP CREEK REACH 6 (BELOW THE CONFLUENCE OF THE SOUTH AND MIDDLE FORKS OF BISHOP CREEK)

Reach 6 is in a partially accessible part of Bishop Creek. Inflow to this reach is influenced by releases at both the South Fork diversion and the Intake No. 2 spillway on the Middle Fork Bishop Creek and is comprised of plunge pools, cascades, and steep rapids. CDFW's management priority for this reach is for self-sustaining brown trout populations. Under existing operations, flows in this reach provide approximately 90 percent of maximum habitat suitability for juvenile brown trout and 97 percent for adult brown trout (Kleinschmidt, 2022a).

Under the Proposed Action, SCE would continue to provide existing MIF of 20 cfs for the summer months (last Friday in April to October 31) and provide 14 cfs for the winter months. During dry years, SCE would provide 15 cfs for the summer months and 12 cfs in the winter. These revised flows would result in a slight increase in percent WUA for juvenile and adult brown trout to 92 and 98 percent, and a slight decrease during dry years to 90 and 96 percent, respectively.

BISHOP CREEK REACH 7 (MIDDLE FORK BELOW THE INTAKE NO. 2 SPILLWAY)

Reach 7 is a high gradient riffle reach in a partially accessible part of Bishop Creek. There are no pools and substrate is boulder-dominated. Inflow to this reach is influenced by releases at the Intake No. 2 spillway on the Middle Fork of Bishop Creek. CDFW's management priority for this reach is for self-sustaining brown trout populations. Under existing operations, flow in this reach is maintained seasonally (May through October) and slightly lowered the rest of the year. The maintained flow in May through October provides 69 percent of maximum habitat suitability for juvenile brown trout and 13 percent for adult brown trout; the flow outside these months provides approximately 65 percent of maximum habitat suitability for juvenile and 7 percent for adult brown trout (Kleinschmidt, 2022a).

Under the Proposed Action, flows in this reach would remain unchanged, from current seasonal flows (and dry year variation). SCE has identified no adverse effects relative to the baseline. No adverse effects on resident fish and aquatic habitat in Reach 7, including current minimum instream flow releases and channel maintenance relative to the baseline condition, were detected.

BISHOP CREEK REACH 8 (MIDDLE FORK BELOW THE LAKE SABRINA RESERVOIR)

Reach 8 is in a publicly accessible part of the Middle Fork of Bishop Creek. Inflow to this reach is influenced by releases from the Lake Sabrina reservoir. Habitat in this reach includes both moderate gradient riffle, pools and low gradient braided channels. The Fish and Aquatics Technical Working Group (TWG) chose riffle habitat for PHABSIM modeling. CDFW's management priority for this reach is for self-sustaining brown trout populations. Under existing operations, flow in this reach provides approximately 95 percent of optimal habitat suitability for juvenile brown trout. Adult suitability for brown trout remains limited due to a lack of suitable depths at most flows but rises gradually throughout the flow range (Kleinschmidt, 2022a).

Under the Proposed Action, SCE would continue to provide the existing MIF of 13 cfs year-round. Suitable habitat for brown trout would continue to be limited, and CDFW indicated it would continue to stock and manage for a recreational fishery.

BISHOP CREEK REACH 9 (SOUTH FORK BELOW THE SOUTH FORK DIVERSION)

Reach 9 is in a partially accessible part of the South Fork of Bishop Creek. Inflow to this reach is influenced by releases from the South Fork diversion to Intake No. 2. Most of the habitat in this reach is moderate to high gradient shallow riffles. CDFW's management priority for this reach is for self-sustaining brown trout populations. Under existing operations, flow in this reach is seasonally maintained similarly to Reach 7. The shallow fast flow in this reach provides limited overall suitability for brown trout at both life stages. The current seasonal flow maintained from May through October provides 96 percent of maximum habitat suitability for juvenile brown trout and 46 percent for adult brown trout and the flow outside those months provides approximately 100 percent of maximum habitat suitability for juvenile brown trout and 35 percent for adult brown trout (Kleinschmidt, 2022a).

Under the Proposed Action, SCE would continue to provide the existing MIF of 10 cfs for the summer months (last Friday in April to October 31) and provide 7 cfs for the winter months. The reduced lower flow in the winter would result in an increase to percent WUA for juvenile brown trout to 99 percent; suitable habitat for trout would be reduced from 46 percent WUA to 36 percent. It is anticipated that CDFW would continue to stock for a recreational fishery.

BISHOP CREEK REACH 10 SOUTH FORK BELOW THE SOUTH LAKE RESERVOIR)

Reach 10 is in an accessible part of the South Fork of Bishop Creek. Inflow to this reach is influenced by releases from the South Lake reservoir. Modeled habitat in this reach is low gradient runs, although there are also deep riverine pools and scattered riffles. CDFW's management priority for this reach is for self-sustaining brown trout populations. Juvenile brown trout habitat suitability is maximized at 6 to 8 cfs and decreases between at higher flows; as flows increase, velocity becomes progressively less suitable for this lifestage. The existing base flow in this reach provides approximately 90 percent of

optimal habitat. Adult suitability for brown trout increases linearly between 4 and 37 cfs and declines at higher flows (Kleinschmidt, 2022a).

BIRCH CREEK

Modeled habitat in this reach is moderate gradient alternating run and riffle habitat. CDFW's management priority for this reach is for self-sustaining brook trout and speckled dace populations. Under existing operations, flow in this reach provides 90 percent of maximum habitat suitability for speckled dace and 76 percent for adult brook trout (Kleinschmidt, 2022a).

Under the Proposed Action, flows in this reach of Birch Creek would remain unchanged, in normal and dry water-years. SCE identified no adverse effects on resident fish and aquatic habitat in Birch Creek, including current MIF releases and channel maintenance relative to the baseline condition. While agencies proposed some modified operations (Table 9.5-11 in Exhibit E to the FLA, as submitted on June 29,2022); the current MIFs appear adequate to meet identified objectives and no changes to the MIFs are proposed. During wet water years, SCE is proposing to close the diversion during the seasonally to allow the peak flows to remain in the natural channel. Agencies have requested this operational measure to opportunistically enhance downstream biotic and abiotic conditions at times when SCE's hydro operations would not otherwise be utilizing these waters because of high flows in Bishop Creek.

MCGEE CREEK

Modeled habitat in this reach is moderate gradient alternating run and riffle habitat. CDFW's management priority for this reach is for self-sustaining brook trout and speckled dace populations. Under existing operations, flow in this reach provides 100 percent of maximum habitat suitability for speckled dace and 87 percent for adult brook trout (Kleinschmidt, 2022a).

Under the Proposed Action, flows in this reach of McGee Creek would remain unchanged during dry and normal water-years. SCE identified no adverse effects on resident fish and aquatic habitat in Birch Creek, including current minimum instream flow releases and channel maintenance relative to the baseline condition. While agencies have proposed some modified operations (Table 9.5-11 in Exhibit E to the FLA, as submitted on June 29,2022); the current MIFs appear adequate to meet identified objectives and no changes to the MIFs are proposed except as follows: during wet water years, SCE is proposing to close the diversion seasonally to allow the peak flows to remain in the natural channel. Agencies have requested this operational measure to opportunistically enhance downstream biotic and abiotic conditions at times when SCE's hydro operations would not otherwise be utilizing these waters because of high flows in Bishop Creek.

9.7.5 RIPARIAN CONDITIONS UPDATED EFFECTS ANALYSIS (REVISED)

SCE, based on the water-year type, and the results of the Annual Meeting described in PME-1.1 in the Revised Appendix B, would implement measures to manage the recession rate of the descending limb of the of hydrograph for the benefit of biotic and abiotic resources in the Project reaches. Under the new license, the Bishop Creek Project would continue with its current existing O&M activities, as described in the Proposed Action (Section 6.0 of Exhibit E). No new construction is proposed. While no impacts to wetlands, riparian, and littoral resources relative to the baseline condition were identified, PME-1 (Appendix B) is a water management measure that describes modified MIFs (PME-1.2) and will manage wet-year hydrographs to provide for geomorphic flows (PME-1.4). The geomorphic flows are intended to enhance existing conditions in the reaches within which they occur. It is anticipated that they will provide overbank flows, promote riparian grown, provide flow diversity, as well as improve sediment mobility and fish habitat. PME-1.5, Recession Flows, is intended to foster enhanced riparian and ecological functions by implementing an operational measure that controls the recession rate of the descending limb of wet-year hydrographs.

One mechanism for addressing agency objectives, relative to riparian desired conditions, relates to the ecology and management of the spring snowmelt recession, as described by Yarnell et. al (2010). Conceptually, the biotic and abiotic factors that govern riverine processes are activated most efficiently by the recession rate of the spring run-off. To the extent that management of this recession rate is operationally viable within existing operational constraints by SCE (infrastructure and water-management) during spill events following the spring run-off, the ecology of the bypassed reaches may be enhanced by implementing measures as described in PME-1.5 (Appendix B).

As proposed in Section 9.7.5.3 of Exhibit E, alignment with desired conditions of the Inyo National Forest (INF) that relate to the riparian community functions could be achieved through systematic planned releases with due consideration of impacts on water quality and aquatic life, while avoiding impacts to Project operations or storage capacity (Section 9.7.5).

As with the current operations which did not demonstrate Project related effects, SCE does not anticipate impacts from the Proposed Action to black cottonwood outside the range of natural variations. However, in consultation with agencies and stakeholders, SCE is proposing two measures that seek to address the USFS and CDFW goal to "maintain natural sediment regime (i.e., input, transport, and storage) that promotes recruitment of cottonwoods and provides for a diverse river ecosystem[1]" among other benefits to the riparian community. PME-2 (Appendix B) is a Sediment Management Plan

[1] The USFS and CDFW presented their goals for sediment management and geomorphic flows at the March 1, 2022 TWG meeting. Two goals were presented that are relevant to PME 3; the first was "to Maintain natural sediment regime (i.e., input, transport and storage) that promotes recruitment of cottonwoods and provides for a diverse river ecosystem", and the second, to "Implement geomorphic and peak flows that would promote a natural river regime and provide for movement of sediment throughout the river system."

intended to enhance the existing riparian community, including black cottonwood, by facilitating the movement of sediment from the impoundments into bypass reaches. It is anticipated that the proposed sediment mobilization flows will mimic natural runoff pulses during wet years on specific schedules for each intake impoundment. These pulses and flows are intended to enhance natural patterns of sediment routing, which may provide additional benefits for cottonwood recruitment. PME-1.4 is a geomorphic flow that will be provided in wet years that will provide channel maintenance flows (i.e., overbank flows) to activate biotic and abiotic functions in the bypass reaches. Taken together these measures will enhance the riparian ecosystem functions to help meet agencies desired conditions.

Under the Proposed Action, SCE proposes to continue operation of the Bishop Creek Project in accordance with the terms and conditions of the existing license, while implementing new MIF requirements and other enhancements as specified in Revised Appendix B. PME-1.4 describes geomorphic flows to be provided during wet years, while PME-1.5 (recession flows) manages the ramp-down of the descending limb of the hydrograph to meet the objectives desired by agencies, consistent with Yarnell (2010). Annual consultation (PME-1.1) will provide opportunities to review the hydrograph and determine timing of the provided flows. It is anticipated that these flows will be beneficial and provide overbank flows, promote riparian growth, provide flow diversity, as well as improve sediment mobility and fish habitat in the reaches they occur. Geomorphic flows would be provided via the main spillway overflow at the intakes.

Additional enhancement and management measures relative to botanical resources are included in PME-5 (Botanical Resources Management Plan) and PME-6 (Invasive Species Management Plan).

REFERENCES

Kleinschmidt Associates (Kleinschmidt). 2022a. Final Technical Report, Bishop Creek Instream Flow Needs Assessment (AQ 1). Prepared for Southern California Edison and the Bishop Creek Hydroelectric Project. No. 1394. Filed with FERC January 27, 2022.

Nick Buckmaster, personal communication (2022). CDFW. Telephone discussion during February 10, 2022 Recreation Meeting.

Yarnell S., Viers, J. and Jeffrey Mount, 2010. Ecology and Management of the Spring Snowmelt Recession. BioScience; Volume 60, No. 2).

ATTACHMENT 1
CONSULTATION RECORD

From:	Leong, Tristan -FS
To:	Finlay Anderson; Marquez, Alyssa@Wildlife; Long, Garrett@Waterboards; Lawson, Beth@Wildlife; Bret Hoffman
Cc:	Tovar, Michael@Wildlife; Chandos, Amy@Wildlife; Matthew Woodhall; Lindsay Tryba; Michael Harty; Shannon Luoma
Subject:	RE: recession flows tables - error or I"m reading it wrong?
Date:	Friday, October 14, 2022 11:26:42 AM
Attachments:	image001.png image002.png image003.png image004.png

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The Forest discussed the flow proposal with CDFW. Conceptually we are in agreement with the proposal, though we are working through the language of how that might translate into a condition. We are comfortable with filing the progress achieved with FERC.

Tristan Leong
Hydroelectric Coordinator

Forest Service
Region 5 Public Services

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Caring for the land and serving people

From: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>
Sent: Friday, October 14, 2022 8:52 AM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>; Long, Garrett@Waterboards <Garrett.Long@Waterboards.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>
Cc: Leong, Tristan -FS <tristan.leong@usda.gov>; Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Chandos, Amy@Wildlife <Amy.Chandos@Wildlife.ca.gov>; Matthew Woodhall <matthew.woodhall@sce.com>; Lindsay Tryba <LTryba@kearnswest.com>; Michael Harty <jmharty@kearnswest.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: recession flows tables - error or I'm reading it wrong?

Thank you Alyssa! I am curious if the FS and the waterboard are able to provide similar support for filing the measure?

We appreciate everyone persistence collaboration to get this done!~

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Wednesday, October 12, 2022 3:37 PM
To: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Long, Garrett@Waterboards <Garrett.Long@Waterboards.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>
Cc: tristan.leong@usda.gov; Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Chandos, Amy@Wildlife <Amy.Chandos@Wildlife.ca.gov>; Matthew Woodhall <matthew.woodhall@sce.com>; Lindsay Tryba <LTryba@kearnswest.com>; Michael Harty <jmharty@kearnswest.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: recession flows tables - error or I'm reading it wrong?

Hi Finlay,

CDFW has discussed internally and we or okay to move forward with sending the revised PME-1 to FERC.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
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(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>
Sent: Sunday, October 9, 2022 12:23 PM
To: Long, Garrett@Waterboards <Garrett.Long@Waterboards.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>
Cc: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>; tristan.leong@usda.gov; Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Chandos, Amy@Wildlife <Amy.Chandos@Wildlife.ca.gov>; Matthew Woodhall <matthew.woodhall@sce.com>; Lindsay Tryba <LTryba@kearnswest.com>; Michael Harty <jmharty@kearnswest.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: recession flows tables - error or I'm reading it wrong?

Hi all –

In reviewing my notes, it's a bit unclear to me if/when SCE and the relicensing team can expect feedback on the language previously circulated. It was our understanding that you all were comfortable with the configuration and conceptual measure discussed at our last meeting, pending a review of the proposed language and a couple of the technical questions that were addressed

below. We would like to submit a revised PME-1 to FERC ASAP and would ideally like to include your concurrence.

Could agencies give us feedback this week?

Thanks

ATTACHMENT 2
FINAL LICENSE APPLICATION
APPENDIX B - PME MEASURES

NEW ENVIRONMENTAL MEASURES AND PLANS

The Protection, Mitigation and Enhancement (PME) measures described in this document are being proposed as a result of consultation with stakeholders and agencies, in addition to the effects analysis conducted as part of the relicensing process and presented in the Final License Application (FLA), which utilized results of the Technical Study Plans as approved by the Federal Energy Regulatory Commission (FERC) in 2019. Final Technical Reports for each study were included in Volume III of the FLA.

PME measures in this document are described in full detail where appropriate. For those plans that require additional space, a summary is provided here, and management plans are attached to this document in the following order:

- Phase 1 Sediment Management Plan (Attachment B1)
- Wildlife Management Plan (Attachment B2)
- Botanical Management Plan (Attachment B3)
- Invasive Management Plan (Attachment B4)
- Recreation Management Plan (Attachment B5) to be filed January 2023
- Kilowatt/Flow Relationship Tables (Attachment B6)
- Historic Properties Management Plan (filed as a confidential and privileged report on October 7, 2022)

PME-1: WATER RESOURCES MANAGEMENT

Implementation of the Water Resources Management PME-1 represents proposed measures related to management of water resources in the Bishop Creek Hydroelectric Project (Bishop Creek Project) area to address resource management objectives within operational constraints of the Project. There are four components to the measure:

1.1 ANNUAL CONSULTATION

Southern California Edison (SCE), the U.S. Forest Service (USFS), and the California Department of Fish and Wildlife CDFW (Agencies) will meet each year no later than April 15 to review SCE's proposed Summer Operation and Maintenance Plan for the Project facilities. This plan will address:

a. Construction and maintenance work that is earth disturbing in nature and is beyond simple maintenance work to include construction and maintenance of powerhouses, power line, penstocks, flowline, roads, dams and all other facilities.
b. Timing, duration, and magnitude of redd disruption flows in Paragraph 1.3.
c. Water management and implementation of geomorphic flows, based on the water-year type.

Management of flows and lake levels will be based on the forecast for the Owens River Basin compiled by the state of California on April 1 and the updated projected natural flows into South Lake and lake Sabrina. SCE will file a meeting summary of the annual meeting with FERC and the USFS for its concurrence.

Costs associated with the operation and maintenance (O&M), and generation costs of implementation are summarized in Exhibit D.

1.2 MINIMUM INSTREAM FLOWS

SCE conducted a new instream flow study during 2019 and 2020 in the Bishop Creek Project reaches. The goal of the instream flow study was to provide data to support evaluation of Project operations and existing minimum instream flows (MIFs) on aquatic resources such as fish, aquatic habitat and riparian vegetation. This Minimum Instream Flow measure reflects the results of the study and subsequent discussion with resource agencies through the Fish and Aquatics Technical Working Group (TWG). Agency proposed objectives for MIFs are summarized in Section 9.5.5 of Exhibit E, revised in the technical memorandum filed with FERC on October 31, 2022, along with anticipated effects of the Proposed Action.

Revised MIFs are intended to continue management of instream flow for the benefit of fish and aquatic resources, with some adjustments based on the results of the Instream Flow Habitat Assessment Study (AQ-1). Under the Proposed Action, SCE shall provide MIFs as described in Table 1.2-1, to support aquatic resources.

Table 1.2-1. Proposed Instream Flow Requirements[1,2]

Reach	Reach Description (Upstream to Downstream)	Minimum Flow (cfs)	Duration
Reach 10	South Lake to South Fork Diversion	13 cfs or natural flow, whichever is less	Year round
Reach 9	South Fork below South Fork Diversion	10 cfs or natural flow, whichever is less	Last Friday in April through October 31
		7 cfs or natural flow, whichever is less	November 1 through last Thursday in April
Reach 8	Lake Sabrina to Intake No. 2	13 cfs or natural flow, whichever is less	Year round
Reach 7	Below Intake No. 2 and above the confluence of the South Fork	10 cfs	Last Friday in April through October 31
		7 cfs	November 1 through last Thursday in April
		5 cfs	year-round in dry years*
Reach 6** Below the confluence of Bishop Creek South Fork and Middle Fork		20 cfs	Last Friday in April through October 31
		14 cfs	November 1 through last Thursday in April
		15 cfs	Last Friday in April through October 31 in dry years*
		12 cfs	November 1 through last Thursday in April in dry years*
Reach 5	Below Intake No. 3 (Plant No. 2 to Plant No. 3)	13 cfs	Last Friday in April through October 31
	Below Intake No. 3 (Plant 2 to Plant 3)	10 cfs	November 1 through last Thursday in April
Reach 4 and Reach 3	Below Intake No. 4 and confluence of Coyote Creek (Plant 3 to Plant 4)	5 cfs***	Year round
Reach 2	Below Intake No. 5 (Plant No. 4 to Plant No. 5)	12 cfs	Year round
Reach 1	Below Intake No. 6 (Plant 5 to Plant 6)	5 cfs	Year round
N/A	McGee Creek Diversion	1 cfs or natural flow, whichever is less	Year round
		Natural Flows	Seasonally during wet years****
N/A	Birch Creek Diversion	0.25 or natural flow, whichever is less	Year round
		Natural Flows	Seasonally during wet years****

[1] Proposed flows on a daily average following standard SCE QA/QC protocols.
[2] Compliance met when the mean daily flows are at least 90% of the applicable continuous flow release value in the table above, 90% of the time.
* Defined as “less than 75% of April 1 (normal) snow water equivalent”.

** The flows in the reach below the confluence of the Bishop Creek South Fork, and Middle Fork of Bishop Creek (Reach 6) are the sum of releases from Intake No. 2 and releases from the South Fork diversion; flows may vary when "natural inflow" conditions are met in the contributing reaches.

*** Receives an additional 3+ cfs inflow from Coyote Creek; SCE would release 2 cfs from Intake No. 4. Compliance would be measures per the 2 cfs release from Intake 4.

****Seasonal target window of June 1 to August 1 during wet years.

1.3 REDD DISRUPTION

To enhance native fisheries, SCE will initiate two short-duration pulse flow in Reach 1 through Reach 4, to disrupt redds that may be established by non-native brown trout. These flows will be provided annually except during dry years as defined in Paragraph 1.2 above. The timing, duration and magnitude of the flows will be the maximum bank-full flow 200 cfs for four hours in Reaches 1 through 4 but may be modified as described in Paragraph 1.1.

1.4 GEOMORPHIC FLOWS

A geomorphic flow would be provided between April and August to coincide with natural snowmelt runoff (determined as discussed during consultation described in Paragraph 1.1) during each wet year (defined as greater than 125 percent of the 30-year average). The geomorphic flow would consist of a peak discharge of 300 cubic feet per second (cfs) for at least 12 hours through the entire system. A minimum 12-hour flow ramp up period would occur prior to the peak discharge and a minimum 12-hour flow ramp down period would occur afterwards. It is anticipated that these flows will be beneficial and provide overbank flows, promote riparian growth, provide flow diversity, as well as improve sediment mobility and fish habitat in the reaches they occur within. Geomorphic flows would be provided via the main spillway overflow at the intakes.

1.5 RECESSION FLOWS

Based on the water-year type, and the results of the Annual Meeting described in Paragraph 1.1 above, SCE will implement measures to manage the recession rate of the descending limb of the of hydrograph for the benefit of biotic and abiotic resources in the Project reaches. SCE will provide the recession flows as follows:

A. Recession Flow Targets

The recession flows, when provided, will target the daily values, by reach, in Table 1.5-1 below, which reflects the greater of (1) a rate of 10% per day reduction from the bankful flow value established for each; or (2) daily target rate change of 5 cfs. The daily flow targets will be implemented in each reach until the target flow matches the MIF described in Paragraph 1.2 (above).

Table 1.5-1. Flow Value Targets (+/-5 cfs), by Day for Each Reach. Initial flows may exceed bankful flows in some reaches.

Day	Reach 10	Reach 9	Reach 8	Reach 7	Reach 6	Reach 5	Reach 4	Reach 3	Reach 2	Reach 1
Target Flows	110	110	110	129	129	129	163	163	148	60
1	140	110	110	129	239	141	180	185	179	175
2	129	99	99	116	215	129	163	168	152	148
3	119	89	89	104	193	116	147	152	148	128
4	110	80	80	94	174	104	132	137	133	110
5	102	72	72	85	157	94	119	124	120	94
6	95	65	65	77	142	85	107	112	108	80
7	89	59	59	69	128	77	96	101	97	68
8	83	53	53	62	115	69	86	91	87	60
9	78	48	48	56	104	62	77	82	78	54
10	73	43	43	50	93	56	69	74	70	49
11	68	38	38	45	83	50	62	67	63	44
12	63	33	33	40	73	45	56	61	57	39
13	58	28	28	35	63	40	50	55	51	34
14	53	23	23	30	53	35	45	50	46	29
15	48	18	18	25	43	30	40	45	41	24
16	43	13	13	20	33	25	35	40	36	19
17	40	10	13	15	25	20	30	35	31	14
18	40	10	13	10	20	15	25	30	26	9
19	40	10	13	10	20	13	20	25	21	4
20	40	10	13	10	20	13	15	20	16	2
21	40	10	13	10	20	13	10	15	12	2
22	40	10	13	10	20	13	5	10	12	2
23	40	10	13	10	20	13	2	7	12	2

B. Implementation of Recession Flows

Operationally, SCE may achieve the recession flows, within a range of plus or minus 5 cfs, utilizing either direct releases from Lake Sabrina and South Lake, and/or by managing plant output to provide target flows, or a combination of methods to ensure that flows are not down-ramped at a rate greater 10% or 5 cfs (whichever is greater). When adjusting flows to meet the target values, SCE will utilize 1) best available information about the relationship between each unit's kilowatts and flows (Attachment B-6) measurements at USGS Gage No. 10271200 (above Plant 6, Reach 1) and No. 10271060 (flows to Plant 6 for calculating total project releases; 3) flow exceedance values developed for unregulated contributions from North Fork of Bishop Creek and Coyote Creek. Geomorphic flows described in Paragraph 1.4 above are considered a separate flow event, but may be implemented in immediately preceding recession flows, as considered practical.

C. Water-Year Planning

The provision of flows in Table 1.5-1 above will be based the following year-type classifications:

> Wet Years: A Wet Year is defined as years where the forecasted water year is 125% of the normal water-year, based on the most recent 30-year average. In these years, SCE will provide the flows described in Table 1.5-1. If these conditions are met and a recession flow cannot be implemented, SCE will provide the Agencies with project-specific reasons for not implementing the flows.
>
> Normal Years: A Normal Year is defined as 75% to 124% of the normal water-year, based on the most recent 30-year average. SCE will provide agencies with a proposal for providing recession flows during a Normal Year if 1) no recession flows have been provided for two consecutive years; and 2) if the forecasted flow is at least 115% of the Normal Water Year. If these conditions are met and a recession flow cannot be implemented, SCE will provide the Agencies with project-specific reasons for not implementing the flows. If actual storage in the primary storage reservoirs is significantly lower than the forecasted storage at the start of the hydrograph, SCE may reinitiate consultation with Agencies to adjust the Plan.
>
> Dry Years: A Dry Year is defined as less than 75% of 30-year average. Recession flows will not be implemented during dry years.

PME-2: SEDIMENT MANAGEMENT PLAN (ATTACHMENT B1)

As outlined in Exhibit E, the Bishop Creek Sediment and Geomorphology Final Technical Report (Volume III) confirmed that the finer sediment (e.g., sand and gravel) in the bypass reaches of Bishop Creek accumulates in the Project impoundments and that the substrate in the bypass reaches is generally cobbles and boulders. As such, PME-2 is intended to better manage the geological and soil resources, in support of improved conditions for

fish and aquatic resources, including riparian communities, and consistent with O&M activities.

SCE has developed a Phase 1 Sediment Management Plan to improve the management of the geological and soil resources which describe the approach to transport sediment through Bishop Creek.

The Phase 1 Sediment Management Plan includes the following components:

- Development of a monitoring program to identify baseline turbidity characteristics in Project reaches
- A plan for developing a compliance approach to ensure that management of sediment meets the turbidity goals of the Lahontan Basin Plan
- A plan and schedule for developing a Phase 2 Sediment Management Plan that incorporates compliance measures and data recorded during the monitoring program
- An outline of the proposed schedule, duration, and magnitude of sediment management releases, along with a description of constraints that might influence how the program is implemented
- Details on the methods proposed for sediment management; including use of low-level outlets to draw down intake reservoirs to reintroduce sediments back into the bypass reaches of Bishop Creek
- An overview of the mechanical sediment removal (when necessary) for maintenance of low-level outlets and intake gates
- A description of coordination and consultation with downstream water managers

PME-3: STOCKING PLAN

As described in Section 9.9 of Exhibit E, enhancement of recreational fishing opportunities in the Project reservoirs would be consistent with the management objectives of the Forest Service and CDFW. CDFW currently stocks in both Lake Sabrina and South Lake and in Bishop Creek.

The purpose of this Plan is to 1) offset potential fish entrainment in the Bishop Creek Project and 2) enhance the existing recreational fishery resource.

SCE will stock 5,000 catchable trout[1], or its equivalent (not to exceed 2,500 pounds), for placement in the Project area annually; the location and timing for placement will be determined in consultation with CDFW. The 5,000 catchable trout may range in size and weight depending on availability of fish and needs identified through consultation.

SCE will use the following measures to implement this Plan:

[1] "Catchable trout" is understood to be between 6.0 and 1.0 fish per pound. Most frequently this will be 2.0 fish per pound (approximately 12 inches in length).

- Provide resouce agencies a proposal for annual stocking allotment to fullfil consultation obligation
- Obtain and release 5,000 catchable trout for stocking (or the equivelent of 2,500 pounds) in the Project area as approved in the annual proposal
- Obtain all required permits from relevant resource agencies prior to release of fish in Project reservoirs
- Submit a memorandum of stocking activity to FERC and CDFW within 30 days after distribution of fish in Project reservoirs

Fish will be transported to the release sites by a licensed vendor. SCE will release the stocked fish following proper fish-handling procedures and protocols.

PME-4: WILDLIFE RESOURCES MANAGEMENT PLAN (ATTACHMENT B2)

In 2019 and 2020, SCE completed a General Wildlife Survey. To protect wildlife resources from potential impacts associated with both routine and non-routine O&M activities within the FERC Project Boundary, SCE has developed a Wildlife Resources Management Plan (WRMP). This plan describes the following:

- Continued implementation of the Avian Protection Plan (APP)
- Continued implementation SCE's Nesting Bird Management Guidance (NBG) for Small Projects
- Continued implementation of Pre-Activity Nesting Bird and Raptor Surveys during the recognized nesting season, adjusted for altitude across the Project
- Continued maintenance of mule deer and other wildlife crossings and guzzlers
- Management and protective activities for at-risk wildlife species

Non-routine O&M or ground disturbing activities in riparian areas will continue to require pre-activity surveys for riparian birds and other special status wildlife, as well as replacement of lost habitat due to O&M activities. A description of those and similar requirements will be included in the WRMP for the Project.

The corporate-mandated APP incorporates relevant guidelines published by the Avian Power Line Interaction Committee (APLIC) and the U.S. Fish and Wildlife Service (USFWS) in 2005.

The 2019-2020 General Wildlife Survey revealed that no special status wildlife species were observed wintering, roosting, or nesting at the Project facilities. Additionally, during the 2019-2020 General Wildlife Survey, while bat species were found to use some powerhouses as summer day roosts, no winter roosting was found. Northern goshawk was confirmed nesting along Birch Creek but was not utilizing any Project facilities. Golden eagle and bald eagle were observed flying over the Project area.

PME-5: BOTANICAL RESOURCES MANAGEMENT PLAN (ATTACHMENT B3)

As outlined in Exhibit E, a total of six special status plant species were observed within the FERC Project boundary during surveys conducted in 2019 and 2020, one of which is a Forest Species of Conservation Concern (Frog's-bit buttercup [*Ranunculus hydrocharoides*]). The other five have special status rank with the California Native Plant Society. Database searches identified numerous additional special status plant species as having potential to occur but were not observed in 2019 or 2020. It is recognized that rarity or risk status for a species could change over time during the term of the new license. Given this information, the Botanical Resources Management Plan (BRMP) has been developed to include protection measures in the event that non-routine O&M activities may disturb or otherwise impact special status plants over the term of the new license.

An Implementation Plan for Mitigation of Impacts to Sensitive or Endangered Plant and Animal Species (SEPP) was prepared in 1995, after the existing license was issued. The BRMP supersedes SEPP and includes measures to project Rare, Threatened and Endangered (RTE) Species. Additional components to this BRMP include:

- An updated table of species known to occur, or with potential to occur, within the FERC Project boundary. The table summarizes the life history of each species (e.g., perennial, annual), season(s) when the species is most likely to be detected if field surveys are conducted, rarity/conservation status, habitat associations, and elevation ranges where each species has typically been observed (while recognizing that these ranges could change with climate change).
- Measures that could be implemented to avoid impacts, such as pre-activity field surveys conducted as early as reasonable ahead of the planned activity but still within the appropriate season(s) of detectability.
- Management and protective activities for at-risk botanical species.

PME-6: INVASIVE SPECIES MANAGEMENT PLAN (ATTACHMENT B4)

SCE conducted surveys in 2019 and 2020 to evaluate potential impacts to wildlife and botanical resources, which included a survey for invasive plants. The Invasive Species Management Plan (ISMP) maintains consistency with the Inyo National Forest 2019 Land Management Plan and provides guidance for both routine O&M projects and non-routine projects. The ISMP describes measures to achieve desired conditions for invasive species including information on the treatment or management of the spread of these species. ISMP components include:

- A list of invasive species known to occur within the FERC Project boundary, a brief summary of the life history of each that is relevant to control or eradication, and a priority rank for each (e.g., control versus eradication versus limiting dispersal).
- Description of SCE's current best management practices for preventing the introduction and dispersal of invasive species.

- Measures for control or eradication at specific target areas, e.g., populations of black locust (*Robinia pseudoacacia*).

PME-7: RECREATION RESOURCES MANAGEMENT PLAN (ATTACHMENT B5)

SCE conducted recreation facility and usage surveys in 2020 and 2021, respectively. Based on these study results, SCE has prepared a Recreation Resources Management Plan (RRMP) for the management of and benefit to recreation resources. The plan describes the development of an Implementation Plan and a schedule for measures that:

- Are consistent with area recreation needs.
- Ensure public access to Project-induced recreation facilities.
- Incorporate necessary lands within the Project boundary for Project-induced recreation purposes.
- Describe access to Project facilities that SCE will improve or restore to acceptable accessibility standards, as needed.
- Provide for proportional cost-sharing with the Forest Service to support recreational use where there is non-exclusive use.
- Create a structure retaining USFS management and operations through an operating agreement regarding the USFS facilities for which SCE is responsible. This financial management would be structured according to the most efficient distribution and use of funds.
- Address ways that SCE can collaborate with the USFS to manage prohibited activities around the reservoirs, which are primarily outside of the FERC Project boundary (e.g., dispersed camping in wilderness or below the high-water mark at Lake Sabrina and South Lake).

SCE intends for the Implementation Plan to be developed in consultation with the Inyo National Forest.

PME-8: HISTORIC PROPERTIES MANAGEMENT PLAN

From 2020 to 2021, SCE conducted cultural resource studies including archaeological, built environment, traditional cultural properties (TCP), and tribal cultural resources. SCE currently implements a Cultural Resources Management Plan and has developed a Historic Properties Management Plan (HPMP) for the Project. The HPMP considers the direct and indirect effects of continued Project O&M on the National Register of Historic Places (NRHP) listed or eligible Resources, including public recreation activities, which may have an adverse effect on historic properties.

The proposed HPMP includes guidelines for monitoring archaeological site conditions as well as PME measures to avoid, minimize, and/or mitigate direct and indirect effects to NRHP eligible or listed resources. The HPMP was filed on October 7, 2022 as a privileged document.

Attachment B1

Phase 1 Sediment Management Plan

SOUTHERN CALIFORNIA EDISON
Bishop Creek Hydroelectric Project
(FERC Project No. 1394)

PHASE 1 SEDIMENT MANAGEMENT PLAN

SOUTHERN CALIFORNIA EDISON®

An EDISON INTERNATIONAL® Company

OCTOBER 2022

SOUTHERN CALIFORNIA EDISON

Bishop Creek Hydroelectric Project

(FERC Project No. 1394)

PHASE 1 SEDIMENT MANAGEMENT PLAN

Southern California Edison
1515 Walnut Grove Ave
Rosemead, CA 91770

October 2022

Support from:

Kleinschmidt

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ACRONYMS

B

Basin Plan	Water Quality Control Plan for the Lahontan Region
BLM	Bureau of Land Management

C

CDFW	California Department of Fish and Wildlife
cfs	cubic feet per second

F

FERC	Federal Energy Regulatory Commission
FLA	Final License Application

I

INY	Inyo National Forest

K

kW	kilowatt

L

LADWP	Los Angeles Department of Water Programs
LLO	low level outlets

M

msl	mean sea level
MWh	megawatt hour

O

O&M	operations and maintenance

P

Plan	Sediment Management Plan
Project	Bishop Creek Hydroelectric Project

R

Regional Board	Lahontan Regional Water Quality Control Board

S

SCE	Southern California Edison
SWRCB	State Water Resources Control Board

U

USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This Phase 1 Sediment Management Plan (Phase 1 Plan) was developed for the Bishop Creek Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 1394 to accompany Southern California Edison's (SCE) application for a new FERC license. This Phase 1 Plan 1) identifies SCE's responsibilities for the management of sediment at Project facilities and through bypass reaches; 2) proposes an operational approach for implementing sediment management procedures and establishing baseline conditions; and 3) identifies information necessary to inform compliance requirements.

1.1 PROJECT LOCATION

The Project is located in the Owens Valley, along the eastern Sierra Nevada Mountains (Figure 1.1-1). Most of the basic hydro-generation facilities have been in existence since the early 1900s. The Project facilities include powerhouses[1], dams, impoundments (including South Lake and Lake Sabrina), diversions, weirs, outbuildings, valve houses, access roads, and a flowline. The Project's facilities are sited along Bishop Creek and its tributaries including South Fork, Middle Fork, and Green Creek, plus Birch Creek and McGee Creek north of Bishop Creek. Bishop, Birch, and McGee creeks are tributaries to the Owens River. Project facilities are located within the Inyo National Forest (INF) and the John Muir Wilderness (managed by the U.S. Forest Service [USFS]), and include lands managed by Bureau Land Management (BLM) and private lands. Subsequently, land uses adjacent to the Project are varied and include residential, grazing, public recreation, and federally-designated wilderness land, among others.

The Project area is one of moderate to steep ridge and valley topography. Elevations within the drainages range from approximately 4,000-feet above mean sea level (msl) to over 13,000-feet above msl. Bishop Creek is a major stream with a total drainage area of approximately 70 square-miles, flowing northeastward approximately 28 miles from its headwaters in the Sierra Nevada to its confluence with the Owens River at the city of Bishop. The North, Middle and South Forks of Bishop Creek originate in nearby glacial basins separated by ridges. South Lake and Lake Sabrina are the major storage reservoirs in the watershed.

The Project area supports upland vegetation communities and a mixture of floodplain, wetland, riparian, and littoral communities within and adjacent to Bishop Creek. Plant community types consist of alpine grasses and forbs, alpine mixed scrub, barren, bitterbrush, saltbush, curl-leaf mountain mahogany, Great Basin mixed scrub, rabbitbrush, basin sagebrush, Great Basin – desert mixed scrub, blackbush, eastside pine, annual grasses and forbs, perennial grasses and forbs, lodgepole pine, high desert mixed scrub, singleleaf pinyon pine, limber pine, canyon live oak, subalpine conifers,

[1] Note to reader – in this document, the term "powerhouse" is used as a general reference to the structure; however, when referencing a specific structure, the term "Plant" is used.

whitebark pine, wet meadows, riparian mixed hardwood, willow, quaking aspen, perennial lake or pond, water, and willow shrub (Psomas, 2020).

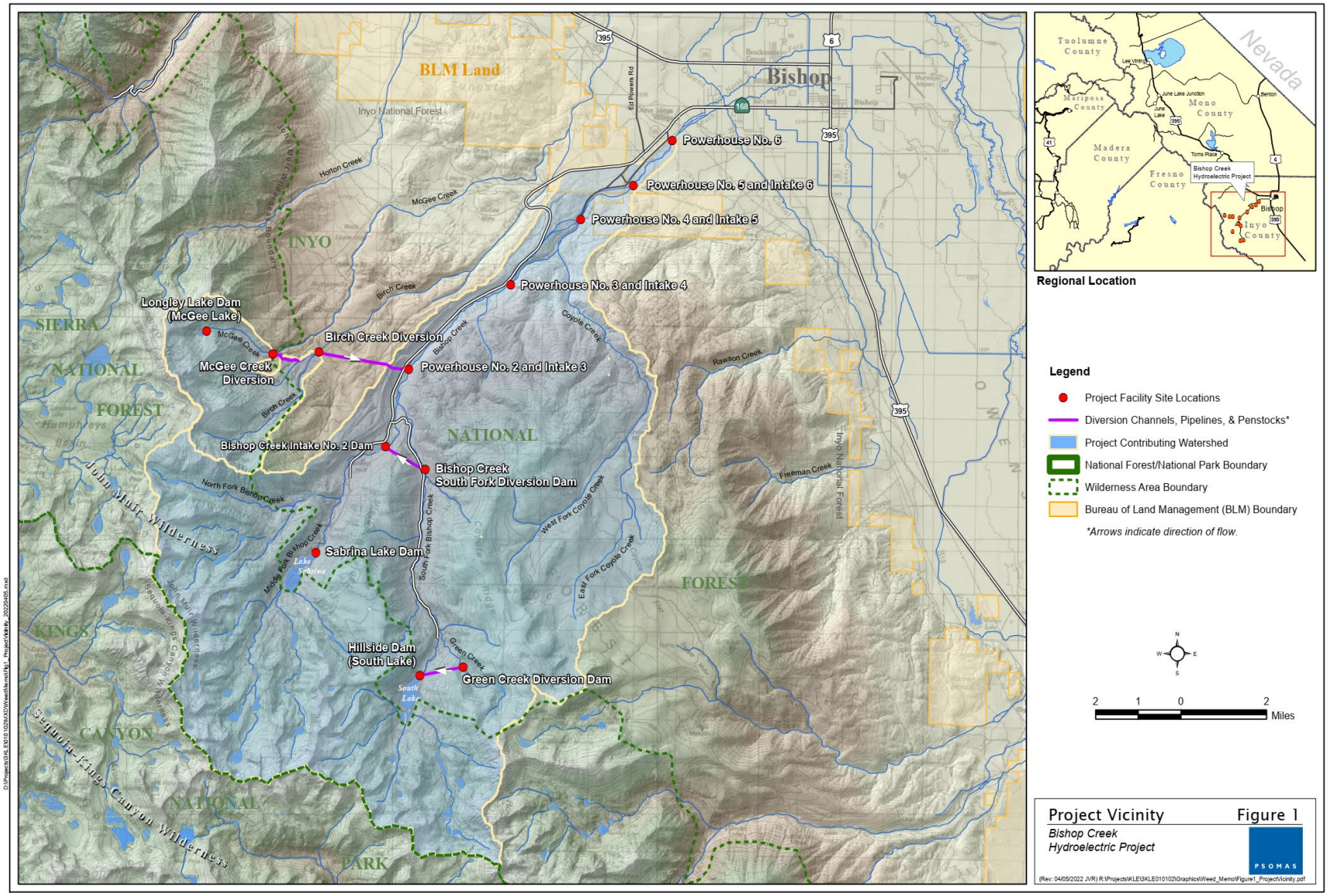

Figure 1.1-1 Project Vicinity.

1.2 PROJECT FACILITIES

Southern California Edison Company (SCE) is the licensee, owner, and operator of the Bishop Creek Project. The Bishop Creek Project consists of five developments: Power Plants No. 2 through No. 6 on the Middle Fork of Bishop Creek and three primary storage reservoirs that include South Lake, Lake Sabrina and Longley Lake (Figure 1.2-1).

The Project has a total of dependable generating capacity of 28,925 kilowatts (kW) and has an average annual energy production of 128,039 megawatt hours (MWh). Stored water is transported through a series of connecting flowlines and penstocks to the powerhouses and returned to the river through the tailrace at Plant No. 6. Under the existing Project license, the FERC Project boundary encompasses federal lands administered by either the U.S. Department of Agriculture (USDA) Forest Service or the BLM, and SCE-owned or private land. SCE does not propose any changes to Project O&M and does not propose any new construction.

For additional information regarding these features and their operations, please refer to Exhibit E of the 2022 Final License Application (FLA), available at www.ferc.com or www.sce.com/bishopcreek.

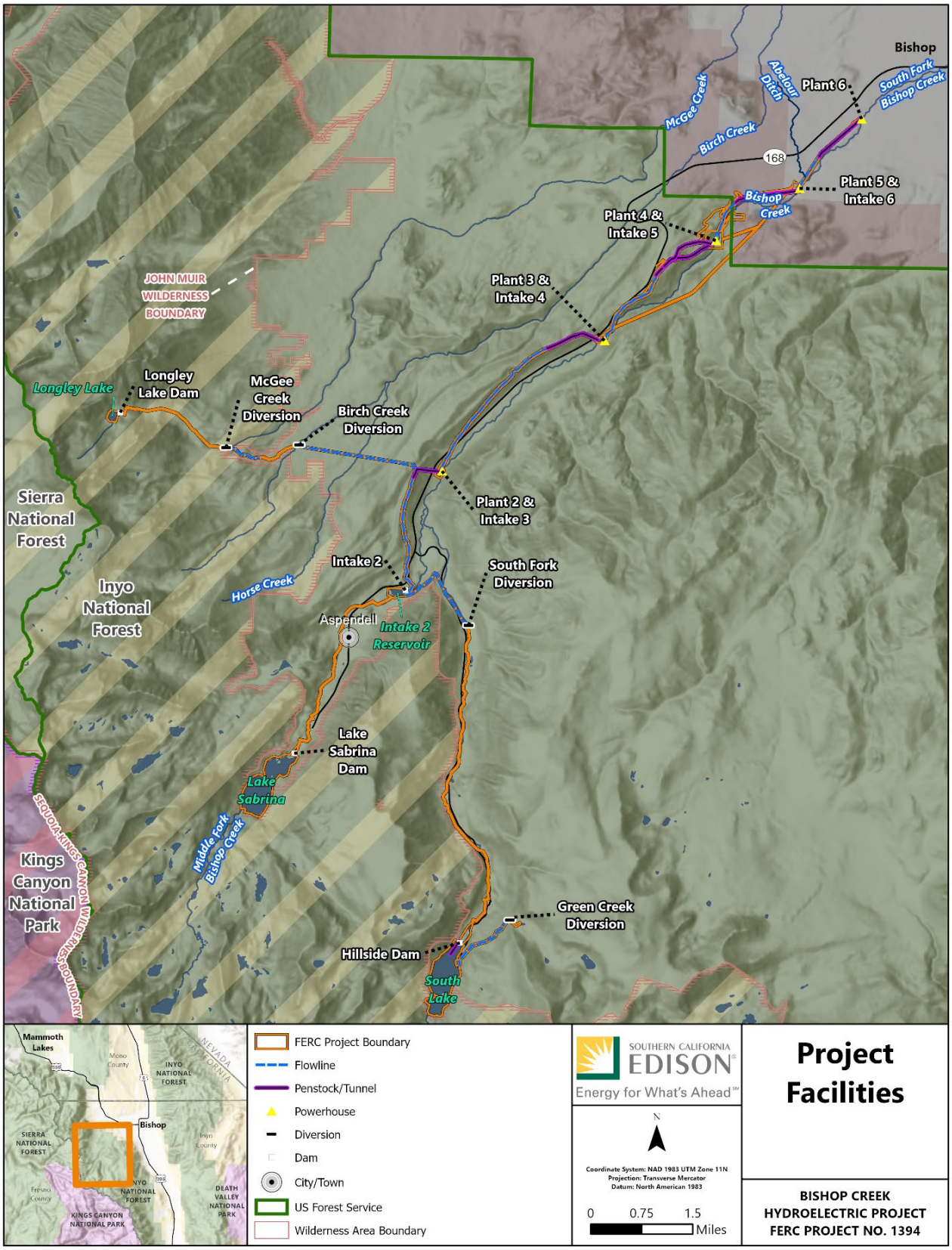

Figure 1.2-1 Bishop Creek Project Facilities.

1.3 EXISTING CONDITIONS AND FLOW DYNAMICS

The flow in Bishop Creek (also known as the bypass channel because it bypasses the powerhouses) is managed by regulatory requirements for in-stream flow and water supply to downstream users, with variations in these flow requirements throughout the year. The existing conditions include regulated flow contributions from storage reservoirs to the upper reaches of Bishop Creek, unregulated contributions from the North Fork tributary, and additional regulated flow contributions directly to the penstocks from Birch and McGee creek diversions. Two unregulated tributaries (Egypt Creek and Coyote Creek) enter the Project between Plant No. 2 and Plant No. 4. The flow within Bishop Creek (and total outflow from the Project) varies with inflow from the unregulated tributaries, uncontrolled spill from the reservoirs, and variability in generation; a summary of flow in Bishop Creek bypass reach just upstream of Plant No. 6 is provided in Figure 1.3-1.

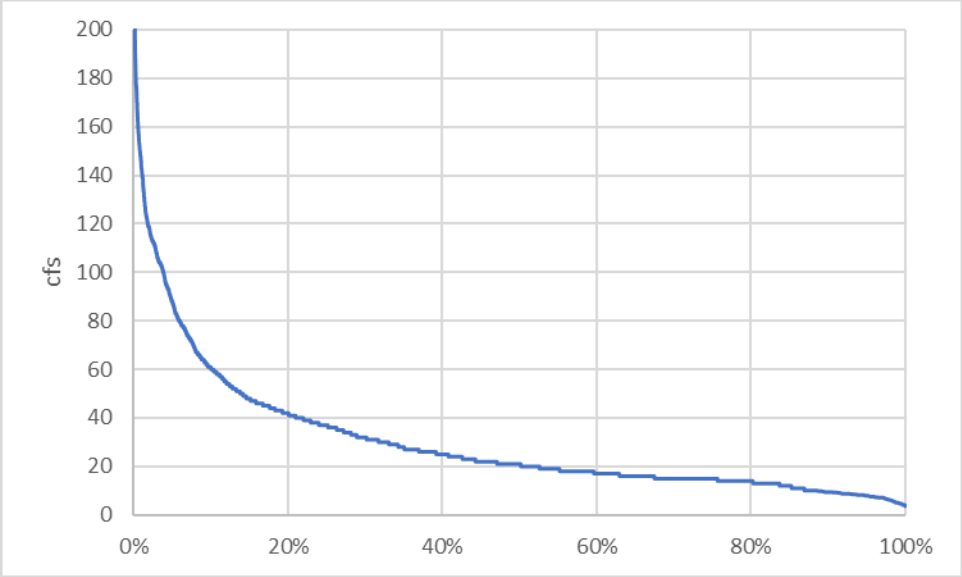

Figure 1.3-1 Bishop Creek Bypass Reach at Plant No. 6: Annual Flow Duration Curve Based on Daily Average Flows from October 1988 to October 2019 at USGS Gage 10270872.

The streamflow gages on Bishop Creek between Intake Reservoir No. 2 and No. 6 are not calibrated to flows above 30 cubic feet per second (cfs), so there is limited data on flows within these bypass reaches.

1.4 WATER YEAR CONSIDERATIONS

Plant operation is dictated by water availability. Both the 1922 Chandler Decree and the 1933 Sales Agreement (Sales Agreement) between Southern Sierra Power Company (a predecessor to SCE) and Los Angeles Department of Water Program (LADWP) form the

standard operations for which all regulations must be prioritized[2]. Rule curves that describe the general allocation of water for these constraints during mean, high- and low-water years are provided in Section 5.5 of Exhibit E of the FLA.

For purposes of planning and implementation of measures in this plan SCE defined wet, normal, and dry water year types as follows:

- Wet Year: 125 percent or more than 30-year average of summed snow course measurements
- Normal Year: Between 75 percent and 125 percent of 30-year average of summed snow course measurements
- Dry Year: 75 percent or less than 30-year average of summed snow course measurements

These are based on the sum of snow course measurements taken at Bishop Pass, Piute Pass, and East Piute Pass locations, in late March or early April annually. A review of historic records, on a 30-year moving period of record, indicate that the percent of water year types are represented as follows: wet (30 percent), normal (33 percent) and dry (37 percent).

[2] The Project water scheduling priority is based on the requirements of a 1922 water rights ruling (*Hillside Water Company v. Trickey et. al*., "Chandler Decree"). Wintertime flows are regulated by the 1933 Sales Agreement between the Southern Sierra Power Company and LADWP.

2.0 PURPOSE AND INTENT

During relicensing, resource agencies requested that SCE consider managing the sediment in Bishop Creek to more frequently release finer sediment into the bypass reach with the goal of providing benefits to macroinvertebrates, fish habitat/foraging, and riparian habitat. The existing substrate in Bishop Creek predominately consists of cobbles and boulders due to finer sediment (e.g., sand and gravel) being displaced by moderate flows and accumulating in Project impoundments.

The frequent release of sediment into the bypass reaches of Bishop Creek would reduce the need for mechanical sediment removal at the Project impoundments. Under the current license, SCE's sediment management activities are permitted on an individual basis. SCE would like to incorporate a process to move sediment throughout the system into the new license. However, in order to do so and meet agency objectives, a more complete understanding of how to comply with the Water Quality Control Plan for the Lahontan Region (Basin Plan) turbidity standards is needed.

This Phase 1 Plan describes a monitoring and evaluation approach for characterizing turbidity within the Project Area. This evaluation is necessary because the SWRCB has indicated that implementation of these measures would be hampered by a lack of baseline turbidity information for Bishop Creek.

The Phase 1 Plan includes the following components:

- An outline of the schedule, duration, and magnitude of flow releases to mobilize sediment, along with a description of variables that could influence how the program is implemented
- Detailed methods for the baseline turbidity characterization process and monitoring program
- Timing of consultation and development of compliance approach following the 2-year monitoring program
- A conceptual approach for sediment management; including the use of low-level outlets (LLOs) to draw down intake reservoirs to transport sediment through the bypass reaches of Bishop Creek (Attachment A)
- A description of coordination and consultation with agencies and downstream water managers

SCE will develop a Phase 2 Sediment Management Plan following completion of a 2-year turbidity monitoring program to identify baseline stream turbidity under a variety of temporal and flow conditions within the Project Area. The results of this baseline turbidity program will then inform discussions with the SWRCB and aid in developing a turbidity compliance approach to be included with the Phase 2 Sediment Management Plan.

2.1 OPERATIONAL NEEDS

Stream sediment deposits accumulate behind Project facilities (impoundment dams), diversions, intake structures, water measurement controls (flumes and weirs), and other structures. These deposits require periodic removal to maintain Project operations. Attachment A includes a conceptual approach and measures SCE could implement to manage sediment deposits

2.2 PRE-LICENSE CONSULTATION

This Phase 1 Plan was developed in consultation with agencies and stakeholders, including the USFS, CDFW, LADWP, and the State Water Resources Control Board (SWRCB). The USFS and CDFW presented general goals for sediment management and geomorphic flows (Refer to Consultation Record, FLA Appendix A for meeting materials). Of the goals presented, two relate directly to the development of this Phase 1 Plan.

Table 2.2-1. Relevant Agency Sediment Management Goals

Title	Goal	Proposal
Sediment Supplementation and Monitoring Plan	Maintain natural sediment regime (i.e., input, transport and storage) that promotes recruitment of cottonwoods and provides for a diverse river ecosystem	Develop a Sediment Supplementation and Monitoring Plan that incorporates mobilization of sediment from intakes back into the channel
Geomorphic and Peak Flows	Implement geomorphic and peak flows that would promote a natural river regime and provide for movement of sediment throughout the river system	Incorporate geomorphic and peak flows into the Sediment Supplementation and Monitoring Plan and use to promote other Project goals

Reach specific proposals presented by agencies included:

- Reach No. 5 (Bishop Creek below Intake No. 3):
    - Implementation of geomorphic flows and/or ramping rates
    - Movement of sediment into this reach by either sluicing or mechanical movement
- Reaches No. 4 and No. 3 (between Intake No. 4 reservoir and Intake No. 5 reservoir)
    - Physical movement of sediment into this reach by either sluicing or mechanical movement

2.2.1 SWRCB CONSULTATION

SCE and the SWRCB met three times following the filing of the Final License Application. During those conversations, the SWRCB provided comments on the draft Sediment Management Plan that was filed with the FLA. The comments were supportive of the goals and intent of the plan to address resource and operational needs and discussed information needs to ensure that Basin Plan turbidity standards are met during implementation. The revised approach outlined in this document is the results of those conversations. A Phase 2 Sediment Management Plan will be developed within two years after additional data is gathered regarding baseline turbidity in the Project reaches of Bishop Creek (Section 5.0).

3.0 GOALS AND OBJECTIVES

The primary objective of this Phase 1 Plan is to provide operational guidance to SCE staff and regulatory authorities on proposed procedures and activities that are necessary to implement and manage sediment removal of Project intakes, consistent with the Purpose and Intent described in Section 2.

The goals of this Phase 1 Plan include:

- Facilitate ongoing maintenance of Project facilities by providing a mechanism for sediment removal
- Provide an ecological benefit to downstream reaches by allowing sediment to mobilize into the stream
- Develop an approach to comply with the Basin Plan and other regulatory constraints (e.g., Chandler Decree)

4.0 INFRASTRUCTURE AND CONSTRAINTS

Bishop Creek Project is required to operate within certain legal, regulatory, and physical constraints as described below.

4.1 REGULATORY AND WATER RIGHTS CONSTRAINTS

SCE manages reservoir operations to support hydro-generation and water allocation requirements in accordance with the requirements of 1933 Sales Agreement and the 1922 Chandler Decree.

The Sales Agreement provides for seasonal maximum carry-over limits of 2,147 acre-feet, as measured on or about April 1, annually. Variances from this requirement have been obtained on a case-by-case basis in the past, by mutual-agreement between SCE and LADWP. Additionally, SCE meets with the USFS annually to determine seasonal minimum storage requirements.

The 1922 Chandler Decree and water rights determine how flows are allocated and used, as follows:

- Seasonal diversion and accumulation limit are not to exceed historically measured use (i.e., not to exceed current Project capacity), including an annual limit of 1400-acre feet from Green Creek

- Instantaneous diversion limits at all locations are not to exceed historically measured use (i.e., not to exceed current Project capacity), including a daily average limit of 1 cfs for domestic use[3]

- Minimum Project flow-through (downstream delivery) requirements, for senior downstream water rights holders, are measured below Plant No. 6, as required by the 1922 Chandler Decree Table 4.1-1.

- Minimum instream flow requirement of 0.25 cfs at the Birch Creek diversion, for senior downstream water rights holders, as stipulated by the 1922 Chandler Decree

- Minimum instream flow requirement of 1.6 cfs during the irrigation season (April-September), and 0.4 cfs at other times, through the Abelour Ditch, for senior downstream water rights holders in the Rocking K Subdivision

[3] Domestic water use includes indoor and outdoor uses at residences, and includes uses such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, water lawns and gardens, and maintaining pools (USGS, 2019).

Table 4.1-1. 1922 Chandler Decree Daily Average Flow Requirements Below Plant No. 6

Time Period	Daily Average Flow (cfs)	Instantaneous Minimum Flow (cfs)
April 1-15	44	33
April 16-30	68	51
May 1-15	87	65
May 16-31	98	74
June 1 - Jul 31	106	90
August 1-31	106	80
September 1-15	76	57
September 16-30	58	44

Source: Chandler Decree, 1922

4.1.1 LAHONTAN BASIN PLAN

The Bishop Creek Project is located in the Owens River watershed, which is under the jurisdiction of the Lahontan Regional Water Quality Control Board (Regional Board). The Water Quality Control Plan for the Lahontan Region (Basin Plan) sets forth water quality standards for surface and ground waters of the region, including both designated beneficial uses of water and the narrative and numerical objectives which must be maintained or attained to protect those uses (LRWQCB, 1995).

The current Basin Plan does not include baseline values for turbidity in the Bishop Creek system. It does, however, state that “Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent,” (LRWQCB, 1995). In order to maintain compliance with the Basin Plan, SCE must first identify, through the proposed monitoring program in Section 5.0, baseline turbidity values for the Project Area.

4.1.2 PHYSICAL INFRASTRUCTURE CONSTRAINTS

Existing Project infrastructure (dam/spillways, LLO, penstocks, diversion dams/ditches, and powerhouses) will be used to implement this Plan and no improvements or alterations to the existing infrastructure are necessary.

Intake No. 2 through Intake No. 5 each have a main spillway section that includes two 36-inch-diameter LLOs, while Intake No. 6, has a 36-inch and a 42-inch-diameter LLO. An estimated rating curve of the LLOs at each intake is included with this Plan, Attachment A. A summary of estimated LLO capacities is provided as Table 4.1-2.

Table 4.1-2. Infrastructure Details for Plant/Intake Nos. 2-6

Plant/Intake	Maximum Powerhouse Capacity (cfs)	Intake Impoundment Volume (ac-ft)	Estimated Low-Level Outlet Capacity (flow at full pond WSEL/flow for WSEL at top of LLO pipe)* (cfs)
2	120	78	350/85
3	164	6.4	250/70

Plant/Intake	Maximum Powerhouse Capacity (cfs)	Intake Impoundment Volume (ac-ft)	Estimated Low-Level Outlet Capacity (flow at full pond WSEL/flow for WSEL at top of LLO pipe)* (cfs)
4	125	12.8	290/75
5	131	6.3	310/70
6	148	5.5	250/95

Note: Capacity is only for the low-level outlet(s). Powerhouse intake infrastructure is separate and includes some drawdown capacity/ability to return flow to Bishop Creek, but the intake infrastructure is typically not used to pass “dirty” water to protect SCE infrastructure.

Low Level Outlets – Slide Gates

Each LLO is equipped with a manually operated slide gate (Figure 4.1-1). Slide gates are intended to function in the full open or full closed position but can be opened to varied degrees from approximately 30 percent open to fully open. Partial opening less than 30 percent open increases the risk of damage to infrastructure due to vibration. Since the slide gates are intended to primarily provide a means to drain the impoundments, they can only provide very coarse flow adjustments when partially open. Also, flows through a partially open gate are difficult to quantify due to intake geometry, constrictions, and potential for blockage. Therefore, estimates of LLO capacities were not made for partial gate opening.

Another limitation with the slide gate operations is the ability to measure the flow release from the partially open gate due to the limited network of downstream gaging locations. Further, not all bypass reaches have a gage right below the powerhouse, resulting in a substantial delay in time from the instance a slide gate is opened until the flow shows up on a gage downstream (sometimes at the next plant downstream, or over 7,500 feet downstream) Some locations have a flow gage that is accurate across the range of flows proposed in this Plan (e.g., bypass reach by Plant No. 6), while other gages are only calibrated up to approximately 30 cfs (e.g., bypass reach at Plant No. 2 through Plant No. 5). This will require an adjustment period where flows fluctuate above or below the target flow until the gate settings, flow releases, and generation flows are balanced to achieve the target flows stated in this Phase 1 Plan, as based on the available existing network of stream gages.

Abelour Ditch - Water Delivery Obligation

To meet obligations for downstream water users on the Abelour Ditch, water is continuously discharged from the system to the Abelour Ditch via Intake No. 6, with a backup discharge point from Intake No. 5. Thus, Intake No. 5 and Intake No. 6 cannot be offline at the same time because the Rocking K Subdivision would not receive their required water allocation.

Figure 4.1-1 Intake No. 5 Low-Level Outlet Slide Gate.

Low Level Outlet Inlet - Localized Sediment Transport

The transport of sediment from any of the impoundments would only occur in the immediate vicinity of the LLO inlet when the impoundment is full, due to low flow velocities that are present beyond the immediate vicinity of the inlet to the LLO. To mobilize sediment from the impoundments, the water surface elevation needs to be as low as possible to allow more of the sediment to be mobilized by higher velocity flows as the water travels along the bottom of the impoundment to the LLO inlet. Depending on the required flow through the LLO to meet downstream requirements, some ponding may occur to an elevation near or just above the top of the LLO pipe to achieve the head required to drive water through the LLO (Table 4.1-2).

Low Level Outlet Inlet - Blockage

Another physical constraint on the transport of sediment and passage of flow through the LLO is the potential for high debris loading to block the LLO. This is more likely at Intake No. 5, below the outlet of Coyote Creek, where more large woody material occurs. If the LLO becomes blocked during water and sediment release, current practice is to close that outlet and use grappling hooks or other means to manually remove the obstruction to restore flow.

5.0 BASELINE TURBIDITY CHARACTERIZATION

As the proposed sediment mobilization involves the release of sediment into the bypass reaches of Bishop Creek, it would be necessary to confirm that these releases and subsequent transport flows mobilize the sediment into the receiving water body. In order to not exceed the 10 percent threshold over baseline conditions as is identified in the Basin Plan, SCE must first implement a monitoring program to identify those baseline turbidity conditions.

SCE plans to implement the following turbidity characterization efforts to establish a baseline of information, as there is currently no turbidity data available for the range of flows within the Project reaches of Bishop Creek. The proposed methodology to characterize turbidity levels in Bishop Creek to inform future sediment management decisions is outlined below.

5.1 TURBIDITY MONITORING LOCATIONS

To integrate turbidity montioring across the Project Area, SCE proposes to monitor the following four locations within the watershed (Figure 5.1-1). the goal is to understand distribution of turbidity across Bishop Creek before the water enters an impoundment. Therefore, most of the sensors will be installed upstream of the impoundment for the next downstream structure, but one sensor will be installed just below an impoundment spillway to evaluate what, if any, changes in turbidity occur through the impoundment. Based on this monitoring, SCE will describe background turbidity for the entire Bishop Creek system within the Project area.

Table 5.1-1. Turbidity Monitoring Sites in the Project Area

Turbidity Monitoring Site	Location	Purpose
1	In Bypass Reach just upstream of Intake 4 impoundment	Monitor turbidity in higher gradient bypass reach section
2	In Bypass Reach downstream of Intake 4 impoundment spillway	Monitor turbidity immediately below impoundment to see what, if any, impact impoundment has on turbidity
3	In Bypass Reach just upstream of Intake 6 impoundment	Monitor turbidity in shallower gradient bypass reach section
4	In Bypass Reach just upstream of Plant 6 tailwater discharge	Monitor turbidity in bypass reach at downstream end of Project

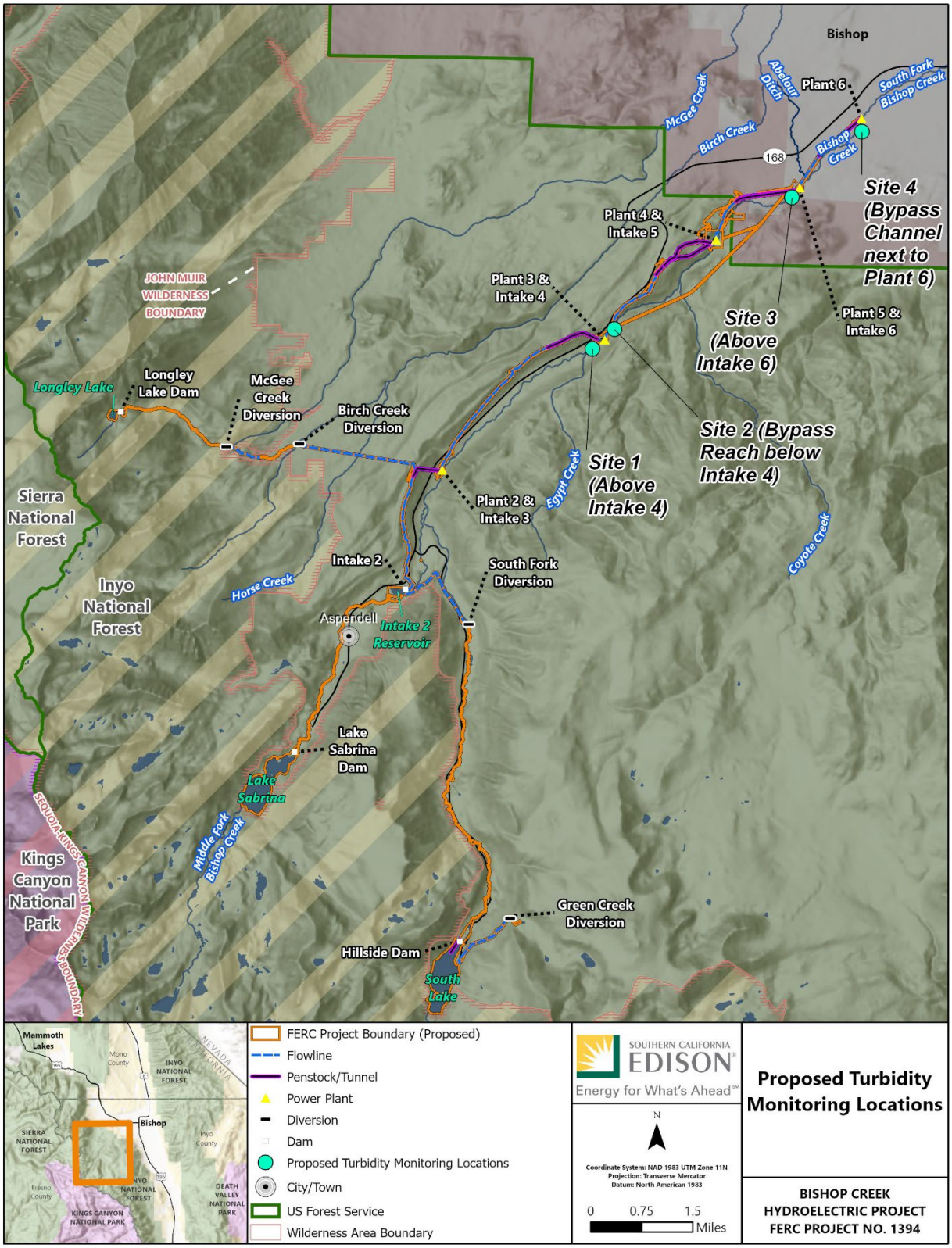

Figure 5.1-1 Proposed Turbidity Monitoring Locations Within Bishop Creek Watershed

5.2 SEASONALITY/WATER YEAR TYPE

In order to develop a sediment management plan that is in compliance with the Basin Plan, SCE will collect turbidity measurements at several locations (Figure 5.1-1) over a two-year period. SCE will deploy data loggers to attempt to capture the range of turbidity conditions in the Project Area, with a focus on understanding what the peak turbidity values are and when they occur. Collection of peak turbidity values during at least two types of water years is critical to understanding the turbidity fluctuations in the system. Therefore, this baseline data collection include two years of data, with at least one of the years being characterized as a “wet” year and one as either a “dry” or “normal” year (per Section 1.4). Ideally, this data will be collected in consecutive years, however if the second year of monitoring is predicted to be the same type of water year as the first year, monitoring will be suspended until a representative water year is forecasted (based on seasonal snowpack evaluated in March).

Most of the peak flow events (and anticipated peak turbidity values) in the Bishop Creek watershed are associated with snowmelt. Given that SCE desires to understand turbidity levels during the pre-snowmelt runoff period as well as during peak flow events, SCE will seek to deploy data loggers as early as is feasible in the spring, as the monitoring sites are accessible, ideally as early as late March of each monitoring year. Turbidity monitors are anticipated to be removed in approximately late November of each year, when historically flows have returned to a baseflow condition that is assumed to have minimal substantial change in turbidity over the winter months. Further, equipment maintenance (due to freezing) and site access are much more difficult in the winter, therefore those months are not intended to be monitored.

While two years of monitoring is provided in this plan, SCE may voluntarily continue turbidity monitoring beyond the minimum two years identified above, with the goal of better understanding the fluctuations of turbidity within this system. SCE may choose to supplement the baseline data with this additional monitoring in consultation with the SWRCB.

5.3 INSTRUMENTATION/PARAMETERS

The instrumentation used (data loggers/turbidity sensors) for the baseline turbidity monitoring will be selected based on its availability to sufficiently capture the expected variance in turbidity in the system (such as a YSI EXO2, YSI 6600, or YSI DSSPro, or similar). The data loggers are anticipated to include a commercially available turbidity sensor, sensor wiper unit to minimize fouling, and onboard data storage capacity. The measurement of turbidity will either be in formazin nephelometric units (FNU) or nephelometric turbidity units (NTU). The difference in FNU and NTU is based on the method of measurement, with FNU using a near infrared light source, while NTU measurement uses a white light source. Either is assumed to be acceptable to establish the baseline conditions for the Basin Plan. The sensors will be calibrated prior to initial deployment, and then re-checked (and recalibrated if needed) approximately monthly to minimize any sensor measurement drift.

The sensors will be deployed in a vented, protective cover (e.g., a PVC chamber with >30% voids in cover, or similar), attached to an immobile structure or rock. The sensor will be deployed so that it is under water during base flows, but also in an area that is well mixed during higher flows. As the sensor needs to be located to sample at base flow, it may be that it is sampling at less than 30% of the water column depth at higher flows; therefore, ensuring that it is properly located in an area of well-mixed water (but not in an area with substantial bed load movement at the elevation of the sensor) is critical to accurate readings at each station.

The sensors will be set to collect a turbidity reading approximately every 15 minutes, so that any first flush of turbidity that occurs on the rising limb of a hydrograph can be captured. The sensors will be downloaded approximately monthly to minimize loss of data if the sensor is damaged, stolen, or moved during a large flood event.

6.0 DEVELOPMENT OF COMPLIANCE APPROACH AND CONSULTATION

6.1 TURBIDITY COMPLIANCE APPROACH

Following the initial 2-year baseline characterization and monitoring outlined above (or longer if there is not a wet year in that period), SCE will analyze the data and work with the SWRCB to develop a turbidity compliance approach to ensure that implementation of the Phase 2 Sediment Management Plan is in compliance with the Basin Plan. Two to three meetings with the SWRCB would likely be held to discuss the proposed compliance approach.

6.1.1 APPROACH

The turbidity compliance approach will describe the baseline conditions and scenarios with which SCE could implement the Phase 2 Sediment Management Plan and maintain compliance with the Basin Plan. To do this, the turbidity compliance will include the following for review and approval by the SWRCB, prior to including this compliance information in the Phase 2 Sediment Management Plan:

- Overview of baseline conditions (as found during Baseline Turbidity Characterization)
- The location and frequency of turbidity monitoring during a planned sediment release
- Summary of the averaging period(s) to be used during monitoring of planned sediment releases
- Steps to be taken should turbidity thresholds be exceeded during a planned sediment release

6.1.2 PHASE 2 SEDIMENT MANAGEMENT PLAN

Following discussions with the SWRCB, and development of the turbidity compliance approach, SCE will develop a Phase 2 Sediment Management Plan that will include sediment release measures (Attachment A). This Phase 2 Plan would be developed in consultation with the SWRCB and relicensing parties, and then submitted to FERC for approval within two years of completing the baseline turbidity monitoring (Section 5.0). The Phase 2 Plan is anticipated to include minor revisions to Sections 1-4 of this Phase 1 Plan as well as the following additions or revisions to Sections 5-7 and the appendices of this plan:

- Overview of Basin Plan Requirements
- Summary of Baseline Turbidity Monitoring Results
- Newly created Turbidity Compliance Approach

- Updates to proposed measures in Attachment A based upon consultation and results of the monitoring program
- Updates to Post-Sediment Transport Release Monitoring in Attachment A based upon consultation and results of the monitoring
- Updates to Mechanical Sediment Removal in Attachment A based upon consultation and results of the monitoring
- Schedule for implementing Phase 2 Sediment Management Plan

6.2 REPORTING

At the annual agency meeting (PME-1.1), SCE will review seasonal snowpack data, propose a schedule for any monitoring, sediment mobilization, and transport or the mechanical removal for the upcoming year based on the anticipated water year type. This consultation would include a review of any past activities as submitted in the prior year's annual report. After there is agreement regarding SCE's proposal, SCE would formally inform USFS, CDFW, LADWP, and SWRCB of the planned activities in Bishop Creek for the given year as early as possible, but no later than May 15 of that year, allowing as much advance notice of any plant outages as possible.

Reporting after sediment releases shall be via a brief annual summary report covering each of the following activities that occurred in the prior year:

- Sediment mobilization and transport
- Mechanical removal of sediment

The report would be submitted electronically to USFS, CDFW, LADWP and SWRCB by June 30 of the year following the occurrence of the activity and shall include:

- Relevant data relating to the activity, including summary of consultation prior to activity (as required by the Phase 1 or Phase 2 Plan)
- When the activity (and sub-activities for sediment transport) occurred
- Flows prior to, during, and after the activity in the surrounding reaches (as available by existing stream gages)
- Results of any monitoring required for that activity (as identified in the Phase 1 or Phase 2 Plan)
- Comparison to prior activities of similar type (e.g., to historic cross sections and substrate for surveyed cross sections)

- Photographs of the activity
- Summary of past activities completed under the Phase 1 or Phase 2 Plans

7.0 REFERENCES

Chandler Decree 1922. Hillside Water Company v. William A. Trickey et.al, U.S. District Court, Southern Division of California (Northern Division), No. B-61 EQ, Final Decree in Equity (Chandler Decree), January 27, 1922 (Unreported).

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ATTACHMENT A

PROPOSED MEASURES FOR SEDIMENT MOBILIZATION AND TRANSPORT

1.0 SEDIMENT MOBILIZATION AND TRANSPORT MEASURE

Sediment mobilization and transport techniques will be used to initiate sediment movement from the Project impoundments Intakes No. 2 through No. 6 into the bypass reaches and transport sediment through the system with subsequent high flow releases.

1.1 TIMING AND SCHEDULE

SCE proposes to drawdown the impoundments during certain wet years to simulate natural sediment transport processes during those years to the bypass reaches. The first occurrence of sediment transport would occur during the first wet year following license issuance, with additional sediment transport occurring as agreed to during the annual Consultation Meeting (PME 1.1). Sediment transport is not required in all wet years but must be performed according to the frequencies outlined in Table 1.1-1. There shall be a maximum of one sediment transport event per intake per year, except when maintenance needs dictate a maintenance-related intake impoundment drawdown.

Table 1.1-1. Frequency of Sediment Transport Events for Intake No. 2 through Intake No. 6

Sites	Minimum Period between Sediment Management Activity	Maximum Period between Sediment Management Activity
Intake Impoundment No. 2	1 year	20 years
Intake Impoundment No. 3 through No. 6	1 year	10 years

Sediment mobilization from impoundments is planned for the early spring (April, timeframe) and transport of sediment from the Bishop Creek bypass reaches is planned for June-July. Transport of sediment from Bishop Creek is intended to correlate with and mimic the natural hydrograph that typically has peak snowmelt runoff at this time.

The sediment management release requires Project operations to control over Bishop Creek flow as described in Section 1.1.3.2 Sediment Mobilization and Transport Phases which would typically occurs in June. Chandler Decree flow requirements below Plant No. 6 begin in April and increase until the peak in early July.

1.2 COORDINATION WITH DOWNSTREAM USERS

As discussed previously, the Project's operation is dictated by water availability and regulatory constraints. Therefore, SCE will coordinate with LADWP to inform them of planned changes in flow, sediment releases, and power generation outages. This coordination shall be executed as early as practical to allow parties potentially affected to plan for the any changes associated with sediment transport activities.

1.3 SEDIMENT MOBILIZATION AND TRANSPORT PROCESS

The proposed sediment management process consists of an initial First Release in year one of implementation, followed by a five phase (0 through 5) process in subsequent implementation years, as described below.

1.3.1 FIRST RELEASE

Sediment Chemical Composition

Prior to implementation of the first sediment management event, SCE will collect a composite sample of the sediment from each forebay. The composite samples will be tested by a certified analytical laboratory for hazardous chemicals. The list of analytes for laboratory testing will be determined in consultation with the State Water Board and based on historical land management practices in the watershed that may have contributed hazardous materials. Laboratory results of the composite samples will be communicated with the resource agencies for review and to obtain concurrence that the sediment management activity may proceed.

Initial Sediment Volume

There is limited information on pre-construction impoundment bathymetry, precise volumes of sediment removed during prior removals, and the current sediment volume in the intake impoundments. Sediment volume estimates are provided in Table 1.3-2 and Table 1.3-3.

Table 1.3-1. Sedimentation Volume Estimate from Past Records

Intake Impoundment No.	Second-most Recent Recorded Mechanical Removal Year	Most-recent Recorded Mechanical Removal Year	Most-recent Recorded Mechanical Removal Volume (CY)	Estimated Average Sediment Deposition (CY/yr)
4	1982	2010	1,500	54
5	1982	2011	2,000	69
6	1982	2009	1,200	44
Average Sediment Deposition (CY/yr)				56

Table 1.3-2. Current Impoundment Sediment Volume Estimates

Intake Impoundment No.	Most-recent Recorded Mechanical Removal	Estimated Current Sediment Volume (CY)	Estimated Accumulated Sediment Volume at Minimum Frequency (CY)	Estimated Accumulated Sediment Volume at Maximum Frequency (CY)
2*	1990	1,792	56	1,120
3*	1982	2,240	56	560
4	2010	648	54	540
5	2011	759	69	690
6	2009	1,012	44	440

*Intakes No. 2 and No. 3 use the average sediment deposition from past records, although this may be low for Intake No. 2 (it is the uppermost impoundment in the system).

1.3.2 Sediment Mobilization and Transport Phases

The following describes the five phases to implement the sediment mobilization and transport management activity.

- Phase 0 (Normal Operation): The plants operate at near full capacity and providing the minimum instream flow release requirements. The impoundments are at full pond. Flow into the upstream reach is equal to or greater than the minimum instream flow requirement for the reach. Flow into the downstream stream reach is over the main spillway and equal to or greater than the minimum instream flow requirement for that reach.

- Phase 1 (Drawdown[1]): The objective of this phase is to lower the impoundment water surface elevation to expose the deposited sediments in preparation for mobilization of those sediments in Phase 2.

- Phase 2 (Sediment Mobilization): The objective of this phase is to mobilize sediments from the impoundment into the downstream reach of Bishop Creek, but not transport the sediment the entire way to the next downstream impoundment.

- Phase 3 (Impoundment Water-up): The objective of this phase is to refill the impoundment while maintaining downstream required flows. Flow in the

[1] SCE currently implements year-round protection measures in planning and carrying out operation and maintenance activities at Project sites. One such measure relevant to the Phase 1 (Drawdown) proposed in this Sediment Management Plan is fish rescue. In the process of draining a dam impoundment to allow for work in dry conditions, a fish rescue will be implemented. SCE will notify CDFW prior to moving any live fish from the impoundment to another suitable location and will provide personnel and equipment necessary to collect stranded fish from the impoundment as it is drained. Any stranded fish will be collected and immediately placed in an adjacent lake or waterway.

upstream reach is reduced to natural (unregulated tributaries), minimum instream flow, or minimum flow as required to meet downstream water user needs.

- Phase 4 (Flushing Flow): The objective of this phase is to mobilize the sediment from within the bypass reach below the impoundment to the receiving waters downstream during naturally high periods of flow (typically June/July timeframe). The upstream reach flow would be at natural flow (unregulated tributaries) or minimum instream flow.

1.4 MECHANICAL SEDIMENT REMOVAL MEASURE

Mechanical removal is the use of heavy equipment (e.g., bulldozer, excavator, dump trucks) to mobilize or remove sediment in the intake impoundments or bypass reaches of Bishop Creek. Any use of this heavy equipment would be over existing roads, grades, or sediment deposits, except where temporary fill is required to obtain access for mechanical sediment removal. Any temporary fill used for mechanical removal would be entirely removed post-mechanical removal and is anticipated to include either wood crane mats, stone placed over geotextile fabric, or other means as agreed to by consulting parties.

1.4.1 MECHANICAL REMOVAL IN THE IMPOUNDMENTS

Sediment and debris may require manual removal from the impoundments if it is not removed through efforts of Phases 0-4. This would include equipment entry into Intake Impoundment Nos. 2, 3, 4, 5, 6, and the South Fork diversion.

1.4.2 MECHANICAL REMOVAL AT INTAKE STRUCTURES AND WEIR PONDS

The following describes mechanical removal activities at intake structures and weir ponds that would be implemented on an as needed basis to maintain the operations of the facility. Such work is generally performed in the springtime to allow the later naturally higher flows to assist in the removal of sediment and debris. SCE would restrict mechanical sediment removal activity in the channel to an area no further upstream or downstream than necessary to perform the work. These sites are listed as follows.

- Bishop Creek channel above Plant No. 6 tailrace/inlet structure
- Bishop Creek below Intake No. 5 tailrace/inlet structure
- Bishop Creek below Intake No. 4 tailrace/inlet structure
- Bishop Creek below Intake No. 3 tailrace/inlet structure
- Birch Creek below Birch/McGee diversion inlet structure
- Middle Fork Bishop Creek below Lake Sabrina weir pond
- South Fork Bishop Creek below South Lake weir pond

- South Fork Diversion weir pond

1.4.3 Mechanical Movement of Sediment

Mechanical mobilization of sediment may be performed, at SCE's initiative, to mobilize deposited sediment from drained intake impoundments. This may include use of heavy machinery to cause the sediment in a partially drained impoundment to be mobilized into and through the LLOs for that impoundment during Phase 1 or Phase 2 of sediment transport. This mobilized sediment is expected to be deposited in the bypass reach of Bishop Creek downstream of that impoundment, for transport during the sediment transport flow (Phase 4). Any use of mechanical sediment removal as part of the sediment management would be communicated to downstream users as soon as possible prior to the sediment mobilization (target during initial spring consultation and planning for each year).

1.4.4 Disposition of Mechanically removed Sediment

Any sediment mechanically removed from the intake impoundments or bypass reach would be placed in an approved upland location near Bishop Creek Project, except where mechanical removal is initiated to mobilize sediment into the LLOs in an intake impoundment.

1.5 Monitoring Post-Sediment Transport Release

It is anticipated that the first sediment management event would likely mobilize more sediment than typical. Due to this, SCE proposes to begin qualitative sediment monitoring after second sediment transport event. If the monitoring results indicate an accumulation of sediments in the bypass reach (rather than transport through the reach), then SCE would discuss the need for additional effectiveness monitoring with the resource agencies.

The purpose of this Sediment Management Plan is to move sediment throughout the Bishop Creek system, both at the request of agencies and to support SCE operation activities. The proposed monitoring after a sediment transport activity would consist of a visual qualitative survey of the bypass reaches to observe if sediment deposition occurred.

1.5.1 Qualitative Evaluation

The qualitative evaluation would include an observer walking along the entire reach (or use of a drone) between the impoundment from where sediment was released and the next impoundment downstream to visually observe if depositional bars, areas of recent sediment deposition, or other signs of sediment deposits or mobilization occur along the reach. The observer would assign an estimate of percent of the bed covered by each major substrate class (e.g., silt, sand, gravel, cobble, boulder) for the entire bypass reach and report these estimates in the annual report. The number of major depositional areas observed during this survey would be noted and included in the annual report. The expectation is that after the sediment release (Phases 1-3) the substrate would be finer

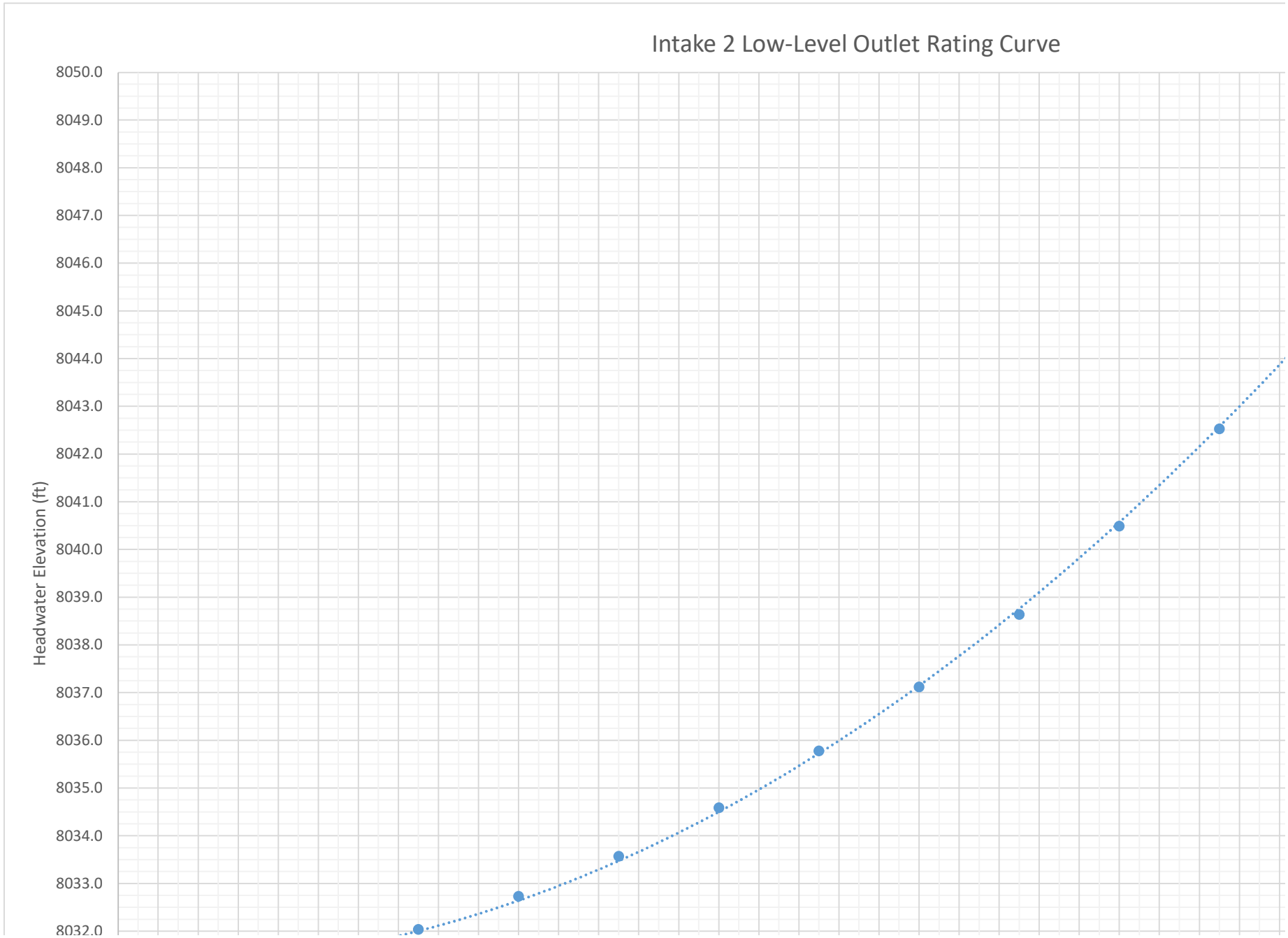
than the initial survey, and after the mobilization flow (Phase 4), the substrate would return to similar conditions as the initial survey. For each sediment management event at each intake (when Quantitative Evaluations are performed) a total of three surveys will be completed on the same timeline as the Quantitative Evaluation.

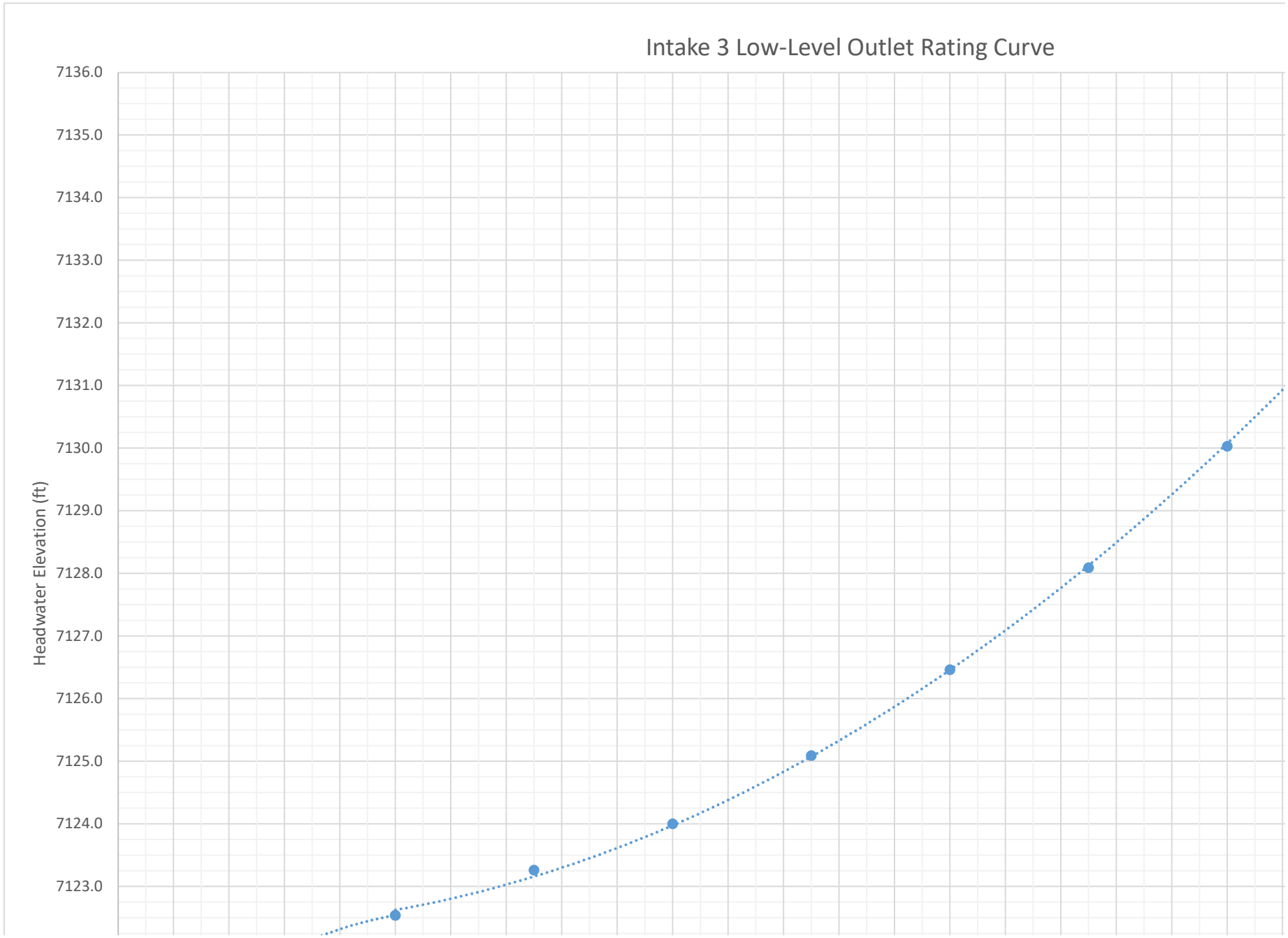
1.6 MECHANICAL SEDIMENT REMOVAL MONITORING

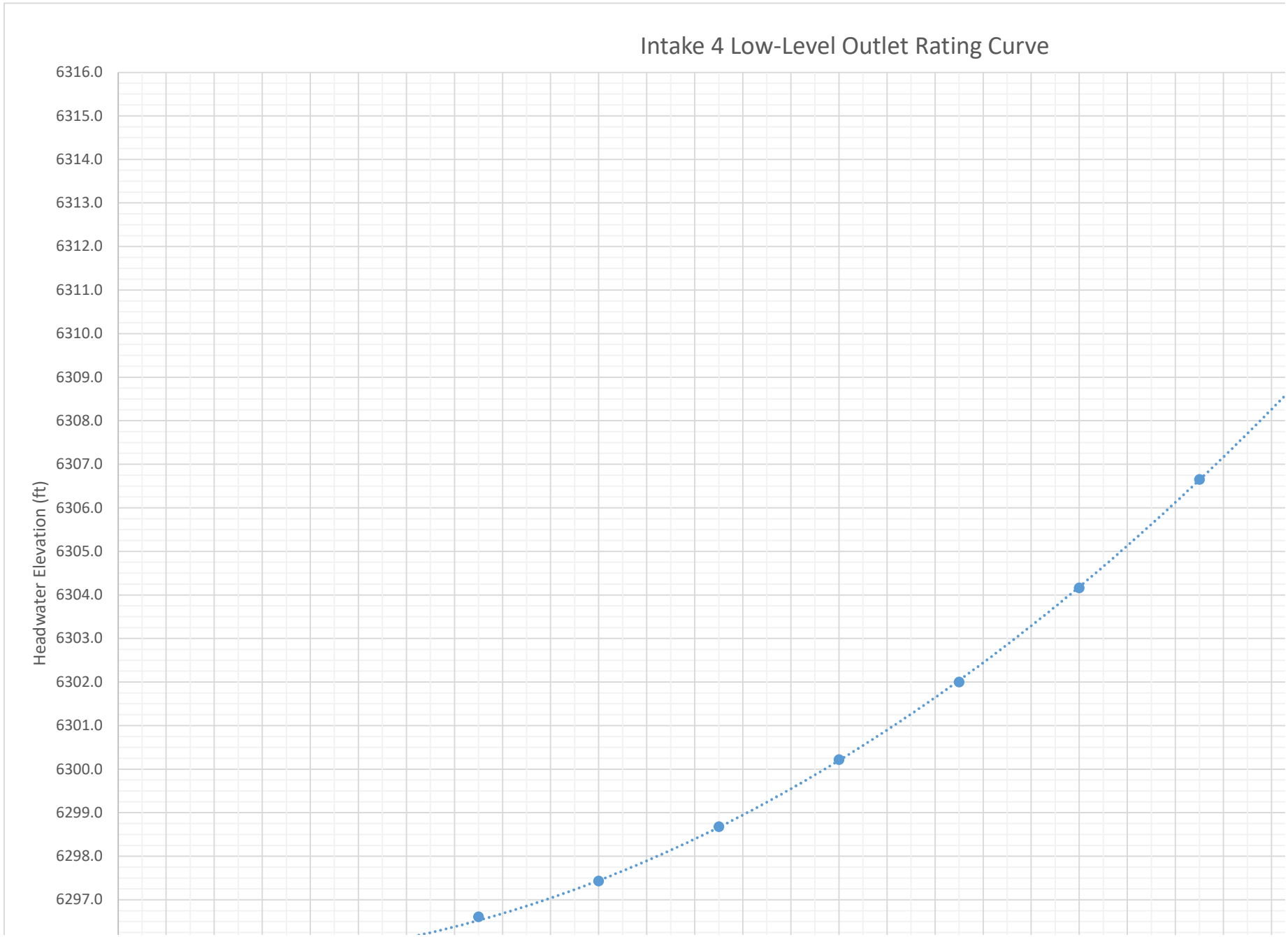
No sediment monitoring is proposed during the mechanical removal from the impoundments, inlet structures or weir ponds. Mechanical removal is expected to be over a limited extent of the bypass reach or within an intake impoundment for an extremely short duration, with the intent being to remove sediment from an area that is required to maintain Project operation, perform Project maintenance, or maintain accurate gaging of Project flows.

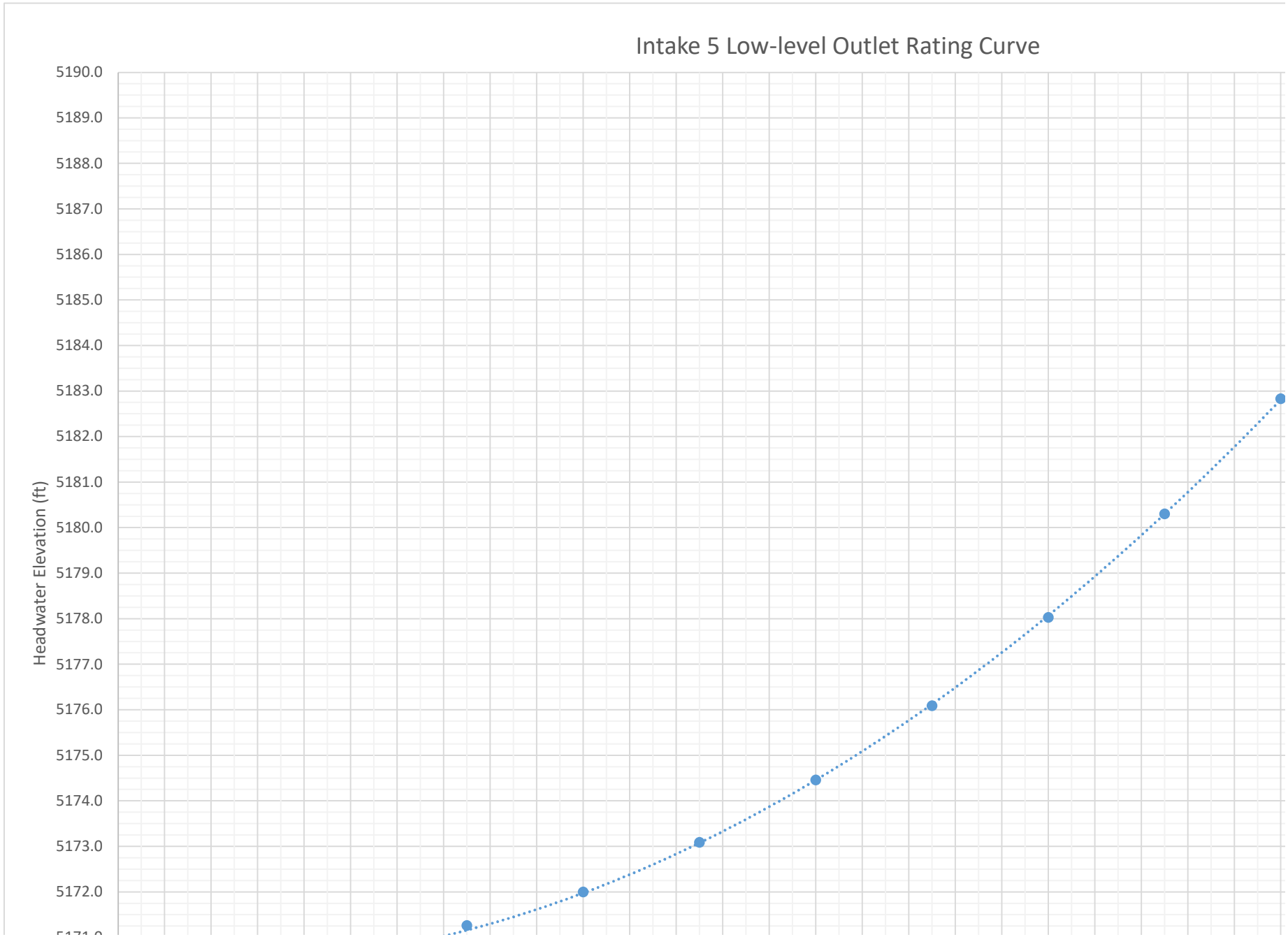
ATTACHMENT B

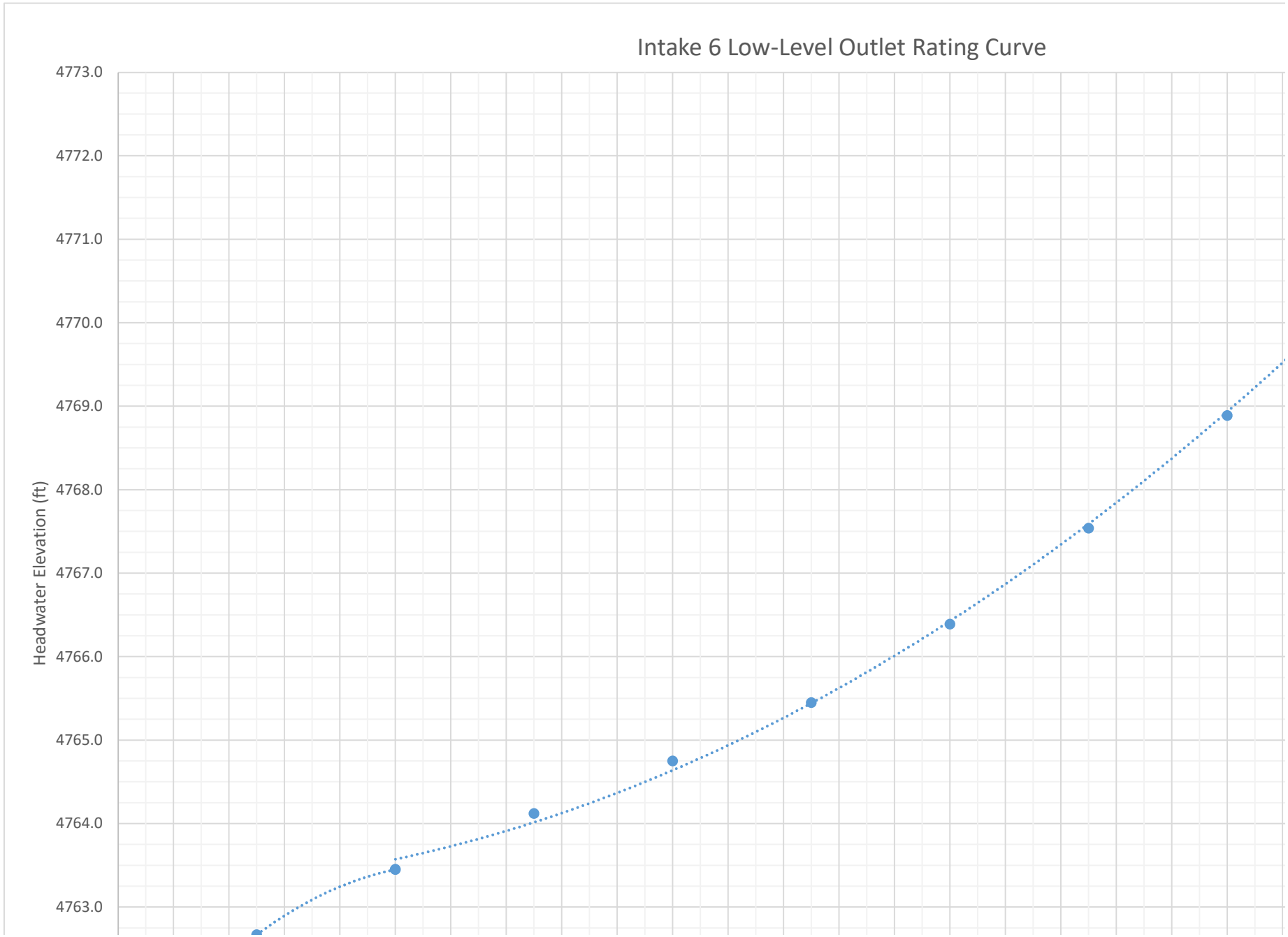
ESTIMATED RATING CURVE OF THE LOW-LEVEL OUTLETS AT EACH INTAKE


Intake 2 Low-Level Outlet Rating Curve
Headwater Elevation (ft)
8050.0
8049.0
8048.0
8047.0
8046.0
8045.0
8044.0
8043.0
8042.0
8041.0
8040.0
8039.0
8038.0
8037.0
8036.0
8035.0
8034.0
8033.0
8032.0


Intake 3 Low-Level Outlet Rating Curve
Headwater Elevation (ft)
7136.0
7135.0
7134.0
7133.0
7132.0
7131.0
7130.0
7129.0
7128.0
7127.0
7126.0
7125.0
7124.0
7123.0


Intake 4 Low-Level Outlet Rating Curve
Headwater Elevation (ft)
6316.0
6315.0
6314.0
6313.0
6312.0
6311.0
6310.0
6309.0
6308.0
6307.0
6306.0
6305.0
6304.0
6303.0
6302.0
6301.0
6300.0
6299.0
6298.0
6297.0


Intake 5 Low-level Outlet Rating Curve
Headwater Elevation (ft)
5190.0
5189.0
5188.0
5187.0
5186.0
5185.0
5184.0
5183.0
5182.0
5181.0
5180.0
5179.0
5178.0
5177.0
5176.0
5175.0
5174.0
5173.0
5172.0


Intake 6 Low-Level Outlet Rating Curve
Headwater Elevation (ft)
4773.0
4772.0
4771.0
4770.0
4769.0
4768.0
4767.0
4766.0
4765.0
4764.0
4763.0

Attachment B2

Wildlife Management Plan

Refer to June 29, 2022 Filing

Attachment B3

Botanical Management Plan

Refer to June 29, 2022 Filing

Attachment B4

Invasive Management Plan

Refer to June 29, 2022 Filing

Attachment B5

Revised Recreation Management Plan

(to be filed December 2022)

Attachment B6

Kilowatt/Flow Relationship Tables

Table B-6.1
Flows to kW relation for Power House 2

PH2 Unit 1		PH2 Unit 2		PH2 Unit 3	
Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW	Flow cfs	KW
5	237	5	249	5	249
6	295	6	310	6	310
7	355	7	373	7	373
8	417	8	438	8	438
9	480	9	504	9	504
10	544	10	571	10	571
11	608	11	638	11	638
12	673	12	706	12	706
13	737	13	774	13	774
14	801	14	841	14	841
15	866	15	908	15	908
16	929	16	975	16	975
17	993	17	1042	17	1042
18	1056	18	1108	18	1108
19	1119	19	1174	19	1174
20	1182	20	1240	20	1240
21	1244	21	1306	21	1306
22	1306	22	1371	22	1371
23	1369	23	1437	23	1437
24	1431	24	1503	24	1503
25	1494	25	1568	25	1568
26	1557	26	1635	26	1635
27	1620	27	1701	27	1701
28	1684	28	1768	28	1768
29	1748	29	1835	29	1835
30	1812	30	1903	30	1903
31	1877	31	1971	31	1971
32	1942	32	2040	32	2040
33	2008	33	2108	33	2108
34	2073	34	2177	34	2177
35	2139	35	2246	35	2246
36	2204	36	2315	36	2315
37	2268	37	2382	37	2382
38	2332	38	2449	38	2449
39	2394	39	2515	39	2515

PH2 Unit 1		**PH2 Unit 2**		**PH2 Unit 3**	
Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW	Flow cfs	KW
40	2454	40	2578	40	2578
41	2512	41	2639	41	2639
42	2566	42	2696	42	2696
43	2617	43	2750	43	2750
44	2663	44	2799	44	2799
45	2704	45	2841	45	2841

Table B-6.2
Flows to kW relation for Power House 3

PH3 Unit 1		PH3 Unit 2		PH3 Unit 3	
Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW	Flow cfs	KW
5	188	5	203	5	203
6	232	6	251	6	251
7	278	7	301	7	301
8	326	8	352	8	352
9	374	9	405	9	405
10	424	10	458	10	458
11	474	11	513	11	513
12	525	12	568	12	568
13	576	13	623	13	623
14	628	14	679	14	679
15	680	15	735	15	735
16	732	16	791	16	791
17	784	17	847	17	847
18	836	18	904	18	904
19	888	19	960	19	960
20	940	20	1016	20	1016
21	992	21	1072	21	1072
22	1043	22	1128	22	1128
23	1095	23	1183	23	1183
24	1146	24	1239	24	1239
25	1197	25	1294	25	1294
26	1248	26	1350	26	1350
27	1299	27	1405	27	1405
28	1350	28	1460	28	1460
29	1401	29	1515	29	1515
30	1452	30	1570	30	1570
31	1503	31	1625	31	1625
32	1554	32	1680	32	1680
33	1605	33	1735	33	1735
34	1656	34	1790	34	1790
35	1707	35	1846	35	1846
36	1758	36	1901	36	1901
37	1810	37	1957	37	1957
38	1861	38	2013	38	2013
39	1913	39	2069	39	2069

PH3 Unit 1		**PH3 Unit 2**		**PH3 Unit 3**	
Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW	Flow cfs	KW
40	1965	40	2126	40	2126
41	2018	41	2182	41	2182
42	2070	42	2239	42	2239
43	2122	43	2296	43	2296
44	2175	44	2353	44	2353
45	2228	45	2410	45	2410
46	2280	46	2467	46	2467
47	2333	47	2523	47	2523
48	2385	48	2580	48	2580
49	2436	49	2636	49	2636
50	2488	50	2691	50	2691
51	2538	51	2746	51	2746
52	2588	52	2800	52	2800
53	2637	53	2853	53	2853
54	2685	54	2905	54	2905
55	2731	55	2955	55	2955
56	2775	56	3003	56	3003
57	2818	57	3049	57	3049
58	2858	58	3092	58	3092
59	2896	59	3133	59	3133
60	2930	60	3170	60	3170

Table B-6.3
Flows to kW relation for Power House 4

PH4 Unit 1		PH4 Unit 2		PH4 Unit 3		PH4 Unit 4		PH4 Unit 5	
Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW	Flow cfs	KW	Flow cfs	KW	Flow cfs	KW
2	103	2	103	2	100	2	100	2	96
3	167	3	167	3	160	3	160	3	154
4	234	4	234	4	225	4	225	4	217
5	304	5	304	5	294	5	294	5	283
6	374	6	374	6	364	6	364	6	351
7	444	7	444	7	436	7	436	7	421
8	513	8	513	8	509	8	509	8	491
9	582	9	582	9	582	9	582	9	561
10	651	10	651	10	654	10	654	10	631
11	720	11	720	11	726	11	726	11	700
12	789	12	789	12	798	12	798	12	770
13	859	13	859	13	870	13	870	13	839
14	929	14	929	14	941	14	941	14	907
15	1001	15	1001	15	1012	15	1012	15	976
16	1072	16	1072	16	1083	16	1083	16	1045
17	1141	17	1141	17	1155	17	1155	17	1113
18	1207	18	1207	18	1227	18	1227	18	1183
19	1267	19	1267	19	1299	19	1299	19	1252
20	1317	20	1317	20	1372	20	1372	20	1323
				21	1445	21	1445	21	1394
				22	1519	22	1519	22	1465
				23	1593	23	1593	23	1536
				24	1666	24	1666	24	1607
				25	1739	25	1739	25	1676
				26	1809	26	1809	26	1745
				27	1877	27	1877	27	1810
				28	1940	28	1940	28	1871
				29	1998	29	1998	29	1926
				30	2048	30	2048	30	1975

Table B-6.4
Flows to kW relation for Power House 5

PH5 Unit 1		PH5 Unit 2	
Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW
47	1124	41	891
48	1153	42	918
49	1182	43	945
50	1212	44	972
51	1241	45	998
52	1271	46	1025
53	1300	47	1052
54	1330	48	1079
55	1359	49	1106
56	1388	50	1132
57	1418	51	1159
58	1447	52	1186
59	1476	53	1212
60	1505	54	1239
61	1534	55	1265
62	1563	56	1291
63	1592	57	1317
64	1621	58	1343
65	1649	59	1369
66	1678	60	1395
67	1706	61	1420
68	1734	62	1445
69	1762	63	1470
70	1789	64	1495
71	1817	65	1520
72	1844	66	1544
73	1871	67	1568
74	1898	68	1592
75	1924	69	1615
76	1950	70	1638
77	1976	71	1661
78	2002	72	1683
79	2027	73	1705
80	2052	74	1726
81	2077	75	1748

PH5 Unit 1		PH5 Unit 2	
Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW
82	2101	76	1768
83	2125	77	1788
84	2148	78	1808
85	2171	79	1827
86	2194	80	1846
87	2216		
88	2238		
89	2259		
90	2280		

Table B-6.4
Flows to kW relation for Power House 6

PH6 Unit 1			
Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW
9	144	79	1367
10	161	80	1384
11	178	81	1402
12	195	82	1419
13	212	83	1436
14	230	84	1453
15	247	85	1471
16	265	86	1488
17	283	87	1505
18	301	88	1523
19	319	89	1540
20	336	90	1558
21	354	91	1575
22	372	92	1593
23	390	93	1611
24	409	94	1628
25	427	95	1646
26	445	96	1664
27	463	97	1682
28	481	98	1699
29	499	99	1717
30	517	100	1735
31	535	101	1753
32	553	102	1771
33	571	103	1789
34	589	104	1807
35	607	105	1825
36	625	106	1843
37	643	107	1861
38	661	108	1880
39	679	109	1898
40	696	110	1916
41	714	111	1934
42	732	112	1952
43	749	113	1970
44	767	114	1988

PH6 Unit 1			
Gen mult:	0.95	Gen mult:	0.95
Flow cfs	KW	Flow cfs	KW
45	785	115	2006
46	802	116	2024
47	820	117	2042
48	837	118	2060
49	855	119	2078
50	872	120	2096
51	889	121	2113
52	907	122	2131
53	924	123	2148
54	941	124	2166
55	958	125	2183
56	975	126	2200
57	993	127	2217
58	1010	128	2234
59	1027	129	2250
60	1044	130	2267
61	1061	131	2283
62	1078	132	2299
63	1095	133	2315
64	1112	134	2330
65	1129	135	2345
66	1146	136	2360
67	1163	137	2375
68	1180	138	2389
69	1197	139	2403
70	1214	140	2416
71	1231	141	2430
72	1248	142	2442
73	1265	143	2455
74	1282	144	2466
75	1299	145	2478
76	1316	146	2489
77	1333	147	2499
78	1350	148	2509

Attachment B7

Historic Properties Management Plan

(Refer to October 7, 2002 Confidential and Privileged Report filing)