Preferred Alternative 2B
and Additional Environmental Analysis

Upper Truckee River Restoration and Golf Course Reconfiguration Project SCH No. 2006082150

Volume VI

Lead Agency:

California State Parks

Preferred Alternative 2B
and Additional Environmental Analysis

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Lead Agency:

California State Parks

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NOTE TO THE READER ABOUT THIS DOCUMENT

This document presents an update to the draft Preferred Alternative 2B and Additional Environmental Analysis (PAAEA) for the Upper Truckee River Restoration and Golf Course Reconfiguration Project (State Clearinghouse No. 2006082150), which was circulated starting May 1, 2018. The project was previously approved by the State Park and Recreation Commission on January 27, 2012. On May 10, 2018, the Alameda County Superior Court issued a writ of mandate directing the California Department of Parks and Recreation (State Parks) to rescind all prior approvals of the project. State Parks rescinded its prior approvals of the project on June 4, 2018, and is recirculating the draft PAAEA and the previously completed environmental impact report/environmental impact statement/environmental impact statement (EIR/EIS/EIS) for an extended comment period. The changes to the May 2018 draft PAAEA shown in this document are limited to Chapter 1, "Introduction," and are presented in underline and ~~strikeout~~ format. Those changes are related to the comment period and the nature of comments accepted.

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1 INTRODUCTION

This draft Preferred Alternative 2B and Additional Environmental Analysis (PAAEA) has been prepared by the California Department of Parks and Recreation (State Parks) in response to direction from the California appellate court in its decision (*Washoe Meadows Community v. Department of Parks and Recreation et al.*, November 15, 2017) (California Court of Appeal 2017) regarding the previous analysis for the Upper Truckee River Restoration and Golf Course Reconfiguration Project.

State Parks is the lead agency under the California Environmental Quality Act (CEQA) for, and the proponent of, this Upper Truckee River Restoration and Golf Course Reconfiguration Project (proposed project). State Parks is proposing a project to restore the reach of the Upper Truckee River within Lake Valley State Recreation Area (SRA) and Washoe Meadows State Park (SP) to address contributions of fine sediment to the river and Lake Tahoe.

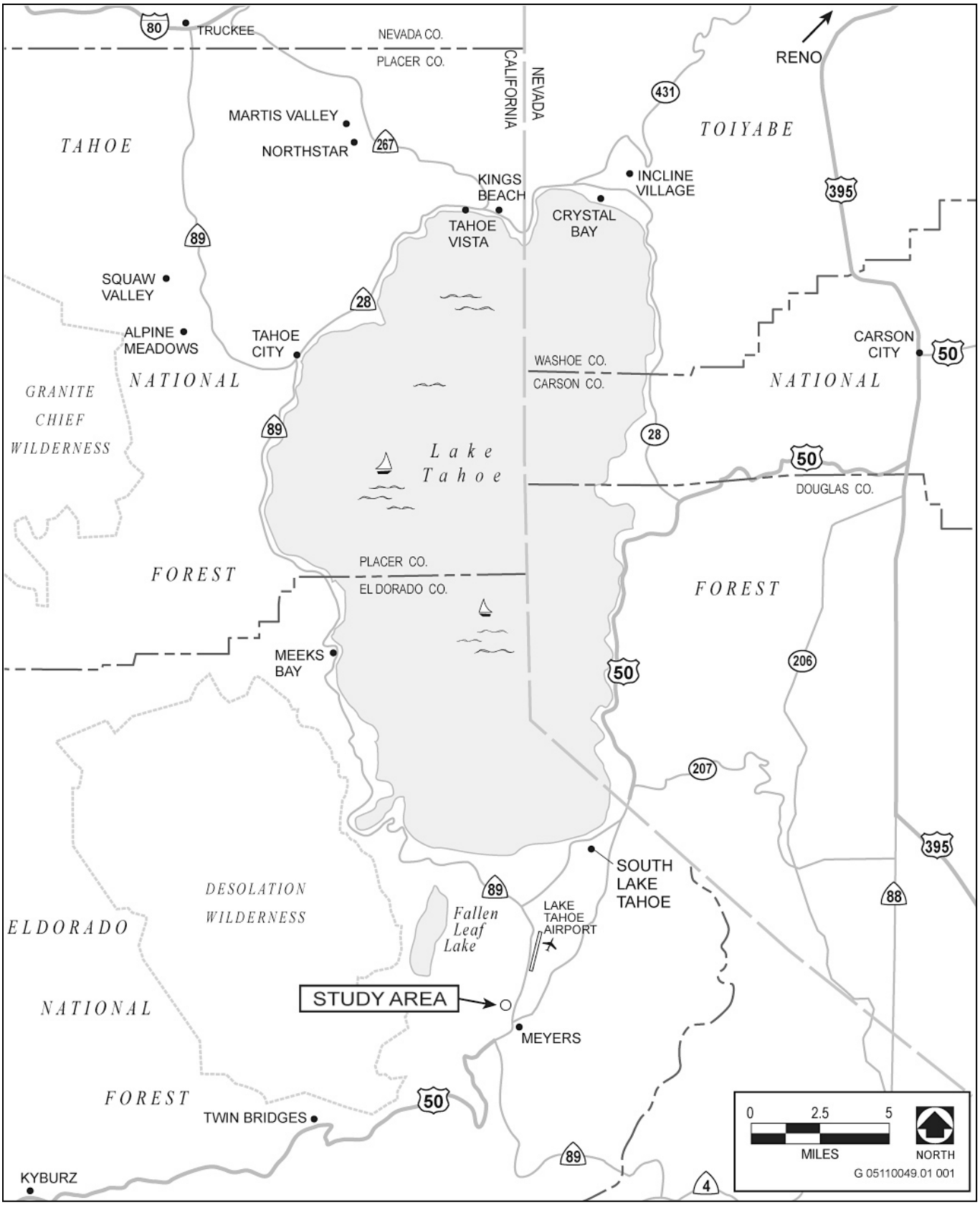
The Upper Truckee River is the largest tributary to Lake Tahoe, with a watershed spanning more than 50 square miles. The river's headwaters are located in wilderness 10 miles south of Lake Tahoe along the Sierra Nevada crest at Red Lake Peak. From there, the river flows north into a flat glacial valley before eventually draining into Lake Tahoe.

The 520-acre study area is at the upstream end of the flat glacial valley of the Upper Truckee River just north of Meyers and south of the city of South Lake Tahoe, in El Dorado County, California (Exhibit 1-1). The study area includes the southern portion of Washoe Meadows SP, Lake Valley SRA, and small portions of U.S. Forest Service and California Tahoe Conservancy lands, as well as a 1.5-mile reach of the Upper Truckee River.

The primary purpose of the proposed project is to restore natural geomorphic and ecological processes along this reach of river and reduce the river's discharge of suspended sediment to Lake Tahoe. The project includes portions of Washoe Meadows SP and the entire Lake Valley SRA, including Lake Tahoe Golf Course.

For the proposed project, State Parks proposes full river ecosystem restoration with a 137-acre reconfigured, reduced-footprint 18-hole regulation golf course. (This acreage would be less than the 155 acres of Alternative 2 as described in the previous project analysis, and would be similar to the existing golf course acreage, 134 acres.) The current proposal, Preferred Alternative 2B, is hereafter referred to in this draft PAAEA as the proposed project, because it would be the best of the evaluated alternatives at meeting the project's basic objectives, minimizing environmental effects, and lessening the concerns of the general public.

State Parks is ~~only~~ accepting comments on the draft PAAEA ~~materials being publicly circulated at this time and will not accept comments on any documents circulated previously that are referenced in this document~~ and the previously completed environmental impact report/environmental impact statement/environmental impact statement (EIR/EIS/EIS) being recirculated at this time. Prior documents are available for reference ~~only~~ as described in Section 1.3, "Availability of the Draft PAAEA and Responses to Comments."



Source: Data compiled by AECOM in 2017

Regional Location **Exhibit 1-1**

1.1 EIR BACKGROUND

On August 26, 2010, State Parks published a joint ~~environmental impact report/environmental impact statement/environmental impact statement (~~EIR/EIS/EIS~~)~~ for the project in compliance with CEQA, the National Environmental Policy Act (NEPA), and the Tahoe Regional Planning Agency (TRPA) Compact and Code of Ordinances. The EIR/EIS/EIS was prepared by State Parks as lead agency under CEQA (State Clearinghouse No. 2006082150); the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), as federal lead agency under NEPA; and TRPA as lead agency in accordance with the TRPA Compact and Code of Ordinances.

The draft EIR/EIS/EIS was available for a 60-day public review and comment period. In response to public requests, the review period was extended until November 15, 2010. Public hearings were held at the TRPA Advisory Planning Commission meeting on October 13, 2010, and at the Governing Board meeting on October 27, 2010, to present the project alternatives and receive public comments. The public hearings were recorded and public comments transcribed. Written comments were received from federal, state, regional, and local agencies and from businesses, organizations, and individuals. A final EIR/EIS/EIS was prepared in September 2011 to respond to comments received on the draft EIR/EIS/EIS for the project. State Parks and the State Park and Recreation Commission (SPRC) certified the EIR and approved the project on January 27, 2012.

1.1.1 LEGAL INTRODUCTION TO THE REVISED EIR/EIS/EIS

A lawsuit challenging the adequacy of the EIR/EIS/EIS was filed in Alameda County Superior Court on February 29, 2012 (*Washoe Meadows Community v. Department of Parks and Recreation et al.*, Case No. RG12619137). The trial court issued its judgment on April 20, 2015. The trial court granted the petition on four grounds:

(1) The draft EIR/EIS/EIS did not identify a stable proposed project because it set forth a range of alternatives without designating a preferred alternative.

(2) The final EIR/EIS/EIS did not sufficiently explain why the preferred alternative was substantially the same as Alternative 2 in the draft EIR/EIS/EIS.

(3) The vegetation mapping in the final EIR/EIS/EIS differed from that included in the draft EIR/EIS/EIS and required recirculation of the final EIR/EIS/EIS.

(4) The mitigation measures listed in the final EIR/EIS/EIS for protecting identified cultural sites, as well as fens and other wetlands, improperly deferred mitigation by failing to set a performance standard or to commit to further environmental review.

State Parks filed an appeal of the decision on June 29, 2015 (*Washoe Meadows Community v. Department of Parks and Recreation et al.*, First District Court of Appeal, Case No. A145576). The Court of Appeal issued its decision on November 15, 2017 (17 Cal.App.5th 277; California Court of Appeal 2017), affirming the trial court's judgment for the following reasons:

(1) Because the draft EIR/EIS/EIS did not specify a proposed project or preferred alternative, it did not present the public with an accurate, stable, and finite project.

(2) Because the court of appeal held that the draft EIR/EIS/EIS did not designate a stable project, all other issues raised on appeal were rendered moot and thus not addressed.

Accordingly, State Parks is recirculating revised portions of the EIR/EIS/EIS to remedy the deficiencies identified by the trial and appellate courts. State Parks is designating this document the "draft Preferred Alternative 2B and Additional Environmental Analysis" (draft PAAEA).

1.1.2 PURPOSE OF THIS ADDITIONAL ENVIRONMENTAL ANALYSIS AND THE PROPOSED PROJECT (PREFERRED ALTERNATIVE 2B)

State Parks is circulating this document in response to the judgment and writ of mandate issued by the Alameda County Superior Court on April 20, 2015, in *Washoe Meadows Community v. Department of Parks and Recreation et al.* (Case No. RG12619137). (See Section 1.1.1, "Legal Introduction to the Revised EIR/EIS/EIS," above.) State Parks has responded to the decision of the trial court and affirmation of the appellate court by preparing this draft PAAEA, which describes the proposed project as Preferred Alternative 2B, including its relationship to Alternatives 2 and 2A as described in the joint EIR/EIS/EIS. State Parks certified the EIR on January 27, 2012. State Parks rescinded its prior approvals of the project on June 4, 2018. The draft PAAEA addresses the deficiencies identified by the courts as follows:

(1) The draft PAAEA specifies a proposed project, Preferred Alternative 2B. The proposed project consists of a reconfigured, reduced-footprint 18-hole regulation golf course and full ecosystem restoration. It reduces the footprint of the golf course by approximately 19 acres compared to Alternative 2 in the final EIR/EIS/EIS certified on January 27, 2012. The proposed project also serves as the "proposed action" under NEPA and the "proposed project" under CEQA and the TRPA Code of Ordinances.

(2) The draft PAAEA presents a detailed description and analysis of the proposed project, which explicitly delineates how it varies from both existing conditions and Alternative 2 as described in the draft EIR/EIS/EIS.

(3) The draft PAAEA recirculates for public review the vegetation mapping previously included in the 2012 final EIR/EIS/EIS, and provides a detailed comparison of the differences between the current mapping and the previously presented mapping. The PAAEA also includes the vegetation mapping presented in the final EIR/EIS/EIS in colors consistent with those presented in the draft EIR/EIS/EIS, to clarify the similarities in mapping. The draft PAAEA describes detailed performance criteria for State Parks' implementation of mitigation measures designed to reduce potential environmental impacts on hydrologic resources such as fens or other wetlands.

(4) The draft PAAEA describes detailed performance criteria for State Parks' implementation of mitigation measures designed to reduce potential environmental impacts on cultural resources.

State Parks invites public comments on the enumerated issues listed above and on the project description presented in the EIR/EIS/EIS and further refined in the draft PAAEA. ~~The public comment periods for issues analyzed previously in the draft EIR/EIS/EIS and the final EIR/EIS/EIS have closed. This draft PAAEA opens public review and comment with regard to only the matters being recirculated herein. State Parks will not accept public comments on matters outside the scope of matters addressed in this draft PAAEA.~~

1.2 SCOPE AND USE OF THE PAAEA

A proposed project has been identified in this draft PAAEA based on the impact analysis presented in the EIR/EIS/EIS and public and agency comments received during the comment period. The proposed project consists of a reconfigured, reduced-footprint 18-hole regulation golf course and full ecosystem restoration.

The analysis of the alternatives in the EIR/EIS/EIS was based on preliminary designs of the golf course and the river restoration. The final layout of both will be refined during final design. Any modifications to the final design would be within the scope of work covered by the analysis in the EIR/EIS/EIS.

The previously prepared EIR/EIS/EIS addressed the full range of environmental impacts of a reasonable range of alternatives. The proposed project as presented in this draft PAAEA (referred to as Alternative 2B or the "proposed project") includes a reduced footprint for the golf course compared to the preliminary plan analyzed as Alternative 2 in the final EIR/EIS/EIS; therefore, the extent and intensity of impacts of the larger golf course footprint analyzed in the EIR/EIS/EIS sufficiently covers the proposed project. The EIR/EIS/EIS also covered the full range of impacts that could result from any of the analyzed alternatives or any mix of, downscaled, or slightly modified versions of the alternatives.

Notices of the draft PAAEA are being distributed to interested agencies, stakeholder organizations, and individuals who commented during the public review process (California Public Resources Code Section 15088[b]), as well as those who currently live within 500 feet of the study area.

For purposes of CEQA compliance related to State Parks' review of and action on the project, the PAAEA augments the environmental information developed in the EIR/EIS/EIS. State Parks will take into account the combination of the EIR/EIS/EIS with its supporting materials and the PAAEA when it considers related final action in the future. At the time of final action, if State Parks certifies that the combination of the EIR/EIS/EIS and the PAAEA is adequate under CEQA and reapproves the project, the State Parks director will approve the proposed project, or a variation of it within the range of alternatives addressed in the environmental document, as the project action.

As a responsible agency, SPRC will hold a public meeting where it will consider whether to approve the amendment to the Lake Valley SRA General Plan and reclassification of land exchanged between Washoe Meadows SP and Lake Valley SRA proposed as part of the proposed project. If the project is approved, State Parks and SPRC will issue a notice of determination documenting the decision.

To support their decisions on the project, both SPRC and State Parks will prepare and adopt:

- written findings of fact for significant environmental effects, including feasible mitigation measures, or a determination that an unavoidable significant effect on the environment is identified in the EIR/EIS/EIS and PAAEA;

- a statement of overriding considerations, if an unavoidable significant effect on the environment is found to occur; and

- a mitigation monitoring and reporting program that includes all mitigation measures identified in the EIR/EIS/EIS and PAAEA, including information on their timing and the parties responsible for implementing each measure.

Preferred Alternative 2B serves as the "proposed action" under NEPA and the "proposed project" under CEQA and the TRPA Code of Ordinances. The EIR/EIS/EIS and the PAAEA will be used to support TRPA's decision whether to approve the project and Reclamation's decision to issue a record of decision. In addition, other CEQA responsible agencies, such as the Lahontan Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW), will use the EIR/EIS/EIS and the PAAEA to meet their CEQA requirements as responsible agencies before deciding whether to issue discretionary permits and approvals for portions of the project over which they have authority.

~~This~~ The PAAEA also may be used by other state, regional, and local agencies that have an interest in resources potentially affected by the project, or that would issue permits and/or other regulatory approvals. It will also be used by the U.S. Army Corps of Engineers (USACE) to inform its NEPA process before deciding whether to issue permits pursuant to Section 404 of the Clean Water Act.

1.3 AVAILABILITY OF THE DRAFT PAAEA AND RESPONSES TO COMMENTS

Agencies, stakeholder organizations, and individuals who commented on the EIR/EIS/EIS will be notified regarding preparation of this draft PAAEA and regarding the availability of responses to comments in a final PAAEA. These notifications will ensure that interested parties continue to have an opportunity to review the lead agencies' responses to public comments. The final EIR/EIS/EIS included responses to comments on the draft EIR/EIS/EIS received from agencies, organizations, and members of the public. That document presented corrections, revisions, and other clarifications of and amplifications to the draft EIR/EIS/EIS, including project modifications made in response to these comments and as a result of State Parks' ongoing planning efforts. State Parks will focus its response to comments on this draft PAAEA specifically on information presented herein, including Preferred Alternative 2B (i.e., the proposed project) and on impacts and mitigation measures for biological resources (fen and vegetation) and cultural resources.

As noted above, this draft PAAEA opens public review and comment with regard to ~~only~~ the enumerated issues listed above in Section 1.1.2, "Purpose of This Additional Environmental Analysis and the Proposed Project~~."~~," and on the project description presented in the EIR/EIS/EIS and further refined in the draft PAAEA. ~~State Parks will not accept public comments on matters outside the scope of matters addressed in this draft PAAEA.~~

The extended public review period for the draft PAAEA and EIR/EIS/EIS begins on ~~May 1,~~ June 13, 2018, and ends on ~~June 15,~~ July 30, 2018. The document consists of six volumes: five volumes of the EIR/EIS/EIS and the draft PAAEA as Volume VI (see Section 1.4, "Organization and Format of the Draft PAAEA"). Comments may be provided on the entire document; however, providing new comments on the draft PAAEA would be most important, because the PAAEA contains the refined proposed project description and all updated environmental information, the aspects of the EIR/EIS/EIS deemed insufficient by the court. All comments previously received on the EIR/EIS/EIS remain part of the administrative record and do not need to be submitted again. Responses to previous comments are also contained in the EIR/EIS/EIS. Written comments ~~on the draft PAAEA~~ must be

postmarked or received by e-mail by State Parks no later than ~~June 15,~~ July 30, 2018. Written comments ~~sent~~ submitted to State Parks by regular mail should be sent to the following address:

California Department of Parks and Recreation
Sierra District
Cyndie Walck, CEQA Coordinator
P.O. Box 266
Tahoma, CA 96142

For comments provided via e-mail, please use the following address and subject line:

E-mail to: utproject@parks.ca.gov
Subject Line: River-Golf Course PAAEA

Please attach comments in an MS Word document and include the commenter's U.S. Postal Service mailing address and e-mail address in MS Word.

~~This document is~~ Copies of the draft PAAEA and EIR/EIS/EIS are available for review by the public during normal business hours at the following locations:

State Parks' administrative office at Sugarpine Point State Park
7360 West Lake Boulevard
Tahoma, CA 96142

State Parks' Northern Service Center
One Capitol Mall, Suite 410
Sacramento, CA 95814

South Lake Tahoe Library front desk
1000 Rufus Allen Boulevard
South Lake Tahoe, CA 96150

~~This document is~~ The draft PAAEA and EIR/EIS/EIS are posted electronically at:

http://www.parks.ca.gov/?page_id=981 (click on "El Dorado County")

Paper copies can be printed for purchase at:

Fast Print
808 Emerald Bay Road
South Lake Tahoe, CA 96150

The ~~DPAAEA~~draft PAAEA and previous documents including the Lake Valley SRA General Plan and the Upper Truckee River Restoration and Golf Course Reconfiguration Project EIR/EIS/EIS are posted electronically at:

http://www.restoreuppertruckee.net/index.htm

CDs of the draft EIR/EIS/EIS and of this document are also available from State Parks upon request. Please submit requests to utproject@parks.ca.gov.

1.4 ORGANIZATION AND FORMAT OF THE DRAFT PAAEA

This draft PAAEA is organized as follows:

- **Chapter 1, "Introduction,"** explains the process for the draft PAAEA and its relationship to the EIR/EIS/EIS; lists the lead agency under CEQA; outlines the organization of the draft PAAEA; provides information regarding public distribution and agency approval processes; identifies standard terminology and abbreviations used in the document; and provides a summary of the project's impacts and mitigation measures.

- **Chapter 2, "Proposed Project/Preferred Alternative 2B: River Ecosystem Restoration with Reconfigured, Reduced-Footprint 18-Hole Regulation Golf Course,"** describes Preferred Alternative 2B (the proposed project) in detail and explains its differences relative to Alternatives 2 and 2A as described in the EIR/EIS/EIS.

- **Chapter 3, "Additional Environmental Analysis,"** clarifies and presents additional details regarding the impact analyses for cultural resources and fens and related vegetation types and their associated respective mitigation measures. These evaluations are organized by topic to provide a more comprehensive response than may be possible when responding to individual comments, so that reviewers can readily locate all relevant information pertaining to an issue of concern.

- **Chapter 4, "References Cited,**" identifies the documents used to support development of the draft PAAEA.

- **Chapter 5, "List of Preparers**," lists the individuals who assisted in the preparation of this draft PAAEA.

- **Chapter 6, "PAAEA Distribution List,"** lists the various elected officials, government departments and agencies, organizations, and individuals who have been sent the draft PAAEA or notified of its availability.

The draft EIR/EIS/EIS consisted of three volumes. Volume I contained the EIR/EIS/EIS introduction, statement of purpose and need, and alternatives descriptions; Volume II described the affected environment, environmental consequences, and mitigation measures for all alternatives within each resource topic area; and Volume III contained the technical appendices. The 2011 final EIR/EIS/EIS document was Volumes IV and V of the EIR/EIS/EIS. These documents are available on the websites listed above. This draft PAAEA is Volume VI. Together, the six volumes constitute document in its entirety.

1.5 STANDARD TERMINOLOGY, ACRONYMS, AND OTHER ABBREVIATIONS

1.5.1 STANDARD TERMINOLOGY

The following standard terminology refers to elements of the project:

- **"Project vicinity"** refers to the study area and the nearby land surrounding it.
- **"Study area"** refers to all of Lake Valley SRA and the southern portion of Washoe Meadows SP, within which all alternatives of the Upper Truckee River Restoration and Golf Course Reconfiguration Project are located.
- **"Project site"** refers to the area within the study area where State Parks would carry out active construction under the selected alternative.
- **"Preferred Alternative 2B"** refers to the proposed project: the project alternative recommended in this draft PAAEA for approval, based on information and analysis in the EIR/EIS/EIS and the draft PAAEA, public comments on the environmental documents, and responses to significant environmental issues raised in the public comments.

~~This~~ The PAAEA includes the following specific terminology related to the project:

- For terminology related to golf course land use practices, see Section 2.3.2, "Golf Land Management Terminology," of the draft EIR/EIS/EIS.
- For terminology related to river existing conditions and proposed treatments in specific locations by alternative, see Appendix B of the draft EIR/EIS/EIS.
- For standardized preliminary descriptions and sketches of each treatment type, regardless of the alternative for which they are proposed, see Appendix C of the draft EIR/EIS/EIS.

1.5.2 ACRONYMS AND OTHER ABBREVIATIONS

Table 1-1 defines the abbreviations used in this draft PAAEA. Table 1-2 presents a summary of significant and potentially significant environmental impacts and mitigation measures for the alternatives addressed in the draft EIR/EIS/EIS and this draft PAAEA, including the proposed project (Preferred Alternative 2B). This summary table reflects only the impacts and mitigation measures related to biological and cultural resources that are evaluated in this draft PAAEA, in response to the California appellate court's direction in its decision regarding the previous analysis of the project. Other impacts and mitigation measures for the project remain the same as previously presented in the EIR/EIS/EIS.

Table 1-1. Acronyms and Other Abbreviations	
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
approx.	approximately
Basin	Tahoe Basin
BMP	best management practice
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHRIS	California Historical Resources Information System
CNPS	California Native Plant Society
Conservancy	California Tahoe Conservancy
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
EIR	environmental impact report
EIS	environmental impact statement
FSS	Forest Service Sensitive
GIS	geographic information system
LCD	land capability district
NA	not applicable
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAAEA	Preferred Alternative 2B and Additional Environmental Analysis
PRC	California Public Resources Code
project, proposed project	Upper Truckee River Restoration and Golf Course Reconfiguration Project
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RM	River Mile
ROD	record of decision
RS	River Station
SEZ	Stream Environment Zone
SHPO	State Historic Preservation Officer
SP	State Park
SPRC	State Park and Recreation Commission
SRA	State Recreation Area
State Parks	California Department of Parks and Recreation
STPUD	South Tahoe Public Utility District
THPO	Tribal Historic Preservation Officer
TRPA	Tahoe Regional Planning Agency
U.S. 50	U.S. Highway 50
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USGA	United States Golf Association

Table 1-2. Summary Comparison of Significant and Potentially Significant Impacts and Mitigation Measures Modified in This PAAEA[1]

Resource Topic/Impact	Conditions or Alternative(s)	Impact Duration[2]	LOS before Mitigation[3]	Mitigation Measure	LOS after Mitigation	Performance Criteria[4]
Biological Resources						
3.5-3 Short-Term, Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, Fens, and SEZ).	Existing Conditions	ST	LTS	No Mitigation Required	LTS	NA
	Alternatives 2 and 2A	ST	S	A. Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits. B. Implement Vegetation Protection Measures and Revegetate Disturbed Areas. C. Avoid Effects on the Spring Complexes (Including Fens) through Final Project Design and Implement Protection Measures during Project Construction.	LTS	1. *No net loss of wetland acreage or SEZ acreage.* 2. *Minimization of loss or degradation of riparian vegetation.* 3. *Install best management practices:* In the vicinity of holes 8, 9, and 10, install protection fencing and stormwater BMPs.
	Preferred Alternative 2B	ST	S	A. Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits. B. Implement Vegetation Protection Measures and Revegetate Disturbed Areas.	LTS	1. *No net loss of wetland acreage:* Filled wetland areas will be replaced at a ratio of 3:1 where needed for project actions that affect wetlands not related to restoration activities. Restoration activities would be expected to be self-mitigating by the nature of the activities and would be monitored through post construction monitoring as directed by USACE to assure no net loss of wetland acreage. 2. *No net loss of SEZ acreage:* Disturbed SEZ will be replaced at a minimum ratio of 1:1 or as directed by TRPA if additional acreage is required. 3. *Minimization of loss or degradation of riparian vegetation, if feasible.* If not feasible, riparian vegetation will be restored at a ratio of 1:1 through revegetation. 4. *Construction fencing:* Areas adjacent to fen, wetlands, and vernal pools will be protected by construction fencing during construction.

Table 1-2. Summary Comparison of Significant and Potentially Significant Impacts and Mitigation Measures Modified in This PAAEA[1]

Resource Topic/Impact	Conditions or Alternative(s)	Impact Duration[2]	LOS before Mitigation[3]	Mitigation Measure	LOS after Mitigation	Performance Criteria[4]
Cultural Resources						
3.9-1 Damage to or Destruction of Significant Documented Cultural Resources.	Existing Conditions	ST	NI	No Mitigation Required	NI	NA
	Alternatives 2 and 2A	ST	PS	Avoid Impacts to Documented Significant Cultural Resources (CA-Eld-2158, CA-Eld-2160, and CA-Eld-555) through a Combination of Site Capping, Project Redesign, and Archaeological/Washoe Tribe Monitoring.	LTS	1. *Avoidance of disturbance:* To the extent feasible, State Parks will design the project to avoid disturbance of the identified resources. 2. *Protection of resource integrity:* If avoidance is not feasible, State Parks will protect the integrity of the resource to avoid damage that would diminish its historic and/or tribal cultural value. Protection can be achieved through fencing, monitoring of grading activities near the site, and/or capping of eligible resources where appropriate. 3. *Confirmation of adequacy by Washoe Tribe:* During the design development and construction, State Parks will consult with the Washoe Tribe to confirm that design revisions and/or capping are acceptable approaches to protect the resources.
	Preferred Alternative 2B	ST	PS	A. Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Preparation and Implementation of a Cultural Resource Protection Plan. B. Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Archaeological/Washoe Tribe Monitoring. *Measure C below will be implemented only if unusual amounts of stone, bone, or shell or significant quantities of historic-era artifacts such as glass,*	LTS	1. *Avoidance of disturbance:* State Parks has designed the golf course to avoid disturbance of the identified resources. During construction, sites with the potential to be affected by the project will be flagged for avoidance and monitored by a qualified archaeologist and a representative of the Washoe Tribe. If during construction it is discovered that these resources extend beyond the known limits, the SHPO will be consulted and Mitigation Measure 3.9-2 (Alt. 2), "Stop Work and Implement Measures to Protect Cultural Resources Discovered during Ground-Disturbing Activities," shall be implemented. 2. *Protection of resource integrity:* If avoidance is not feasible, State Parks will protect the

Table 1-2. Summary Comparison of Significant and Potentially Significant Impacts and Mitigation Measures Modified in This PAAEA[1]

Resource Topic/Impact	Conditions or Alternative(s)	Impact Duration[2]	LOS before Mitigation[3]	Mitigation Measure	LOS after Mitigation	Performance Criteria[4]
				ceramic, metal, or building remains are uncovered during construction. C. Stop Work and Implement Measures to Protect Cultural Resources Discovered during Ground-Disturbing Activities.		integrity of the resource to avoid damage that would diminish its historic and/or tribal cultural value. Protection can be achieved through tribal and archaeological monitoring of grading activities near the site and if necessary, data recovery upon consultation with the Washoe Tribe, Reclamation, and the SHPO. Additional protection measures may include visual screening or other small physical barriers to minimize visibility and access. These additional measures will be added at the request of an archaeologist and/or the Washoe Tribe's designated representative. 3. *Confirmation by the Washoe Tribe of resource protection adequacy:* During the detailed design development and through construction and postconstruction monitoring, State Parks will continue to consult with the Washoe Tribe to confirm the acceptability of construction and operation approaches to protect the resources.

Notes:

EIR/EIS/EIS = environmental impact report/environmental impact statement/environmental impact statement; NA = not applicable; PAAEA = Preferred Alternative 2B and Additional Environmental Analysis; Reclamation = U.S. Department of the Interior, Bureau of Reclamation; SEZ = Stream Environment Zone; SHPO = State Historic Preservation Officer; State Parks = California Department of Parks and Recreation; TRPA = Tahoe Regional Planning Agency; USACE = U.S. Army Corps of Engineers

[1] This summary table reflects only the impacts and mitigation measures related to biological and cultural resources that are evaluated in this ~~draft~~ PAAEA, in response to the California appellate court's direction in its decision regarding the previous analysis of the project. Other impacts and mitigation measures for the project remain the same as previously presented in the EIR/EIS/EIS.

[2] ST (short-term) = construction-related or otherwise persisting from 1 year to several years; LT (long-term) = persisting for years to decades

[2] B = beneficial; LOS = level of significance; LTS = less than significant; NI = no impact; PS = potentially significant; S = significant

[3] Performance criteria were not specifically titled within the EIR/EIS/EIS; however, they were presented within the mitigation discussion. They have been summarized for Alternatives 2 and 2A consistent with the proposed project (Preferred Alternative 2B).

Source: Data compiled by AECOM in 2017 and 2018

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2 PROPOSED PROJECT/PREFERRED ALTERNATIVE 2B: RIVER ECOSYSTEM RESTORATION WITH RECONFIGURED, REDUCED-FOOTPRINT 18-HOLE REGULATION GOLF COURSE [1]

State Parks has chosen Preferred Alternative 2B as the proposed project, which includes full river ecosystem restoration with a 137-acre reconfigured, reduced-footprint 18-hole regulation golf course. This proposed project has reduced acreage relative to the 156 acres of Alternative 2 or 155 acres of Alternative 2A, as described in the EIR/EIS/EIS. The acreage of the proposed project would be similar to the existing golf course's acreage, 134 acres. Of the alternatives evaluated, Preferred Alternative 2B would be best at meeting the project's basic objectives, minimizing environmental effects, and lessening the concerns of the general public.

Preferred Alternative 2B, the proposed project analyzed in this PAAEA, was developed based on the analysis of Alternative 2 in the EIR/EIS/EIS, and input on Alternative 2A from the public, organizations, responsible agencies, tribal consultation, and other interested agencies (presented in the final EIR/EIS/EIS). With additional time to revise the layout further, and based on this input, State Parks developed Preferred Alternative 2B, which represents a slight modification of Alternative 2A, as summarized below. Preferred Alternative 2B is hereinafter referred to in this PAAEA as the "proposed project."

Alternatives 2 and 2A proposed to relocate nine holes, with seven of those relocated holes entirely on the west side of the river and half of the two other holes relocated to the west.[2] The proposed project retains more of the existing holes, including those near the southernmost bridge crossing, resulting in the relocation of five holes to the west side of the river. Retaining the additional two holes and the existing southern crossing holes slightly reduces the area of meadow and floodplain restored. The relocated holes would be farther from the residences and would completely avoid the "doughnut hole" area around the spring.

Tree removal under the proposed project would be approximately half that proposed under Alternatives 2 and 2A. An additional historic meander north of proposed holes 13 and 14 was incorporated into the design to increase the restored river length and provide a larger buffer between those holes and the river. Alternatives 2 and 2A provided one bridge for shared golf and recreation use for the set of holes that cross the river. In the proposed project, the shared golf cart bridge would connect holes 6 and 12, and a second bridge was added to provide for non-golf-related recreation access. Both bridge sites were previously analyzed under Alternative 4 in the EIR/EIS/EIS. These changes resulted in revisions to the quantities for backfilling and bank protection. Although slightly less restoration of floodplain area would occur under the proposed project, this would be offset by retention of habitat and avoidance of the doughnut hole around the spring. The proposed project would also provide improved trail connectivity by providing a bridge for pedestrian access and avoid impacts on cultural resources.

[1] The proposed project, Alternative 2B, has been preliminarily planned to comply with the Superior Court's judgment.

[2] Two entire and three partial golf course holes are currently located on the far (north and west) side of the Upper Truckee River, but these holes occupy critical floodplain area adjacent to the river. These are among the holes that would be relocated under the proposed project; the associated bridges would be removed.

2.1 Summary of Differences between Alternative 2, Alternative 2A, and the Proposed Project (Preferred Alternative 2B)

A detailed description of Preferred Alternative 2B, the proposed project, is presented below. Table 2-1 presents river and golf characteristics under four different scenarios: existing conditions, Alternative 2, Alternative 2A, and the proposed project (Preferred Alternative 2B). Please note that Preferred Alternative 2B is the ecologically preferred alternative because it will result in additional river meander restored by removing golf course holes from the far side of the river, further avoids sensitive resources in the doughnut hole, and results in less tree removal and retainage of more habitat. It will also It will also result in improved public safety and access and better trail maintenance by providing a pedestrian bridge.

Table 2-1. Comparison of Existing Conditions with Project Alternatives 2 and 2A and the Proposed Project (Preferred Alternative 2B)

	Existing Conditions	Alternative 2	Alternative 2A	Proposed Project (Preferred Alternative 2B)
RIVER CHARACTERISTICS				
River treatment	None	Restore	Restore	Restore
Channel length total (feet)	11,980	13,430	13,430	13,730
Active (5-year) floodplain (acres)	36	77	77	77
Inset floodplain (acres)	0	1.7	1.7	1.7
Restored SEZ (acres)[1]	0	32	32	31
Restored 100-year floodplain (acres) [1]	0	20	22	20
Restored floodplain/meadow (acres)	0	97	97	88
Anchored high-gradient riffle	NA	Upstream and downstream ends of project reach		
Boulder steps	NA	1 (water intake)	1 (water intake)	1 (water intake)
Armored riffles	NA	15–25	15–25	15–25
Reconnected historic meander	NA	2,490	2,490	3,300
Constructed new channel	NA	1,700	1,700	2,100
Modified existing channel	NA	5,000	5,000	4,100
Backfilled existing channel	NA	2,600	2,600	3,400
Rock armor bank protection	NA	200	200	250
Biotechnical bank treatment	NA	2,400	2,400	2,700
GOLF CHARACTERISTICS				
Golf course type	18-hole regulation	18-hole regulation	18-hole regulation	18-hole regulation
Golf course footprint (acres)	134	156	155	137
Golf course within SEZ (acres)	128	96	96	102
Golf course within 100-year floodplain (acres)	56	36	34	38
Golf course adjacent to the Upper Truckee River (linear feet each bank counted separately)	6,382	850	850	1,300
Intensively managed turf landscape (acres)	98	85	84	82
Intensively managed facilities landscape (acres)[2]	6	7	7	7
Minimally managed landscape (acres)	23	44	44	38
Naturalized landscape (acres)	7	20	20	10
Bridges over Upper Truckee River	5	1	1	2
Bridges over Angora Creek	4	0	0	0
Bridges over unnamed creek	4	4	4	4
Additional restrooms	0	1	1	2
Paving of unpaved parking area	No	Yes	Yes	Yes

Table 2-1. Comparison of Existing Conditions with Project Alternatives 2 and 2A and the Proposed Project (Preferred Alternative 2B)

	Existing Conditions	Alternative 2	Alternative 2A	Proposed Project (Preferred Alternative 2B)
EMPLOYMENT OPPORTUNITIES				
Total number of jobs	76	80	80	80
Change in number of jobs from existing conditions	0	+4	+4	+4
OTHER RESTORATION				
Quarry wetland enhancement	No	Yes	Yes	No
RECREATION CHARACTERISTICS				
Upper Truckee River bridges open to public access	0	1	1	2
Trail along east side of river with Sawmill bike path connection	No	Yes	Yes	Yes
Trail to corner of Country Club Drive	No	Yes	Yes	Yes
Improved/rerouted trails on west side of river	No	Yes	Yes	Yes
GENERAL PLAN CHARACTERISTICS				
Lake Valley SRA acreage	173	213	213	171
Washoe Meadows SP acreage	608	568	568	610

Notes: NA = not applicable; SEZ = Stream Environment Zone; SP = State Park; SRA = State Recreation Area
The overall plan is preliminary, and the final design may be modified to satisfy parties involved in the final decision-making process. These modifications would not substantially increase the intensity or severity of an impact or create a new significant impact. Existing Conditions and Alternative 2A values are taken from the environmental impact report/environmental impact statement/environmental impact statement (EIR/EIS/EIS). Preferred Alternative 2B reflects the differences to these values.

[1] Represents restored SEZ or floodplain that was formerly golf course, but does not include increase in the SEZ or floodplain resulting from restoration of improved geomorphic function. The increase in total floodplain area discussed in Section 3.3, "Hydrology and Flooding," of the draft EIR/EIS/EIS.

[2] Intensively managed facilities include buildings, parking lots, and cart paths.

Source: Compiled by AECOM and State Parks in 2017

The design plan for the proposed project is preliminary. The proposed project is contained entirely within the original study area. The final design may reflect modifications to project features made during the normal design refinement process, or to satisfy the requirements of permitting agencies involved in final decision-making. Any detailed design refinements occurring during final decision-making and design would not substantially increase the intensity or severity of a significant impact identified herein, nor would they create a new significant impact. The final design of the proposed project would remain within the study area and would reflect approximately the same parameters described in Table 2-1. Therefore, such detailed design refinements would be covered by the analysis presented in the EIR/EIS/EIS and the PAAEA.

Compared to Alternatives 2 and 2A, the proposed project would include a smaller footprint on the west side of the Upper Truckee River. The proposed project would provide a separate bridge for non-golf recreation use with the same ecosystem restoration approach as under Alternative 2 or Alternative 2A. The land exchange between Washoe Meadows State Park (SP) and Lake Valley State Recreation Area (SRA) would be almost equal, with the size of Washoe Meadows SP increasing by approximately 2 acres. The proposed project decreases the acreage transferred to Lake Valley SRA compared to Alternative 2 or Alternative 2A; 42 more acres would be retained within Washoe Meadows SP under Alternative 2 or Alternative 2A than under the proposed project. Instead of a

net reduction in the size of Washoe Meadows SP, as proposed in Alternatives 2 and 2A, the proposed project would increase the acreage of the State Park.

The proposed project would also involve removing or modifying several existing golf course holes located in areas of the active floodplain, the Stream Environment Zone (SEZ), and the historic meander belt of the Upper Truckee River. Also, the proposed project design has been refined to provide increased buffer distance between golf course activities and residences located at the southwestern end of the study area. The proposed project would relocate fewer holes to the west side of the river, resulting in the retention of more existing holes on the east side. To provide an adequate buffer distance for river restoration at the retained holes near River Mile (RM) 6000, the river restoration would incorporate an additional historic meander to the north instead of retaining the existing channel in that reach. This refinement also results in the benefit of increased length of restored river channel in the proposed project, compared to Alternatives 2 and 2A.

The proposed project would reduce the area of golf course adjacent to the Upper Truckee River from 6,382 linear feet to 1,300 linear feet (compared to 850 linear feet under Alternatives 2 and 2A). The overall footprint of the golf course would decrease by approximately 18 to 19 acres relative to the footprint proposed by Alternatives 2 and 2A. The golf course footprint would increase slightly, by approximately 3 acres, compared to existing conditions; however, this increase would occur in naturalized and minimally managed areas within the footprint, whereas the acreage of turf areas (fairways, tees, greens, rough) would decrease from existing conditions. A second recreation access bridge would cross the Upper Truckee River downstream, near the current hole 12 bridge (north of RM 5000). This bridge would provide connectivity from the proposed trail at U.S. Highway 50 (U.S. 50) to Washoe Meadows SP. The trails and golf holes would be designed with buffer areas between golf play and the path. Tree removal under the proposed project would be approximately half that proposed under Alternatives 2 and 2A.

Restoration of quarry wetland ponds, as described in Alternative 2, consists of enhancing the wetlands and vernal pools that have formed in depressions left at the base of the quarry cut-slope. This area would not be disturbed as part of the proposed project, because the area is naturally recovering and has established properly functioning habitat. The proposed golf course improvements would be located downgradient from this area and would be separated by a berm to isolate the area and provide a barrier and a buffer from the golf course. This area is discussed further in Chapter 3.

In the proposed project, the river would regain important natural geomorphic processes, such as occupying a wider meander belt, reconnecting with the adjacent floodplain, and overbanking into the active floodplain more frequently. Most of the areas of golf course relocated would be within higher capability lands (mostly away from the river and outside of the SEZ). The overall golf turf area would decrease by approximately 15 acres (>10 percent), and turf management would improve relative to existing conditions (because of irrigation upgrades and more naturalized buffer areas).

The overall purpose, plan concept, and location of the proposed project is consistent with Alternatives 2 and 2A as analyzed in the EIR/EIS/EIS. It would be similar in design, but would have a reduced footprint, and therefore, a reduction in the intensity and/or severity of potential impacts. The locations of the proposed project's bridges were evaluated in the draft EIR/EIS/EIS as part of Alternative 4, and mitigation proposed under Alternative 2 for the single-bridge option is consistent for both the locations and the number of bridges proposed.

Implementing the proposed project would allow the continued operation of an 18-hole regulation golf course and associated tournaments. Thus, this alternative would meet geomorphic, ecological, recreational, operational, and revenue criteria while still providing dispersed recreation, including new trails along the east side of the Upper Truckee River and connectivity to the Sawmill bike path.

The preliminary design of the reconfigured golf course is intended to make the best use of the site, provide a variety of recreational values, and maintain a beneficial relationship to the environment and adjacent land uses. Golf infrastructure and holes would generally avoid the most sensitive areas adjacent to the river, which would allow the river the room to function more naturally and would provide a more continuous riparian habitat corridor. The proposed project, Preferred Alternative 2B, was identified as the preferred alternative because it would:

- allow room for geomorphic and ecological restoration of the river, while accommodating continued operation of an 18-hole golf course with a reduced footprint relative to Alternatives 2 and 2A;
- minimize connectivity of the golf course and the river;
- minimize or avoid sensitive archaeological sites and sensitive ecological habitat;
- maximize use of higher capability lands and minimize use of SEZ lands for golf facilities and activities; and
- include trail alignments and bridge access for non-golf recreational use that connect to the existing trail network and provide for safe use and enjoyment by visitors to Washoe Meadows SP and Lake Valley SRA.

2.2 PROJECT FEATURES

The proposed project involves river ecosystem restoration with a reconfigured 18-hole regulation golf course. The current 11,980-foot-long reach of the Upper Truckee River would be restored to 13,430 feet with additional floodplain area. Five golf course holes would be relocated to the west side of the river, on less environmentally sensitive land farther from the river, while avoiding sensitive resources. The proposed project would also reduce the amount of SEZ land and 100-year floodplain occupied by the golf course (Exhibit 2-1).

All five existing bridges would be removed from the Upper Truckee River, and two new, longer-span bridges would be constructed: one for two-way golf cart traffic and pedestrians near the upstream portion of the golf course and the other for non-golf, dispersed recreation for trail users. The bridges and associated trails would provide reasonable access for recreation users coming from Country Club Drive and those choosing to use golf course parking areas to access the proposed trail along the south side of the river. In addition, four bridges would be removed from Angora Creek and one from an oxbow channel by existing hole 11. Two of the three golf cart bridges on the unnamed creek (referred to locally as Meyers Creek) would remain in their current locations, while the third would be relocated slightly downstream where the culverted section of the channel would be daylighted; and a new bridge would be constructed over the proposed Americans with Disabilities (ADA)–compliant trail. Three to four small bridges would be constructed over seasonal drainages on the west side of the river. New recreation trails would be constructed to tie into the Sawmill bike path at U.S. 50, and from the corner of Country Club Drive to access the proposed bridges and tie into existing trails on the north and west sides of the river.

The boundaries between Washoe Meadows SP and Lake Valley SRA would be modified so that the SRA would encompass the reconfigured golf course while the restored river would generally become part of Washoe Meadows SP. This exchange of acreage between the units would result in a net increase of 2 acres to Washoe Meadows SP. The text and maps of the Lake Valley SRA General Plan would be amended to reflect management of the reconfigured golf course. A small portion of the South Tahoe Public Utility District (STPUD) access road would also become part of the SRA to the south.

2.2.1 RIVER AND FLOODPLAIN

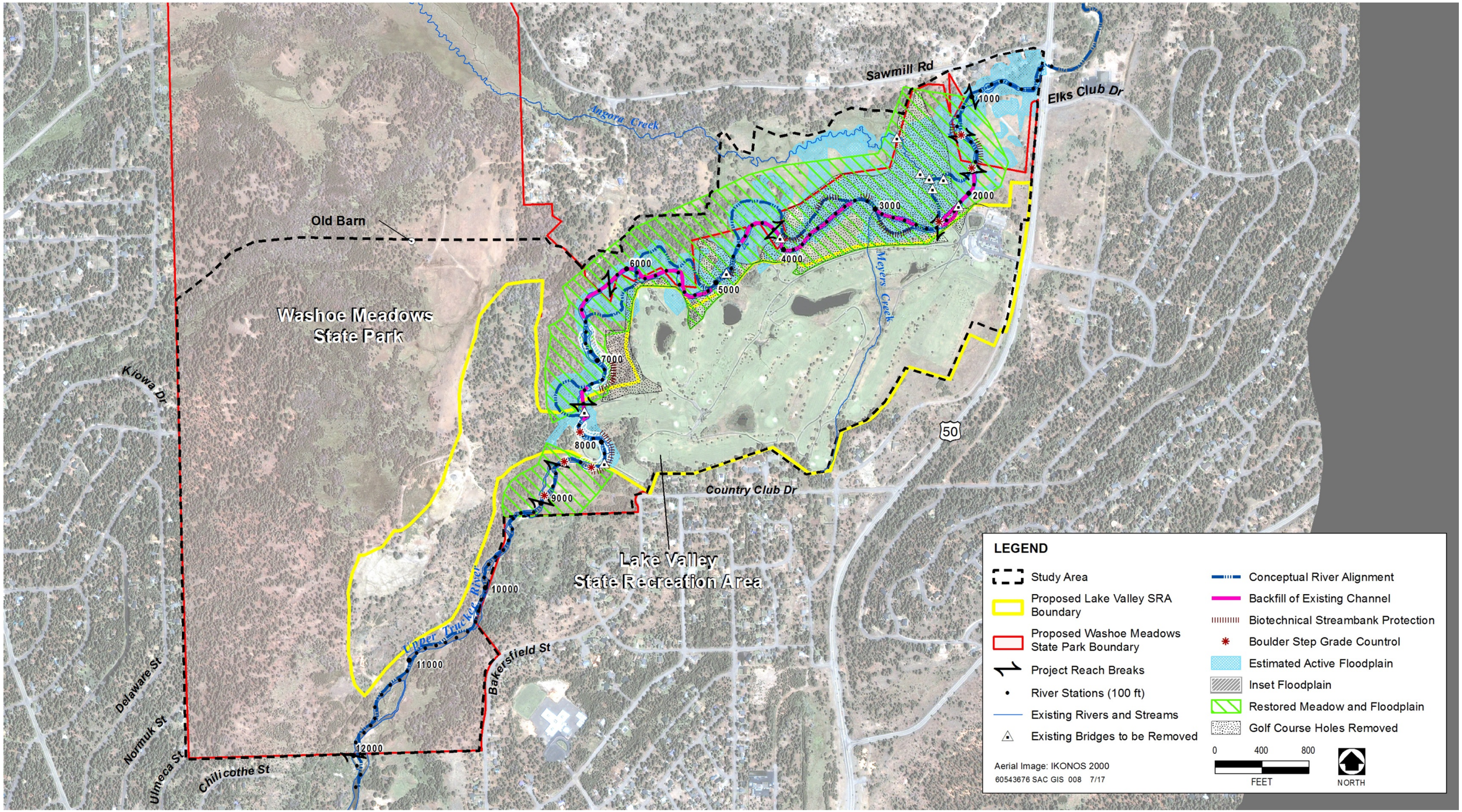
APPROACH

Under the proposed project, land uses associated with the Lake Tahoe Golf Course would be removed from areas adjacent to the Upper Truckee River and floodplain that had been occupied by the river in the recent geomorphic past to make room for a more meandering channel and more floodplain area. Several holes of the golf course would be relocated, primarily to less sensitive, higher capability lands farther from the river. This preliminary design would reduce the area of golf course adjacent to the Upper Truckee River from 6,382 linear feet to 1,300 linear feet. The increase in the extent of the vegetative buffer would increase treatment areas for protection of water quality from associated golf course land use, and adjoining riparian vegetation communities would be restored. Treatments are also proposed along the lower portion of Angora Creek and the unnamed creek (aka Meyers Creek) to reconfigure the confluence with the Upper Truckee River.

The restoration approach is designed to reverse the negative trends caused by past channelization, existing infrastructure, and associated land uses. The restoration aspects of the proposed project would increase channel length and elevate the channel bed through a combination of grade control features in the existing channel bed, reconnection of historically cut-off or abandoned meanders, and construction of new channel sections. This approach uses elements of both form-based and process-based design (River Run Consulting 2006:2). Meanders that were cut off in the 1940s and 1950s, many of which are still visible on the terrace, would be reincorporated as active channel, and approximately half of the existing channel would be retained. The approach would decrease erosive forces and increase the amount and duration of floodplain inundation, thereby reducing the supply of sediment and increasing opportunities for deposition of fine sediment. It would also actively restore riparian habitat adjacent to the river.

The river would have an increased channel length of approximately 13,730 linear feet and an active floodplain of 77 acres, including the constructed inset floodplain of 1.7 acres. Approximately 88 acres of floodplain and meadow would be restored: 20 acres within the 100-year floodplain and 31 acres in the SEZ. Most of the golf course would no longer be adjacent to the river: Currently 6,382 feet of the golf course is within 50 feet of the river, but this would be reduced to 1,300 linear feet (655 feet on each side of the river), near one of the proposed replacement bridges. The channel bed would be elevated an average of approximately 2 feet throughout the project reach.

This design does not rely on or advocate full construction of the envisioned final dimension of the channel form. Rather, it would remove infrastructure that prevents natural processes and would provide a basic form and grade. Therefore, natural geomorphic processes, such as deposition and active movement of gravel bars, recruitment of woody debris, substrate sorting, and vegetation establishment, would be expected to modify the constructed bed and bank features over time to establish a site-specific final channel form.



Source: Data provided by State Parks in 2017

Proposed Project (Preferred Alternative 2B): River Ecosystem Restoration

Exhibit 2-1

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DESIGN FEATURES

Under the proposed project, sections of the existing river channel would be incorporated into the new channel, historic meanders would be reactivated, and new channel sections would be constructed. This combination would provide the desired sinuosity and slope. Approximately 4,000 feet of the existing channel would be used without modification, 4,100 feet of the existing channel would be modified (as described below), 3,300 feet of historic channel remnants would be reconnected, and 2,100 feet of new channel would be constructed. The numeric estimates of length, area, and volume in this section are based on preliminary design and would be modified during final design (Exhibit 2-1). Descriptions of preliminary treatments and typical sketches are presented in Appendix C of the EIR/EIS/EIS.

The reactivated/reconnected historic meanders would generally use portions of the existing outside bank with mature vegetation. The bed, inside bank, and transitions would need to be modified. Constructed streambed stabilization features would be installed, consisting of grade control via anchored high-gradient riffles at the upstream and downstream treatment extents; a boulder-step grade control at the irrigation water intake; and 15–25 armored riffles at crossovers (i.e., between meanders) and channel segment transitions. Approximately 3,400 feet of existing channel would be wholly or partially backfilled to restore about 4.5 acres of floodplain. Inset floodplain areas would be excavated along approximately 1,450 feet of channel. Additional local cut and fill would be used at various locations to adjust channel dimensions, channel bed elevation, and streambank heights and angles.

Where existing channel would be incorporated into the new channel, approximately 2,700 feet of new streambank stabilization materials would be installed. Bank stabilization would be mostly biotechnical, emphasizing the use of live vegetative materials on banks with reduced heights and angles. However, some areas where more stabilization is needed (e.g., near sewer lines) would also require rock armor streambank protection and/or engineered large woody debris features. It may be necessary to relocate some sections of sewer line. Most of the 1,750 feet of existing bank protection would be removed, and the materials would be evaluated for reuse.

Reconfiguring the golf course outside of much of the floodplain and historic meander belt would allow ecosystem restoration of the Upper Truckee River. Removing the golf course from the river's edge would allow restoration of the entire floodplain and meadow north of the river (along Angora Creek) and a large area of the floodplain southeast of the river. All four golf cart bridges would be removed from Angora Creek.

All five golf course bridges over the Upper Truckee River would be removed, and two longer-span bridges would be installed. One bridge would be installed between holes 6 and 12 to support two-way cart traffic and pedestrian access. The second bridge would be installed north of RM 5000 (the approximate location of the Alternative 4, hole 12 bridge, as described in the EIR/EIS/EIS) to facilitate connectivity and improve recreation access outside of the golf course footprint within the State Park boundary. This would allow more natural channel dynamics through most of the study reach and minimize risks to infrastructure, while providing both non-golf access and access to the newly developed, more ecologically designed golf features west of the river.

The storm drainage pond between existing holes 14 and 15 would likely be filled and used for golf play. The loss of habitat would be offset by riparian habitat and other river restoration efforts of the proposed project. The channel and riparian corridor of the unnamed creek (Meyers Creek) would be enhanced by widening the riparian corridor; two of the three golf cart bridges would remain in their current locations, while the third would be

relocated slightly downstream where the culverted section of the channel would be daylighted; and a new bridge would be constructed over the proposed ADA-compliant trail. The confluence of Angora Creek would also be reconfigured (as discussed below). Three to four small bridges over intermittent drainages would provide golf course access west of the river.

UPPER TRUCKEE RIVER

The expected geomorphic features, processes, and functions of the study area under the proposed project are summarized below.

Alignment

The approximate pre-1940 alignment of the Upper Truckee River serves as the basis for the proposed location of the restored channel (River Run Consulting 2006). The 1940 historic aerial photos show several meanders that were cut off around that time, reducing sinuosity and increasing slope. The meanders were likely physically cut off by human manipulation to reduce flooding and improve grazing, although some may have been naturally abandoned. Many of these abandoned historic meanders still exist on the landscape.

The proposed alignment would increase sinuosity, reduce slope, and increase floodplain area, compared to existing conditions. The alignment is based on a preliminary design that may be modified during final design. An engineering firm experienced in geomorphic channel design would be hired to produce final plans and specifications based on the preliminary designs. Generally, however, the proposed alignment would be composed of a combination of existing (unmodified) channel, modified existing channel, reconnected historic channel (abandoned meanders), and new constructed channel sections. Preliminary treatment descriptions and typical sketches are presented in Appendix C of the draft EIR/EIS/EIS. Some portions of the existing channel proposed to remain as active channel would not be modified for the project. The proposed channel would be 13,430 feet long, 1,450 feet (12 percent) longer than the existing 11,980 feet of channel, and would be reconnected to the historic floodplain.

Abandoned meanders proposed for reconnection still have a visible channel shape in both cross section and planform, although some sediment has been deposited and vegetation has encroached since the remnants were part of the active channel. Existing mature riparian vegetation would be incorporated as an immediately well-vegetated outside bank, while other areas of vegetation could be salvaged and used for transplanting. The meander dimensions and elevations would be graded where needed and disturbed areas would be treated with transplants or other biotechnical techniques. In the lower half of the meadow reach, most meanders visible in the 1940 aerial photograph were subsequently filled during construction of the original golf course (River Run Consulting 2006). In the areas where there are no abandoned meanders with remnant topography or vegetation suitable for reconnection as part of an active river channel, two new channel sections would be created. Mature vegetative materials salvaged from the other historic meanders would be used for construction of these meanders.

The final channel alignment for the restored segment would be refined during the detailed design process, based on hydraulic engineering or other design factors (e.g., aquatic habitat, infrastructure locations). Where a reactivated meander or new channel reach may encroach on the vicinity of the existing sewer line, protective features (sheet pile or other physical protection) would be installed to avoid line damage, the alignment would be adjusted, or a section of the sewer line would be relocated away from the restored river meander. The new alignment would increase channel length in all treated subreaches. Overall channel length in the study area would

increase by approximately 12 percent, allowing the profile grade transition to be distributed over a longer reach and resulting in a lower gradient.

Profile

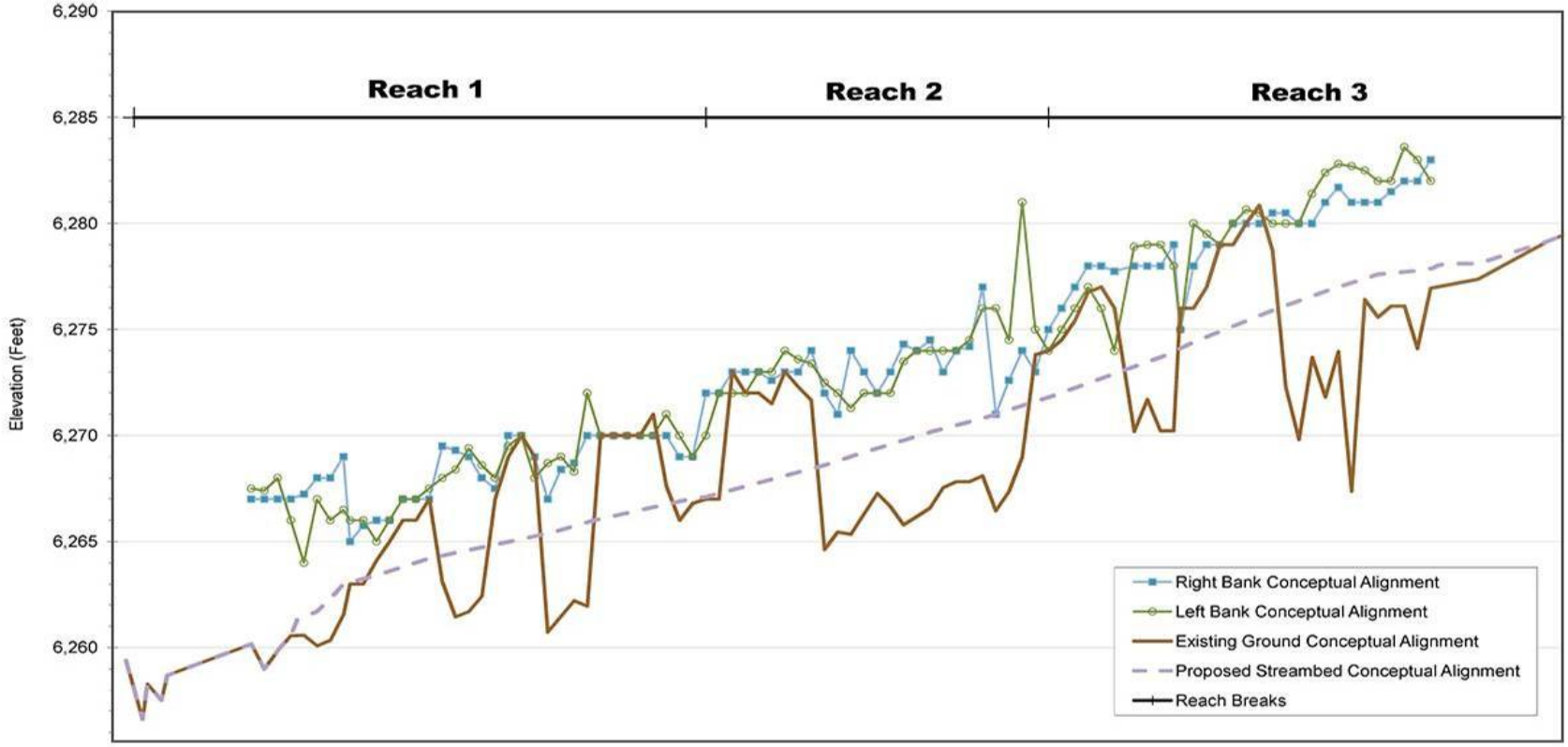
The channel bed and resulting long profile would be directly modified to raise the channel bed and indirectly encourage future sediment storage and aggradation. For these modifications, abandoned meanders present on the existing terrace surface would be reoccupied and new channel sections would be constructed with higher bed elevations, thus increasing length and reducing slope. Raised grade boulder steps and armored riffles would be installed within the existing channel. The proposed locations of the boulder step and armored riffle bed stabilization structures (Exhibit 2-1) have been selected to achieve reachwide stability and minimize erosion, channel avulsion, and damage to infrastructure. The exact locations and number of these structures may be modified in the final design. The boulder steps would require about 6,200 cubic yards of mixed rock (boulder through gravel), and the armored riffles would require about 16,500 cubic yards of cobble and gravel. In addition, clean gravel and cobble could be added to various sites along the channel; the quantity has not been estimated at this time.

Channel lengthening alone would reduce the overall average bed slope for the entire project reach (River Station [RS] 160 to RS 12000) from 0.22 percent to 0.19 percent. The desired profiles would create a smoother slope transition between the upstream and downstream reaches and create a riverbed closer to the surrounding terrace surface (River Run Consulting 2006). The preliminary proposed channel bed profile (Exhibit 2-2) was derived by connecting proposed bed elevations at the upstream and downstream ends of the treated reaches along the length of the new alignment and adjusting for the existing higher slopes in forested and transition reaches (River Run Consulting 2006). The resulting bed slopes in the treated subreaches would range from 0.14 percent to 0.19 percent.

As described previously, varied forms of grade control would be used: anchored high-gradient riffles (boulders and cobbles) at the upstream and downstream ends of the treated reaches, a boulder step (boulders and cobbles at the water intake), and armored riffles (cobbles and gravel). These varied types of grade control would require different materials and construction techniques.

Anchored high-gradient riffles would be at the upstream and downstream extents of the project and would be reach-scale (300- to 400-foot) features with a combination of about three boulder steps and integrated cobble riffles. The reach-long treatments would use a mix of boulders and cobbles near the downstream and upstream ends of the restored channel to form an undulating channel surface. The treatments would both raise and stabilize the streambed, acting as hard grade-control structures that would remain immobile even during large flood flows (e.g., greater than the 100-year peak flow) (River Run Consulting 2006).

The current boulder-step grade control at the irrigation water intake would be modified and raised slightly. To ensure vertical and lateral stability, boulders would be buried (keyed) below the approximate 100-year scour depth. In addition, wings would provide flanking protection at the upstream end and midpoint, extending into the floodplain approximately one-quarter of the channel width at each bank. About 6,200 cubic yards of material would likely be required for the grade control features.



Source: Data provided by Valley & Mountain Consulting in 2009

Proposed Project (Preferred Alternative 2B): Upper Truckee River Profiles **Exhibit 2-2**

Armored riffles would act as hydraulic controls to establish and maintain the channel bed's elevation and slope, providing continuity in the longitudinal profile. Riffles would be distributed throughout the restored channel reach and would be spaced approximately five to seven bankfull channel widths apart, as documented for functional alluvial channels (Knighton 1998, cited in River Run Consulting 2006). The armored riffles would be located at crossovers between meander bends, including at the meander transitions (upstream and downstream ends of connections to historic or constructed meanders), and in crossovers of retained channel. The armored riffles would be soft grade-control structures made of cobble-sized material that would be designed to remain immobile up to moderate flood flows (e.g., 10- to 20-year peak flows) (River Run Consulting 2006). Buried coarse substrate, such as cobbles, may also extend at least one-fourth the width of the channel, or to the edge of the active (5-year) floodplain, in a trench at the upstream end of the riffles. The riffles' surface materials would likely be mobile during moderate flood flows, but the elevation of these features would remain consistent over time.

The distance between armored riffles would be about five to seven times the channel width; for example, in areas where the restored channel would be approximately 70 feet wide, the riffles would be spaced 350–500 feet apart (River Run Consulting 2006). The preliminary length and spacing indicate that riffles would compose approximately one-third of the total length of restored channel, or 2,478 feet. The concept is to use the armored riffles to absorb the full proposed change in bed elevation within the restored channel segment (approximately 11.0 feet vertical change over 7,435 feet planform), with resulting riffle slopes of about 0.15 percent. For the preliminary design, riffles are assumed to average 60 feet wide and 2–3 feet thick (greater in the existing channel areas, less within reconnected or constructed sections), with gravel extending approximately 30 more feet onto the floodplain. Approximately 16,500 cubic yards of cobbles would be imported to construct the riffles.

Banks

The proposed project would include a mixture of bank treatments to modify and protect the streambanks of the proposed channel. These bank treatments would be designed and implemented in conjunction with the overall channel treatments to modify existing, reconnect historic, and/or construct new channel sections.

The bank treatment areas were selected to achieve reach-wide stability and minimize erosion, channel avulsion, and other damage to infrastructure while generally allowing for natural channel processes.

Biotechnical bank treatments would be installed on a total of approximately 2,700 feet of existing banks along portions of the existing channel that would be retained as active channel. Proposed bank treatments would focus on vulnerable locations, and on upstream and downstream sections adjacent to untreated river reaches. The primary method of installing bank treatments along the 2,100 feet of proposed constructed channel would be to transplant salvaged materials and use other biotechnical techniques. Examples of treatments include transplanted sod and shrubs, stacked native sod used to stabilize outside bends, native sod or seeded blankets used in straighter portions, and woody debris brush boxes. Sod and shrubs could be obtained from within the footprint of the new channels, or could be salvaged from the bottom of reconnected meanders or from adjacent meadows with native vegetation. These treatments would allow for more natural channel migration and processes over time than hard grade-control features.

Where abandoned meanders would be reconnected, final alignment details would prioritize locations for incorporating robust, existing woody vegetation along remnant channel banks into proposed bank positions. Throughout the approximately 3,300 feet of reconnected meanders, vegetation in the channel bottom would be removed and salvaged for revegetation opportunities elsewhere in the study area. However, existing vegetation on

streambanks would be preserved to the maximum extent possible to provide immediate stability and habitat. Generally, the area of vegetation protection would be about half the total bank length. The proposed constructed channel sections would be in areas where vegetation has historically been modified for golf course management. Opportunities to incorporate existing woody vegetation into the bank treatments are limited in those areas, so salvaged material and other biotechnical techniques would be used there.

Transitions among existing, reconnected, or constructed channel segments in the proposed active channel would generally occur at riffle crossovers. In these areas, transitional treatments would combine streambed and streambank measures installed to provide stability and smooth out hydraulic connections between segment types. Streambed treatment measures would likely be armored riffles in the existing channel, as discussed previously in the "Profile" section. Streambank treatments at the junction of the existing channel to be abandoned and plugged would consist of the use of compacted soil and either transplanted mature vegetation or biotechnical measures such as stacked sod. Hydraulic analysis conducted during final design may identify the need for treatments at the transitions that would include other combinations, such as using rock armoring, buried sheet piling, living woody vegetation, and large woody debris structures. Meanders that approach within approximately 15 feet of the sewer line and bridge abutments would require additional treatment, such as rock armoring or sheetpile.

Riprap, root wads, and metal or concrete present in the existing bank treatments would be evaluated on a site-by-site basis during the engineering design phase. Most existing bank treatments located in proposed active channel areas would be removed, although some biotechnical treatments could be retained or repaired as needed to stabilize banks. Where levees in the existing channel would be removed, recontouring to floodplain elevation would accompany other bank treatments. The materials removed would be salvaged for reuse, disposed of, or buried. Existing bank treatments located in the channel areas to be backfilled may be removed or buried, as appropriate.

In some areas, particularly in the forested reach, woody debris is relatively common in the channel, and the supply can be expected to remain relatively high (River Run Consulting 2006). Woody debris jams could be constructed in the forested reach to help promote streambank stability and improve the complexity of instream habitat. Small jams configured as flow deflectors along channel margins would likely be most effective. These jams would be configured carefully to avoid increasing overall streambank erosion or affecting the function of other planned bed and bank treatments.

In addition to the specific bank treatments described above, protecting the present bank vegetation would be emphasized in all near-bank areas where construction disturbance would occur. To avoid bank vegetation, the most limited number of channel access points possible would be used; trees would be shielded; and if avoidance is not possible, shrubs could be pruned while protecting soil and root structures. In areas where existing streambank vegetation must be removed, the project would salvage, store, and reuse plant materials.

Channel Dimension/Capacity

The proposed project would alter channel dimensions (width, depth, cross section area) and modify the capacity of the newly constructed channel sections (reconnected meander sections) to convey flow. In addition, a combination of implemented direct and expected future indirect changes would modify the dimensions and capacity of existing channel sections that would remain part of the active channel.

Mussetter Engineering (2000) recommended 600 cubic feet per second (cfs) for bankfull discharge downstream of the study area, based on the 2-year recurrence peak flow. (River Run Consulting [2006:47] concluded that this would probably be adjusted to approximately 450–550 cfs in the project reach, upstream of Angora Creek and other inflows.) ENTRIX estimated the 1.5-year flow to be 450 cfs in the Sunset Reach immediately downstream (ENTRIX 2003). Swanson Hydrology + Geomorphology (SH+G 2004:III-7) suggested a bankfull discharge in the study area of about 350 cfs, based on field identification of indicators such as vegetation lines and midchannel and point-bar surface heights. River Run Consulting (2006:48) emphasized the importance of rain-on-snow events in shaping channel geomorphology and cited field observations during runoff events that supported a design flow of 450–550 cfs. Based on these estimates, the proposed channel capacity of constructed portions of the restored channel would be approximately 450–550 cfs (River Run Consulting 2006:48).

For the preliminary design, field measurements of water stages and channel dimensions under known flows at State Parks' stream gauge sites (RS 10600 to RS 1700) were used to develop typical dimensions for an approximately 500-cfs-capacity channel (River Run Consulting 2006:48). At a discharge of 500 cfs, this cross section has a top width of about 70–75 feet, a bottom width of about 40–50 feet, and an average depth of about 3 to 3.5 feet. These dimensions provide the preliminary design for the proposed channel geometry at armored riffles or other constructed areas, allowing for variability while keeping continuity. Final channel dimensions for the project would be developed during the design phase, using an iterative approach that would incorporate further analysis of channel geometry in functional areas (analog forms), sediment transport data, and hydraulic analyses, along with consideration of other factors.

The proposed 2,100 feet of newly constructed sections would be excavated into the existing terrace and floodplain ground surface. Additional grading would adjust these sections for consistent and appropriate bank heights and angles (e.g., outer banks versus point bars) for the stacked sod and/or other revegetation treatments. In all cases, the upper 1 foot of material would generally include salvaged soil, gravel, and vegetation to be reused on bank treatments (described above).

Sediment has been deposited in and vegetation has encroached on the abandoned meanders during the decades since they were active channel sections. The proposed reconnection of 3,300 feet of meanders would require excavating and shaping the channel bottom and modifying streambank heights and angles (at least on the inside of bends) to meet design elevations and dimensions. The proposed 4,100 feet of modified existing channel would include areas with hard and soft grade-control structures and areas of bank treatments (described above). To the degree feasible, bed and bank treatments in the existing channel would be designed to reduce channel width and depth; but at a minimum, treatments would prevent channel enlargement. In locations with armored riffles, the final grade would be 2–4 feet higher (positive grade) than the existing channel bed, and final bank treatments would include additional roughness and resistance to help narrow the channel. The restoration concept relies on natural geomorphic processes (e.g., sediment deposition and bar formation, vegetation colonization, woody debris recruitment) in the existing channel to adjust the channel shape and size between treatment areas.

The design assumption is that natural erosion and deposition processes would establish appropriate channel dimensions over time in areas where the stream is not fully reconstructed (River Run Consulting 2006). General channel dimensions would be established at armored riffles; however, in the newly constructed channel and the reconnected meanders, the intervening reaches would adjust over time in response to local sediment supply, transport, deposition, and erosion. The water surface elevation and channel capacity would be controlled by the profile elevation and cross section of the next downstream riffle crest.

UPPER TRUCKEE RIVER BRIDGES

Under the proposed project, all five existing golf course bridges would be removed. Removal of the existing bridges would involve local excavation at the footings to cut existing steel piles 1–2 feet below finish grade. A ½-inch steel plate would be welded to each newly cut end before reburial. Only minimal material would be removed and all steel products would be recycled. Constructing bridges with concrete footings would require jackhammering the concrete to 1–2 feet below finish grade. Exposed reinforcing steel would be cut flush with the concrete surface. Approximately 3 cubic yards of concrete debris would be generated during the removal of each footing. Existing rock riprap associated with the bridges would also be removed; this material would be salvaged and reused or used as fill in reaches that would be abandoned and filled. The bridge removal sites would be evaluated to determine the degree or type of bed and bank stabilization and revegetation required. In some bridge removal locations, the site would become part of the inset floodplain, backfilled channel, or other restored surfaces and would be treated as such. In reaches of the existing channel to be incorporated into the final alignment, bed grade elevation would be controlled by restored profile, but bed and bank treatments may be needed.

A new golf cart bridge would be installed over the Upper Truckee River to accommodate two-way cart traffic, service vehicles, and pedestrian access to trails, with a proposed location between holes 6 and 12. This bridge location was evaluated in the EIR/EIS/EIS as part of Alternative 4; however, the location may be modified within 50 feet upstream or downstream during final design. The new bridge would span the channel and active floodplain without piers in the channel bed, and would extend approximately 100–140 feet to allow passage of flood flows; the length would be determined during engineering design. To provide enough room for two-way cart traffic and pedestrian use, either a single 15- to 20-foot-wide deck or two side-by-side 10-foot-wide decks would be installed. The bridge would be designed to allow for passage of the 100-year flow; the bottom of the bridge would be located approximately 10 feet above the streambed and about 5 feet above the typical (2-year flow) water surface.

Near the new golf cart bridge, an inset floodplain would be excavated into the high streambanks to improve conveyance of flood flows and allow for a functional active floodplain area along the main channel. The inset floodplain would be approximately 900 feet long (300–500 feet upstream and downstream of the proposed bridge) and 40–70 feet wide (20–35 feet in from the channel bank). The depth of excavation into the existing high terrace along the streambanks would range from 2 feet to 6 feet, with a resulting active floodplain surface of about 2 to 3.5 feet above the streambed. Bridge abutments would be along the back edge of the active floodplain, with pilings driven to refusal (below the 100-year-flood scour depth). Conveyance of the 100-year flood would be uninhibited. The inset floodplain would be stabilized with biotechnical treatments and revegetation.

A second bridge, for non-golf multiuse recreation, would be installed at approximately the current location of the hole 12 bridge. This bridge was proposed to be retained under Alternative 4, but would be replaced under this alternative to accommodate the increased floodplain area. This bridge would be similar to the golf cart bridge described above, but it would be only approximately 10 feet wide to accommodate trail users. This bridge location also was analyzed previously, under Alternative 4.

The newly constructed bridges would resemble the existing prefabricated steel golf course cart bridges. Decking and railing materials would be similar to those of the existing golf course bridges at holes 6 and 7. Bridge guardrails would conform to the guardrail configuration of the existing course bridges. Guardrail heights would

vary, with clear span from 3 to 6 feet. An irrigation pipe would be attached to the underside of the golf cart bridge deck with pipe clamps. Waterlines would be protected by a steel sleeve one pipe size larger than the irrigation pipe. The pipe would convey water from the existing well and storage ponds east of the river to the proposed golf course areas and pond west of the river.

ACTIVE FLOODPLAIN AND RIVER OVERBANKING

Under the proposed project, the active floodplain would be enlarged, thus increasing connectivity and the frequency of river overbanking through channel restoration. The floodplain along the Upper Truckee River and the unnamed creek would have improved function; floodwater would be allowed to slow down and sediments could settle out, improving water quality. The frequency of floodplain inundation along the river would increase because the proposed project would reduce the confinement caused by the existing high streambanks and enlarged channel capacity. The increased bank length and frequency of overbank flows, direct modification of floodplain topography (e.g., excavation of inset floodplain, retirement and restoration of golf course areas), and increased channel bed elevation would combine to increase the active (5-year) floodplain area from the existing 36 acres to 77 acres under the proposed project. In addition, 20 acres within the 100-year floodplain would be restored by removing the golf course from these areas.

The general aim of the design is to restore connectivity and increase the length and area of active floodplain adjacent to an appropriately sized channel that would overflow its banks at least once every 1½ to 2½ years, while still providing flood protection to adjacent private properties. However, the design does not rigidly apply the same channel capacity and bank heights throughout the study area. Because the project spans reaches that would have different natural floodplain relationships, the preliminary design allows for variability in channel capacity and bank height (River Run Consulting 2006). Near the upstream end of the project reach, the stream was likely naturally incised within outwash deposits and had a limited active floodplain in that area. Downstream, however, it naturally transitioned to the valley flat meadow reach, with a broad active floodplain. Because of the complexity of existing topography, the preliminary design focuses primarily on restoring channel length and profile characteristics, rather than on ensuring that channel dimensions match the design (bankfull) discharge throughout.

Because the channel bed profile would be raised with continuity of grade between the upstream and downstream grade controls, streambank height would decrease and floodplain connectivity and overbanking frequency would increase throughout most of the project reach. The 4,400 feet of newly constructed and reconnected historic meanders and some sections of the 4,100 feet of modified existing channel would have a raised bed elevation (at installed grade controls). The approximately 3,900 feet of unmodified existing channel upstream and downstream of the proposed river treatments would not be modified, but the upstream reach is currently less incised and confined. The downstream reach below the lower-most grade control would continue to be influenced by backwater effects from the U.S. 50 bridge and would have limited overbanking under frequent, small-magnitude events (e.g., 2- to 5-year peak flows).

Inset Floodplains

To enlarge the active floodplain, a total of about 1.7 acres of inset floodplain would be directly excavated from the existing terrace banks. The proposed locations for the inset floodplains are near the upstream end of the project reach where the channel is incised in glacial outwash. These areas normally would be more confined than meadow reaches, but incision has exacerbated the problem. The areas proposed are also in the upstream portion of the project where there is limited opportunity to substantially raise the channel bed elevation. Floodplain

excavation would reduce the height of the active channel bank; provide additional conveyance capacity for large flood flows between the high-terrace banks; and directly remove sediment sources in an area of highly unstable, steep banks. The preliminary design assumes approximately 2–6 feet of excavation throughout the proposed inset floodplain areas (River Run Consulting 2006). The design width and configuration of the excavated floodplain could be modified based on the extent of severe bank erosion, the hydraulic characteristics of the final channel and bridge design, and protection of existing vegetation.

Backfilled Channels

The approximately 3,400 feet of existing channel that would be abandoned would be converted into about 4.5 acres of functional floodplain through complete or partial backfilling. Backfilling would create sediment and soil depths and properties suitable to convey and store groundwater and soil moisture that supports native vegetation that grows well in wet areas. Partial backfilling would mimic oxbows and abandoned meanders such as those that exist in the study area.

The backfilled channel sections would be stabilized at the upstream and downstream ends with compacted soil plugs revegetated with stacked sod or salvaged vegetation. Plugs would be at least 40–50 feet long, and would extend across the entire width of the blocked channel to tie in with a finished ground surface that is equal to or slightly higher (up to +1.0 foot) than the existing adjacent surfaces (River Run Consulting 2006). Vinyl sheet piling would be installed across the former channel within the downstream plug, and the upstream plug may contain a rock core or sheet pile to protect against erosive forces. The plugs at the upstream ends of backfilled channel sections must be designed to force all flows up to the design flow (450–550 cfs) into the proposed new or reconnected meander. However, a portion of flood flows greater than the design bankfull flow could be allowed into the backfill channels, promoting floodplain function and diversity of natural abandoned meanders. The designated streamflow at which overflow into the backfill channels might occur would be selected during final design, based on hydraulic analysis, desired active channel flows and water elevations, and other factors related to floodplain flow paths and residence time.

The amount of fill placed in the backfilled channel sections would depend on many factors. All plugs (approximately 20 plugs totaling about 1,000 feet in length) and other areas vulnerable to erosion would be completely filled to ensure the stability of the proposed channel margins. Most other areas would be filled to within 1–3 feet of the surrounding ground surface (approximately 55–75 percent fill). Some areas may not be backfilled as deeply, to allow for additional surface water features and habitat values on the floodplain. The final area and configuration of shallow (partial) backfill would minimize the presence of stagnant water suitable for mosquito breeding, while maximizing the continuity of groundwater and soil water across the floodplain. Areas with standing water are currently treated by the El Dorado County Vector Control District; reconfigured and restored areas would also be treated. Numerous oxbows and abandoned meanders currently exist, and these features would mimic the existing habitat. Material generated on-site by other construction elements would be used for backfill to the extent possible, but some materials would likely need to be imported.

Restored Floodplains

Relocating golf course holes farther from the Upper Truckee River would increase the buffer between the golf course and the river and allow restoration of floodplain topography, soils, vegetation, and function. The area selected for removal and relocation of holes was guided by an analysis of meander scars appearing on aerial photos.

In the preliminary design, holes are generally relocated outside the historic meander belt. Geomorphic and ecological function would be restored to approximately 88 acres of floodplain/meadow, including 20 acres within the 100-year floodplain from which a portion of the golf course would be removed. All existing golf course infrastructure north of the river along Angora Creek in Reach 1 (holes 10, 11, and 12) would be removed. South of the river, all of holes 17 and 18 would be removed and portions of holes 14, 15, and 16 would be reconfigured.

The revegetation treatment of the floodplain would vary depending on the amount of disturbance required to remove golf features, proximity to the STPUD sewer line, and the species of vegetation present. Thus, a range of treatment options could be applied. In order of decreasing intensity, these options are:

- removing fill, grading, rebuilding soil, and revegetating;
- removing shallow fill and exposing buried native rhizomes or revegetation;
- deep-ripping, amending, and revegetating;
- seeding and irrigating; and
- abandoning turf.

Where construction of the existing golf course would raise the ground elevation (e.g., for greens, tee boxes, spoils, and levees), the historic topography would be restored by removing nonnative turf and fill material and/or grading local areas. The final elevation would match the native, predisturbance grade. Minimum required cover for existing sewers would be maintained. In other areas where the naturally diverse and complex topography would be smoothed for golf course landscaping, grading would be used to recreate topographic variability similar to natural floodplains. Topsoil would be salvaged and replaced at the restored elevation. Revegetation would use native seed or plants appropriate to the site, and would consist of seeding and installing plug plantings or applying pregrown sod mats. Mulch (loose or hydraulically applied) or coconut fiber fabric would then be applied to provide initial protection against erosion. At suitable locations, willow plantings (cuttings, stubs, or entire rooted clumps) would be clustered to reestablish willow-meadow complexes. Where willows are desired but preexisting relict turf is present, measures would be applied to create a competitive advantage for willow over the meadow vegetation in which they would be planted.

In areas with only shallow fill that may have buried natural soil and native meadow rhizomes, the turf and fill would be removed, and the surface would be evaluated to see whether rhizomes are viable or whether native sod or seeding is required. If needed, the disturbed surface would be seeded with additional desirable species (e.g., *Deschampsia cespitosa*) and mulched or covered with fabric.

Soils would be deep-ripped and amended if needed in areas where golf course topography is generally appropriate for the restored floodplain but there is no evidence of native species competing with the turf, or where soil conditions are not conducive to the desired vegetation type. Prepared soil areas would be seeded and/or planted with plugs of desired species and mulched or covered with fabric.

Seeding over existing golf course turf may occur in locations where the existing vegetation is desired for protection against erosion and/or the soil profile would not require modification to support the desired future vegetation. This approach would be used in areas that show minor, interspersed native species competing with the turf or that would have higher soil moisture after restoration, which would result in golf turf species being outcompeted with time.

Turf abandonment treatments may be used in locations where native wet meadow graminoids or other desired vegetation communities are present and vigorous in existing vegetation. Native species such as *Carex nebrascensis* grow up through turf, and they would readily outcompete golf turf and reestablish wet or mesic meadow habitat with the restored hydrology. During the transitional period before native species dominate, existing turf would provide protection against erosion.

Areas anticipated to support mesic meadow and dry meadow could be treated with ripping and planting in bands oriented along topographic contours, alternating with parallel bands of seeding and mulching with the abandonment treatment (combination of the above two treatments).

Existing golf course turf would be tilled and incorporated into subsurface fill, or would be removed and salvaged for other use and/or disposed of off-site. Any undesired layers of sand or soil would be scraped and disposed of off-site or reused as fill.

These floodplain treatments could be applied either to the entire floodplain in one season, or in strips perpendicular to the river over a period of 2–4 years to avoid disturbing all vegetation simultaneously. The untreated strips would be replaced with native vegetation once the treated strips have good vegetation establishment.

OTHER ENHANCEMENT EFFORTS

A seasonal drainage on the west side of the river (in the southwest area of the golf course footprint) that was previously diverted into a ditch and has since developed a headcut, resulting in a gully, would be restored. That gully would be recontoured and the stream channel rebuilt into a natural configuration. Where this drainage crosses the golf course, a golf cart bridge would be required.

Before State Parks ownership, the hillside below the fens was quarried for gravel, leaving depressions at the base of the slope. Seepage along the mined cut slope seasonally ponds in these depressions. Restoration of the quarry wetland ponds, as described for Alternative 2 (see the draft EIR/EIS/EIS), would consist of enhancing the wetlands and vernal pools that have formed in depressions left at the base of the quarry cut-slope. This area would not be disturbed as part of the proposed project, as the area is naturally recovering and has established properly functioning habitat. The proposed golf course improvements would occur downgradient from this area and would be separated by a berm that would provide a buffer and barrier from the golf course. Drainage out of the pond would cross the golf course, requiring a small golf cart bridge. Additional information about the fens and a profile exhibit of this area are provided in Chapter 3 of this draft PAAEA.

Unnamed Creek (Meyers Creek)

The unnamed creek (known locally as Meyers Creek) that flows northward through the golf course between existing holes 1 and 3 and enters the Upper Truckee River at RS 3000 was previously straightened and channelized into a ditch. Under the proposed project, this creek would be enhanced. The three golf cart bridges would remain; however, one would be relocated to daylight an existing culvert. A new bridge would be constructed to the north and would be designated for trail use outside the golf course footprint (the proposed ADA-compliant trail).

Along the unnamed creek, the setback from golf course landscaping turf would be widened slightly to increase the naturalized landscape. Within this zone, turf would be removed where necessary, and native vegetation would be planted to improve stormwater treatment and increase habitat. As feasible, the low-flow channel of the creek would be modified to increase channel length and improve the potential for small, active floodplain areas in the buffer zone. The lower reach of the creek, which is currently piped, would be daylighted and restored.

Under the proposed project, the mouth of the unnamed creek would be moved and raised, and its orientation would be adjusted relative to the restored Upper Truckee River alignment. Approximately 300 feet of the unnamed creek would likely need to be replaced with a newly constructed channel to the east that would curve to meet the new river position about 275 feet farther downstream than at present. Two or three cobble-boulder step-grade control features and biotechnical bank stabilization treatments would be installed along the approximately 225 feet of new, reoriented channel. Reorienting the creek mouth would reduce erosive forces on the banks of the Upper Truckee River.

Angora Creek

The lower ¾ mile of Angora Creek was restored in 1997 by State Parks. Because the Upper Truckee River was down-cut (incised) near the historic confluence, the restored Angora Creek needed to be longer to drop down to that lower elevation. The restoration incorporated a portion of an abandoned historic river meander as part of the restored Angora Creek channel. Under the proposed project, the bed of the Upper Truckee River would be raised, and the historic meander previously occupied by Angora Creek would be reconnected to the restored Upper Truckee River. The mouth of Angora Creek would be relocated approximately 200 feet upstream of the current confluence to the point where the creek currently enters the historic meander, and four pedestrian and golf cart bridges would be removed.

2.2.2 RECONFIGURED 18-HOLE REGULATION GOLF COURSE

The preliminary design of the 18-hole regulation golf course for the proposed project reconfigures the Lake Tahoe Golf Course by relocating up to five entire golf course holes to the west side of the Upper Truckee River, reconfiguring several existing holes on the river's east side, and upgrading drainage for retained areas of the course. The existing holes identified for relocation are within the river's historic meander belt and active floodplain. The holes would generally be relocated onto higher capability lands farther from the river to minimize the use of SEZ lands, avoid sensitive biological and cultural resources known to exist in Washoe Meadows SP, and maintain a buffer from the river and adjacent residential areas (Exhibit 2-3). Where golf course holes would be removed from the river corridor, the riparian/floodplain areas would be restored (as described above).

The reconfigured golf course would have an overall footprint of 137 acres. Of this total, 48 acres would be native vegetation (minimally managed and naturalized landscape) and 82 acres would be intensively managed (nonnative vegetation or coverage). The area of golf course in SEZ would be reduced to 102 acres, 38 acres of which would be in the 100-year floodplain. All five existing golf course bridges over the Upper Truckee River would be removed, and two new bridges would be constructed (one for two-way golf and recreation traffic and a second for dispersed recreation). A total of 1,300 linear feet of golf course would be adjacent to the river at the replacement bridge to allow for playability; however, as described below, the golf course design would include safety measures for trail users. An additional three to four small bridges would be placed over intermittent drainages on the west side of the river.

The overall plan is preliminary and the final design may be refined slightly to satisfy the parties involved in the final decision-making process. These modifications would not substantially increase the intensity or severity of an impact or create a new significant impact.

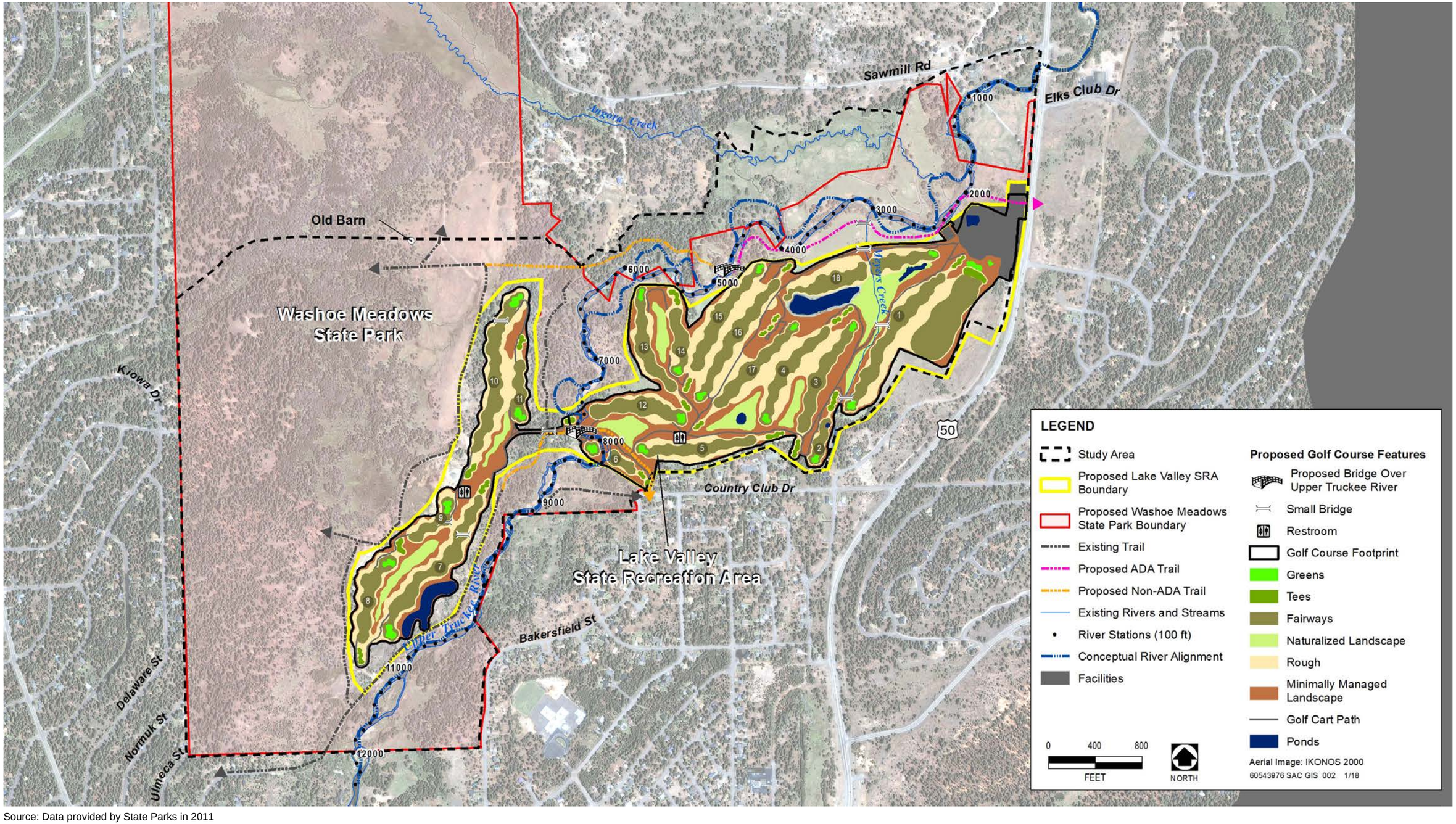
PRELIMINARY DESIGN FOR THE GOLF COURSE

The reconfigured course is proposed to have an environmentally sensitive and sustainable design, and to be capable of hosting championship (tournament) play. The golf course would be integrated into the natural landscape, using a site-specific design approach intended to minimize land disturbance. The preliminary design minimizes potential golf course impacts on the natural ecosystem while maintaining a high-quality golf experience. It also provides an opportunity to create interpretive signs throughout the course, calling out the project's environmental enhancements along with various habitats, plant, and animal communities present in the study area.

Among the key design goals for the reconfigured golf course are to provide a high-quality recreational opportunity, maintain open space, and preserve the visual and functional quality of the landscape. Tree removal under the proposed project would be approximately half that proposed under Alternative 2. The layout was designed to minimize this effect by placing the course in relatively open and previously disturbed areas to lessen impacts on the ecosystem while still allowing an 18-hole regulation golf course. The design would incorporate measures to continue the existing Audubon Sanctuary certification through the Audubon Cooperative Sanctuary Program for Golf Courses with ecologically sound land management and the conservation of natural resources.

The proposed project proposes a classic links-style golf course in which wider turf areas would be placed only in main landing zones, with narrower turf near the tees. All turf areas (intensively managed) would be buffered using native grasses (minimally managed). The existing golf course holes would be modified to match this style. Holes remaining on the east side of the river would be reconfigured and upgraded to improve playability, drainage, turf quality, irrigation efficiency, and water collection and to incorporate current best management practice (BMP) technology. As part of this reconfiguration, the unnamed creek that crosses the center of the golf course and discharges into the Upper Truckee River would also be modified (e.g., to add setbacks and buffer areas between turf areas and the creek and native vegetation treatments in those buffer areas).

All areas within the current golf course footprint where existing golf facilities would be removed and no longer used as part of the new course would be restored to a native landscape and removed from Lake Valley SRA. These areas would receive minimal grading to restore natural topography and drainage. They would then be planted with native vegetation and managed only for natural values as part of Washoe Meadows SP.



Source: Data provided by State Parks in 2011

Proposed Project (Preferred Alternative 2B): Reconfigured 18-Hole Regulation Golf Course

Exhibit 2-3

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Course Layout and Routing

The preliminary layout and routing of the reconfigured golf holes is based on the proposed use of the golf course and the existing characteristics of the study area. The course's exact configuration would likely be modified during final design, but its size and layout considerations would remain as presented here. Topography and natural features would be incorporated into the routing to create a natural character unique to the site and would be integrated into the natural setting. The routing of this preliminary design takes into consideration environmentally sensitive areas, drainage patterns, climatic conditions, and other factors that would affect playability, construction, and maintenance of the golf course.

The current Lake Tahoe Golf Course is an 18-hole regulation length, par 71 course with a total walking distance of 6,741 yards. The current course has three sets of tees, at 6,742, 6,327, and 5,702 yards. The course rating and slope for the three tees are 70.8/126, 68.9/120, and 66.7/109, respectively.

The preliminary design for the reconfigured Lake Tahoe Golf Course maintains its status as an 18-hole regulation course designed to be able to host tournament play, with approximately the same slope, rating, length, par, and variety of holes as currently exist. In addition to the site's natural features, the golf course layout incorporates design features such as tee areas, greens complexes, sand and grass bunkers, and water features to define the strategy of each hole and produce the desired visual quality, keeping in mind circulation, speed of play, and safety. For areas that lack character or topography, these features would be used in conjunction with golf course routing to create playability, surface drainage, and aesthetics.

The proposed project would modify, incorporate, and improve sections of the existing golf course that are to be retained; modify two existing golf course holes that cross the Upper Truckee River and replace undersized golf cart bridges with two that span the Upper Truckee River; construct five new holes on the west side of the river; and remove the golf course from most areas adjacent to the river. All existing golf cart paths that are not within the footprint of the reconfigured golf course would be removed, and the area would be restored to native topography and vegetation. The asphalt would be disposed of off-site, and the area would be tilled, seeded with native seed, and mulched. New golf cart paths would be constructed within the reconfigured golf course's footprint to serve the new holes. Asphalt cart paths would be approximately 8–9 feet wide in areas of one-way traffic and 12 feet wide in areas of two-way traffic. Exhibit 2-3 shows the new path layout.

A section of the new golf cart path route on the west side of the river would also serve as a walking trail to provide non-golf recreation access across the course and to the new bridge, and would connect to newly constructed trails that tie into the bike path on the river's east side. The portion of the course on the west side of the river would be designed so that maintained turf areas are surrounded by native vegetation. The intent is to create a course that blends well with existing terrain and natural vegetation. This concept creates more target-style golf, where wider turf areas would be placed only in main landing zones (fairways through greens), so that manicured vegetation would be narrow near the tees and minimized overall. Thus, tee areas would be more like islands in the native landscape. In some cases, golf cart paths would cross through portions of natural landscape between holes. Fairway and rough areas would be minimized to accommodate play with little disturbance of the existing natural landscape.

A 1.6-acre pond is proposed for irrigation and stormwater treatment in the area of a former oxbow on the terrace. A new approximately 650-square-foot restroom facility would be constructed near the new hole 7 on the west side

of the river. A connection to the existing power and sewer lines located at Chilicothe Street would be installed. Restroom access would be provided by the golf cart path described above. The existing temporary restroom facility located near the current hole 5 would be replaced by a permanent facility, measuring approximately 400 square feet, that would be connected to sewer and power lines on Country Club Drive (Exhibit 2-3).

Grading west of the river would be minimized, primarily relying on using the natural contour. Modifications to the natural contour would be made only where necessary to create playable slopes for golf, positive drainage, and properly elevated greens and tees. Grading of landforms west of the river would require an estimated 210,000 cubic yards, including topsoil salvage. All material would be reused on-site. Approximately 4,800 yards of sand and gravel and 32 acres of new sod would be required for construction of tees, greens, and bunkers on the west side of the river.

The two existing holes that cross the river would be modified to reduce long tee-to-green distances and keep play moving at an acceptable pace. The existing layout is easy to walk and the proposed course should remain as easy to walk as possible. The two holes crossing the river would be "target holes" to minimize the golf course's landscape footprint and would be redesigned to lead up to and away from the river; target holes minimize impacts on the stream zone because they are shorter holes with limited turf. The holes would be graded with drainage toward the surrounding buffer zone and would not return flows directly to the river. The holes would have minimal rough, creating an island of turf in the native landscape, but the turf areas for these holes would be sufficiently wide to contain the majority of golf shots. The perimeter of the turf area for the two new holes playing across the river would be marked as an environmentally sensitive area. This marking would dictate that players not enter the area adjacent to the turf at any time, not even to search for lost balls, thus reducing any potential impact of players on the river ecosystem. Only maintenance staff would enter sensitive areas (occasionally) to retrieve balls. The river holes would also enhance the quality of the playing experience and create an opportunity to bring focus to the interpretation of the river restoration.

Existing golf course holes would be modified to tie in with the proposed new holes and river restoration project. The proposed design would update the portion of the existing golf course to be incorporated to reduce environmental impacts, and natural areas between holes would be expanded. In the proposed design, several holes or portions of holes near the river would be removed and the area restored. The routing of three existing holes (holes 13, 14, and 16) would be adjusted to tie in with the new holes west of the river and reduce excessively long tee-to-green walks. Existing holes 10, 11, 12, 17, and 18 would be removed for floodplain restoration.

The other existing holes and the practice areas would be improved to reflect the character and quality of the new layout. This work would include local grading, new irrigation, drainage improvements for golf cart paths, and replacement of bunker sand. Tees, greens, and portions of fairways that need to be reconfigured would be resodded; existing bunkers would be rebuilt and would be spot-treated in problem areas. Areas out of play between holes that currently have managed vegetation would be restored to natural native vegetation. Approximately 100,000 cubic yards of grading would be required with materials balanced on-site. About 7,200 cubic yards of sand and gravel would be imported for construction of tees, greens, and bunkers.

Land Management

The footprint of the Lake Tahoe Golf Course includes areas managed for golf and adjacent or surrounding areas managed for natural resources (Table 2-2). The preliminary design for the reconfigured 18-hole golf course

increases the total golf course footprint from 134 acres to 137 acres; however, it includes more areas managed for natural resource values (natural landscape) than the previous footprint and a larger area that would be less intensively managed (golf landscape). The amount of intensively managed area (turf and developed) would decrease from 104 acres to 89 acres, including a reduction in turf from 98 acres to 82 acres; the amount of minimally managed acreage would be 38 acres; and areas managed as natural landscape would increase to 10 acres under the proposed project, compared to 7 acres under existing conditions.

Table 2-2. Land Management Descriptions

Landscape	Area	Native Vegetation?	Mow?	Irrigate?	Fertilize?
Natural landscape	Natural area	Yes	No	No	No
Minimally managed golf landscape	Minimally managed vegetation	Yes	No	Occasionally	No
Minimally managed golf landscape[1]	Ponds	Yes	No	No	No
Minimally managed golf landscape[2]	River berms	Yes	No	No	No
Intensively managed golf landscape	Tees, greens, fairways	No	Yes	Yes	Yes
Intensively managed golf landscape	Rough	No	Yes	Yes	Rarely
Intensively managed golf landscape	Lawn or landscaped areas	No	Yes	Yes	Rarely
Intensively managed golf landscape	Buildings, parking lots	NA	No	NA	NA

Notes: NA = not applicable
[1] Ponds would be used for stormwater collection and irrigation supply.
[2] River berms are used to decrease flooding at the existing golf course.
Source: Data compiled by State Parks in 2011

Some portion of the existing intensively managed areas would be modified to develop new out-of-play areas of natural landscape, composed of native vegetation (scrub and grasses) that surround tees and greens. Native vegetation areas would be incorporated into the natural landscape on the west side of the river. All improved or new turf areas would be either covered with sod or seeded. In the case of sod, where existing turf occurs, it would be pulverized and incorporated into the seedbed. Greens would be composed of bentgrass, and fairways, tees, and roughs would be bluegrass or fescue. A fescue blend would border all turf areas to act as a buffer (minimally managed area) between the highly maintained turf areas and the natural landscape. Alternatively, only the tees, greens, and rerouted areas would be re-grassed. Under the preliminary design for the reconfigured 18-hole regulation golf course, riparian habitat would be further enhanced by planting native species between and around holes.

Currently, the golf course drains toward the river with little to no buffer. The proposed drainage concept would regrade areas of the golf course and remove golf landscape adjacent to the river. Additionally, existing erosion hazard sites affecting infrastructure would be reduced by removing bridges and restoring a more functional river. Drainage would be designed to collect runoff on the golf course and run it through natural biofilter vegetation buffers to ensure that it does not run directly into the river or the unnamed creek (Meyers Creek). Also, source reduction practices are in place within the management zones around ponds; thus, fertilizer and pesticide use near water bodies is limited.

Under the proposed project, diversion of surface water from the Upper Truckee River would remain a component of the irrigation water supply system. However, this diversion would be limited to periods when the existing well cannot produce a sufficient water supply or is being repaired. The diversion infrastructure would be protected with a boulder-step grade control structure as part of the river restoration design.

Implementing improved water conservation strategies would be integral to this alternative. The irrigation and drainage system near the existing holes would be replaced with new, more efficient computerized technology that would control the rate, amount, and timing of irrigation water application to minimize soil erosion, runoff, and fertilizer and pesticide movement. The irrigation system would be designed with an average application rate less than the soil's infiltration capacity to prevent surface ponding and ensure maximum water use efficiency without excess deep percolation. All irrigation would be based on a water balance method that takes into account plant water use as monitored by environmental conditions, soil drainage, and natural rainfall.

Existing irrigation heads are 360-degree spray and 90-degree spray and do not allow for targeted application. These irrigation heads would be removed. Irrigation piping and wire would be left in the ground and a new piping and control system would be installed. Approximately 9,000 feet of new irrigation pipe would be placed at a depth of about 30 inches, and approximately 45,000 feet of new irrigation pipe would be placed at a depth of about 18 inches. The new irrigation heads would allow for directional control and closer spacing to better target irrigation and improve water conservation. The well and pond at the existing hole 9 would continue to be used for irrigation purposes. The stormwater pond west of the existing hole 15 would be regraded and restored as oxbow/wetland floodplain habitat as described above in Section 2.2.1, "River and Floodplain." This feature would be adjacent to but outside the golf course footprint.

The new irrigation system proposed on the west side of the river would include a 1.6-acre, 5-foot-deep stormwater and water supply pond adjacent to the proposed hole 7. Approximately 8,000–10,000 feet and 38,000–42,000 feet of new irrigation pipe would be placed at depths of approximately 30 inches and 18 inches, respectively. The new pond would be constructed in a high-terrace older oxbow. If this option is not feasible because power could not be brought in, then the pond between the current holes 13 and 16 would be enlarged for water supply to this area, with water supplied from the well for all ponds. A pipe attached to the new bridge with a maximum diameter of 10 inches would connect to the irrigation system on the east side of the river.

Lawn mowing would continue, typically from early morning until mid to late afternoon, and occasionally into the evening. Fertilizer use at the Lake Tahoe Golf Course is minimal and would continue in the same manner, with foliar fertilizer applied to greens every other week during the growing season and encapsulated or slow-release fertilizer to greens, tees, and fairways approximately monthly during the growing season, typically between May and October. Fertilizer application starts once the soil temperature reaches 55 degrees Fahrenheit and continues through summer (on greens and tees, to a lesser degree on the fairways). Most fertilizers used are slow release. Using slow-release fertilizer minimizes the amount of fertilizer free in the soil solution, which could be leached. Fertilizers used on-site that are not considered slow release are applied as spoon fed on greens only (on approximately 2 acres). The fertilizers are applied in small quantities in a manner intended to prevent them from overwhelming the soil's ability to hold and then release to the plant to match growth rates, minimizing any loss to the water. Nitrate application at the golf course is minimal, and is included only when it is a secondary ingredient of other products (for example, calcium products).

Fertilizer use is focused on fairways, tees, and greens and not on the rough or "minimally managed" areas. Herbicides are used only in spot treatments. Pesticide use is also minimal. Fungicide is used on the putting greens once each fall. Fertilizer, pesticide, and herbicide use would be similar to or less than under existing conditions, because of the reduced footprint, reduced water demand for irrigation, and improved irrigation infrastructure included in the proposed project. The seasonal application schedule and general types of chemicals needed would not change.

BMPs associated with the facilities are discussed below under "Clubhouse, Maintenance, and Parking Facilities."

Land Capability and Coverage

Tahoe Regional Planning Agency (TRPA) has developed a system for allowable coverage based on the Bailey system, which considers vegetation, soils, hydrology, and slope to determine a "land capability class" for lands in the Tahoe Basin. Each land capability class has an associated percentage allowable coverage. State Parks has worked with TRPA staff to verify the land capability within Washoe Meadows SP and Lake Valley SRA and map the areas of coverage, both those that existed before 1972 (pre-Bailey system) that still exist or have been removed and restored, and any coverage areas that have been added since 1972. The restored pre-1972 areas were banked for later use, after deducting any post-1972 coverage that had been added.

Coverage within the Lake Tahoe Golf Course consists of the golf cart paths, the parking lot, unpaved parking area, service roads, clubhouse and maintenance building, a small pump house, and the golf course bridge abutments (bridges over water are not considered coverage). Although the golf course landscaping is considered disturbance, it is not considered coverage. Coverage within Washoe Meadows SP includes several trails, gravel and dirt service roads, and a barn. Most coverage in both park units existed before acquisition by State Parks.

State Parks implemented a program over the last several years to restore some of the disturbed areas of coverage in both Washoe Meadows SP and Lake Valley SRA, and the restored pre-1972 coverage has been banked as mitigation. Tables 2-3 and 2-4 present the distribution of land coverage per land class for the proposed project in both Washoe Meadows SP and Lake Valley SRA. Within Lake Valley SRA, coverage in Land Capability District (LCD) 1B is expected to decrease by 27,745 square feet. Coverage will increase in LCD 5 by 34,827 square feet on high-capability lands. Within Washoe Meadows SP, coverage in LCD 1B is expected to decrease by 27,798 square feet. Coverage in LCD 1C is expected to decrease by 75,476 square feet, while in LCD 3 there will be a slight increase of 477 square feet, and coverage in LCD 5 is expected to decrease by 4,963 square feet. The compacted areas of the quarry floor are currently considered coverage in LCD 1B and 1C; decompaction and revegetation of these areas partly to native vegetation and partly to turf will reduce coverage.

Coverage changes are based on existing park boundaries to show relative changes; however, TRPA has evaluated coverage changes as one unit. Allowable coverage for the project is either that allowed by the Bailey system or total pre-1972 verified coverage (minus reductions previously used on-site), whichever is greater. This method is described in Chapter 30 of the TRPA Code of Ordinances, where the amount of land coverage existing in the project area before the project exceeds the base land coverage for the project area before 1972 coverage is "grandfathered" in. Section 30.4.4 of the TRPA Code of Ordinances discusses relocation of existing land coverage where relocation from one portion of an SEZ to another portion is allowed because of a net environmental benefit to the SEZ. Net environmental benefit to an SEZ is defined as an improvement in the functioning of the SEZ and includes but is not limited to:

(a) relocation of coverage from a less disturbed area to a more disturbed area, or to an area farther away from the stream channel;

(b) retirement of land coverage in the affected SEZ in the amount of 1.5:1 of the amount of land coverage being relocated within an SEZ; or

(c) for projects involving the relocation of more than 1,000 square feet of land coverage within an SEZ, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the SEZ and will not negatively affect the quality of existing habitats.

Table 2-3. Summary of Proposed Project Coverage Impacts for Lake Valley State Recreation Area (square feet)

Land Class	Total Coverage Allowable[1]	2010 Verified Existing Coverage	2010 Verified Banked Coverage	Hard Coverage Proposed[2]	Soft Coverage Proposed[2]	Total Proposed Coverage[2]	Excess Coverage[3]
1a		0	–	0	0	0	0
1b	319,631	286,219	33,412	243,920	14,554	258,474	61,156
1c		0	–	0	0	0	0
2		0	–	0	0	0	0
3		0	–	0	0	0	0
4		0	–	0	0	0	0
5	217,086	13,585	5,126	45,819	2,593	48,412	168,674
6	22,559	0	–	0	0	0	22,559
7		0	–	0	0	0	
Total							

Notes:
[1] Total Coverage Allowable is either the amount allowable under the Bailey system or grandfathered pre-1972 coverage, whichever is greater.
[2] Includes existing coverage.
[3] Excess Coverage is either the excess coverage allowed by the land capability district or grandfathered pre-1972 coverage, whichever is greater, and is coverage credit available for future use.
Source: Data provided by State Parks in 2017 for study area based on existing boundaries.

Table 2-4. Summary of Proposed Project Coverage Impacts for Washoe Meadows State Park (square feet)

Land Class	Total Coverage Allowable[1]	2010 Verified Existing Coverage	2010 Verified Banked Coverage	Hard Coverage Proposed[2]	Soft Coverage Proposed[2]	Total Proposed Coverage[2]	Excess Coverage[3]
1a	0	0	0	0	0	0	0
1b	160,889	130,133	30,757	4,624	97,711	102,335	58,554
1c	315,714	141,582	174,132	21,224	44,882	66,106	249,608
2	0	0	0	0	0	0	0
3	109,025	56,365	19,182	477	56,365	56,842	52,183
4	0	0	0	0	0	0	0
5	1,311,590	126,344	106,997	22,407	98,974	121,381	1,190,209
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0

Notes:
[1] Total Coverage Allowable is either the amount allowable under the Bailey system or grandfathered pre-1972 coverage, whichever is greater.
[2] Includes existing coverage.
[3] Excess Coverage is either the excess coverage allowed by the land capability district or grandfathered pre-1972 coverage, whichever is greater, and is coverage credit available for future use.
Source: Data provided by State Parks in 2017

Under the latter criterion, land coverage relocation in the affected SEZ can occur at a 1:1 ratio (Gustafson, pers. comm., 2010). Relocating the coverage farther from the river to allow for a geomorphic restoration of the SEZ currently occupied by the golf course would improve the function of the SEZ and would not negatively affect existing habitat.

An additional 3,312 square feet of pre-1972 coverage is located within the study area adjacent to Lake Valley SRA on California Tahoe Conservancy property.

Bridges

The five golf course bridges that cross the Upper Truckee River would be removed and replaced by a single golf cart bridge, crossing between proposed holes 6 and 12, that would span the floodplain and provide for two-way golf cart traffic and recreation access. The proposed bridge would be much longer (approximately 135–200 feet) than the existing undersized bridges. This bridge would be located within the inset floodplain area, construction would include approximately 150 linear feet of launchable riprap and 700 feet (each bank) of biotechnical bank treatments, reducing river erosion and stability impacts. All native areas adjacent to turf would be protected from disturbance and left as thick riparian vegetation signed to prevent entry.

Currently, all golf course bridges are closed to non-golf public use because of the safety hazard of non-golfers crossing golf play areas. The new golf cart bridge would be designed to accommodate two-way traffic, and dispersed recreation access would be planned to allow safe access from the Country Club Drive neighborhood to the river and meadow trails. A second non-golf recreation access bridge would cross the river downstream, near the current hole 12 bridge (north of RM 5000). This bridge would provide connectivity from the proposed trail at U.S. 50 to Washoe Meadows SP. The trails and golf holes would be designed with buffer areas between golf play and the path. Additional information regarding trail layout and safety is presented below in the discussion of trails.

The four existing pedestrian/golf cart bridges across Angora Creek would be removed and two of the three golf cart bridges that cross the unnamed creek (Meyers Creek) would remain, while the third would be relocated downstream where the creek is daylighted from an existing culvert. A fourth bridge would be located on the proposed recreation path outside the golf course footprint. The recreation bridge may be relocated farther downstream to address recreation safety, depending on the final design. (The Sawmill bike path bridge, outside of the study area next to U.S. 50, would also continue to provide auxiliary access across the river.)

Other improvements proposed under the proposed project include construction of golf cart bridges over small subwatershed drainages on the west side of the river, and over a remnant channel along the STPUD sewer line west of hole 6. The small drainages include the drainage from the wetland area formed by seepage from the eastern quarry cut-slope, and potentially a seasonal drainage in the northern part of the proposed golf course area. An old ditch that diverts the southwesternmost drainage would be removed and that drainage would be restored. The ditch would be filled and revegetated with native seed and the water redirected into a vegetated swale. Overall, approximately three to four new crossings of existing surface water drainages or wetlands with short bridges or boardwalks would be required. They would be approximately 10–15 feet long and 8 feet wide.

Bridge particulars are discussed in further detail above in Section 2.2.1, “River and Floodplain.”

Clubhouse, Maintenance, and Parking Facilities

No changes to the clubhouse or maintenance facilities are proposed as part of the proposed project. The paved parking lot at the Lake Tahoe Golf Course currently has 115 parking spaces, with additional parking available in grassy areas on both sides of the golf course entrance. Under the proposed project, the northern half of the unpaved parking area would be paved to create up to 89 additional parking spaces. Lighting in the parking area would be designed to match existing lighting, which meets TRPA design standards, and would continue to be used for special events at the clubhouse (i.e., banquets). Additional BMPs, including an additional oil separator and slotted channel drains, would be incorporated into the existing management system to reduce water quality impacts. This parking area would also serve as parking for the new trail. The clubhouse would continue to host a variety of non-golf activities including weddings, dinners, music, and other special events.

OPERATIONS AND MAINTENANCE

The Lake Tahoe Golf Course would continue to operate from approximately April 15 to November 1 (as weather allows) from dawn until dusk. The golf course staff would increase by approximately four people to a total of 80 employees because of increased maintenance needs. The course would continue to host a variety of golf tournaments and outings each year. The frequency of tournament play would not change and only a modest fee increase, approximately 5 percent, would occur under this alternative. No other fee increases are anticipated besides those that may arise in the normal course of business in accordance with the golf course's business plan, and in coordination with State Parks' policy and per the concession agreement, to maintain affordable golf. Permitted winter recreational snowmobile activities would continue on the driving range, typically from November through March, and would not be allowed anywhere else on the property, except by golf course or State Parks staff members for patrol purposes. The snowmobile operation would continue to be provided by an outside vendor that is a subcontractor to the golf course concessionaire. The Lake Tahoe Golf Course would request a review and continuation of its Audubon Cooperative Sanctuary Program certification. Other recreation activities as described above and below would continue.

Normal maintenance or future improvements to golf course infrastructure would be implemented by State Parks (the lease holder) or its contracted concessionaire/representative(s). A reduction in infrastructure maintenance is expected under this alternative as a result of the removal of undersized bridges and river restoration efforts.

2.2.3 TRAILS AND RECREATION

All existing trails on the west side of the river are casual or volunteer trails. No trails have been officially established or designated; instead, they have been formed over time through adoption of old roads or routine use. Presumably, trails outside the golf course footprint would continue to be used for the purposes for which they are used today.

Recreational users on the east side of the river would be provided safe access to Washoe Meadows SP on the west side of the river through a new bridge. Under the proposed project, recreation access would be facilitated by installation of two bridges: a golf cart bridge west of proposed holes 6 and 12 to allow access from Country Club Drive and a second recreation bridge farther downstream north of RM 5000 that would tie to a new trail. The new trail from the parking lot at U.S. 50 would tie to the bike trail and would be a designated ADA-compliant trail system that would be constructed on the east side of the river to tie to the informal dispersed recreation trails on the river's west side.

It is the policy of State Parks to provide accessible environments in which all visitors are given the opportunity to understand, appreciate, and participate in California's cultural, historical, and natural heritage. Therefore, all new construction on State Park property is subject to compliance with the ADA of 1990 (Public Law 101-336, Title 42, Section 12101 et seq. of the United States Code), including Titles I, II, and III of that law; the Rehabilitation Act of 1973; and all related regulations, guidelines, and amendments to both laws. Such projects must also comply with California Government Code Section 4450 et seq. (Access to Public Buildings by Physically Handicapped Persons), Government Code Section 7250 et seq. (Facilities for Handicapped Persons), and any other applicable laws. The outcome of all site improvements must include seamless integration of accessible features to the greatest extent possible.

The new recreation trail would include a new bridge over the Upper Truckee River at the approximate location of the current hole 12 bridge (Exhibit 2-4). The trail would cross the unnamed creek (Meyers Creek) on a new bridge downstream of the golf course, and would also require sections of boardwalk and causeway through the restored floodplain. The access to the new golf cart bridge at hole 6 would require construction of a new trail to tie to the road on Country Club Drive. The trail would be screened by existing and planted vegetation where visibility is not necessary for safety. Signs would be installed along the designated paths to warn pedestrians entering golf course areas of potential golfing hazards, and markers would be installed where public trails cross golf cart paths to direct users. Pedestrians would have the right-of-way to golf carts in all situations and yield signs would be installed along golf cart paths where public access crossings would occur. The bridge area would also be signed and screened as described above.

Holes 7 and 11 parallel the STPUD access road. Along this corridor, shot lines are angled away from the road and would have a minimum 50-foot buffer between the edge of the turf/rough and the road. This buffer would be screened by existing and planted vegetation. This gravel road is and would continue to be used by STPUD as a required maintenance road for its subsurface sewer line in that area. This proposed trail configuration would enable public access and use into and within the area. Interpretive signage would be added in appropriate locations along the new trail system to identify sensitive habitats and restoration improvements.

2.2.4 GENERAL PLAN AMENDMENT

Implementing the proposed project would involve revising the park unit boundaries, essentially "shifting" or trading land between Lake Valley SRA and Washoe Meadows SP, and realigning the boundaries between the two park units to make the boundaries more consistent with the two units' management practices and resource values.

The boundaries of Lake Valley SRA would be adjusted to encompass the reconfigured golf course and the existing STPUD access road. The area evaluated for relocation of the golf course (see Section 2.2.2, "Reconfigured 18-Hole Regulation Golf Course") was selected to reduce the area of the golf course in the 100-year floodplain and SEZ while avoiding impacts on other sensitive resources. The Washoe Meadows SP boundary would be modified to include much of the restored river corridor (historic meander belt), while the Lake Valley SRA boundary would be modified to include the reconfigured golf course. The land exchange would be approximately equal acreage, with Washoe Meadows SP gaining 2 acres and Lake Valley SRA losing 2 acres.

Currently, the northeastern two-thirds of the river in the study area is bounded by golf facilities and is in Lake Valley SRA, while the southwestern third is in Washoe Meadows SP. The revised park unit boundaries, shown in Exhibits 2-1 and 2-2 and Appendix A, would place most of the river zone in Washoe Meadows SP. The

only section of river remaining in Lake Valley SRA would be in the vicinity of the new golf cart bridge crossing. The area north of the river near Angora Creek and the area just south of the river where current hole 18 is located would be shifted from Lake Valley SRA to Washoe Meadows SP. The area to which the reconfigured golf holes would be relocated on the west side of the river would become part of Lake Valley SRA.

Revising the park unit boundaries would involve amending the Lake Valley SRA General Plan, including changes such as revision of Lake Valley SRA management policies. These changes are presented in Appendix A. The general plan amendment would modify, where necessary, the application of Lake Valley SRA river protection goals and policies to the reconfigured golf course. The proposed amendments will be submitted with the completed EIR/EIS/EIS and PAAEA to SPRC for consideration of approval at the conclusion of the environmental review process.

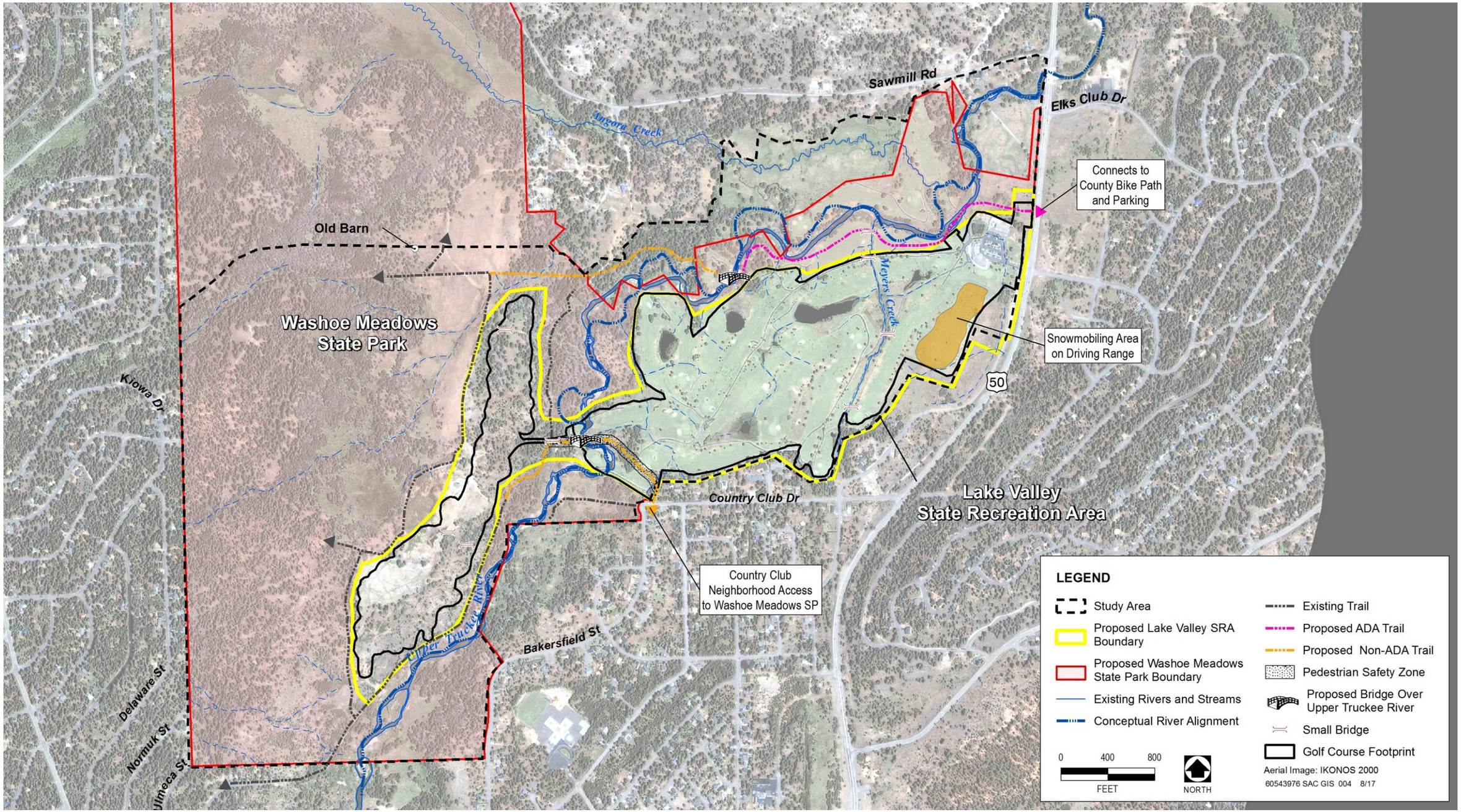
2.2.5 PROJECT CONSTRUCTION

CONSTRUCTION SCHEDULE AND BEST MANAGEMENT PRACTICES

Construction under the proposed project would be phased over a period of 3–5 years between May 1 and October 15 of each year (possibly November 1 if weather allows and an extension is granted), possibly beginning in 2019. However, construction would not occur on Sundays and may not occur on other designated weekends and holidays. Table 2-5 summarizes the proposed construction activities scheduled for each year. Exhibit 2-5 shows access locations, proposed haul routes, and potential storage/staging areas. The primary differences between the proposed project and Alternative 2 from a project construction standpoint are that under the proposed project, there would not be access roads at the southern boundary of the proposed SRA and all staging areas would be located outside of the SEZ. Construction hours would be 7 a.m. to 7 p.m., with hauling restricted to 8 a.m. to 6:30 p.m. On occasion, there may be a need for longer work hours to address specific construction issues that cannot otherwise be addressed. Such exceptions to the work schedule would be coordinated with TRPA and El Dorado County, and with local residents and emergency service providers.

Several overarching construction management measures would be implemented to ensure that environmental impacts during project construction would be minimal. These measures include but are not limited to the following:

- Construction limit fencing would be erected and maintained to ensure that construction activities occur within delineated construction boundaries.
- Preventive dust control measures would be implemented to reduce air quality effects.
- No trees or wetland vegetation would be removed unless they are shown and identified for removal on the approved final plans or as specified on-site by the project engineer with appropriate agency agreement.



Source: Data compiled by State Parks in 2017

Proposed Project (Preferred Alternative 2B): Recreation

Exhibit 2-4

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Table 2-5. Proposed Project: Construction Phasing, Equipment, and Workers		
Activity	Duration	Equipment and Workers
Year 1—New Bridge and Construction of Back 9 (West-Side) Golf Course. Modified 18-Hole Course or 9-Hole Course Would Be Open.		
Mobilize for west side of new golf course; construct access routes and storage areas, equipment refueling areas, and construction equipment wash area; install temporary BMPs, remove trees, and salvage vegetation. Set up temporary or shortened golf holes to allow for safe play.	May 15–31	Two equipment transport trucks (1 week), two dump trucks, two dozers (approx. Cat D6), two excavators (approx. Cat 330), two loaders, two water trucks, a forklift, a 1-ton pickup truck, three chainsaws, a tub grinder, a feller buncher, a skidder, a log loader, two logging trucks Workers: 12
Construct west-side (back 9) golf course including irrigation, drainage, cart paths, sod or seed, restroom, utility connection, sewer line protection, pond, and permanent BMPs. Install 5-foot bridges over ephemeral drainages. Install new bridge over Upper Truckee River.	June 1–September 30	Two excavators (approx. 325 and 330), two dump trucks (10- or 20-yard), two dozers, two graders, two water trucks, two pickup trucks (1-ton), a scraper, a road grader, a roller, a backhoe, a dozer, two loaders, a forklift (approx. Cat TL642), a tractor w/box blade and drag mat, two trenchers, two cranes (2 weeks), a pile driver (2 weeks) Workers: 20
Install temporary irrigation and winterization measures. Demobilize—remove equipment from the 100-year floodplain.	October 1–15	A dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a pickup truck (1-ton), a dump truck, a tub grinder, a hydroseeder, a strawmulcher, two transport trucks (1 week) Workers: 12
Year 2—Off-Channel Construction and Removal of Golf Course Adjacent to River. Nine Holes of Course Possibly Closed or Possibly Open; Newly Constructed Holes to Allow for 18-Hole Course.		
Mobilize for off-channel work. Install temporary BMPs and salvage additional vegetation. Set up eastern staging area.	May 15–31	Two equipment transport trucks (1 week), two dump trucks, two dozers, two excavators (approx. Cat 330), two loaders, two water trucks, a forklift, a pickup truck (1-ton), three chainsaws, a tub grinder, a feller buncher, a skidder, a log loader, two logging trucks Workers: 12
Conduct off-channel work—modify historic meanders and construct new channels including vegetation and bank treatments of those sections. Leave small plugs of existing soil and vegetation where future connection is to be made.	June 1–September 30	Two excavators (325 and 330), two dump trucks (10- or 20-yard), a dozer, two loaders, a water truck, a backhoe, two pickup trucks (1-ton) Workers: 12
Install temporary irrigation and winterization measures. Demobilize—remove equipment from the 100-year floodplain.	October 1–15	A dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a pickup truck (1-ton), a dump truck, a tub grinder, a hydroseeder, a strawmulcher, two transport trucks (1 week) Workers: 10
Year 3—Off-Channel Monitoring and Construction of Front 9 (East-Side) Golf Course. Back 9 Holes Would Be Open, and Existing Holes to Be Upgraded Would Be Either Closed or Partially Closed with Temporary Holes Available to Allow for 18-Hole Course.		
Mobilize for modification of eastside golf course. Install temporary BMPs and salvage additional vegetation.	May 15–31	Two equipment transport trucks (1 week), a dump truck, a dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a forklift, a pickup truck (1-ton), three chainsaws, a tub grinder Workers: 12
Continue off-channel work and monitor vegetation. Pre-wet the new (and still isolated) channel segments, using partial diversion of the Upper Truckee River. This step would not disturb the existing channel.	May 15–October 15	Two truck- or trailer-mounted water pumps, two water trucks, a pickup truck (1-ton) Workers: 6
Upgrade existing eastside golf course and remove section of golf course in floodplain, including removal of existing cart paths, pulverizing or removal of sod, and tilling in existing sand. Then complete localized grading to improve unnamed creek and golf course drainage, raise tees, and install new irrigation, cart paths, sod or seed, and permanent BMPs.	June 1–September 30	Two excavators (325 or 330), two dump trucks (10- or 20-yard), two dozers, two loaders, a water truck, a backhoe, a grader, a tractor w/box blade and drag mat, a trencher, two pickup trucks (1-ton), one forklift, one roller Workers: 24

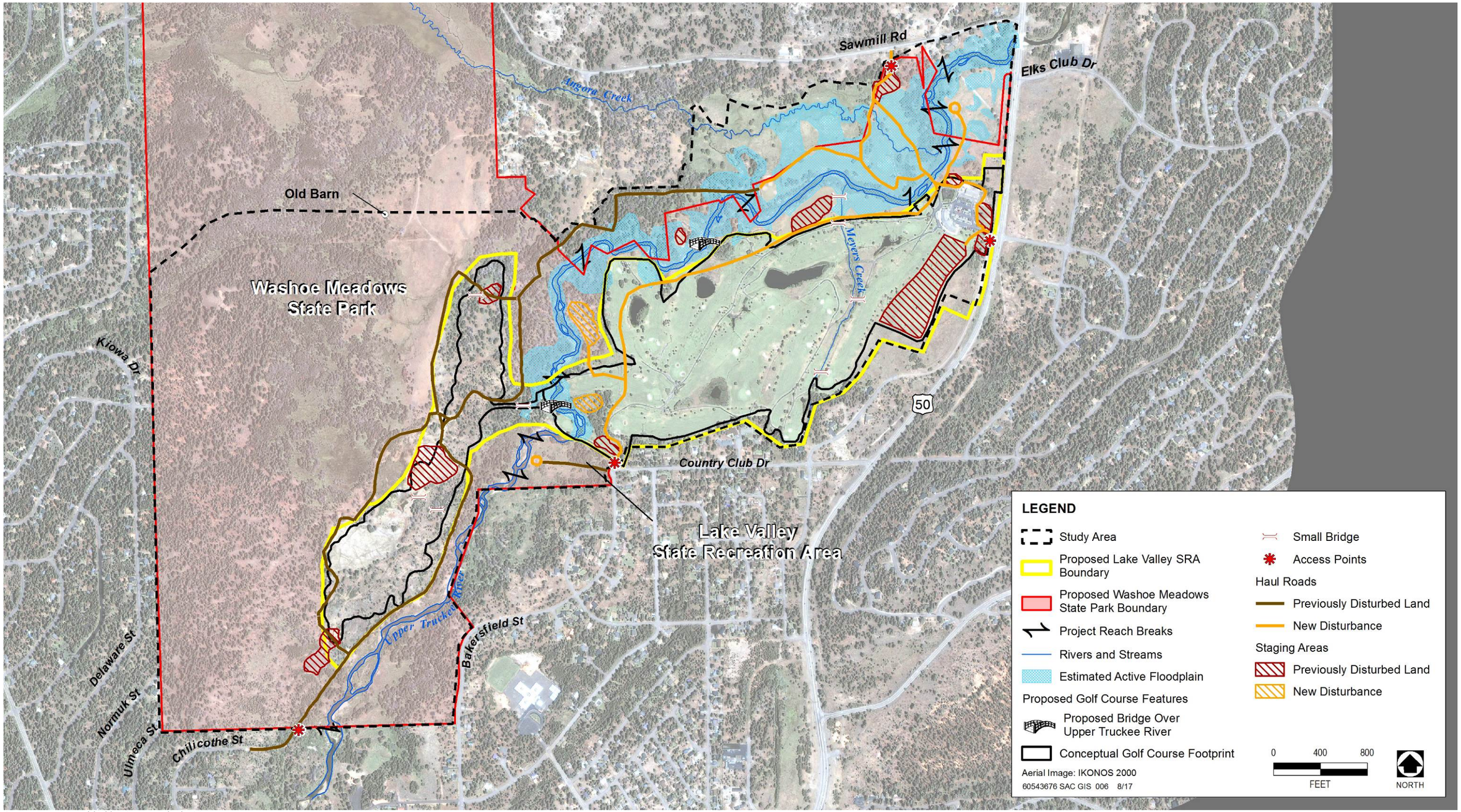
Table 2-5. Proposed Project: Construction Phasing, Equipment, and Workers		
Activity	Duration	Equipment and Workers
Install temporary irrigation and winterization measures. Demobilize—remove equipment from the 100-year floodplain.	October 1–15	A dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a pickup truck (1-ton), a tub grinder, a hydroseeder, a strawmulcher, two equipment transport trucks (1 week) Workers: 10
Year 4—In-Channel Work, Removal of Existing Bridges, and Connection of Off-Channel Sections. Reconfigured 18-Hole Golf Course Would Be Open but May Require Temporary Holes to Avoid Conflict with River Construction.		
Mobilize for in-channel construction activities. Install BMPs and any additional access.	May 15–31	Two equipment transport trucks (1 week), a dump truck, a dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a forklift, a pickup truck (1-ton), a chainsaw, a tub grinder Workers: 10
Continue off-channel work, revegetation, maintenance, and monitoring. Pre-wet new (and still isolated) channel segments, using partial diversion of the Upper Truckee River. Use this water to flush constructed segments and pump and spray turbid water onto floodplain to infiltrate and water vegetation treatments. This step would not disturb the existing channel.	May 1–October 15	Two truck- or trailer-mounted water pumps, a water truck, a pickup truck (1-ton) Workers: 4
Install biotechnical/bank stabilization treatments, woody debris, segment transitions, and armored riffles or gravel in existing channel sections. Reconnect off-channel sections. Excavate and vegetate the inset floodplain. Enhance the unnamed creek and construct new alignment of the mouth of the unnamed creek with bed-elevation adjustment. Reconfigure lower reach of Angora Creek to adjust for the new confluence with the proposed river channel and its finished bed elevation. Remove existing five bridges on the Upper Truckee River and four bridges across Angora Creek. Conduct floodplain modifications including removal of levees and restoration of the floodplain outside of the proposed golf course layout. Modify the former stormwater pond to create a wetland/oxbow feature. Transport material from stockpile storage (and/or import as needed) and backfill to the desired level the abandoned sections of the existing channel, including placement/construction of subsoil and addition of soil treatments as needed for groundwater and soil moisture benefits. Apply seed or vegetation transplants and mulch.	June 1–September 30	Two excavators (325 or 330), three dump trucks (10- or 20-yard), two dozers, two loaders, a water truck, two pickup trucks (1-ton), a backhoe, a crane (1 month), a roller, two truck-mounted pumps, a hydroseeder (1 month) Workers: 16
Construct the modified recreation access trail west of the river to tie into the bridge and construct new trail to tie into Country Club Drive corner. Construct the recreation access trail and boardwalk east of the river to tie into the bridge and bike path. Pave the parking lot and install permanent BMPs.	September 1–30	A loader, an excavator, two dump trucks, a water truck, a pickup truck (1-ton), a small roller and backhoe, paving equipment (asphalt paver, roller, asphalt truck, and screed) (1 month) Workers: 10
Install temporary irrigation and winterization measures. Remove the temporary disturbances of all access points and staging and storage areas, which includes revegetation activities where needed. Formally demobilize from the site.	October 1–15	A dozer (approx. Cat D6), an excavator (approx. Cat 330), a loader, a water truck, a pickup truck (1-ton), a tub grinder, a hydroseeder, a strawmulcher, a dump truck (10- or 20-yard), two equipment transport trucks (1 week) Workers: 12
Year 5—Work Not Completed In Previous Years Would Be Completed This Year.		
Construction activities would occur in Year 5 only if the condition of revegetation in new channel segments, reconnected meanders, and restored floodplain was not adequate to allow completion in Year 4. If channel segments cannot be reconnected in Year 4, those elements would be delayed until Year 5. Year 5 activities would commence with mobilization activities and would include the same tasks as listed under Year 4.		

Notes: approx. = approximately; BMP = best management practice

Final phasing approach may be modified to accommodate the needs of State Parks, its concessionaire, or the contractor as needed.

Activation of the restored channel would depend on vegetation success and may require an additional season.

Source: Data compiled by AECOM in 2017



Source: Data provided by State Parks in 2017

Proposed Project (Preferred Alternative 2B): Staging and Access Map

Exhibit 2-5

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In addition to the general measures above, specific measures, such as the measures listed below, would be taken to protect water quality.

- All imported gravel, cobble, or boulders used in construction would be washed before installation.
- Clean gravel would be placed along the channel bottom on riffles in the reconnected and constructed channel sections and in portions of the existing channel.
- A combination of native sod blanket, willow transplants or wattles, woody debris, strips of remaining golf course sod, or mulch or erosion control fabrics over seeds would be used on excavated inset floodplain surfaces.
- Before the active river is allowed to flow through areas of new and reconnected meanders, these channel sections would be primed by pre-wetting and introducing controlled flows that would remain isolated from the active channel (protected by berms, water-filled dams, or similar measures). Any turbid water would then be pumped out onto settling basins or sprayed onto the revegetated floodplain without return flow to the channel.

All construction-phase BMPs, mitigation measures, and final conditions of permits, approvals, and easements would be identified in the project plans and specifications for the contractor or fulfilled by State Parks. Exact erosion control measures (BMPs) are not specified at this time; however, it is expected that general construction BMPs would include construction fencing, silt fences, weed-free hay bales, temporary settling basins, vegetation protection, hydroseeding, and strawmulch. Trees removed from the proposed golf course area would be used as part of the river restoration activities or as mulch material for revegetation work, or would be hauled off-site.

Construction activities that must access the existing streambed or streambanks would require temporary dewatering of surface water in the river channel. Where subsurface access is needed, temporary dewatering/pumping of groundwater that seeps into the work area may also be required. Construction activities would be limited to the summer and early fall seasons, which would reduce the likely amount of water present. However, seasonal streamflows vary from year to year, and it is possible for thunderstorms to produce brief peak flows that must also be accommodated. A dewatering and diversion plan would be developed as part of the storm water pollution prevention plan to be submitted to the Lahontan Regional Water Quality Control Board for approval.

The final construction schedule for in-channel work would minimize the risk of high peak flows during temporary dewatering. A variety of specific techniques and equipment may be employed to provide dry work areas and isolate the disturbed areas for protection of water quality in the adjoining water bodies. The project's final dewatering/BMP plans would include the scheduling approach, specific diversion/bypass/dewatering methods and equipment, defined work areas, types and locations of temporary BMPs, and water quality performance standards.

Construction under the proposed project would commence as soon as possible after completion of construction plans and specifications, project approval, acquisition of permits, securing of funding, and all preconstruction monitoring. Construction activities would be continuous for the multiyear period, with closedowns in winter, except for BMP maintenance and monitoring. Table 2-5 presents the construction phasing, equipment, and number of required construction workers for the proposed project. However, the final phasing approach may be modified slightly to accommodate the needs of State Parks, its concessionaire, or the contractor.

PRELIMINARY QUANTITIES

Table 2-6 summarizes the preliminary quantities of materials to be excavated and the cut-and-fill balance for the proposed project (Preferred Alternative 2B). Estimated quantities related to the river restoration are based on the dimensions and lengths of the existing and proposed channels. At this preliminary stage of design, no adjustments have been made for density or composition of existing materials or the compaction requirements of backfill areas. The design of the reconfigured 18-hole golf course contemplates a minimalist approach to the grading scheme for construction. Only the amount of cut and fill needed to ensure playability would be undertaken during golf course renovation and reconstruction, and it is expected that all cut and fill would be balanced on-site.

Table 2-6. Proposed Project: Preliminary Quantities of Cut and Fill

Treatment Area/Activity	Cut Volume (cubic yards)	Fill Requirement (cubic yards)
Newly constructed channel	11,000	0
Reconnected historic meanders	8,300	0
Modified existing channel	0	1,000
Boulder steps	4,700	6,200
Armored riffles	8,300	16,500
Other channel bed features	0	0
Existing bank treatments	1,400	0
Proposed bank treatments	2,400	2,400
Inset floodplains	10,800	0
Backfilled channels (assume partial to complete)	0	43,000–58,000
Floodplain fill removal	500	0
Modified unnamed creek	160	90
USGA-approved sand and base	0	7,200
Asphalt	130	180
Baserock	300	430
Sod	7,400	11,200–22,600
Concrete	16	16
Trails	0	9,400
Bridges	5 bridges	1 bridge
Total	**62,790**	**92,000–112,700**

Note: USGA = United States Golf Association
Calculations are estimates based on the preliminary design and would be refined as appropriate during final design.
Source: Data prepared by AECOM and Valley & Mountain Consulting 2008.

Several river treatments (e.g., boulder steps, armored riffles, rock-armored bank, and portions of channel gravel treatments) require material of specific weights and sizes. For the purposes of the traffic evaluation, these materials are not assumed to be available in the on-site excavated materials, but would be brought in from off-site sources. It is possible that some reusable materials would be salvaged on-site, reducing the eventual need for imported material. The United States Golf Association–approved sand and road base or asphalt for the new golf cart paths must meet specifications and would be imported. Conversely, existing bank treatments, bridge footings/abutments, and some of the golf course hardscape and sod to be removed may require off-site disposal.

Five bridges would be hauled off-site on five separate flatbed trucks and three to four bridges would be reused over ephemeral drainages on the west side of the river.

ACCESS, STAGING, AND STORAGE

Exhibit 2-5 illustrates proposed access points, temporary routes, and staging and storage areas for the proposed project.

All construction activities for the restoration and golf course reconfiguration occurring on the southeast side of the river would be accessed through the existing golf course. Street access points could include the golf course entrance off U.S. 50 and the entry off Country Club Drive. Restoration areas north of the river in the downstream half of the study area would be accessed through the existing golf course. Street access points could include the golf course entrance off U.S. 50 or a temporary access off Sawmill Road across public property. Restoration activities in the upstream half of the river and golf course construction on the west side of the river would be accessed through either the Sawmill Road entrance near hole 10, sewer maintenance easements, existing roads and trails in Washoe Meadows SP, and/or the new golf cart bridge. Street access to the study area would be provided via Chilicothe Street, Country Club Drive, and the Sawmill Road entrance near the existing hole 10.

Most of the construction area would be accessed through sites already disturbed by golf course grading, sewer line maintenance routes, or other existing trails, golf cart paths, and roads. Specialized road construction techniques to protect meadows would not generally be required because the existing infrastructure is in place. However, where access roads must cross soft or wet areas or native meadow vegetation, stabilization would be required for protection of soils and vegetation and to prevent water quality impacts. Where access roads must cross golf course landscaping or infrastructure that would remain in use after project implementation, measures to protect soils, vegetation, and infrastructure would be required.

Temporary access roads would likely be constructed of gravel with road base laid over a temporary fabric barrier, or landing mats. After construction, roads would be removed and the area would be restored to preconstruction conditions. Areas would be revegetated or stabilized where needed after use of the roads was completed. Compaction under access roads may occur; therefore, restoring their footprint areas may require ripping and active revegetation.

Any partial street closures and traffic control would be coordinated with the California Department of Transportation and El Dorado County Public Works Department, as appropriate. Local residents would be informed of potential traffic controls, closures, or detours at least 48 hours in advance. Adequate emergency access would be provided at all times, and local emergency service providers would be notified of any potential road closures or detours at least 48 hours in advance. Signage on the Sawmill bike path would be required near the construction entrances on Sawmill Road and north of the golf course entry on U.S. 50.

Construction staging sites would be established in the study area on previously disturbed land, land slated to be disturbed as part of relocated golf course, and/or high-capability land, and would be secured to prevent unauthorized access. Temporary erosion control fencing and (if needed) an approved refueling station would be incorporated into staging areas where appropriate.

Soil would be removed from abandoned meanders, areas of newly constructed channels, reconfigured golf course topography, excavated floodplains, and/or other miscellaneous areas. This material would be stockpiled for

placement in the backfilled existing channel. Material would be stockpiled in one of the locations designated in Exhibit 2-4 for up to 3 years while soil stabilizes and vegetation along the proposed channel becomes established. At project completion, the stockpile area would be used to backfill sections of the existing channel that would be abandoned or contoured to the natural topography of the surrounding area (or integrated into the new golf course landscaping) and revegetated.

Vegetation would also be removed from excavated new channels, reconnected historic meanders, the modified existing channel bed and banks, areas of the existing golf course to be reconfigured or retired, areas of the new golf course, and other miscellaneous locations. Plant materials could range widely and would include willows and native sod desired for reuse in the restored areas. Salvageable plant material would be stockpiled until areas are prepared for replanting. Vegetation stockpiling locations would likely be near the river channel, in historic meanders, or in golf course ponds. A temporary plant propagation area where plants would be grown from salvaged materials and/or seed for use in the project may also be designated. Because both native and nonnative materials may be reused in the reconfigured and new golf course areas, no excess plant materials would be expected under the proposed project.

BRIDGE INSTALLATION

Materials for the Upper Truckee River bridges would be staged on the east bank near the installation sites, and in a smaller staging area on the west bank. Transport of bridge sections from an unloading zone near Country Club Drive to bridge construction staging areas would be provided by 40-foot flatbed trailers on a temporary construction road or existing dirt roads. Brushing and grading of a 16-foot road section may be necessary in some locations to allow access. Detours on Country Club Drive would be required to allow a 20-ton tracked crane to stack bridge sections in the staging area.

A pile driver would need to access both sides of the river at 40- by 50-foot construction staging areas. Lengths of 10-inch steel piles would be hammered to a depth of up to 25 feet. Pile clusters would be spaced at approximately 5 feet, three piles for 10-foot widths and five piles for 20-foot widths. Bridge deck supports would be 1-inch-thick steel plates welded to the top of the pile clusters. After the pile foundation is completed, 20-ton cranes would be stationed on both sides of the river to set and connect bridge sections. Bridge installation should be completed within 1–2 weeks.

Four or five existing bridges removed from the existing golf course would be reused on west side of the river over ephemeral drainages. These would be moved in a similar manner, but footings would be concrete or redwood.

RESTROOM AND PARKING AREA CONSTRUCTION

A new 650-square-foot restroom facility would be constructed near the new hole 7 on the west side of the river to accommodate both men's and women's restrooms. A connection to the existing power and sewer lines at Chilicothe Street would be installed. An additional 400-square-foot restroom facility would be constructed near hole 5 on the east side of the river to replace the portable toilet and tie into the sewer and power lines along Country Club Drive.

The unpaved parking area north of the golf course entrance would be paved to create up to 89 additional parking spaces. Additional BMPs including a separate oil separator and slotted channel drains would be incorporated into the existing management system.

3 ADDITIONAL ENVIRONMENTAL ANALYSIS

This chapter provides additional clarity on the tribal coordination, impact analysis, and mitigation measures in the EIR/EIS/EIS, specifically for cultural resources and vegetation types, including fens. The intent of this chapter is to clarify mitigation measures, including performance criteria, as they relate to the proposed project (Preferred Alternative 2B), and to provide additional details on changes to impacts since the final EIR/EIS/EIS. None of the impact conclusions from the final EIR/EIS/EIS have changed as a result of these refinements.

3.1 BIOLOGICAL RESOURCES (VEGETATION AND FENS)

This section focuses strictly on vegetation types in the study area, including those associated with the fens. Details regarding sensitive biological resources, such as wildlife, are consistent with the descriptions presented in the draft EIR/EIS/EIS and are not repeated here.

3.1.1 BASELINE VEGETATION MAPPING

A project's impacts are evaluated based on the direct and reasonably foreseeable indirect physical changes to the environment that may be caused (either on a project-specific basis or in a cumulative context) when the project is implemented. The setting or environmental baseline provides the starting point for that analysis. In the biological resources section, current "baseline" conditions are a reflection and culmination of historical and existing and ongoing activities that affect a specific resource. The true baseline condition is often a dynamic range of conditions.

The characterization of the existing setting in this section and the EIR/EIS/EIS is drawn from literature and database searches, analysis of aerial photographs, consultation with biological resource agencies, and field surveys. A proper baseline is not limited to a snapshot in time; rather, establishing the baseline involves relying on a wide range of resource information gathered over time (in many cases, decades) to fully understand the environmental context.

The study area is characterized by a continuum of plant associations and developed land cover types, ranging from golf course, meadow, and riparian areas along the Upper Truckee River to predominantly conifer forest at the highest elevations. Vegetation types in the study area were mapped and described in *the Riparian Ecosystem Restoration Feasibility Report* (River Run Consulting 2006). These vegetation types were presented in the draft EIR/EIS/EIS.

The vegetation map was verified by botanists during reconnaissance-level field surveys conducted on July 18 and 19, 2006. During 2008 and 2010, botanists from Ecosynthesis, State Parks, the California Native Plant Society (CNPS), and the Tahoe Environmental Research Center conducted additional vegetation surveys and mapping, which further subdivided vegetation types and documented natural dynamic conditions.

The most current mapping information is presented below along with a comparison of the differences with mapping presented previously.

SUMMARY OF VEGETATION MAPPING COMPARISONS FOR THE DRAFT EIR/EIS/EIS, THE FINAL EIR/EIS/EIS, AND THE PAAEA

Although the vegetation maps in the draft EIR/EIS/EIS (Vol. 2, page 3.5-13, Alternative 2) and the final EIR/EIS/EIS (Vol. 5, page 5-11, Alternative 2B) appear different, the maps and their use in the vegetation analysis do not differ substantially. The draft EIR/EIS/EIS and the final EIR/EIS/EIS used different approaches in their presentation of habitat information, but the difference in approaches used does not reflect a difference in the study area's habitat and ecological functions, and does not change the impacts.

The maps appear different for the following reasons:

- The initial vegetation mapping covered only the study area and immediate surroundings. Additional areas outside of the study area but within Washoe Meadows SP were mapped after publication of the draft EIR/EIS/EIS and are shown in the final EIR/EIS/EIS. These additional areas are outside of the study area and would not be affected by project implementation.

- Different color schemes were used for mapped vegetation units in the final EIR/EIS/EIS than in the draft EIR/EIS/EIS; therefore, the units look different. The color scheme used in this PAAEA is consistent with the color scheme used in the draft EIR/EIS/EIS.

- Several vegetation units shown in the draft EIR/EIS/EIS were subdivided into subunits in the final EIR/EIS/EIS. They occupy approximately the same locations as the units in the draft EIR/EIS/EIS. The variations in the vegetation type units were distinguished in the final EIR/EIS/EIS and are presented again below.

Exhibit 3.1-1 presents the vegetation mapping in shading consistent with the colors shown in the draft EIR/EIS/EIS for ease of comparison; however, these subdivisions do not affect the analysis, impacts, or mitigation measures proposed in the EIR/EIS/EIS or this PAAEA. In the draft EIR/EIS/EIS, wetland areas containing a small spring, potential fens, and an ephemeral wetland on the floor of the old quarry mining pit were lumped into one unit: "spring complex (including fens)." To identify areas of verified and potential fens, the final EIR/EIS/EIS showed these areas as they were mapped by CNPS. These units occupy the same footprint as the combined "spring complex (including fens)" presented in the vegetation map in the draft EIR/EIS/EIS; thus, there is no substantial change in baseline vegetation.

In 2008 the vegetation in the southern portion of Washoe Meadows State Park (SP) was surveyed by Adrian Juncosa, a private consultant from Ecosynthesis, under contract with State Parks. Along with other vegetation communities, Juncosa identified a large area as "spring complex (including fens)," into which he lumped a number of hydrophilic vegetation types communities that are primarily groundwater ("spring") supported. He described the "spring complex (including fens)" area as an approximately 40-acre mosaic of communities, with a central area that was likely fen surrounded by wetlands and hydrophilic plants, and that included the area around the spring and a seasonal pool formed at the base of the quarried cut-slope. Because those wetland sites were to be avoided by the project, they were not differentiated, but instead were lumped into the "spring complex (including fens)" unit in the draft EIR/EIS/EIS vegetation map.

In 2010, Kendra Sikes, a CNPS vegetation ecologist, and others spent 4 weeks assessing fens in the Tahoe Basin. The areas assessed included sites at Ed Z'berg Sugar Pine Pont SP and Washoe Meadows SP. At Washoe

Meadows SP, the ecologists surveyed a portion of the area that had been lumped into "spring complex (including fens)" in the draft EIR/EIS/EIS vegetation map. The small spring in the southwest portion of the map in the "doughnut hole" had been mapped as part of the "spring complex (including fens)" and "obligate sedge wetland" units. The 2010 mapping subdivided that area into a small area of wet meadow, lodgepole pine wet type, and lodgepole pine–mesic meadow as is shown in the final EIR/EIS/EIS and this PAAEA. This area is completely outside the golf course footprint in the proposed project.

The area at the base of the quarry cut-slope was also lumped into "spring complex (including fens)". This area was mapped as wet meadow and open water (vernal pool) in the 2010 CNPS mapping. The larger area of "spring complex (including fens)" that is above the quarry mining area was subdivided into verified fen, unverified fen, wet meadow, and lodgepole–wet variety during the 2010 CNPS study; however, these are just subdivisions of the original "spring complex (including fens)" vegetation mapping unit. Also, the area north of the fen mapped as "lodgepole mesic vegetation" in the draft EIR/EIS/EIS vegetation map was subdivided into lodgepole wet, lodgepole mesic, lodgepole dry, wet meadow, and lodgepole mesic meadow during the 2010 mapping. This fen verification study and mapping was used to prepare the map for the final EIR/EIS/EIS.

In 2011, CNPS studied and mapped the area previously mapped as "unverified fen" and additional areas to the north of the main fen, also outside of the project site (CNPS 2011a, 2011b). The vegetation map presented below as Exhibit 3.1-1 is slightly modified from the corresponding exhibit in the final EIR/EIS/EIS to show the results of the final fen mapping by CNPS. The main fen complex, auxiliary small fens areas, and lodgepole area to the north are all outside and upgradient of the proposed golf course footprint.

The vernal pool and wetland mosaic at the base of the quarry cut-slope was created by mining into the hillside below the fen and intercepting the perched water table, which drains into the old pit floor. This seepage created wetlands on both the quarry cut-slope and the disturbed pit floor. Exhibit 3.1-2 depicts a cross section from the fen on top of the hill, through the cut-slope of the quarried hill with seepage from the wetland above, and across the gently sloping land toward the river. Groundwater monitoring wells show the depth to the water table along this transect river. A small seasonal wetland (vernal pool) has formed at the base of the hill below the fen, created by seepage from the quarry cut-slope. It was also lumped into the "spring complex (including fens)" unit. During the 2011 mapping by CNPS, this area was subdivided into vernal pool (seasonal pond), wet meadow, and lodgepole mesic meadow, but did not contain fens. Seepage is contained by an existing berm, and the groundwater shows a steady downward gradient toward the river.

There are two other differences between the draft EIR/EIS/EIS and final EIR/EIS/EIS maps in the study area:

- The area of previously restored quarry mapped as revegetation dry meadow was changed to lodgepole pine–dry meadow.

- Northeast of the spring in the area mapped as lodgepole pine–dry meadow, a few small depressions (oxbows on high terrace) were broken out and mapped as willow wet meadow.

Under Alternatives 2 and 2A, Mitigation Measure 3.5-3C (Alt. 2),[3] "Avoid Effects on the Verified Fen, Unverified Fen, Lodgepole Pine Wet, and Wet Meadow through Final Project Design and Implement Protection

[3] This mitigation measure is titled "Avoid Effects on the Spring Complexes (Including Fens) through Final Project Design" in the draft EIR/EIS/EIS.

Measures During Project Construction," was proposed to "avoid potential adverse effects of golf course relocation and operation on the spring (mapped as lodgepole pine wet type and wet meadow) west of the Upper Truckee River" (specifically Alternative 2 holes 9, 10, 11, and 12, which encircled the spring). Mitigation Measure 3.5-3C (Alt. 2) was also proposed to avoid potential effects of quarry restoration on the large fen adjacent to and west of the quarry. This proposed mitigation measure no longer applies under the proposed project (Preferred Alternative 2B) because the spring would be completely outside the project site and quarry restoration by the vernal pool would no longer be included in the project, as the area has naturally rehabilitated.

The proposed project (Preferred Alternative 2B) has been designed to avoid potential adverse effects. This alternative would avoid the spring and the fen area (all construction would occur outside of and downgradient of the fen). The proposed project also would avoid the vernal pool at the base of the historical quarry excavation, isolating it from the golf course with the existing vegetated berm to provide a buffer. This redesign would avoid or limit opportunities for irrigation water and stormwater contacting managed golf course landscaping to interact with the areas upslope near the fen.

VEGETATION TYPES IN THE STUDY AREA

Lodgepole Pine–Dry Type Forest, Lodgepole Pine–Mesic Type Forest, Lodgepole Pine–Dry Meadow, and Lodgepole Pine Mesic–Mesic Meadow

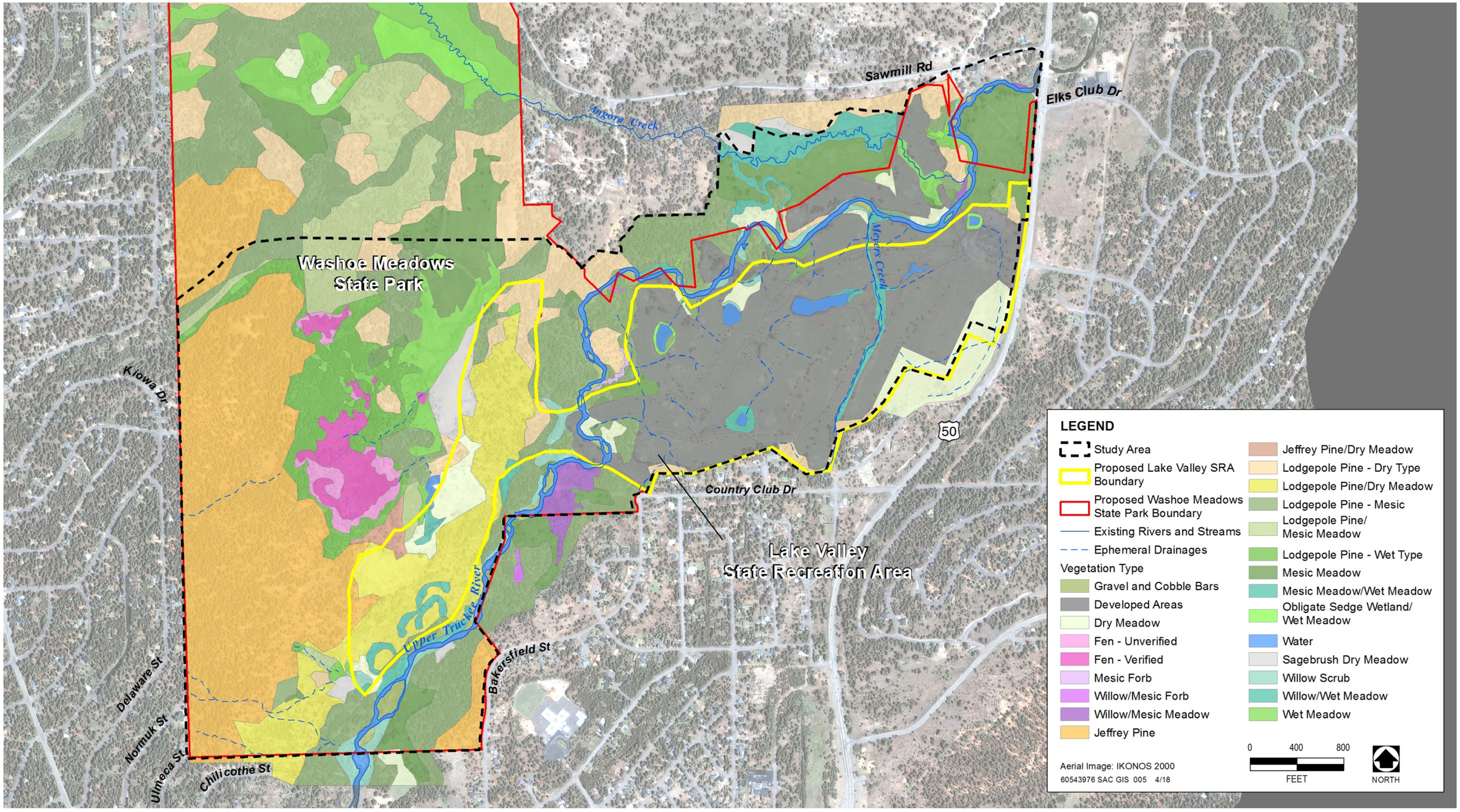
Lodgepole pine forest occupies approximately 143 acres of the study area. This vegetation type is dominated by lodgepole pine (*Pinus contorta* ssp. *murrayana*), with occasional white fir (*Abies concolor*) and Jeffrey pine (*P. jeffreyi*) also present. The forest canopy structure ranges from open to dense. Where the canopy is more open, scattered shrubs are present. The cover and species composition of the herbaceous layer are highly variable.

The distinction between lodgepole pine–dry type forest and lodgepole pine–mesic type forest is based on the shrub and herbaceous layers. The shrub layer of lodgepole pine–dry type forest usually is sparse and consists of upland species such as wax currant (*Ribes cereum*), mountain whitethorn (*Ceanothus cordulatus*), and mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*). In lodgepole pine–mesic type forest, the shrub layer may not be present and is limited to riparian species such as willow (*Salix* spp.) that persist along small, abandoned channels.

The herbaceous layer of lodgepole pine–dry type forest is dominated by upland grasses such as blue wildrye (*Elymus glaucus*), Kentucky bluegrass (*Poa pratensis*), mountain brome (*Bromus carinatus*), squirreltail (*Elymus elymoides*), and/or needlegrass (*Achnatherum* spp.). Nongrasses such as Torrey's monkeyflower (*Mimulus torreyi*), Torrey's popcornflower (*Plagiobothrys torreyi* var. *diffusa*), and whiskerbrush (*Linanthus ciliatus*) are also present.

Lodgepole pine–mesic type forest has an herbaceous layer dominated by nongrasses, such as fireweed (*Epilobium angustifolium*), cow parsnip (*Heracleum lanatum*), false Solomon's seal (*Smilacina stellata*), meadow-rue (*Thalictrum fendleri*), and corn lily (*Veratrum californicum*).

Lodgepole pine mesic–mesic meadow is a subset of the mesic forest that has small openings in the lodgepole pine forest occupied by mesic meadows.



Source: Data provided by State Parks in 2011, modified by AECOM in 2017

Vegetation Types in the Study Area **Exhibit 3.1-1**

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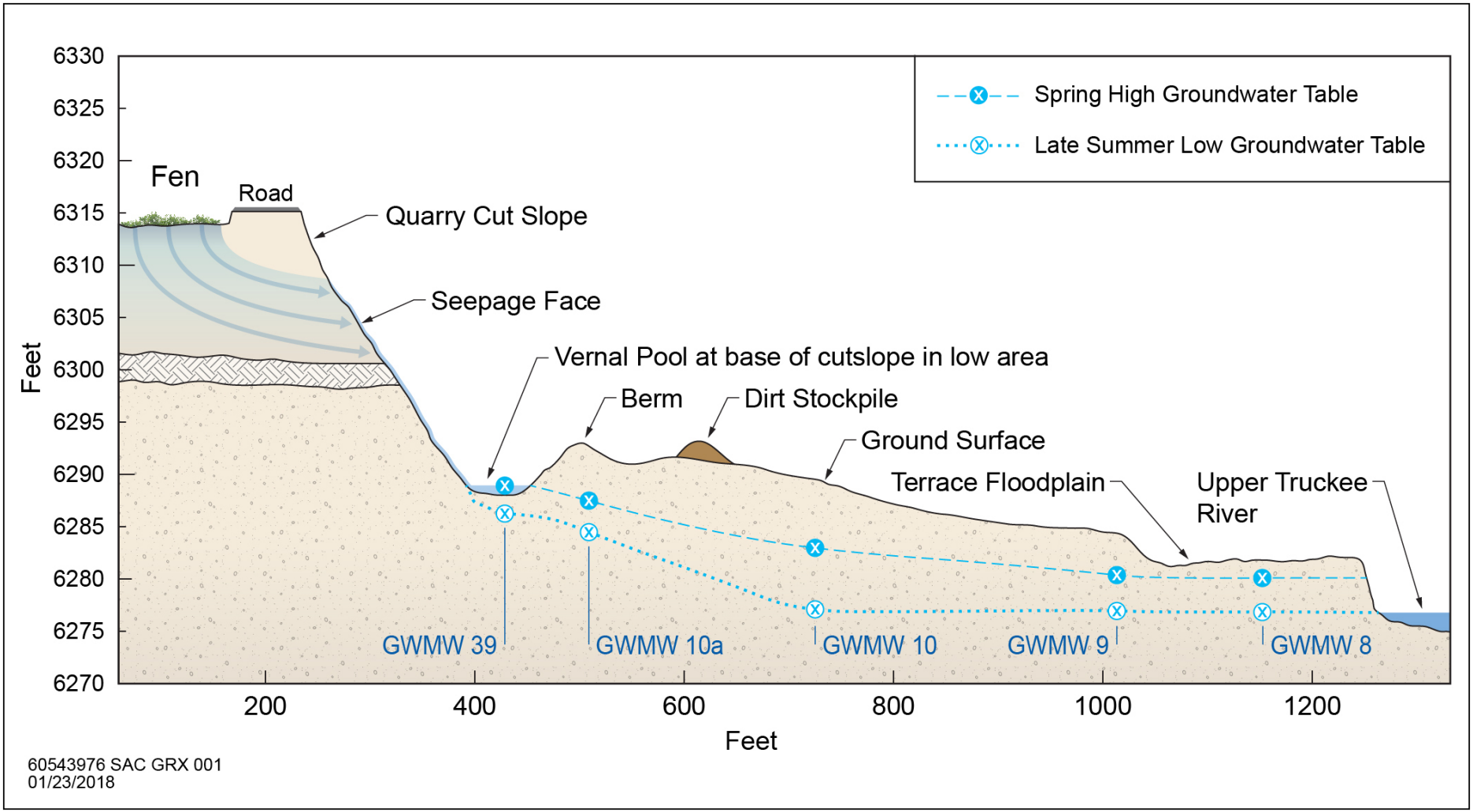

Source: Data provided by State Parks and modified by AECOM in 2017

Depth to Groundwater Wells **Exhibit 3.1-2**

Lodgepole Pine–Wet Type Forest

A lodgepole pine–wet type forest community of approximately 23 acres surrounds the verified fen, unverified fen, and some of the wet meadow areas located in the southwest portion of the study area. The lodgepole pine–wet type forest community is wetter than the lodgepole pine–dry type forest and lodgepole pine–mesic type forest communities. Lodgepole pine–wet type forest is superficially similar to lodgepole pine–mesic type forest, but is distinguished by the presence of certain distinctive hydrophytic species indicative of near-surface saturation for longer periods.

Vegetation in this community is dominated by lodgepole pine. However, unique associated species that are almost never found in riparian lodgepole pine–mesic type forest vegetation (e.g., big-leaved avens [*Geum macrophyllum*]) are common to scattered in the moist lodgepole pine vegetation of the lodgepole pine–wet type forest community type.

Jeffrey Pine Forest and Jeffrey Pine/Dry Meadow

Jeffrey pine forest occupies approximately 102 acres of the study area. This vegetation type is present primarily in the western portion of the study area, away from the immediate vicinity of the Upper Truckee River. The forest canopy has variable-age pine trees, some exceeding 30 inches in diameter at breast height. The majority of the canopy trees are Jeffrey pine; a small portion of the canopy is lodgepole pine and white fir.

The boundary between the lodgepole pine–dry type forest (described above) and Jeffrey pine forest in the study area is indistinct. Along the eastern edge of the area mapped as Jeffrey pine forest, the forest has a greater lodgepole pine component. The subcanopy and understory of Jeffrey pine forest lack the solid shrub layer seen in some other mixed coniferous forest communities in the Tahoe Basin. The Jeffrey pine forest herb layer is also sparse. Species composition of the shrub and herbaceous understory layers is similar to that of the lodgepole pine–dry type forest (described above) and dry meadow (described below).

Willow Scrub

Willow scrub occupies approximately 6 acres of the study area. Willow scrub is present interspersed with mesic and wet meadow vegetation, and on depositional bars. Willow species present in the study area include Lemmon's willow (*Salix lemmonii*), Geyer's willow (*S. geyeriana*), and Pacific willow (*S. lucida* ssp. *lasiandra*). Mountain alder (*Alnus incana* ssp. *tenuifolia*) is also present in willow scrub. Herbaceous species present in willow scrub in the study area are essentially the same as those associated with the mesic forb and wet meadow vegetation types (described below).

Dry Meadow

Dry meadow occupies approximately 16 acres of the study area. Dry meadow is an herbaceous plant community that is dominated by upland plant species present throughout the study area. Sometimes dry meadow is interspersed with the mesic meadow plant community described below. Scattered trees, primarily lodgepole pine, are present in most areas mapped as dry meadow; however, the habitat and restoration planning value of these areas is primarily meadow, not woodland.

Dry-meadow habitat is structurally different from the habitat of other meadow types, with much lower vegetative cover than the types discussed below. Consequently, this community type is highly susceptible to both small-scale

surface erosion, which results from intense precipitation, and large-scale erosion, which results when channels become reoriented through previously unflooded areas.

The species composition of this community is somewhat variable, depending on its ecological history. Typical dominant species of dry meadow in the study area are squirreltail, mountain brome, Ross' sedge (*Carex rossii*), brown sedge (*C. subfusca*), dwarf lupine (*Lupinus lepidus*), groundsmoke (*Gayophytum* spp.), and needlegrass (*Achnatherum* spp.).

Revegetation Dry Meadow

Revegetation dry meadow is ecologically and structurally similar to dry meadow described above; however, it occurs in areas that have experienced surface disturbance and have been revegetated using species that are not native to the Tahoe Basin. Revegetation dry meadow was shown in the vegetation map in the draft EIR/EIS/EIS in two locations in the study area that occupied a total of approximately 4.5 acres. During the long time that has passed since these areas were revegetated, they have been colonized by many of the dry-meadow species, and revegetation dry meadow has been replaced with lodgepole pine–dry meadow**.** Therefore, this unit is no longer presented in Exhibit 3.1-1.

Sagebrush Dry Meadow

Sagebrush dry meadow occupies approximately 7 acres and is present in openings among dry lodgepole and Jeffrey pine forests in the western half of the study area. This sagebrush dry meadow is a mixture of scrub and meadow vegetation, with somewhat lower shrub cover than is typical of the sagebrush dry-meadow vegetation type. Some scattered trees are present in sagebrush dry meadow; however, the habitat values are scrub and meadow rather than woodland.

The species composition of sagebrush dry meadow is the same as that described for dry meadow, except that mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*) is dominant and species that are sometimes found in wetlands such as Kentucky bluegrass and blue wildrye are rare or absent. Other characteristic herbaceous species present in sagebrush dry meadow are dwarf lupine, dusky horkelia (*Horkelia fusca*), and naked buckwheat (*Eriogonum nudum*).

Mesic Forb

Mesic forb vegetation is no longer mapped in the study area. This vegetation type was interspersed with other wetland communities mapped throughout the study area and has been integrated into those mapping units.

Mesic Meadow

Mesic meadow occupies approximately 40 acres of the study area, in patches ranging from large openings of many acres to small patches interspersed with willow scrub. Mesic meadow is characterized by grasses, sedges, and rushes and has a relatively high vegetative cover (70–80 percent). This community is dominated by both upland and wetland species, such as Kentucky bluegrass, yarrow (*Achillea millefolium*), brown sedge, slender cinquefoil (*Potentilla gracilis*), checkerbloom (*Sidalcea oregana*), meadow beardtongue (*Penstemon rydbergii* var. *oreocharis*), Baltic rush (*Juncus balticus*), and dwarf lupine.

Because species composition includes plants with a range of wetland indicator statuses, areas of mesic meadow may be delineated as upland or jurisdictional wetland. The dominant plants in this community have fibrous roots as well as rhizomes (creeping surface and subsurface stems bearing leaves or shoots); therefore, areas of mesic meadow with high cover are relatively resistant to erosion.

Many occurrences of mesic meadow are actually dewatered wet meadow (described below). Wetland dominants such as Baltic rush and Nebraska sedge (*Carex nebrascensis*) are abundant but not vigorous, usually flowering little or not at all. An important difference between the two meadow types is that mesic meadow is susceptible to invasion by lodgepole pine, whereas wet meadow is not. In addition, mesic meadow is too dry to allow establishment of vigorous willow clumps. Ecologically, both mesic meadow and wet meadow are similar to willow scrub. Consequently, wet/mesic meadow and willow scrub vegetation usually occur as mixed mosaics.

Wet Meadow/Willow Wet Meadow

Wet meadow occupies approximately 29 acres and is found in small patches throughout the study area and is interspersed with willow scrub. Wet meadow has higher vegetative cover than mesic meadow (95–100 percent). Consequently, this community has the highest erosion resistance of all herbaceous-dominated vegetation types in the study area.

Wet meadow located away from the river channel is dominated by Nebraska sedge, Baltic rush, checkerbloom, tufted hairgrass (*Deschampsia caespitosa*), and meadow beardtongue. Wet meadow adjacent to the river channel is dominated by fowl bluegrass (*Poa palustris*) and Sierra rush (*Juncus nevadensis*). Most wet meadow also includes some proportion of one or more upland species, such as meadow foxtail (*Alopecurus pratensis*), Kentucky bluegrass, yarrow, dandelion (*Taraxacum officinale*), or Lemmon's yampah (*Perideridia lemmonii*).

The wet meadows include a spring and associated wetland vegetation at the south end of Washoe Meadows SP in the study area. This area would be completely outside of the project site for the proposed project (Preferred Alternative 2B). The spring once was improved with the placement of a wooden barrel (to provide a water source for humans or livestock) and has a large swath of dead lodgepole pines downslope. These trees appear to have been killed by an increase in soil saturation, possibly the result of a fluctuating rate of spring flow. The elevation and/or duration of soil saturation is too high for lodgepole pines to survive. Future changes in spring flow rates can reasonably be anticipated to result in occasional and significant lateral and downslope enlargement of areas subject to long-duration saturation at or near the ground surface.

Obligate Sedge Wetland/Wet Meadow

Obligate sedge wetland occupies approximately 1 acre and is found in small patches throughout the study area. It occurs primarily in depressions on floodplains or in areas where springs supply perennial surface saturation. Structurally almost identical to wet meadow, this vegetation type features a dense rhizome and root turf; it is distinguished from wet meadow by its much lower species diversity, typically dominated by beaked sedge (*Carex utriculata*), Nebraska sedge, water sedge (*C. aquatilis*), and/or blister sedge (*C. vesicaria*).

Gravel/Cobble Bar

Gravel and cobble bar vegetation is present on approximately 4.7 acres of recently deposited sediment bars in the study area. The surface of the deposited sediment bar is covered by either cobble-sized particles or sand and

gravel. Vegetation on the bars is variable. Species that may be present include Lemmon's and Geyer's willows, sedges, fowl bluegrass, Sierra rush, goldenrod (*Solidago canadensis*), dwarf lupine, and common pepperweed (*Lepidium densiflorum*).

Spring Complex (including Fens)

Four areas in the southwest portion of the study area were previously mapped as spring complexes, including fens:

- a large undisturbed fen area in Washoe Meadows SP;
- a groundwater-supported wetland mosaic in the old quarry (located on the quarry cut-slope and part of the pit floor on the west side of the quarry), below and east of the large fen;
- a smaller fen approximately 1,000 feet north of the large fen; and
- a spring and associated wetland vegetation at the south end of Washoe Meadows SP in the study area.

These areas were mapped in more detail by CNPS in 2010 and the unit was subdivided into verified fen, unverified fen, and other non-fen units such as lodgepole pine- wet type forest and wet meadow, as described previously. This vegetation type no longer exists in the final EIR/EIS/EIS or the PAAEA. This unit is no longer shown in Exhibit 3.1-1.

Verified Fen

A large sloping fen occupies approximately 6 acres in the southwest portion of the study area and upslope of the project site under the proposed project. Sloping fens are the most common type of fen in the Sierra Nevada and are usually underlain by springs, or a complex of groundwater discharge points (Weixelman and Cooper 2008). Fens support a diverse suite of vegetation including vascular plants and bryophytes that are capable of survival and reproduction in saturated organic soils, and that produce biomass that can be stored below ground to form peat.

Compared to other habitats, fens support a disproportionately large number of rare vascular and nonvascular plant species in the Sierra Nevada, underscoring the importance of these habitats for regional biological diversity (Weixelman and Cooper 2008). Some of the plant species identified at the verified fen area include sundew (*Drosera* sp.), little leaf mountain laurel (*Kalmia microphylla*), western Labrador tea (*Ledum glandulosum*), blueberry (*Vaccinium uliginosum*), sedge species (e.g., *Carex capitata*, *C. limosa*, *C. nebrascensis*, and *C. utriculata*), *Juncus* species, and moss species (including three-ranked hump moss, *Meesia traquetra*, and a rare moss in California called *Tomentypnum nitens*). This unit was previously part of the combined "spring complex (including fens)."

Unverified Fen

Approximately 8 acres of unverified fen also occur in the southwest portion of the study area and upslope of the project site under the proposed project (Preferred Alternative 2B). Probe measurements taken at these sites suggest that peat and vegetation types expected in a fen are present. Further surveys are needed to determine

whether the unverified fen locations have 40 centimeters (or greater) of organic soils in the upper 80 centimeters of the soil profile, a necessary criterion to be considered a verified fen.

Wetlands, such as the verified fen and unverified fen community types, are supported by groundwater; therefore, they are sufficiently important to support distinctive vegetation communities. These areas are particularly important for species diversity because they support several plant species that are not found in other wetland types in the study area, including some that are considered special-status species.

The fen is located outside and upslope of the potential golf course relocation site (Exhibit 3.1-1). The quarry floor, where seepage from the fen drains from the quarry cut-slope, collects water and has begun to form a small wetland, potentially a vernal pool. This area has little soil (all original soil was removed during historical sand-gravel extraction) and no peat. Alternative 2 was originally designed to enhance this area, but the area was never part of the proposed golf course footprint. The proposed project would completely avoid this area. This unit was previously part of the combined "spring complex (including fens)."

Developed Areas

As shown in Exhibit 3.1-1, 113 acres are designated as developed. These areas feature soils or vegetation that have been substantially disturbed or altered such as fairways, greens, golf cart paths, buildings, or gravel and dirt roads. The landscape management approach for this area is discussed further in Chapter 2, "Proposed Project/Preferred Alternative 2B: River Ecosystem Restoration with Reconfigured, Reduced-Footprint 18-Hole Regulation Golf Course."

Water Bodies

River

The 9 acres shown as river in Exhibit 3.1-1 include the bed of the low-flow channel of the Upper Truckee River.

Golf Course Ponds

Several human-made ponds, one of which acts as a sediment basin, are located within the Lake Tahoe Golf Course. The ponds total approximately 3 acres, or about 1 percent of Lake Valley SRA. The substrate of the ponds is coarse granite sand, covered with a fine organic muck. The water is fairly clear in most of the ponds; however, because the ponds catch irrigation water that may contain herbicides, pesticides, and fertilizers from the golf course, the quality of the water is questionable (State Parks 1988, cited in Hartman 2011 [Appendix C]). The water elevation in the ponds is artificially maintained by the golf course concessionaire through a combination of pumping and filling. The shallower ponds probably freeze completely during the winter (State Parks 1988, cited in Hartman 2011 [Appendix M]).

Ephemeral Pond

An ephemeral pond, approximately 0.3 acre in size, is located at the base of the east lobe of the old quarry and receives drainage from the verified fen and groundwater to the west. This water body and the surrounding wetland vegetation were apparently created by an old borrow pit cut into the hillside. The excavation for the borrow pit cut into the hillside and intercepted the water table. This created a seepage face where the water now drains into the old pit floor and concentrates in lower areas, forming a seasonal or vernal pool. The wetlands that compose this

complex are distributed on both the quarry cut-slope and the disturbed pit floor. The disturbed wetland/vernal pool on the pit floor also receives surface runoff directly from the verified fen to the west via a small rivulet, and is isolated from the adjacent downslope area by an existing berm.

3.1.2 IMPACT ANALYSIS

IMPACT 3.5-3 (PrefAlt. 2B)

Short-Term, Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, Fens, Springs, and SEZ). Implementing the proposed project (Preferred Alternative 2B) would involve removing riparian and meadow vegetation along the Upper Truckee River and placing fill into the active channel for geomorphic restoration of the river. The proposed project has been redesigned such that golf course construction would not occur near the spring in Washoe Meadows SP. Wetland restoration in the old quarry adjacent to the verified fen would no longer occur. Thus, the proposed project would not directly or indirectly affect the fen or spring by changing local hydrology. However, the proposed project would disturb SEZ areas, potentially jurisdictional wetlands, and riparian vegetation during construction. This impact would be significant.

The stream channel's size, configuration, and floodplain connection would be directly modified throughout the study area under both Alternative 2 and the proposed project (Preferred Alternative 2B) by increasing channel length (adding 1,450 feet), elevating the streambed 2–4 feet in many locations, and reducing channel capacity in a majority of reaches. Modifications would also involve placing fill in approximately 3,400 feet of existing channel.

Restoration would involve removing some existing riparian vegetation, but the riparian vegetation to be removed would be salvaged and used elsewhere to the extent feasible. Salvaged vegetation would consist of transplanted sod and shrubs, native sod revetments and native sod blankets, and woody debris brush boxes. Sod and shrub materials would be obtained from within the footprint of the new channels and salvaged from the bottom of reconnected meanders or from adjacent meadows (aside from areas landscaped with nonnative sod). As part of the project design, bank areas that would experience construction disturbance would include methods that emphasize protecting the existing bank vegetation.

The proposed project (Preferred Alternative 2B) has been designed so that the golf course would no longer be located near the spring and associated drainage near the southwest corner of the study area. The proposed project has eliminated the relocated holes proposed under Alternatives 2 and 2A that surrounded the "doughnut hole" around the spring and associated wetland. At its closest point, the golf course proposed under the proposed project would be located approximately 450 feet from the southwestern spring and downslope of the drainage.

Alternatives 2 and 2A proposed restoration of the ephemeral pond (vernal pool) and wet meadow area at the base of the mined quarry cut-slope on the side of the hill below and east of the fen. Restoration of this area would not occur under the proposed project (Preferred Alternative 2B) because the area is recovering naturally. The area, which was never part of the proposed golf course footprint, would not be disturbed. The proposed golf course improvements would occur downgradient of this area and would be separated from the vernal pool by a vegetated berm.

The verified fen and unverified fen are located upslope and away from the proposed project's golf course features, and those features are not hydrologically connected to any portion of the proposed relocated golf course holes. These features would not be affected either directly or indirectly through altered vegetation, hydrology, or

changes in water quality, as the fen is located outside and upslope of (above) the proposed river restoration and golf course relocation area.

The golf course would be downslope of the fen and separated from the quarry wetland (vernal pool) at the base of the quarry cut-slope by a berm. Exhibit 3.1-2 demonstrates that the fen and seepage would be isolated from the golf course downslope. Under the proposed project, the golf course would be located approximately 250 feet and downgradient from the fen at its closest point.

The fen at Washoe Meadows SP is classified as a sloping fen (also called soligeneous peatland), which is supported by groundwater, typically at a discharge point created by a slope break or underlying geologic change. Exhibit 3.1-2 presents a schematic of this area that was developed based on piezometer (well) groundwater data collected by State Parks. The groundwater source supporting the fen is upgradient/upslope from the fen and would be far from the golf course under the proposed project. Additionally, in this area, an existing berm between the quarry cutslope and the proposed golf course isolates the vernal pool. State Parks would maintain this berm to assure that the golf course would be isolated and that no surface water runoff or irrigation overspray could flow toward the area. No vegetation removal or logging would occur near the fen or on the slope between the fen and the golf course. Modifications under the proposed project would not adversely alter fen hydrology and/or surface contours downslope of the fen.

The potential changes to soil moisture and shallow groundwater downslope of the fen along the west margin of the proposed golf course under the proposed project would likely have a neutral or net positive benefit on groundwater levels, rather than creating any mechanism for an adverse impact on fen hydrology. Benefits to local soil moisture and shallow groundwater downslope of the fen (along the floodplain) could result from several aspects of the proposed project: raising of the riverbed east of the fen; improved soil moisture recharge and higher groundwater levels down-valley (to the northeast) because of river and floodplain restoration; and localized increases in soil moisture within the proposed managed landscape footprint that would be irrigated.

These changes, although minor in magnitude and located downslope, would all be in the direction of benefits to the fen's groundwater conditions rather than adverse groundwater modifications. The proposed project would not modify the "source" of groundwater to the fen but could beneficially reduce groundwater gradients or loss rates downslope of the fen.

Wetland habitat has been identified using vegetation as the primary indicator of hydrology, where it is apparent. This approach encompasses all wetland areas ultimately confirmed to be protected under the Clean Water Act (CWA); however, a formal delineation of jurisdictional wetlands subject to USACE jurisdiction under CWA Section 404 (i.e., using vegetation, hydrology, and soils as indicators) would be conducted during the permitting phase. The Upper Truckee River is considered waters of the United States; furthermore, wetland habitat types associated with the riparian corridor of the Upper Truckee River, Angora Creek, the drainage of the other unnamed creek (i.e., Meyers Creek) in the study area, and potentially the quarry ponds are assumed to be considered jurisdictional wetlands, subject to USACE jurisdiction under CWA Section 404.

These habitat types are also considered habitats of special significance by TRPA. Deciduous riparian vegetation (willow scrub) and montane meadow vegetation are two of TRPA's threshold common vegetation types. Implementing the proposed project would involve removing riparian vegetation and working in areas that would qualify as jurisdictional wetlands and other waters of the United States and SEZ. The project would require a

CWA Section 404 permit from USACE, a CWA Section 401 permit from the Lahontan Regional Water Quality Control Board, and a streambed alteration agreement from CDFW for work on the streambed and banks of the Upper Truckee River, Angora Creek, and the other unnamed creek drainages within the study area. Geomorphic restoration under the proposed project would include placement of fill in the section of the Upper Truckee River to be abandoned and removal and relocation of some adjacent woody riparian and meadow vegetation. This would result in the temporary disturbance of sensitive habitat types, including SEZ, and the placement of fill material into jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under CWA Section 404.

Because the proposed project (Preferred Alternative 2B) would result in the disturbance of riparian vegetation, SEZ, and jurisdictional wetlands, this impact would be significant. Mitigation Measures 3.5-3A (PrefAlt. 2B) and 3.5-3B (PrefAlt. 2B) shall be considered in their entirety and shall be measured through performance criteria provided below.

Mitigation Measure 3.5-3A (PrefAlt. 2B): Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.

Before approval of the detailed design to be used for project construction, a delineation of waters of the United States, including wetlands, that would be affected by project implementation will be conducted by a qualified biologist through the formal CWA Section 404 wetland delineation process. The delineation will be submitted to and verified by the Sacramento District of USACE. Authorization for fill or reconstruction of jurisdictional waters of the United States, including wetlands, will be secured from the USACE Sacramento District through the Section 404 permitting process. Section 404 permitting through either a nationwide or individual permit will likely require:

- a determination of the volume and types of material to be placed into waters of the United States;
- a determination of the total area of waters of the United States to be directly and indirectly affected;
- a wetland delineation conducted in accordance with the 1987 *Wetland Delineation Manual* and the *Western Mountain Regional Supplement* (USACE 2008) when wetlands are proposed for impacts;
- a description of habitat, including plant communities, located in the study area;
- a description of any environmental impacts that are expected to occur, including methods to avoid, minimize, or mitigate adverse impacts on water quality or aquatic functions at the study area;
- any other information pertinent to the wetland, stream or water body involved;
- for projects involving the restoration of greater than 3 acres of wetlands, evidence that the U.S. Fish and Wildlife Service has been provided with a courtesy copy of the project notification; and
- a copy of the Section 401 water quality certification or waiver issued for the project.

State Parks will coordinate with USACE as appropriate and obtain coverage under the General Permit for the construction of all aspects of the project. All general and regional terms required for permit compliance will be implemented.

In addition, implementing the proposed project will require a streambed alteration agreement from CDFW for work on the bed and banks of the Upper Truckee River. State Parks will obtain the streambed alteration agreement from CDFW and implement all terms required for permit compliance.

Mitigation Measure 3.5-3B (PrefAlt. 2B): Implement Vegetation Protection Measures and Revegetate Disturbed Areas.

As detailed in Chapter 2, "Proposed Project/Preferred Alternative 2B: River Ecosystem Restoration with Reconfigured, Reduced-Footprint 18-Hole Regulation Golf Course," of this PAAEA, and as mentioned in the impact discussion, riparian vegetation within the SEZ would be avoided to greatest extent feasible. To minimize the loss of native wetland vegetation at the site, salvage actions will be implemented for wet meadow and riparian vegetation. A minimum number of channel access points will be used to avoid and minimize adverse effects on bank vegetation. If avoidance is not possible, trees will be shielded and shrubs will be pruned, while protecting soil and root structures. In areas where existing streambank vegetation must be removed, plant materials will be salvaged, stored, and reused as possible.

Mitigation Measure 3.5-3 (PrefAlt. 2B) Performance Criteria:[4]

1. *No net loss of wetland acreage:* Filled wetland areas will be replaced at a ratio of 3:1 where needed for project actions that affect wetlands not related to restoration activities. Wetland restoration that includes revegetation with native plants and expansion of the wetland will be self-mitigating by the nature of the activities, and will be monitored through postconstruction monitoring as directed by USACE to assure no net loss of wetland acreage.

2. *No net loss of SEZ acreage:* Disturbed SEZ will be replaced at a minimum ratio of 1:1 or as directed by TRPA if additional acreage is required.

3. *Minimization of loss or degradation of riparian vegetation, if feasible:* If not feasible, riparian vegetation will be restored at a ratio of 1:1 through revegetation.

4. *Construction fencing:* Areas adjacent to fen, wetlands, and vernal pools will be protected by construction fencing during construction.

With the measures and performance criteria described above, the locations of sensitive habitats would be identified and the project would minimize the effects of project construction and compensate for the loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ). Therefore, implementation of Mitigation Measures 3.5-3A (PrefAlt. 2B) and 3.5-3B (PrefAlt. 2B) would reduce Impact 3.5-3 (PrefAlt. 2B) to a less-than-significant level.

[4] Mitigation Measure 3.5-3C is no longer necessary for this resource because the project has been redesigned to avoid the spring and the fen. The golf course use would no longer be upstream of those areas. However, Mitigation Measure 3.8-1 still applies to the golf course in its entirety as a water quality mitigation measure.

3.2 CULTURAL RESOURCES

3.2.1 TRIBAL COORDINATION SUMMARY

As discussed in Section 3.9, "Cultural Resources," of the draft EIR/EIS/EIS, cultural resource investigations for the project consisted of a phased approach that included Native American consultation, prefield research, field reconnaissance surveys, and resource documentation. All aspects of the 2008 cultural resource study were conducted in accordance with the Secretary of the Interior's Guidelines for Identification of Cultural Resources (48 Code of Federal Regulations [CFR] 44720–44723).

The analysis was based on a combination of background research, archaeological pedestrian surveys, site investigations, and consultation with the Native American community. Research into potential issues related to cultural resources began in 2006 when State Parks contacted the Washoe Tribe of Nevada and California regarding National Register of Historic Places (NRHP) evaluation excavations proposed for archaeological sites CA-Eld-2152, CA-Eld-2157, CA-Eld-2158, and CA-Eld-2160. These sites lie within portions of the study area and could have been affected by proposed river restoration activities and golf course reconfiguration.

Further consultation with the Washoe Tribe occurred in 2007, also regarding NRHP evaluation studies (CA-Eld-2156 and CA-Eld-2159). Sites CA-Eld-2152, CA-Eld-2157, and CA-Eld-2159 were deemed ineligible for the NRHP by the State Historic Preservation Officer (SHPO); therefore, they are not addressed further. Three sites evaluated have been recommended eligible to the NRHP under Criterion D (data potential): CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160. Site CA-Eld-555 was assumed eligible for purposes of this project (Pacific Legacy 2004).

AECOM cultural resources specialists, in coordination with State Parks and the U.S. Forest Service Lake Tahoe Basin Management Unit, reviewed archaeological site records and other documents related to all presently documented cultural sites, features, and artifacts located in and near the study area. Conventional records searches in California are typically conducted through the California Historical Resources Information System (CHRIS); in this case, however, State Parks and the Lake Tahoe Basin Management Unit maintained more extensive and detailed archives for the project site and the overall study area than the CHRIS.

AECOM cultural resources specialists contacted the Washoe Tribe directly in 2007. In addition, State Parks archaeologist Denise Jaffke has regularly contacted the Washoe Tribe regarding cultural resources and culturally sensitive locales in and near the study area. This ongoing contact has provided information regarding ethnographic and recent historic-era Washoe Tribe use of the study area and the surrounding region. Coordination will continue through final project design and implementation. Throughout the project, Mr. Darrel Cruz, the Tribal Historic Preservation Officer for the Washoe Tribe, has been involved in the planning process and in identifying mitigation for potential impacts on important early Native American cultural resources. In August 2017, Tribal Chairman Neil Mortimer toured the project site and surrounding area with Irvin Jim, Chairman of the Woodfords Community (which includes South Lake Tahoe and the vicinity), and discussed potential impacts and mitigation measures proposed under the proposed project (Preferred Alternative 2B).

Archaeological surface surveys and subsurface investigations have been conducted in the entire study area. Among these investigations were reconnaissance-level surveys performed by AECOM and State Parks and an intensive cultural resources inventory conducted by Pacific Legacy in Washoe Meadows SP. Subsurface

investigations included the NRHP evaluation reports for the sites noted above. Information derived from these investigations, archival research, and consultation with the Washoe Tribe has provided a highly detailed and up-to-date assessment of the nature and distribution of prehistoric and historic-era sites, features, and artifacts in and near the study area. All this effort was completed after the Lake Valley SRA General Plan was prepared. Therefore, information provided in the 2008 study, EIR/EIS/EIS, and this PAAEA supersedes information in the general plan. In addition to this ongoing consultation with the Washoe Tribe, Reclamation has consulted with the SHPO in accordance with Section 106 of the National Historic Preservation Act (NHPA). After reviewing the project, SHPO made the following findings:

- The determination of the Area of Potential Effect (APE) is appropriate pursuant to 36 CFR 800.4(a)(1) and 800.16(c), and the effort to identify and evaluate historic properties in the APE represents a reasonable and good-faith effort in accordance with 36 CFR 800.4(b)(1).

- The finding of No Adverse Effect is appropriate pursuant to 36 CFR 800.5(b). The concurrence with this finding is predicated on establishing construction monitoring of known resources in the project site; preparing a cultural resource protection plan, including design directives, through ongoing tribal consultation; and periodically (annually) monitoring the effectiveness of these measures.

3.2.2 IMPACT ANALYSIS

IMPACT 3.9-1 (PrefAlt. 2B)

Damage to or Destruction of Significant Documented Cultural Resources. Research has documented four prehistoric cultural resources recommended eligible for listing in the NRHP/California Register of Historical Resources (CRHR) within and in the immediate vicinity of the proposed project (Preferred Alternative 2B). Because the potential exists for these resources to be damaged or destroyed, this impact would be potentially significant.

Three prehistoric archaeological sites (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) are located within or immediately adjacent to the proposed reconfigured 18-hole golf course and/or the meadow and floodplain restoration activities associated with the proposed project (Preferred Alternative 2B). Sites CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160 were investigated by State Parks (Jaffke 2006). All were found to contain well-preserved spatially and temporally discrete archaeological deposits that could contribute significant information about early Native American activities in the Tahoe Basin, and all have been recommended eligible to the NRHP under Criterion D (data potential). Site CA-Eld-555 was assumed eligible for the purpose of this project (Pacific Legacy 2004; Jaffke 2009).

Alternatives 2 and 2A included a reconfigured golf course adjacent to CA-Eld-555 and mitigation proposed under Alternative 2 included exclusionary fencing to avoid that site. The proposed project (Preferred Alternative 2B) has been designed so the site would no longer be within Lake Valley SRA or adjacent to the golf course. The proposed project would completely avoid CA-Eld-555 and sufficient land area exists to avoid this site during construction; no impact on CA-Eld-555 would occur. Therefore mitigation Technique (b), "Project Revised Design to Avoid the Resource," has been removed from the mitigation measure described below.

The previous mitigation measure also included capping of sites CA-Eld-2158, CA-Eld-2160, and CA-Eld-2156. Capping of these sites is consistent with preservation methods described in the archaeological literature and includes placing fill on each site to avoid direct ground disturbance of surface layers and to avoid compaction of on-site soils and cultural strata. Mathewson and Gonzalez (1988); Mathewson et al. (1992:10–12); and

Mathewson (1989) all concur that burial and capping of an archaeological site, when performed appropriately, preserves the deposit in place. Their reasons are described as follows:

- Burial of an archaeological site, unlike excavation, maintains the archaeological resource in place.
- An archaeological site is continually changing and decaying with time; hence, the goal of preservation is not to prevent change but to reduce the natural process of decay by shielding a site from adverse human and natural effects.
- Capping a site with soils of comparable or greater pH value than the pH of the on-site deposit can slow down decay of the organic constituents of an archaeological deposit.
- Capping the sites will make them less permeable to infiltration of surface water and will thus reduce the frequency and severity of cycles of inundation and drying that expedite the decay of organic remains.

Through ongoing consultation with the Washoe Tribe, State Parks has redesigned golf course features to avoid the sites that are located within the golf course footprint. Thus, with the cultural resource protection plan and design directives developed through ongoing tribal consultation and monitoring proposed in the mitigation measure below, the proposed project could minimize impacts on known cultural resources on site without capping. Therefore, Mitigation Technique (a), "Site Capping," has been removed from the mitigation measure described below.

Based on the current preliminary layout of the golf course reconfiguration, elements of the proposed project (Preferred Alternative 2B) could affect sites CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160 in the following ways:

- Site CA-Eld-2156 is located within Washoe Meadows SP, where no construction improvements would occur under the proposed project. However, CA-Eld-2156 could be indirectly affected by the proposed project because the existing road that travels through the site would increase during construction activities. Maintenance vehicles and recreation users use this road regularly. As described further below in Mitigation Measure 3.9-1A (PrefAlt. 2B), "Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Preparation and Implementation of a Cultural Resources Protection Plan," design directives will be developed through coordination with the Washoe Tribe to protect this area during construction. Example BMPs that could be used include duradeck road barriers, geotextiles covered with gravel and soil cap, or other methods to maintain stabilization and protect native soils during construction. If requested by the Washoe Tribe, the measures may be permanent. As described in Mitigation Measure 3.9-1B (PrefAlt. 2B), "Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Archaeological/Washoe Tribe Monitoring," a Washoe monitor will oversee construction in this area to assure that resources are protected.
- Site CA-Eld-2158 is located partially within the proposed golf course, and portions could be affected by project-related ground-disturbing activities or subsequent operation and maintenance of the course. However, Locus A and Locus B, the areas considered eligible for the NRHP, are located outside of the golf course footprint. A portion of CA-Eld-2158 considered ineligible is located within greens and tees. As described below in Mitigation Measure 3.9-1B (PrefAlt. 2B), "Avoid Impacts on Documented Significant Cultural

Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Archaeological/Washoe Tribe Monitoring," a Washoe monitor will oversee construction in this area to assure that resources are protected.

- CA-Eld-2160 is located completely within the footprint of the proposed reconfigured 18-hole golf course. The site could be affected by grading during construction; however, golf course features including cart paths, greens, tees, and other components have been designed around the site. The site is located within naturalized landscapes where no grading, irrigation, or sodding would occur. As described further below in Mitigation Measure 3.9-1A (PrefAlt. 2B), "Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Preparation and Implementation of a Cultural Resources Protection Plan," design directives such as vegetative screening or berms may be used at the request of the tribal monitor on-site during construction or through ongoing consultation during final design. While this area is located in naturalized landscaping, vegetative screening and berms can be used to further protect cultural values from visual, atmospheric, or audible elements that could diminish the integrity of the site.

Each of these sites is considered a historical resource under CEQA and Section 106 of the NHPA; therefore, because the potential exists for any of them to be damaged or destroyed by project activities, this impact would be potentially significant. Mitigation Measures 3.9-1A (PrefAlt. 2B) and 3.9-1B (PrefAlt. 2B) shall be considered in their entirety as Mitigation Measure 3.9-1 and shall be measured through the performance criteria provided below.

Mitigation Measure 3.9-1A (PrefAlt. 2B): Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Preparation and Implementation of a Cultural Resource Protection Plan.

Reclamation and TRPA require protection of historic and cultural resources in accordance with Section 106 of the NHPA and TRPA ordinances (TRPA Code Sections 29.2 and 64.8). The proposed project (Preferred Alternative 2B) includes a cultural resource protection plan that will be prepared and implemented before and during construction. Measures will include but not be limited to assuring that final design placement and orientation of recreation infrastructure will incorporate the following elements:

- visual screening, barriers, or other design directives as appropriate to minimize erosion, visibility, and access that could otherwise lead to damage or destruction of sites CA-Eld-2160, CA-Eld-2156, and CA-Eld-2158;
- barriers or fencing installed during construction to protect identified sites, including CA-Eld-2160;
- jobsite education regarding protocols for identifying potential uncovered resources and responding to discoveries (stopping work); and
- a qualified cultural resource specialist/tribal member present to oversee grading activities occurring near eligible resources.

State Parks will ensure that the requirements of NHPA Section 106 are incorporated into the cultural resources protection plan. Before project-related ground disturbance begins, State Parks will train all construction personnel regarding the possibility of uncovering buried cultural resources. A qualified cultural resources specialist will educate personnel regarding how to identify archaeological remains.

Mitigation Measure 3.9-1B (PrefAlt. 2B): Avoid Impacts on Documented Significant Cultural Resources (CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160) through Archaeological/Washoe Tribe Monitoring.

Although the project has been redesigned to avoid sites CA-Eld-2156, CA-Eld-2158, CA-Eld-2160, and CA-Eld-555 to the extent feasible and other adequate measures have been developed to protect them during project construction and future operation and maintenance of the golf course, data recovery will be necessary at these sites if complete protection is not feasible.

Construction will be monitored by a qualified member of the Washoe Tribe. If unusual amounts of stone, bone, or shell or significant quantities of historic-era artifacts such as glass, ceramic, metal, or building remains are uncovered during construction, work will be suspended in the vicinity of the site where the suspected resources have been uncovered; State Parks will be contacted immediately; and Mitigation Measure 3.9-1C (PrefAlt. 2B), "Stop Work and Implement Measures to Protect Cultural Resources Discovered during Ground-Disturbing Activities," shall be implemented.

Mitigation Measure 3.9-1C (PrefAlt. 2B): Stop Work and Implement Measures to Protect Cultural Resources Discovered during Ground-Disturbing Activities.

Reclamation or any other federal lead agency for projects that require federal discretionary actions under NEPA will be contacted immediately so that the Section 106 post-review discovery process, which includes consultation with the SHPO and Indian tribes, can proceed as required by federal regulations (36 CFR 800.13). At that time, State Parks will retain a qualified professional archaeologist, who will conduct a field investigation of the specific site and recommend measures deemed necessary to protect or recover any cultural resources concluded by the archaeologist to represent significant or potentially significant resources as defined by CEQA, NEPA, and TRPA. These measures may include but will not necessarily be limited to avoidance, archival research, subsurface testing, and excavation of contiguous block units.

State Parks will implement the measures deemed necessary by the archaeologist and/or in consultation with the Washoe Tribe before construction resumes in the area of the find. The purpose of this oversight will be to ensure that cultural resources potentially uncovered during ground-disturbing activities are identified, evaluated for significance, and treated in accordance with their possible NRHP and CRHR status. Potential treatment methods for significant and potentially significant resources may include but will not be limited to taking no action (i.e., resources determined not to be significant); avoiding the resource by changing construction methods or project design; and implementing a program of testing and data recovery, in accordance with all applicable federal and state requirements.

The Washoe Tribe and/or archaeological monitors will evaluate subsequent project-related ground-disturbing activities within and in the immediate vicinity of these site locations. If data recovery is necessary, findings of effect and one or more historic property treatment plans will be prepared and approved by the State Historic Preservation Officer, the lead federal agency, and the Washoe Tribe's Tribal Historic Preservation Officer (THPO). After data recovery investigations, a data recovery report will be prepared in accordance with the Secretary of the Interior's guidelines and guidance provided by the California Office of Historic Preservation and the THPO.

Mitigation Measure 3.9-1 (PrefAlt. 2B) Performance Criteria:

1. *Avoidance of disturbance:* State Parks has designed the golf course to avoid disturbance of the identified resources. During construction, sites with the potential to be affected by the project will be flagged for avoidance and monitored by a qualified archaeologist and a representative of the Washoe Tribe. If during construction it is discovered that these resources extend beyond the known limits, the SHPO will be consulted and Mitigation Measure 3.9-1C (PrefAlt. 2B), "Stop Work and Implement Measures to Protect Cultural Resources Discovered during Ground-Disturbing Activities," shall be implemented.

2. *Protection of resource integrity:* If avoidance is not feasible, State Parks will protect the integrity of the resource to avoid damage that would diminish its historic and/or tribal cultural value. Protection can be achieved through tribal and archaeological monitoring of grading activities and if necessary, data recovery upon consultation with the Washoe Tribe, Reclamation, and SHPO. Additional protection measures may include visual screening or other small physical barriers to minimize visibility, access, and erosion. These additional measures will be added at the request of an archaeologist and in consultation with the Washoe Tribe's designated representative to assure that the final approach protects the integrity of the resources.

3. *Confirmation by the Washoe Tribe of resource protection adequacy:* During the detailed design development and through construction and postconstruction monitoring, State Parks will continue to consult with the Washoe Tribe to confirm the acceptability of construction and operation approaches to protect the resources.

If full protection is not feasible, implementation of Mitigation Measure 3.9-1 (PrefAlt. 2B) would reduce further effects on sites CA-Eld-2156, CA-Eld-2158, and CA-Eld-2160 through protection, avoidance, and archaeological/Washoe monitoring of ground-disturbing activities; implementation of Washoe Tribe design directives; and data recovery. Implementation of Mitigation Measure 3.9-1 (PrefAlt. 2B) would reduce this impact to a less-than-significant level by protecting the known sites from project-related disturbances and potential impacts from ongoing and future golf course use and maintenance.

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6 PAAEA DISTRIBUTION LIST

6.1 ELECTED OFFICIALS AND REPRESENTATIVES

- U.S. House of Representatives

6.2 U.S. GOVERNMENT DEPARTMENTS AND AGENCIES

- U.S. Army Corps of Engineers
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Environmental Protection Agency–Region 9
- U.S. Fish and Wildlife Service
- U.S. Forest Service–Lake Tahoe Basin Management Unit
- U.S. Geological Survey
- U.S. Coast Guard

6.3 STATE GOVERNMENT AGENCIES

- Assembly, California Legislature
- California Department of Fish and Wildlife
- California Department of Pesticide Regulation
- California State Lands Commission
- California Department of Boating & Waterways
- California Department of General Services, Office of Real Estate Services Division
- Lahontan Regional Water Quality Control Board
- California Office of the Attorney General
- California Department of Transportation, District 3–Tahoe
- California Tahoe Conservancy
- State of Nevada, Department of Environmental Protection
- Sierra Nevada Conservancy
- Nevada Division of Environmental Protection

6.4 LOCAL GOVERNMENT & AGENCIES

- City of South Lake Tahoe
- South Tahoe Chamber of Commerce
- El Dorado County
  - Board of Supervisors, District 5
  - Department of Transportation
  - Parks and Recreation Department
  - Public Works
- South Tahoe Public Utility District
- Lake Tahoe Unified School District
- Lake Valley Fire Protection District
- Tahoe Resource Conservation District

6.5 ORGANIZATIONS, BUSINESSES, AND INDIVIDUALS

All organizations, businesses, and individuals that have contacted State Parks about or commented on the project have been notified of the availability of the PAAEA.

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APPENDIX A

Lake Valley State Recreation Area
General Plan Amendment and Classification Adjustment and
Washoe Meadows State Park Classification Adjustment

APPENDIX A

LAKE VALLEY STATE RECREATION AREA GENERAL PLAN AMENDMENT AND CLASSIFICATION ADJUSTMENT AND WASHOE MEADOWS STATE PARK CLASSIFICATION ADJUSTMENT

For the California Department of Parks and Recreation (State Parks) to implement the proposed project (Preferred Alternative 2B) for the Upper Truckee River Restoration and Golf Course Reconfiguration Project, three actions by the California Park and Recreation Commission (SPRC) are necessary:

1. Certify the Upper Truckee River Restoration and Golf Course Reconfiguration Project's environmental documentation as being adequate under the California Environmental Quality Act (CEQA).

2. Adjust the classification of certain areas within Washoe Meadows State Park (SP) and Lake Valley State Recreation Area (SRA) by modifying the boundary of the two units.

3. Amend the general plan for Lake Valley SRA.

The project's environmental impact report/environmental impact statement/environmental impact statement (EIR/EIS/EIS) contains a comprehensive evaluation of a reasonable range of alternatives, including a No-Project/No-Action Alternative and four action alternatives. A refined version of Alternatives 2 and 2A is proposed by State Parks as the Preferred Alternative or proposed project, hereafter referred to as Preferred Alternative 2B, because it best meets the project's basic objectives among the evaluated alternatives. The Preferred Alternative 2B and Additional Environmental Analysis (PAAEA) contains a complete description of Preferred Alternative 2B, the proposed project.

The summary descriptions of the relevant components of the proposed project (Preferred Alternative 2B), the amendment of the Lake Valley SRA General Plan, and the classification adjustments for certain lands within both Lake Valley SRA and Washoe Meadows SP that are required as part of the project's implementation are presented below.

BACKGROUND OF LAKE VALLEY STATE RECREATION AREA

The lands that contain Lake Valley SRA and Washoe Meadows SP were originally purchased as one parcel and then subdivided to allow for continued operation of the golf course. The general plan for Lake Valley SRA was prepared in 1988 and states that "the land acquisition process that resulted in the establishment and classification of Lake Valley SRA began with the acquisition of the Lake Country Estates project by the Wildlife Conservation Board in 1985. …This purchase was a result of litigation entitled *Lake Country Estates, Inc, et al., v. Tahoe Regional Planning Agency, et al.* A provision of that statute requires that 'the property shall be operated and maintained by the Department of Parks and Recreation in a manner which promotes its environmental and recreational values.' …Golf course operation and winter sports activities previously provided for under

state-administered contracts are proposed to be continued in kind pursuant to the Declaration of Purpose adopted by the California Park and Recreation Commission on March 13, 1987."

The purpose of Lake Valley SRA is: "To make available to the people for their enjoyment and inspiration the 18-hole golf course, and the scenic Upper Truckee River and its environs. The department shall balance the objectives of providing optimum recreational opportunities and maintaining the highest standards of environmental protection. In so doing, the department shall define and execute a program of management within the unit that shall perpetuate the unit's declared values, providing for golfing along with other compatible summer and winter recreation opportunities while restoring the natural character and ecological values of the upper Truckee River, protecting its water quality, and protecting and interpreting significant natural, cultural, and scientific values."

SUMMARY DESCRIPTION OF RELEVANT COMPONENTS OF THE PROPOSED PROJECT (PREFERRED ALTERNATIVE 2B)

The proposed project (Preferred Alternative 2B) includes a reconfiguration of the existing Lake Tahoe Golf Course at Lake Valley SRA to remove five existing golf course holes located within the active floodplain–stream environment zone (SEZ) and the historic meander belt of the Upper Truckee River and relocate them to less environmentally sensitive land on the west side of the river. Removing the golf course holes from the river corridor will allow room for the river restoration actions and create a buffer between the river and the golf course. This reach of the river has been identified as one of the largest stream sediment producers contributing to degradation of Lake Tahoe's water clarity, and as a restoration priority in the Tahoe Regional Planning Agency (TRPA) Environmental Improvement Program.

The proposed project will result in the river regaining important natural geomorphic processes, such as occupying a wider meander belt, reconnecting with the adjacent floodplain, and overbanking into the active floodplain more frequently. This will, in turn, enhance critical riparian habitat and improve water quality in both the river and Lake Tahoe. While the overall footprint of the golf course will increase slightly to allow for optimal use of existing topography, the proposed land exchange between Washoe Meadows SP and Lake Valley SRA is almost equal, with Washoe Meadows SP increasing by approximately 2 acres.

This alternative will provide a separate bridge for non-golf recreation use with the same ecosystem restoration approach as considered for Alternatives 2 and 2A. The proposed project will relocate fewer holes to the west side of the river, resulting in retention of more existing holes on the east side. To provide an adequate buffer for the retained holes near River Mile (RM) 6000, the river restoration will incorporate an additional historic meander to the north instead of retaining the existing channel in that reach. Most of the relocated golf facilities will be within higher capability lands (mostly away from the river and outside of SEZ) and the area of nonnative golf course turf will decrease, while turf management will be improved with irrigation upgrades and more naturalized areas.

The proposed project (Preferred Alternative 2B) will allow the continuation of an 18-hole regulation golf course called for in the Lake Valley SRA General Plan and is consistent with the purpose for which Lake Valley SRA was established: "Lake Valley SRA was established to make available to the people for their enjoyment and inspiration the 18-hole golf course and the scenic Upper Truckee River and its environs." The General Plan also called for preparation of a plan to "restore a more natural channel configuration, to control unnatural bank erosion rates, and to restore riparian habitat along the Upper Truckee River through the unit." The proposed project will

meet geomorphic, ecological, recreational, operational, and revenue criteria, and continue to provide golf recreation and public access for dispersed recreation. The proposed project will meet geomorphic, ecological, recreational, operational, and revenue criteria, and will continue to provide golf recreation and improve public access for dispersed recreation,

The proposed project also has economic benefits. It maintains the economic benefits to the local and regional economy, including the maintenance of golf course jobs and the beneficial multiplier effect of spending by golfers (e.g., food, lodging), which benefits businesses and provides jobs in the community. Lake Tahoe Golf Course provides an affordable golf experience in the region, with prices limited by State Parks. The availability of affordable golf contributes to Tahoe's competitiveness as a vacation destination, complementing its other recreation attractions. It also maintains the revenue the State of California receives from the golf course concession at an amount similar to the existing level.

The proposed project exemplifies a project that is consistent with State Parks' Mission: to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation. Restoring the Upper Truckee River will help preserve biological diversity and protect natural resources. The reconfigured golf course will retain and improve high-quality, reasonably priced, golf recreation opportunities within the state recreation area while protecting cultural and natural resources on the project site.

Reconfiguration of the golf course away from the river allows room for river restoration, including increasing the river's channel length, expanding the functioning floodplain, increasing riparian habitat and corridor connectivity, and other river ecosystem restoration actions. The current 11,840-foot-long reach of the Upper Truckee River will be restored to 13,730 feet with at least 20 acres of additional functional floodplain area. Five golf course holes will be relocated to an area on the west side of the river that contains less sensitive land and is farther from the river. This will also reduce the amount of SEZ occupied by the golf course (see Exhibits 2-1 and 2-2 in the PAAEA). The golf course footprint will increase slightly compared to existing conditions, by approximately 3 acres; however, this increase will occur in naturalized and minimally managed areas within the footprint, whereas the acreage of turf areas (fairways, tees, greens, rough) will decrease from existing conditions.

All five existing bridges will be removed from the Upper Truckee River and two new, longer bridges will be constructed. Four bridges will also be removed from Angora Creek. A second recreation access bridge will cross the Upper Truckee River downstream, near the current hole 12 bridge (north of RM 5000). This bridge will provide connectivity from the proposed trail at U.S. Highway 50 (U.S. 50) to Washoe Meadows SP. The trails and golf holes will be designed with buffer areas between golf play and the path. Based on the preliminary design of the proposed project (Preferred Alternative 2B), the amount of golf course adjacent to (within 50 feet of) the Upper Truckee River will decrease from 6,382 linear feet to 1,300 linear feet. An additional length of golf course will run parallel to the river, but will generally be outside the active floodplain, reduce the golf course area in SEZ, and be more distant from the river. Adjoining riparian vegetation communities will be restored, improving habitat connectivity and increasing the extent of the vegetative buffer, which will provide treatment areas for protection of water quality from golf course and urban land use. Treatments are also planned along the lower portion of Angora Creek and the unnamed creek to enhance those channels and adjust the confluence with the Upper Truckee River.

The overall plan is preliminary and the final design and acreages may be refined during the normal detailed design process to satisfy parties involved in the final decision-making process. These refinements will be within the environmental document's study area and will not substantially increase the severity of any significant impact already identified nor create a new significant impact.

CLASSIFICATION ADJUSTMENT

The purpose statement for Lake Valley SRA is as follows:

> The purpose of Lake Valley State Recreation Area is to make available to the people for their enjoyment and inspiration the 18-hole golf course, and the scenic Upper Truckee River and its environs.
>
> The department shall balance the objectives of providing optimum recreational opportunities and maintaining the highest standards of environmental protection. In so doing, the department shall define and execute a program of management within the unit that shall perpetuate the unit's declared values, providing for golfing along with other compatible summer and winter recreation opportunities while restoring the natural character and ecological values of the upper Truckee River, protecting its water quality, and protecting and interpreting significant natural, cultural, and scientific values.

The current boundary of Lake Valley SRA (Exhibit A-1) was originally drawn to encompass the then-existing golf course. The remainder of the state land was placed in Washoe Meadows SP. The proposed classification adjustment continues this approach of containing the reconfigured golf course entirely in the state recreation area and implementing the purpose of that unit.

The classification of lands at the project site will be adjusted so that Lake Valley SRA will encompass the reconfigured golf course, including the golf holes relocated to the west side of the river, and Washoe Meadows SP will contain most of the restored river corridor. The classification adjustment results in an exchange of land between the two units. The net change in acreage of the units after the classification adjustments is approximately 2 acres, as shown in Table A-1 and Exhibits A-2 and A-3.

Table A-1. Summary of Acreage Changes with Classification Adjustments

Park Unit	Existing	Preferred Alternative	Net Change
Lake Valley State Recreation Area	173	171	- 2
Washoe Meadows State Park	608	610	+ 2

GENERAL PLAN AMENDMENT

The Lake Valley SRA General Plan recognizes the importance of both the golf course as a recreational opportunity and the need to restore the Upper Truckee River and its environs. As noted on page 34 of the general plan, it is uncommon for a golf course to be the primary feature within a unit of the State Park System. However, its classification as a state recreation area recognizes the significance of perpetuating the quality public golfing

opportunity in the Tahoe Basin. The Declaration of Purpose is as follows: "The purpose of the Lake Valley SRA is to make available to the people for their enjoyment and inspiration the 18-hole golf course, and the scenic Upper Truckee River and its environs."

On pages 35–38 of the Lake Valley SRA General Plan, the natural values of the river are discussed with recognition of the need to restore a balance in its natural geomorphic processes, including restoration of a natural channel configuration and riparian habitat. On pages 59–60, it is recommended that the existing golf course (18 holes, 6,700 yards) and winter recreational opportunities be continued. Amending the Lake Valley SRA General Plan to reflect the proposed classification adjustment and boundary modification will be consistent with maintaining the significance of golf recreation opportunity and appropriate management of the river's natural resources. The amendment is a necessary action for implementing the proposed project (Preferred Alternative 2B), which is most consistent (among the other considered project alternatives) with both the river management and golf recreation opportunity provisions of the Lake Valley SRA General Plan and addresses the public's concerns regarding Alternative 2.

The Lake Valley SRA General Plan is amended to reflect the adjusted classification of land within the unit as implemented through a boundary modification. Otherwise, the purpose of the unit, objectives of the plan, and plan elements (Resource, Interpretive, Concession, Operations, Land Use, and Facilities) are not modified. The classification adjustment is consistent with the unit's purpose and objectives.

Exhibit A-1 presents an updated Lake Valley SRA General Plan vicinity map with the adjusted boundaries. Exhibit A-2 shows the existing park unit boundaries. Exhibit A-3 shows the adjusted classifications of the land in the park units, essentially "exchanging" land between Washoe Meadows SP and Lake Valley SRA, and realigning the boundaries between the two park units.

The adjusted classification boundary of Lake Valley SRA contains the reconfigured golf course layout consistent with the purpose and objectives of the Lake Valley SRA General Plan. The new, shared golf/dispersed recreation trail bridge across the Upper Truckee River and immediately adjacent land is included in Lake Valley SRA. The section of river remaining in Lake Valley SRA in the vicinity of the new bridge allows room for defining the precise bridge alignment during the final design.

The adjusted classification boundary of Washoe Meadows SP contains most of the restored river corridor, except in the vicinity of one of the new Upper Truckee River bridges. The area north of the river near Angora Creek and the adjacent area are changed from Lake Valley SRA to Washoe Meadows SP, as is much of the area adjacent to the river on the south. These areas that are currently golf course turf will be restored to native meadow vegetation. The northern section of Washoe Meadows SP that contains the rest of the wet meadow area associated with Angora Creek, as well as the fen area, will continue to be part of Washoe Meadows SP.

The general plan amendment applies to the adjusted classification of land composing Lake Valley SRA and its new boundaries, but does not include any plan elements for Washoe Meadows SP (for which there is not yet an adopted General Plan). The general plan amendment allows for continued operation of an 18-hole championship (regulation) golf course within the SRA, while allowing room for the river restoration and improvements also called for in the Lake Valley SRA General Plan. It also allows for continuation of the winter recreation (snowmobile concession) on the driving range. The relocation of much of the river from Lake Valley SRA into Washoe Meadows SP will allow for greater recreational access to the river by providing space for a regionally

connected trail along the river. Implementation of the proposed project (Preferred Alternative 2B) will not include development of permanent facilities within the adjusted boundaries of Washoe Meadows SP, but dispersed activities such as hiking and cross-country skiing will continue.

ATTACHMENTS

Exhibit A-1 Vicinity Map with Adjusted Boundaries
Exhibit A-2 Existing Unit Boundaries
Exhibit A-3 Adjusted Unit Boundaries

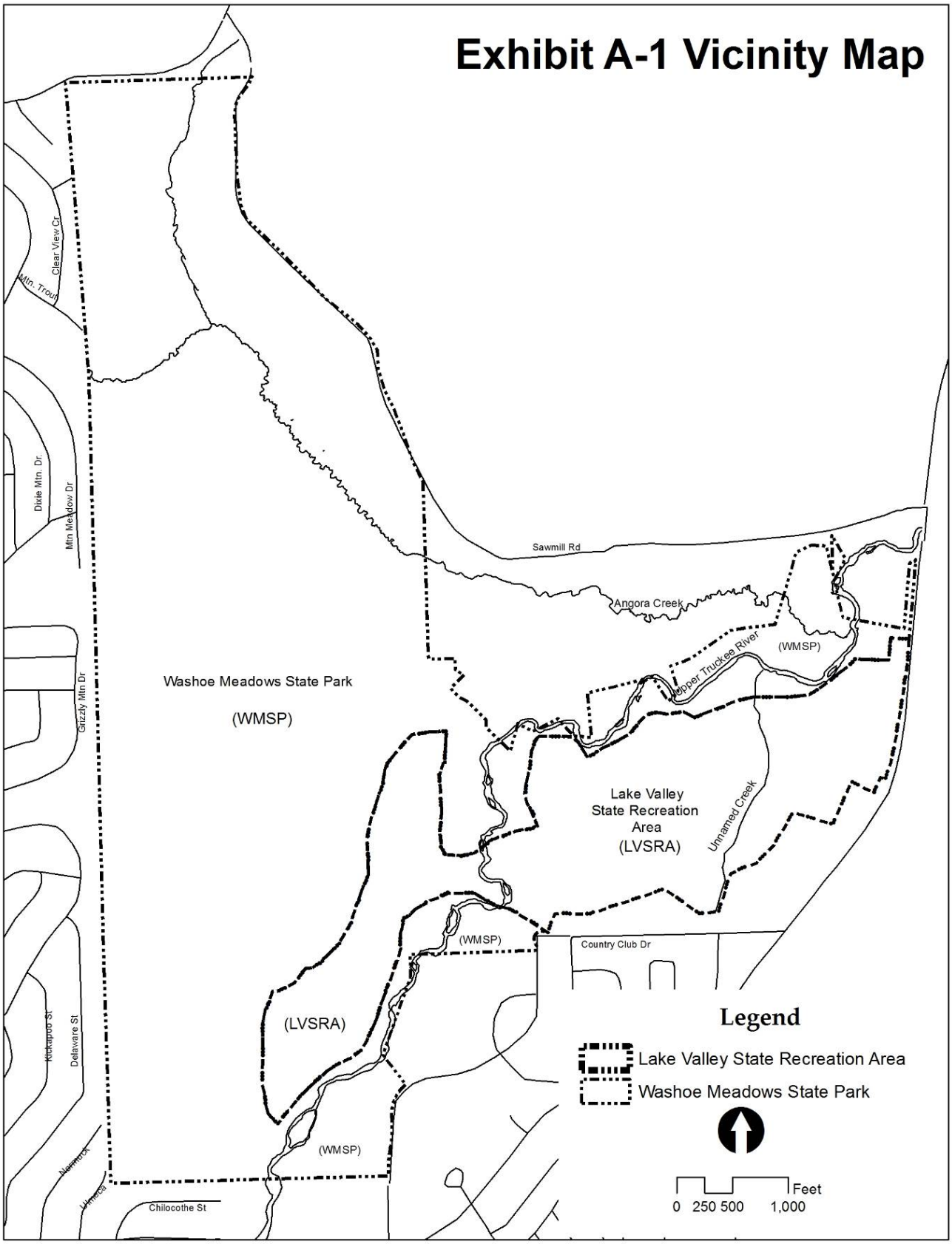

Exhibit A-1 Vicinity Map

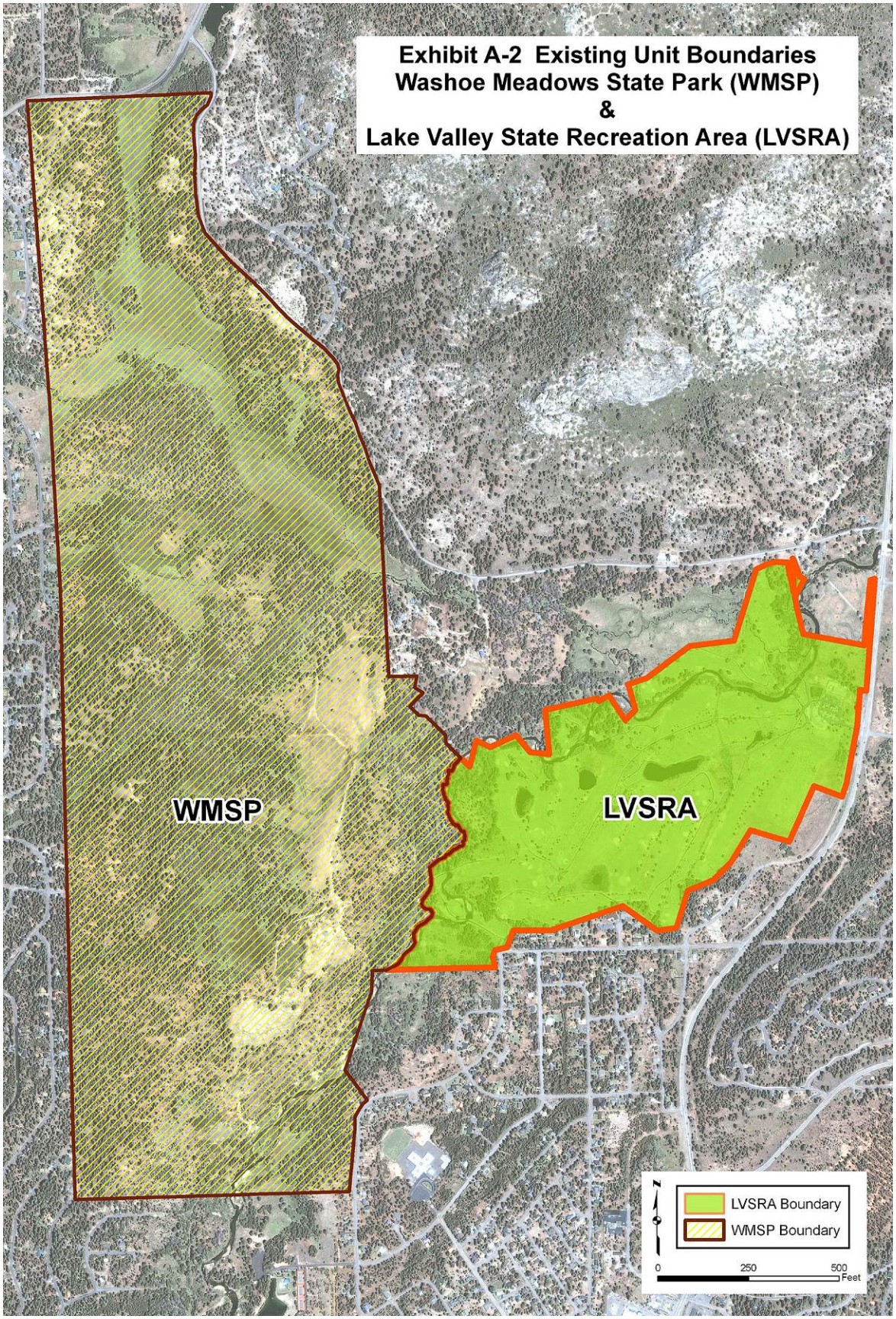

Exhibit A-2 Existing Unit Boundaries

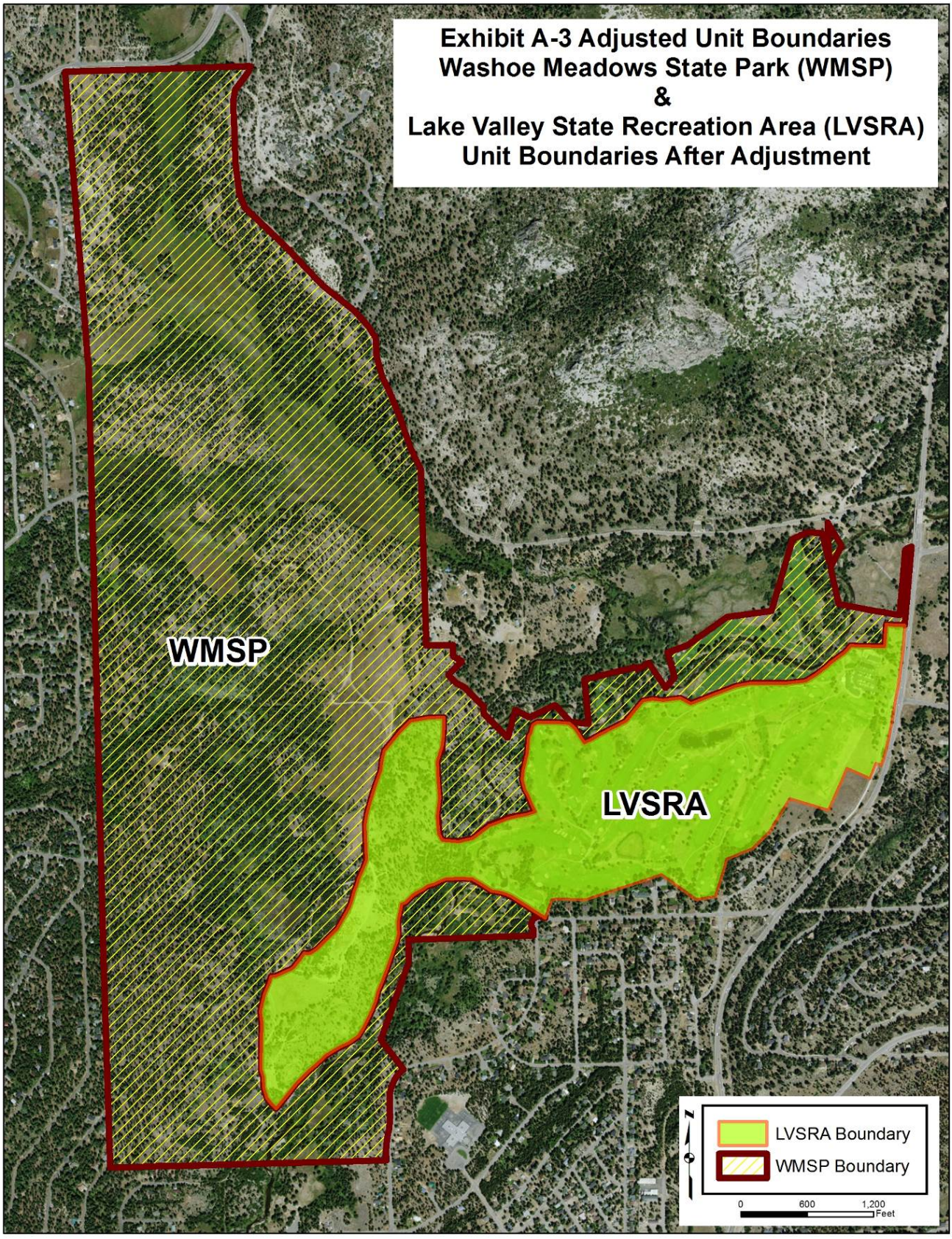

Exhibit A-3 Adjusted Unit Boundaries of the Proposed Project

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