1.0 INTRODUCTION
Chapter 1.0 Introduction

Draft Environmental Impact Report

Supplemental Water Rights Project

Acquisition of 40,000 Acre-Feet Per Year of New Consumptive Water

1.0 Introduction

The proposed project for this Environmental Impact Report (EIR) is the approval by the State Water Resources Control Board (SWRCB) of petitions by the El Dorado Water and Power Authority (EDWPA) for the assignment of portions of State Filed Applications (SFAs) 5644 and 5645. The project would allow for the diversion for consumptive use of up to 40,000 acre feet annually (AFA) of water from the upper American River basin to meet future water demands resulting from planned and approved growth in areas of western El Dorado County. Specifically, this new water is intended to be served within the existing El Dorado Irrigation District (EID) and Georgetown Divide Public Utility District (GDPUD) service areas as well as additional areas (identified as “favorable areas” in the El Dorado County Water Agency’s 2007 Water Resources Development and Management Plan) located adjacent to or, in close proximity to, these service area boundaries.

EDWPA is an entity formed by and composed of El Dorado County (County), El Dorado County Water Agency (EDCWA), and EID pursuant to the Joint Exercise of Power Act (Government Code section 6500, et seq.).

EDWPA is seeking the assignments in order to make consumptive use of water originating from upper American River watershed sources, including water stored and released from Loon Lake Reservoir, Union Valley and Ice House Reservoirs and certain direct diversions from the upper Rubicon River (tributary to the Middle and North Fork American Rivers) and Silver Creek (tributary to the South Fork American River). All of these reservoirs have been used by the Sacramento Municipal Utility District (SMUD) for approximately 50 years for hydroelectric power generation in its FERC Project No. 2101, also known as the Upper American River Project (UARP) located in El Dorado County, California.
EDWPA has filed with the SWRCB Division of Water Rights petitions for partial assignment of each of SFA’s 5644 and 5645, and accompanying applications allowing for the total withdrawal for use of 40,000 AFA (See Appendix A). Applications 5644 and 5645 have 1927 priority dates, prior in time to the rights of certain water rights holders downstream of El Dorado County on the American River, such as the City of Sacramento (City) and the United States Bureau of Reclamation (USBR). Such diversions would be consistent with the diversion and storage locations allowed under the El Dorado-SMUD Cooperation Agreement (Cooperation Agreement), the agreement signed in 2005 between EDWPA and SMUD providing for diversion through and storage within of the UARP from which to facilitate the availability of this new consumptive use made possible through the proposed assignments. Under the terms of the Cooperation Agreement, SMUD would continue to operate the UARP pursuant to its FERC operational license, while also meeting water deliveries called for by EDWPA.

EDWPA requests the proposed assignments pursuant to the policy of the State of California to protect the areas in which water originates, to ensure that such water will be available to them when their water needs require the use of such water. The State has taken steps to assure that the areas in which water originates will have an adequate supply for their reasonable, beneficial use when those areas’ water needs require its use. This policy is evidenced by Water Code § 10500, et seq., which provide for the reservation of priority applications for future development and that the priority of state-filed applications may not be released, nor may such applications be assigned such that the county of origin is deprived of water covered by the application necessary for its development. The waters of the American River applied for under EDWPA’s applications originate within El Dorado County, and EDWPA’s member agencies may assert these statutory protections to provide for future consumptive needs within the County.

Though the American River and its tributaries are considered fully appropriated during a portion of the year, EDWPA’s applications are consistent with the State Water Resources Control Board’s Declaration of Fully Appropriated Stream Systems, which states that “petitions for assignment of existing state filings . . . together with accompanying applications, which implement Water Code section 10500 et seq., and which propose appropriation of water from stream systems identified in the Declaration as fully appropriated, should be accepted for filing.” (In re Matter of Fully Appropriated Systems in California (1998) Order WR 98-08, § 4.4.) Notably, in prior decisions as to the waters of the American River, the SWRCB has recognized the paramount rights of EDWPA’s member agencies and other local interests through its conditioning of the water rights of both the City and USBR. (In the Matter of Applications 12140, et al. by the City of
Sacramento and other applicants, to appropriate waters of the American River and its tributaries. (1958) D-893.)

In the late 1950s, many applications were pending with what was then known as the State Water Rights Board as to the waters of the American and Sacramento Rivers, among them applications of El Dorado County, USBR, and the City. The State Water Rights Board considered the applications for American and Sacramento River consumptive rights in its 1958 Decision 893 (D-893). El Dorado County’s applications were withdrawn or dismissed at that time based on the Board’s conditioning, in D-893, of the USBR and City permits with protections for future use within El Dorado County, providing that the American River water rights of the City and the Bureau are subject to reduction by future appropriation of water for reasonable, beneficial use within the upstream watershed, which includes El Dorado County.

Under the proposed project, two points of withdrawal from the Upper American River system are proposed. These include the White Rock Powerhouse Penstock, first licensed in 1957 and owned and operated by the SMUD and Folsom Reservoir (operated by the U.S. Bureau of Reclamation) at or near the existing EID Folsom Reservoir pumping facilities.

For the GDPUD diversion, there is no direct diversion facilities on the South Fork American River or Folsom Reservoir and, accordingly would have to rely on an exchange with an upstream purveyor (see Project Description, Chapter 3.0, for complete details). Under the proposed project, water made available for withdrawal at the White Rock Powerhouse Penstock and Folsom Reservoir would be diverted consistent with the operational conditions set forth in the UARP Federal Energy Regulatory Commission (FERC) license conditions.

EDWPA is the intended permittee under the proposed project with EID and GDPUD or some other new, not as yet formed local entity, the water purveyors and proposed recipients of this new water supply. Accordingly, EDWPA has prepared this EIR as “Lead Agency” for purposes of compliance with the California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 et seq.), while EID, GDPUD, and the SWRCB have acted, and will continue to act, as “Responsible Agencies”, as defined (Cal. Pub. Resources Code § 21096; § 15096 CEQA Guidelines). As discussed in greater detail in the Project Description (Chapter 3.0), the Placer County Water Agency (PCWA) is identified, at this time, as the most likely exchange partner with GDPUD and, therefore is also a Responsible Agency under CEQA. Similarly, SMUD, by virtue of its UARP operation, commitments under the ratified Cooperation Agreement with EDWPA and the potential requirement for an amendment to its FERC Project No. 2101 renewal license, make it also a Responsible Agency. Trustee agencies include both the California
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Department of Fish & Game (CDFG) and the California Department of Parks and Recreation (CDPR).

The proposed project does not include any new facility infrastructure (e.g., diversion intakes, conveyance pipelines and related appurtenances, pumping plants/booster stations, or new water treatment plants). The project is strictly focused on acquiring a new consumptive use of water achieved through assignments of water rights with 1927 priority dates. Ultimately, however, to take water, new facilities will be necessary. At this time, limited information exists with which to evaluate in detail, the likely environmental effects of any such future facilities. For this reason, the environmental impacts of such facilities are addressed at only a programmatic level of detail, in recognition that further, site-specific environmental review must be conducted before any specific physical facilities are approved or constructed. Both EID and GDPUD would invest concerted effort in surveying, designing, assessing and pursuing the necessary facility infrastructure only after the new water rights have been secured. Given the typical timeframes involved in obtaining a new water right permit, an investment in infrastructure siting and design is premature at this time.

Several sequential approvals and permits will be required to implement the proposed project once the water rights have been secured; these include, but are not necessarily limited to compliance with the National Environmental Policy Act (NEPA), the federal Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), Section 404 of the Clean Water Act 404, securing a contract with Reclamation for the use of space within Folsom Reservoir pursuant to the Warren Act, and additional CEQA requirements for any new infrastructure. For GDPUD’s part of the proposed project, a separate petition before the SWRCB filed by PCWA would be necessary to obtain the required change in authorized Place of Use for PCWA’s exchanged water rights water. Separate independent environmental review processes will be initiated by EDWPA, GDPUD, or PCWA once those future interrelated projects are approved to be carried forward. Each of these approvals/permits along with the anticipated sequence of their initiation is described in detail in the Project Description (Chapter 3.0).

1.1 Scope of this Environmental Impact Report

For this EIR, a project-level analysis of the new water right acquisition was undertaken; that is, a detailed evaluation of the hydrological effects of the new diversions on all those waterbodies and watercourses potentially affected by the proposed diversion withdrawals. As will be explained in more detail in Chapter 5.0 (Impact Assessment Methodology), the assessment of diversion-related impacts undertaken in this EIR represents a kind of worst case analysis in many instances. Briefly stated, this is because the assessment methods used herein do not automatically assume, as they might, curtailments or other
adjustments in diversions by downstream water users with water rights junior to the 1927 water rights being assigned under the project. However, as a matter both of state water rights law and of the enforcement of existing conditions of water rights held by entities such as the City of Sacramento and USBR, the SWRCB and other agencies may have to take affirmative steps, such as requiring curtailments or adjustments of water diversions or deliveries by these entities, in order to address potentially unacceptable environmental impacts resulting in part from this proposed new diversion. This approach will be particularly important with respect to potential violations of water quality objectives or standards (e.g., for salinity or electrical conductivity in the Sacramento-San Joaquin Delta) and CVP operating conditions imposed through USBR’s ESA consultations with its sister agency the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) of the National Atmospheric and Oceanic Administration (NOAA).

In other words, because the proposed project would give EDWPA’s ultimate retail partners (EID and GDPUD) the benefits of the 1927 priority date of the applications EDWPA seeks, adjustments in water usage or the timing of diversions needed to achieve acceptable environmental conditions downstream should fall on more junior water right holders, including USBR and the City. To the extent that, at least as a theoretical matter, USBR may have to reduce overall total amounts of water available for sale to its customers, those customers, depending on the nature and seniority of their contracts with USBR, may also have to accept adjustments in the amounts of water they receive from USBR. Many of the mitigation measures proposed herein reflect these realities of California water law and the express terms of D-893 and the water rights enjoyed by the City and USBR.

The study area includes the UARP, portions of the South Fork American River, Rubicon River, Middle Fork American River, Folsom Reservoir, and all downstream CVP/SWP related waterbodies including the Bay-Delta. Analysis of this vast area was accomplished using a number of best available mass balance hydrologic routing and associated environmental models widely accepted throughout California (i.e., HEC-ResSim, CALSIM II, USBR Water Temperature Model for the Sacramento and American Rivers, USBR Early Life-Stage Salmon Mortality Model for the Sacramento and American Rivers, USBR Long-Term GEN Hydropower Model, and DSM2 – Delta Simulation Model II).

All natural and related socioeconomic resources associated with these waterbodies (e.g., fisheries, riparian ecosystems, water-related recreation, hydropower generation, etc.) are addressed as *diversion-related* resources. Note that while water-related recreation activities or facilities and/or hydropower generation in the above example are not natural resources *per se*, they are included as socioeconomic resources since potential changes in
the natural environment resulting from the proposed project may affect these resources or activities.

At a more general level, indirect or secondary impacts are evaluated and include those resources categorized as being non-diversion related; that is, they are not directly part of the hydrological system. Accordingly, while it is accepted that new diversion, conveyance, and treatment facilities are not required to grant the assignments sought by this project, because of the potential for the future construction of such facilities and their interrelated association with this project, they were evaluated. The potential impacts of such facilities, however, to the extent known, were discussed generally at a program-level.

Within the service areas, a wide range of non-diversion related resources (e.g., land use, traffic, soils, recreation, utilities, etc.) were assessed, again at this more general level of evaluation. This assessment included the various facilities, activities, land uses and other potentially affected resources within the service areas that are typically part of ongoing development activities within urban and rural areas and are typical of those found within the EID and GDPUD service areas and certain areas in close proximity to the EID and GDPUD boundaries, where development may eventually be provided water service (“Favorable Areas”). The proposed project would not directly affect these resources and activities; moreover, even without the project, all of these facilities, activities and resources within the County would be affected by ongoing development and current resident activity. However, since the current project would be contributing to these indirect effects, a generalized discussion was warranted and is provided in the EIR.

Such activities, land uses, and resources have already been fully analyzed in the adopted El Dorado County General Plan and EIR. No adverse effects to in-county resources or activities would occur as an indirect result of this current project that was not, or has not been already examined in the El Dorado County General Plan and EIR, and ensuing amendments. This EIR, therefore, summarizes and discusses those findings. The EIR does not, however, attempt to fully re-examine the precise impacts of growth on the environment anticipated to occur as a result of future development County-wide or, even of this project. As noted, this is because the physical environmental effects of urban development have already been appropriately evaluated, across all resources, in the El Dorado County General Plan and accompanying EIR, and the various resource programs that have developed since the adoption of the General Plan. The General Plan and accompanying EIR fulfilled its requirements under CEQA and serves as the appropriate evaluation of and validation for anticipated growth-related effects within the County.

Since the EIR provides a detailed analysis of the hydrological effects of the proposed new water right, this information can be appropriately used in subsequent and related project
environmental documentation for future projects. As noted previously, several independent future actions and regulatory processes are necessary to fully implement (i.e., divert and deliver) the new water approved through this project. Those future documents can suitably rely on the hydrologic evaluation presented in this EIR. The intended use of this EIR is described in greater detail in the Project Description (Chapter 3.0).

1.2 Project Background and Water Supply History

El Dorado County has a long history of water supply/hydropower development. Given its location within the headwaters of the American River basin, El Dorado County, like many Sierra Nevada counties, has benefited from a ready annual source of high quality water in close proximity to its customers. For water purveyors within the western slopes of the County, existing and new water supplies are readily available. This situation is rather fortuitous since this is the area where the majority of the County’s population currently resides and where future anticipated growth within the County will likely continue to be concentrated.

Over the past two decades, population growth within El Dorado County has been noteworthy. The U.S. Census Bureau estimated that the population of the unincorporated areas of El Dorado County was 123,080 on April 1, 2000. A comparison of the 1990 and 2000 census data shows that the population of the unincorporated part of the County grew by 28 percent during that ten-year period (the overall population of the County increased by 24 percent). From April 1, 2000 to January 1, 2007, the California Department of Finance estimated that the unincorporated County grew an additional 18 percent, to 144,733. According to 2000 Census data for all areas of all California counties, El Dorado County had the eighth highest increase in overall California county population between 1990 and 2000. The El Dorado County General Plan Update of its Housing Element (July 2008) acknowledges that between 2000 and 2025, the western slope population will have increased by 64 percent to 200,000 persons.

A complete review of the County’s water supply and water project development history is beyond the scope of this EIR. The reader is encouraged to review the EDCWA 2007 Water Resources Development and Management Plan as well as the EDCWA, EID, SMUD and GDPUD Joint Benefit Investigation Plan – Technical Analysis of Preliminary Alternatives (July 2004) for a comprehensive review of the various past project studies, alternatives, and details associated with these potential projects. Copies of these documents are available for review at the offices of the El Dorado County Water Agency located at 3932 Ponderosa Road, Suite 200, Shingle Springs, CA 95682.

Of relevance to this EIR is the background leading up to the execution of the El Dorado–SMUD Cooperation Agreement and its bearing on the current proposed project.
1.2.1 El Dorado – SMUD Cooperation Agreement

During the 1940’s and early 1950’s, SMUD filed five applications for water rights to develop the UARP. Three were for non-consumptive hydropower uses, including two that provided for storage at Union Valley, Ice House, and Loon Lake Reservoirs. Two were for consumptive municipal water supply uses. The SWRCB issued permits to SMUD for the three hydropower applications on April 30, 1957 (licenses were issued in 1965 and 1981). On June 28, 1957, SMUD assigned the two consumptive use applications for municipal water supply to the City of Sacramento.

El Dorado County protested SMUD’s water rights applications in order to preserve and protect its rights to future use of the water in the UARP watersheds that would be required for ultimate economic development of El Dorado County and the future desire to utilize water from the American River and its tributaries for irrigation, domestic, municipal, stockwatering and power purposes. El Dorado County also protested issuance to SMUD of a license and preliminary permit by the FERC.

On July 11, 1957, El Dorado County and SMUD entered into the “Agreement Between County of El Dorado and Sacramento Municipal Utility District” (the “1957 Agreement”) in which, among other things, SMUD agreed to permit El Dorado County to make use of certain of its UARP facilities for the provision of water for irrigation, domestic, municipal and stock watering purposes within El Dorado County, and the County agreed to withdraw its protests to SMUD’s then-pending applications for non-consumptive water rights for the UARP. On December 7, 1961, El Dorado County, EDCWA and SMUD entered into the “Supplemental Agreement between County of El Dorado, El Dorado County Water Agency, and Sacramento Municipal Utility District” (the “1961 Agreement”) in order to supplement the 1957 Agreement.

In response to several water rights applications for water originating from the American River and over 2,000 protests, the SWRCB on March 18, 1958 rendered Decision No. 893 (D 893). Among other things, D 893 approves SMUD's water right applications to develop the UARP and the City of Sacramento's water right applications to water originating in SMUD UARP. The following condition on the City of Sacramento's water rights permits is included in D 893.

"The amounts which may be diverted under rights acquired or to be acquired under these permits are and shall remain subject to reduction by future appropriation of water for reasonable, beneficial use within the American River watershed tributary to permittees's points of diversion."

Effective as of September 27, 1993, El Dorado County and EDCWA transferred and assigned their right, title, and interest in, and delegated their duties under the 1957
Agreement and the 1961 Agreement to EID, and by such assignment, EID agreed to exercise the rights and entitlements, and otherwise act in furtherance of developing and using the benefits subject to the burdens of the 1957 and 1961 Agreements for irrigation, domestic, municipal and stock watering purposes within El Dorado County.

A fundamental premise of the proposed project is that it relies on the diversion and storage capabilities of the UARP. The UARP is licensed by FERC under the Federal Power Act as hydropower Project No. 2101. The UARP consists of eleven reservoirs and eight powerhouses, all of which are located within El Dorado County. SMUD is the owner, licensee, and operator of the UARP, the facilities of which are used to divert, store, and release water within the watersheds of the South Fork and the Middle Fork of the American River for the purpose of generating and transmitting electrical power to a 900-square mile service area that includes the County of Sacramento, and small portions of the Counties of Placer and Yolo.

The purpose of the September 2005 El Dorado-SMUD Cooperation Agreement (Cooperation Agreement, see Appendix B), among other things, was to recognize the desire of EDWPA to receive delivery of water from the facilities of the UARP and to clarify the issues between EDWPA and SMUD concerning the potential impacts of the project on SMUD’s UARP operations, each of the parties’ respective rights under the 1957 Agreement and 1961 Agreement, and other matters pertaining to the pendency of the current relicensing process between SMUD and FERC.

The Cooperation Agreement stipulates that EDWPA would first enter into good faith negotiations with the City of Sacramento to consummate a partial transfer or assignment of water from the City’s water right permits 11359 and 11360. The period of negotiations were concluded pursuant to the terms of the Cooperation Agreement, on July 31, 2006 with unsuccessful results. EDWPA, consistent with the Cooperation Agreement, is seeking a partial assignment of State-Filed Applications, including 5644 and 5645. Pursuant to the terms of the Cooperation Agreement, EDWPA's petitions and applications seek to modify the portions of Applications 5644 and 5645 requested for assignment to contain provisions authorizing or addressing the diversion, rediversion, storage, purpose of use, and place of use to allow water to be transported within the UARP system between the points of initial introduction into the UARP until water is delivered by SMUD from the UARP to EDWPA.

1.2.2 Supplemental Water Rights Applications

In February 2008, EDWPA filed with the SWRCB petitions 5644X02 and 5645X12 for partial assignment of state filed Application 5644 and 5645 to appropriate up to 40,000 acre-feet of water annually by direct diversion from the White Rock Powerhouse Penstock and Folsom Reservoir and by direct diversion to storage at Loon Lake.
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Reservoir, Ice House and Union Valley Reservoirs and to red divert water released from storage in the reservoirs at various point on the Rubicon, Silver Creek and South Fork American Rivers and White Rock Powerhouse Penstock and Folsom Reservoir (see Appendix A). This EIR is intended to provide the analysis for project approval.

1.2.3 El Dorado County General Plan

On July 19, 2004, the El Dorado County Board of Supervisors adopted a new General Plan for the County. This General Plan is the County's basic planning document and is the vehicle through which a County addresses, balances, and fits together the competing interests and needs of its residents. On March 15, 2005 the voters of El Dorado County approved the referendum on the plan adopted by the Board of Supervisors. This provided the opportunity for the County to return to the Sacramento County Superior Court to have the writ of mandate in the matter of El Dorado County Taxpayers for Quality Growth, et al. v. El Dorado County Board of Supervisors and El Dorado County lifted. On September 1, 2005 the Court ruled that the County had satisfied every term of the writ and it was discharged. The Courts ruling was appealed by the plaintiffs. On April 18, 2006 a settlement agreement was entered into by the County and the plaintiffs, settling the lawsuit resulting in the withdrawal of the appeal. El Dorado County is implementing this new General Plan.

1.3 Related but Separate Review Process

1.3.1 Water Contracts under Public Law 101-514

The El Dorado County Water Agency (EDCWA) is working with the USBR to secure 15,000 acre-feet of new CVP M&I water from Folsom Reservoir as authorized under Public Law (PL) 101-514. It will then wholesale that water through contracts with EID and GDPUD. This water supply is commonly known as the “Fazio” water, in recognition of the Congressional author of that portion of PL 101-514 addressing this new federal entitlement, former Sacramento-area representative Vic Fazio. The environmental review process for this water supply is currently underway including independent NEPA and CEQA analyses. A copy of the Draft EIR/EIS for the project is available for review by members of the public at the offices of the El Dorado County Water Agency located at 3932 Ponderosa Road, Suite 200, Shingle Springs, CA 95682.
1.3.2 FERC Relicensing of UARP and Chili Bar

PG&E (Pacific Gas & Electric) and SMUD filed FERC applications for license with the Commission for the Chili Bar and UARP hydroelectric projects on June 21 and July 7, 2005, respectively. The projects occupy about 6,500 acres of land in El Dorado County.

SMUD, in cooperation with stakeholders and FERC, conducted NEPA scoping and prepared a Preliminary Draft Environmental Assessment (EA). The EA was submitted to FERC along with UARP's license application. The NEPA review process was also coordinated with responsibilities under CEQA. The Final Environmental Impact Statement for the UARP and Chili Bark hydroelectric projects was issued on March 12, 2008. The final CEQA Supplemental Analysis to the Final Environmental Impact Statement was issued on August 22, 2008. Also, as part of the Chili Bar and UARP relicensing, PG&E and SMUD applied to the SWRCB for certification under Section 401 of the Clean Water Act. Section 401 certification has not yet been issued by the SWRCB.

In summary, the project analyzed in this EIR involves SMUD’s UARP, but FERC relicensing is not part of this project.

1.4 Organization of this EIR

The EIR is organized by the following chapters:

Executive Summary

This chapter provides an overall synopsis of the proposed project, its alternatives, and their environmental impacts, along with proposed mitigations measures (if available) in each case where a significant impact was found. The summary includes an identification of all areas of controversy known to EDWPA and raised by public trust resource agencies and the general public. Issues to be resolved in the decision-making process including the choice among alternatives are also provided. Project impacts are presented in tabular format by individual alternative.

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This chapter provides an overview of the proposed project, its background, identification of the participating parties, their roles under CEQA, the context or scope within which this EIR has been prepared, a brief background on the history of the project, and an outline of the organization of the EIR.
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2.0  **Project Purpose and Need**

This chapter provides a discussion of the purpose and need of the proposed project. It provides up-to-date information on the water needs of EID and GDPUD, relative to each of their existing water entitlements/supplies. It provides the temporal context within which this proposed project should be viewed in light of the larger water demands and needs projected for the County.

3.0  **Project Description**

This chapter contains a detailed discussion of the proposed project, including its location, regional context, water right applications, operational details associated with the UARP, Whiterock Power Penstock and Folsom Reservoir, information as to the intended uses of the EIR, and a discussion of the assumed sequential, but separate and independent steps necessary to fully implement the proposed project. The chapter includes a complete listing of these anticipated future permits/approvals as they are currently known.

4.0  **Alternatives**

This chapter identifies an initial listing of potentially feasible alternatives to the proposed project that could meet most of the basic objectives of the project while substantially lessening at least one of the significant environmental impacts of the proposed project. Potentially feasible alternatives are categorized by alternative water supplies, alternative points of diversion(s), and potential demand reduction options. Screening criteria are identified and the process used to screen the initial listing of alternatives is described. A discussion of the screening results and rationale used to fail or pass alternatives is provided. Alternatives that passed the screening process and were carried forward for more detailed evaluation in the EIR are identified. A discussion of the No-Project Alternative is also provided.

5.0  **Impact Assessment Methodology**

This chapter describes the impact assessment methodology of the EIR. It distinguishes between the evaluation methods used to determine direct effects, relative to the indirect or secondary effects. Direct effect impact assessment relied on mass balance hydrological routing and associated environmental modeling. All water-related resource areas (e.g., fisheries, water supply, hydropower, riparian vegetation/wildlife, etc.) were analyzed for diversion-related impacts. Alternatively, secondary or indirect effects were analyzed for non-diversion related impacts (e.g., land use, air quality, noise, transportation/traffic, etc.). This chapter also discusses the models used, their primary assumptions, the impact framework for model simulations (and comparisons utilized which formed
the basis for the impact assessment), and differentiation of the two temporal conditions (current and future condition). This chapter also provides a discussion of the fundamental tenet relied upon for this project and, its influence on the rightful mitigation obligations for all those potentially significant environmental impacts identified in the EIR's technical hydrological analysis.

6.0 *Diversion Related Impacts*

This chapter included the current condition direct effects analysis for all water-related resources. Impacts are described by alternative and based on the standards of significance (i.e., impact thresholds) identified for each resource category. Where a potentially significant impact was found, proposed mitigation measures were identified and described, where available.

7.0 *Non-Diversion Related Impacts*

This chapter included the current indirect or secondary effects analysis for all non-water related resources. These are primarily service area or future construction-related resource areas. Impacts are described by alternative and based on the standards of significance (i.e., impact thresholds) identified for each resource category. Where a potentially significant impact was found, proposed mitigation measures were identified and described, where available.

8.0 *Climate Change Analysis*

This chapter provides an extensive up-to-date synopsis of climate change research with particular emphasis on California and, more specifically, California water resources. Theories, including those of non-anthrogenic origin, data trends, contemporary impact approaches, modeling tools and their current limitations, vulnerabilities to risk, and international research implications to California water management are provided. The economics of climate change is presented and an overview of existing climate change regulatory oversight and legislation in California. Since no current CVP/SWP operations model has adopted and uses a rigorously tested and accepted climate change module within its coding, research focuses on the application of CALSIM II using downscaled GCM data. Some of the recent (2009) research from the California Energy Commission PIER Program are reviewed in this context. CVP/SWP operations including delta exports, in-delta hydrology, CVP/SWP hydropower generation, and agricultural water supplies are discussed. For GHG emission forecasting and impact assessment, the URBEMIS model is used and the data presented to provide an overview of anticipated GHG emission effects and scenarios within El Dorado County.
9.0 Cumulative Impacts

The chapter describes the future cumulative condition of all diversion and non-diversion related resources. It relies on a developed future cumulative condition that, based on reasonable and foreseeable projects/actions, portrays the likely environment in the out-years. The future cumulative condition is consistent with other major ongoing environmental and water supply efforts throughout California. For each resource category, impact determinations are made for various cumulative impacts. Where the cumulative impact is considered significant, the likelihood as to whether the proposed project would contribute a significant increment to that overall cumulative impact was made.

10.0 Growth Inducing Impacts

This chapter describes the indirect effects of this project and its potential to foster economic or population growth within the County. Where water supply is a limiting factor, acquisition of a new supply would remove this one obstacle to growth. This chapter relies on the underlying land use and planning framework that is the El Dorado County General Plan, making specific reference to the EIR and the conclusions reached that, when completed, supported the current General Plan. Relevant policies and measures adopted by the County to offset significant effects related to the General Plan growth scenarios were identified; this project is contained within the population/growth and economic development projections assumed in the General Plan.

11.0 Effects Conclusions

This chapter describes the specific impact determinations called out by § 15126.2 of the CEQA Guidelines and include; Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented; Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented; and Irretrievable Commitment of Resources.

12.0 Consultation and Coordination

This chapter describes EDWPA’s consultation and coordination with other public trust resource agencies and the general public over the course of the EIR development. It describes the public scoping process, interagency meetings with the Responsible Agencies, additional stakeholder input resulting from the scoping process, and contains a list of each person and organization consulted during the preparation of the EIR.
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13.0 Related Laws, Regulations, Ordinances and Policies

This chapter identifies the relevant laws, regulations, ordinances and policies that govern implementation of the proposed project. While some laws and regulations are relevant within the context of this current project, others have relevance and their compliance would be necessary to proceed with subsequent phases as part of the implementation (i.e., actual diversion of new water) of the project.

14.0 List of Preparers

This chapter identifies the authors of the EIR, by resource category and technical area.

15.0 List of References

This chapter contains a list of the references used in preparing the EIR.

The EIR is prefaced by various organizational tables and lists. These include a Table of Contents, List of Figures, List of Tables, List of Acronyms and a Glossary.

Appendices to the EIR and contained separately, include relevant technical data, relevant correspondence within the CEQA context, certain documents/reports, etc. The following Appendices (Volumes I through III) are made a part of this EIR.

APPENDICES

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Appendix M  Riparian Habitat Descriptions for the Proposed Project Area
Appendix N  Riparian Special-Status Plant and Wildlife Species of the Proposed Project Area
Appendix O  Descriptions of Aquatic and Upland Wildlife Habitats in the EID and GDPUD Service Areas and Favorable Areas.
Appendix P  El Dorado County General Plan: Applicable Sections from Conservation and Open Space Element
Appendix Q  Table 2-1 of General Plan DEIR
Appendix R  Detailed Discussion of Lower American River Fisheries and Aquatic Habitat Flow and Water Temperature Related Impacts for all Comparative Scenarios
Appendix S  El Dorado County Water Agency Water Use and Conservation Analysis