1.0 INTRODUCTION

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1.1. BACKGROUND

1.1.1. Public Law 101-514

In 1990, Congress passed Public Law 101-514 (P.L. 101-514),[6] which directed the U.S. Bureau of Reclamation (Reclamation) to enter into a long-term Central Valley Project (CVP) water service contract with the El Dorado County Water Agency (EDCWA). Under this contract, up to 15,000 acre-feet annually (AFA) of CVP water would be provided to EDCWA. The contract would provide water to serve municipal and industrial (M&I) water needs in El Dorado County and establish and preserve rights to divert the water in accordance with State Water Resources Control Board (SWRCB) and Reclamation requirements. EDCWA would make this water available for use by two of its member districts in the western portion of El Dorado County, the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD). Various options for diversion and delivery of this new water supply are fully described in Chapter 3.0 (Alternatives Including the Proposed Action and Project Description).

Section 206 (b) of P.L. 101-514 authorizes a new CVP contract for EDCWA as well as the Sacramento County Water Agency (SCWA), and the San Juan Suburban Water District. Section 206 (b)(1)(B) specifically addresses EDCWA's allocation under the law. Section 206(b)(1) in its entirety reads as follows:

> The Secretary of the Interior is authorized and directed to enter into the following contracts: (A) a municipal and industrial water supply contract with the Sacramento County Water Agency, not to exceed 22,000 acre-feet annually, to meet the immediate needs of Sacramento County and a municipal and industrial water supply contract with the San Juan Suburban Water District, not to exceed 13,000 acre-feet annually, for diversion from Folsom Lake, with annual quantities delivered under these contracts to be determined by the Secretary based upon the quantity of water actually needed within the Sacramento County Water Agency service area and San Juan Suburban Water District after considering reasonable efforts to: (i) promote full utilization of existing water entitlements within Sacramento County, (ii) implement water conservation and metering programs within the areas served by the contract, and (iii) implement programs to maximize to the extent feasible conjunctive use of surface water and groundwater; and (B) a municipal and industrial water supply contract with the El Dorado County Water Agency, not to exceed 15,000 acre-feet annually, for diversion from Folsom Lake or for exchange upstream on the American River or its tributaries, considering reasonable efforts to implement water conservation programs within areas to be served by the contracts. The contracts required by this subsection are intended as the first phase of a contracting program to meet the long-term water supply needs of Sacramento and El Dorado Counties. The Secretary shall promptly initiate the necessary analysis for the long-term water supply contracts. The Secretary may include in these contracts terms and conditions to ensure that

6 P.L. 101-514 was a part of the Energy and Water Development Appropriations Act of 1991, H.R. 5019, Conference Report H101-235, filed October 15, 1990, passed October 20, 1990, and signed into law, November 4, 1990.

> the contracts may be amended in any respect required to meet the Secretary's obligations under applicable State law and the Federal environmental laws. [Emphasis Added]

At the time that P.L.101-514 was passed, it was acknowledged that El Dorado County (and Sacramento County) would continue to grow and that new water supplies would be required well into the future. These assumptions have been borne out over the past two decades with increasing population growth requiring the continual of additional water supplies. The most current assessment was prepared by the El Dorado County Water Agency as part of its 2007 Water Resources Development and Management Plan. For more information on the background behind P.L.101-514, readers are encouraged to review the House Report (101-96), Senate Report (S101-83), and the Conference Report (H101-235) in support of Bill H.R.5019 (Public Law 101-514).

Section 206(b)(2) of P.L. 101-514 recognizes the need for EDCWA and Reclamation to prepare jointly environmental documentation to fulfill environmental review requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This EIS/EIR has been prepared in compliance with the requirements of NEPA and CEQA and in accordance with the mandate of P.L. 101-514.

It is important to note that, although a moratorium on new CVP water supply contracts was in place at the time of the P.L.101-514 authorization, the proposed contracts (including the EDCWA contract) are able to proceed because Section 3404(b) of P.L. 102-575, Title XXXIV (Central Valley Project Improvement Act) excludes water supply contracts provided by P.L. 101-514 from the moratorium.

An equally important point is that the P.L. 101-514 contract for EDCWA is recognized "…as the first phase of a contracting program to meet the long-term water supply needs of …El Dorado [County]." EDCWA, along with its member units, have continued to pursue various water supply acquisition and demand reduction initiatives concurrently with this new CVP water service contract. Further details regarding EDCWA's water needs, demand projections, and ongoing water supply development activities are provided in Chapter 2.0 (Purpose and Need).

1.2. EVENTS LEADING TO PUBLICATION OF THIS DRAFT EIS/EIR

Since the passing of P.L.101-514 in 1990, numerous events have unfolded that have affected or been a part of this new contracting process. A Notice of Preparation (NOP) for this EIS/EIR was prepared and circulated in April 1993 (1993 NOP) and a Notice of Intent (NOI) was prepared for the project and published in the Federal Register (Vol. 58, No. 90, May 12, 1993). After public circulation of the 1993 NOP and NOI, a series of informal scoping sessions with various stakeholder groups and agencies was conducted by EDCWA and its environmental consultant as part of the early project scoping process. The 1993 NOI and NOI, results of scoping sessions, and a report compiling the results of the NOP/NOI process and scoping sessions is included in Appendix A in this Draft EIS/EIR.

Following completion of the project scoping process in early 1994, activity related to preparation of this EIS/EIR slowed. In part, this was due to the renewed focus on the acquisition of new water rights for EID under the proposed "El Dorado Project". The El Dorado Project, as it was referred to in prior environmental documentation, was EID's proposed acquisition of Federal Energy Regulatory

Commission (FERC) Project No. 184 from Pacific Gas and Electric Company (PG&E), and the acquisition by EID of a water right permit for 17,000 AFA of water diverted through Project 184 facilities for consumptive use purposes. Additionally, at this time, the proponents of the P.L. 101-514 contract decided to wait to complete environmental review for EDCWA's action until the Sacramento County P.L. 101-514 EIS/EIR and contract were complete.[7] Several processes, including a service area analysis, were being required by the U.S. Fish & Wildlife Service (USFWS) as part of the Section 7 consultative requirements under the federal Endangered Species Act; this was a new requirement of the USFWS under Section 7 related to new water supply projects. Accordingly, it was uncertain as to how this new process would unfold; it took several years for the SCWA, San Juan Water District (SJWD), City of Folsom, and USFWS to develop an appropriate framework with which to undertake a service area analysis related to the new CVP water supply contract. Also during this period of time, Reclamation's long-standing planning and operations hydrologic model for the coordinated CVP/SWP, PROSIM, was being revised to later become known as PROSIM 2000.

The environmental review process for the El Dorado County Water Agency P.L. 101-514 CVP Water Service Contract was reinitiated with circulation of a revised NOP and NOI published in July 1998 (1998 NOI/NOP), following the adoption of an updated General Plan for El Dorado County by the County Board of Supervisors in 1996. During the NOI/NOP public review period, two public scoping sessions were held in August 1998 to solicit public comment formally. Appendix B in this Draft EIS/EIR includes the NOP and NOI materials and responses.

1.2.1. General Plan Update and Measure "Y"

After the circulation of the revised NOI/NOP in 1998, several events occurred involving the El Dorado County General Plan Update that were especially pertinent to this EIS/EIR. Following the 1996 adoption of the County General Plan by the El Dorado County Board of Supervisors, the General Plan EIR was challenged in court for not adequately disclosing certain potential impacts associated with the plan. In February 1999, the Sacramento County Superior Court ruled that, in certain respects, El Dorado County had failed to comply with CEQA in the adoption of its General Plan. Specifically, the Court found that impacts related to traffic, water, and biological resources were not sufficiently addressed. As a result of the Judgment and Writ of Mandate (Writ), issued in July 1999, certification of the General Plan EIR and adoption of the General Plan Update were set aside. The Writ contained orders about rewriting parts of the EIR for the General Plan and what land use activities could take place in the interim. The Writ allowed inclusion of lands that involved existing development agreements entered into between El Dorado County and the developers during the period between the adoption of the General Plan in 1996, and its suspension in 1999. These agreements and developments with approved specific plans were considered Writ-allowed development.

In November 1998, the voters of El Dorado County passed an initiative entitled "Measure Y". The measure was intended to ensure that acceptable levels of service for roadways within El Dorado County would be maintained in the face of substantial future planned residential development.

7 The EIS/EIR for CVP water supply contracts under P.L. 101-514 for Sacramento County agencies was completed in April 1999, and the contracts with Sacramento County, San Juan Water District, and the City of Folsom were executed in early 1999.

Implementation of this measure and the updated General Plan directly influenced the extent and nature of future development in the county, and therefore, are relevant to the use and resulting environmental impacts of future water supplies that would be provided under P.L. 101-514.

1.2.2. County of Amador v. El Dorado County Water Agency et al.

Another court decision affecting the current project was issued by the Third District California Court of Appeal, also in 1999. The case of *County of Amador v. El Dorado County Water Agency et al.* (1999) 76 Cal.App.4th 931 established that water supplies cannot be acquired to provide water for growth without a current, officially-adopted General Plan. This court decision was in response to EID's acquisition of 17,000 AFA of Project 184 water, but the implications of the decision prolonged the postponement of this current project. The CVP water supply contract environmental review associated with this EIS/EIR, therefore, could not be completed, nor the contracts executed, before El Dorado County adopted a General Plan and the Writ was lifted.

1.2.3. El Dorado County General Plan Update

Following the 1999 issuance of the Writ, El Dorado County performed additional environmental analyses, resulting in the revision of the General Plan Update and its associated environmental documents by 2003. In July 2004, the County General Plan Update was adopted by the County Board of Supervisors. Shortly after the General Plan Update adoption, in November 2004, the voters of El Dorado County had an opportunity to vote on Measure G. This initiative would have allowed approval of General Plans by ballot initiative, but was soundly rejected by the voters.

In March 2005, the El Dorado County ballot contained a referendum on the General Plan Update passed by the County Board of Supervisors, which the voters passed. In September 2005, the Sacramento County Superior Court determined that the new 2004 General Plan Update and its environmental review satisfied the terms of the Writ, and the Writ was lifted, allowing the full implementation of the General Plan.

The lifting of the Writ was appealed by the El Dorado County Taxpayers for Quality Growth. In response to the challenge, El Dorado County entered into a settlement agreement with Taxpayers for Quality Growth in April 2006, and the appeal was withdrawn. As a result, the 2004 General Plan is now legally binding, and embodies the County's vision of how much population growth the County expects and has planned for through the year 2025. This vision creates the basis for water supply planning by EDCWA, EID, and GDPUD, not only for this current project but for all other ongoing and potential future water supply development initiatives.

1.3. RECENT EVENTS

As noted previously, during the period between the suspension of the El Dorado County General plan in 1999 and the lifting of the Writ in 2005, Reclamation's planning and operations hydrologic modeling tool was being further revised with cooperative assistance from the California Department of Water Resources (DWR). PROSIM 2000 was revised and superseded by the CALSIM II model which now represents the industry standard for coordinated CVP/SWP operational planning. The CALSIM II model, along with the compatible Reclamation environmental models, has been used to analyze potential environmental and socio-economic impacts in this document.

Early in 2006, as Reclamation and EDCWA were set to reinitiate the environmental review process, one remaining technical issue was to ensure that the proposed CALSIM II hydrologic modeling was consistent with the CALSIM II simulations used in the recent updating of the CVP-OCAP in 2004. This confirmation was received during the summer of 2006 with the proviso that no official endorsement of the model or its assumptions could be made by Reclamation, since at the time, the ongoing CVP-OCAP litigation under Judge Wanger was pending.

In September 2006, with the County planning documents and Reclamation operational tools updated, the environmental review process for this contracting action was reinitiated. A third NOI and NOP was deemed necessary due to the elapsed time from the last noticing in 1998. The NOI and NOP were prepared and re-circulated, with the comment period closing on October 16, 2006. Two Public Scoping Meetings were held in September 2006, one in Placerville and one in Greenwood (in the Georgetown Divide area). Public comment and response to the NOI and NOP were taken at the meetings, and by mail through October 16, 2006. Appendix C of this Draft EIS/EIR contains the NOP and NOI, comments on the NOP, and various public and agency notification documents.

Since then, the U.S. Department of the Interior and the U.S Department of Commerce have come under challenge from various intervenors, including, but not limited to the Natural Resources Defense Council (NRDC), Pacific Coast Federation of Fisherman's Associations/Institute for Fisheries Resources, and the Baykeeper (Delta Keeper Chapter), on the findings of its Biological Opinion (BiOp) for the updated 2004 CVP-OCAP regarding the federally threatened Delta smelt (*Hypomesus transpacificus*), various runs of Chinook salmon (*Onchorhynchus tshawytscha*), steelhead (*Onchorhynchus mykiss*), green sturgeon (*Acipenser medirostris*) and their designated critical habitats. A detailed discussion of the consultations with USFWS and NOAA Fisheries is provided in Chapter 10.0 (Consultation/Coordination and Applicable Laws). Reclamation initiated the formal phase of the consultations in May, 2008 and has been working closely with USFWS, NOAA Fisheries, DWR and the California Department of Fish & Game in the development of the BiOps, coordinating regularly with these agencies. Both BiOps (the NOAA BiOp, as a preliminary draft) have determined that the continued operation of the CVP and SWP as described in the Biological Assessment is likely to jeopardize the continued existence of delta smelt, some salmonids and green sturgeon and adversely modify their critical habitats.

While these consultations are ongoing, Reclamation is continuing to operate the CVP consistent with the provisions of the 2004 CVP-OCAP as conditioned by Judge Wanger's interim rulings; for example, Tracy Pumping Plant levels operated at historic pumping levels. At this time, with the completion of the revised final Biological Assessments in October 2008, along with NOAA Fisheries' preliminary draft BiOp on December 11, 2008 and the USFWS BiOp on December 15, 2008, Reclamation is reviewing the USFWS BiOp and the preliminary draft BiOp from NOAA Fisheries to determine if they can be implemented in a manner that is consistent with the intended purpose of the OCAP, is within Reclamation's legal authority and jurisdiction, and is economically and technologically feasible. NOAA Fisheries' final BiOp, including its final Reasonable and Prudent Alternatives (RPAs), Incidental Take Statement, and associated terms and conditions is expected sometime in June 2009.

This EIS/EIR is consistent with the key CALSIM II and related environmental modeling assumptions that supported the revised August and October 2008 Biological Assessments prepared by Reclamation on the current CVP-OCAP. Certain assumptions relating to new project actions that have been initiated since the completion of Reclamation's modeling, however, have been incorporated and do differ from those used in the final Biological Assessment. These assumptions and their implications are provided in more detail in Subchapter 5.3.3, CALSIM II Simulations, of this document.

1.3.1. Acknowledgement of this New Federal Action

Since the early to mid-1990s, the new anticipated CVP water service contract authorized by P.L.101-514 has been acknowledged by Reclamation, the resource agencies, local and regional water purveyors as well as the environmental interest groups. As noted previously, P.L.101-514, in its entirety, authorized three new CVP water service contracts. Reclamation has completed the necessary NEPA/Fish & Wildlife Coordination Act environmental documentation, supporting consultations required under the federal Endangered Species Act and National Historic Preservation Act, and fully executed two of those water service contracts: with the SCWA, SJWD as well as a subcontract with the City of Folsom through the SCWA. This occurred in 1999.

The landmark Sacramento Area Water Forum Agreement and accompanying EIR, also completed in 1999, acknowledged the EDCWA contract in its future cumulative condition PROSIM hydrologic modeling. All of the purveyor-specific agreements (PSAs) developed within the Water Forum Agreement were based on a future condition hydrology that assumed, in part, diversions of 50,000 acre-feet (AF) annually (constrained by Reclamation's normal CVP allocation shortage policy) of new CVP water from the American River system under the P.L.101-514 legislation (i.e., 35,000 AF annually to the SCWA which included 13,000 AF annually to the San Juan Suburban Water District and 15,000 AF annually to EDCWA).

Moreover, the most recent completed update to the CVP-OCAP in 2004 included the P.L.101-514 water contracts in both its current and future cumulative condition hydrologic modeling (i.e., as a 7,500 acre-foot annual diversion from Folsom Reservoir for EID and a 7,500 acre-foot annual diversion by GDPUD at the Reclamation/PCWA American River Pump Station, captured as reduced inflow into Folsom Reservoir from the North Fork American River). The current CVP-OCAP, therefore, and the operations of the coordinated CVP/SWP for which it controls have, in its current form, already assumed the inclusion of the full EDCWA water contract.

Over the past several years, various federal actions have included, and continue to include the new CVP water service contract for EDCWA in their hydrologic modeling and associated environmental documentation. These have included the Reclamation/PCWA American River Pump Station Project, the Sacramento River Water Reliability Study, the Freeport Regional Water Supply Project, the Environmental Water Account, the Yuba Accord, and the two local Warren Act contracts for the City of Roseville and the Sacramento Suburban Water District (formerly, Northridge Water District), to name but a few.

In short, as of today, not only is the new CVP water service contract for EDCWA assumed to be a part of the regional future cumulative hydrologic condition, but it has also been included in each of

the hydrological modeling simulations that have supported the environmental documents for these various federal actions/projects. Most recently, the collaborative work of the Sacramento Area Water Forum (Water Forum) in developing a new flow management standard for the lower American River known as the *Lower American River Flow Management Standard* (or LAR FMS), also includes or accounts for the new CVP water service contract for EDCWA as contained in the base hydrology from the Water Forum Agreement. It should be noted, however, that while Reclamation supports the concept of an improved flow regime for the lower American River, it is not participating in the further development of the environmental documentation necessary to proceed with this project due to the uncertainty associated with the final NOAA Fisheries BiOp on the CVP-OCAP and Judge Wanger's final ruling.

1.3.2. Focus of this Draft EIS/EIR

The focus of this Draft EIS/EIR is to evaluate the potential environmental and socio-economic impacts of the new EDCWA CVP water service contract authorized under P.L. 101-514. As discussed in more detail in later chapters, this EIS/EIR combines both a program-level and project-level analysis of the potential effects of this action. At the project-level, it addresses the potential direct hydrologic changes to the American River basin and the CVP/SWP, including the Sacramento-San Joaquin River Delta. Detailed hydrologic simulations using CALSIM II and its associated environmental models across an array of action scenarios and alternatives provide the specificity required to determine the potential environmental and socio-economic effects of the new CVP water service contract. All relevant water-related resources rely on these data, as appropriate, to make their impact determinations within both the current and future condition time horizons provided by the modeling framework. These analyses, therefore, are said to be provided at the project-level, whereas the direct effects of the anticipated diversions associated with this new CVP water service contract would accrue.

At the program-level, this EIS/EIR looks at potential long-term indirect effects of this new water contract within the context of existing policies, infrastructure, public services, and population demographics as supported by and codified in the updated County General Plan and EIR. All indirect effects on resources, facilities, and activities within the county that could result from this action (i.e., from the provision of this new water supply) and, as contained within the delineated service areas of EID and GDPUD, have already been thoroughly evaluated as part of an exhaustive General Plan Update and associated EIR, the latter tested through the Sacramento County Superior Court and its Writ of Mandate. As noted previously, in September 2005, the Court determined that the new 2004 General Plan Update and its environmental review satisfied the terms of the Writ, and the Writ was lifted, allowing the full implementation of the General Plan. Accordingly, these effects, as meticulously investigated in the General Plan EIR are not re-evaluated in this EIS/EIR. Furthermore, since no new facilities or infrastructure are part of this new CVP water contracting action, no direct impacts of this new water contract can be reasonably tied to several resource categories that are typically affected by construction-related or direct land conversion or disturbance activities.

Notwithstanding the aforementioned, secondary effects or, indirect effects, are nevertheless important. This EIS/EIR addresses, but does not re-evaluate these effects. The various policies and

ordinances governing land use activities, services, and facilities within El Dorado County and as discussed in the General Plan EIR are referenced, as appropriate. Where future facilities would be required to fully enable the physical diversion of new water by EDCWA's member units, their potential effects on the environment are identified, as appropriate. In most cases, however, the best available information and current conditions indicated that such information was premature and, in many cases, did not exist. It is presumed, however, that any such new facilities would require their own separate and independent environmental reviews once the full details of their design, impact footprint, and related appurtenances are known. Full environmental review of such facilities and their potential impacts, therefore, would not be circumvented; it is simply unavailable at this time.

1.4. DRAFT EIS/EIR ORGANIZATION

This joint Draft EIS/EIR is organized by chapter with the primary environmental impact discussions separated into two categories; Diversion-related Impacts and Indirect and Service Area-related Impacts. These two categories represent the resource categories upon which the project-level and program-level analyses are addressed and presented in the document. Each resource category is prefaced by an Introduction to Analysis subchapter, which describes the methodology, key assumptions, and approach used in the preceding resource impact discussions. Technical Appendices containing archival data, modeling results, notices, and other forms of project documentation are included in separate volumes.

2.0 PURPOSE AND NEED

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2.1. PURPOSE AND NEED

The purpose of P.L. 101-514 was to help meet the long-term water needs of El Dorado County. As a recognized initial phase, in a long-term contracting program for EDCWA, the action was appropriate at the time and, with the passage of time, has become increasingly more important to EDCWA. The purpose of the Proposed Action, therefore, is to acquire a new CVP water service contract authorized by P.L.101-514 and fulful the Congressional mandate stated confirmed by this law. The need for the Proposed Action is to meet the water demands of planned future and approved growth within El Dorado County.

EDCWA, as illustrated in its recent 2007 Water Resources Development and Management Plan, identified this current contract as one of many additional water acquisition (or contracting) actions that the agency must pursue to meet the General Plan growth projections of the county. Additional water supplies beyond this contract include ditch water rights, the partial assignments of existing State filed applications (i.e., Supplemental Water Rights Project), Texas Hill Reservoir Projects 1 and 2, and a new Alder Reservoir Project.

At the time that P.L. 101-514 became law, total diversions on the western slopes of El Dorado County were approximately 43,000 AFA with normal-year supplies around 60,000 AFA. Significant growth during the intervening years, however, has increased water demands throughout the western slopes. This demand increase and the narrowing gap between supply and demand are compounded by the ever present urgency for drought contingency planning. During the drought of the late 1980s and early 1990s for example, it became clear that County-wide drought contingency planning in addition to supplemental supplies were needed. While significant drought contingency planning has been undertaken and water conservations efforts continue, supplemental water supplies are still needed to ensure a sufficient water supply to the county in the event of multiple-dry years and over the long-term. The need for supplemental water supplies exists today and, as El Dorado County moves into the future, both an increased demand and the uncertainty of dry-year reliability (especially under multiple dry-year scenarios) will provide a continuing challenge for its water resources management strategies.

Since the mid-1990s, like many other parts of the State, growth has continued within El Dorado County. Numerous indicators confirm this trend. Between 1996 and 2005 for example, the total number of active accounts for EID increased by almost 35 percent (from 27,254 accounts in 1996 to 36,705 accounts in 2005).[8] Single-family residential water users in the EID service area, making up the largest use category for water consumption, increased their water consumption by approximately 50 percent (10,550 AF to 15,875 AF) between 1996 and 2005.[9] Multiple-family residential water

8 El Dorado County Water Agency, Water Resources Development and Management Plan, Chapter 2, Historic Water Use, Table 2-2, April, 2007.

9 El Dorado County Water Agency, Water Resources Development and Management Plan, Chapter 2, Historic Water Use, Table 2-3, April, 2007.

users also increased consumption over this same period, but not to the same extent and single-family residential users. Commercial/industrial users increased their water consumption by approximately 33 percent (2,099 AF to 2,796 AF).

Growth over the past 15 years in El Dorado has not been consistent. The period from 1996 to 2000, for example, showed an 11.9 percent increase in the total number of EID's active accounts (from 27,254 to 30,512). The ensuing five-year period from 2001 through 2005, however, showed an increase of 15.3 percent in the total number of EID's active accounts. Much of this latter increase can be attributed to the increase in single-family dual potable accounts, where these dwellings receive potable water from EID for indoor use, but recycled water for outside irrigation.

The need for the Proposed Action is supported by the continuing growth requirements within the western slopes of El Dorado County, as facilitated by the water deliveries made by EID and GDPUD, and as supported by the County General Plan.

2.1.1. Objectives

Reclamation and EDCWA share the following primary action/project objective:

- Execution of a new CVP M&I water service contract between Reclamation and EDCWA in accordance with the Congressional mandate of P.L.101-514;

The Mission Statement of EDCWA, based on its enabling legislation, the El Dorado County Water Agency Act (Uncodified Water Acts, Act 2245) furthermore, is as follows:

> "Ensure that El Dorado County has adequate water for today and in the future."

For EDCWA's part as the State Lead Agency under CEQA, it has identified five additional project objectives that, consistent with its Mission Statement and enabling legislation, appropriately fulfill its purpose and intent regarding this new water contract. These project objectives include the following:

- Consistent with P.L.101-514, diverting federal water for use in El Dorado County following completion of the administrative procedures that Reclamation and the State Water Resources Control Board (SWRCB) must complete in order to implement that Congressional mandate;
- Consistent with P.L.101-514, entering into a new CVP M&I water service contract to supply what Congress considers to be the first phase of a long-term effort by El Dorado County to acquire supplemental water supplies to meet its future needs;
- Consistent with the enabling legislation and the legal "duty to serve" customers to which EID and GDPUD are subject, obtaining additional water supplies needed to support planned and approved growth as embodied in the current El Dorado County General Plan;
- Consistent with the existing policies and ongoing efforts of EID, GDPUD and El Dorado County to conserve water during single- or multiple-dry year scenarios, to provide additional reliable water supplies to reduce the severity of dry-year cutbacks imposed on County residents, businesses, and other customers; and

- Delivering the new CVP M&I water supply through existing, planned and available infrastructure, for example, the PCWA American River Pump Station.

Given the regulatory uncertainty currently affecting the water resources of California's Central Valley and the need by EDCWA to proceed with the proposed contracting action in a timely fashion, the following supplemental objectives have also been identified. Accordingly, actions taken to provide water for El Dorado County should be:

- Permanent and practicable, both economically and institutionally; and
- Attainable in the short-term, to respond to the urgency of immediate water needs in light of the long-standing nature of this authorized action.

P.L. 101-514 was passed in 1990 in recognition of El Dorado County's need for supplementary water. Intervening issues, however, over the course of the past 17 years have only increased the urgency with which the proposed contract water is now needed.

2.2. WATER FOR NEW DEVELOPMENT

The traditional understanding of water suppliers under California law is that there is a "duty to serve" new development. As reflected in case law, this obligation has been understood to require water suppliers to find and develop any new water supplies needed to meet projected growth levels in their service areas. (See *Swanson v. Marin Municipal Water Dist.* (1976) 56 Cal.App.3d 512, 524 (water district has a "continuing obligation to exert every reasonable effort to augment its available water supply in order to meet increasing demand"); *Glenbrook Development Co. v. City of Brea* (1967) 253 Cal.App.2d 267, 277 ("county water district has a mandatory duty of furnishing water to inhabitants within the district's boundaries"); see also *Lukrawka v. Spring Valley Water Co.* (1915) 169 Cal.318, 322; *Building Industry Assn. of Northern California v. Marin Municipal Water Dist.* (1991) 235 Cal.App.3d 1641, 1648-1649; Slater, California Water Law and Policy (Michie Publications 1996), vol. 2, p. 14-11 (refers to water districts' "duty to serve").)

Consistent with this traditional obligation, a "distributor of a public water supply" can refuse to supply water to new development only if the distributor "finds and determines that the ordinary demands and requirements of water customers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection." (Cal. Water Code, § 350.)

The Urban Water Management Planning Act (Cal. Water Code, § 10610 et seq.), as amended in 2001, was passed in response to the California Legislature's concern that California's water supply agencies might not be engaged in adequate long-term planning. That Act requires "urban water suppliers" to maintain an "urban water management plan" that must identify existing water supply and demand, and must identify any new water sources required to satisfy demand as projected at least 20 years into the future. The projected 20-year supply must account for "average, single-dry, and multiple-dry water years."

In predicting 20-year water demands, urban water agencies must rely on "data from the State, regional, or local service agency population projections[.]" Thus, for example, to the extent that El Dorado County and its incorporated cities (e.g., South Lake Tahoe, and Placerville) anticipate large population increases in their adopted general plans, EDCWA is required to identify water sources necessary to serve such planned development, and is not in a position to refuse to comply with that legal obligation as a means of reducing the "growth-inducing" effects of obtaining new water supplies.

Under California Water Code sections 10910 and 10912, as amended in 2001 (also known as S.B. 610), an urban water supplier must consult with the county and cities within the supplier's service area when those entities propose development projects of a certain magnitude (e.g., residential projects with more than 500 dwelling units or a retail or business establishment employing more than 1,000 persons or having more than 250,000 square feet). The water supplier must respond to these requests either by identifying the water sources available to serve such development or by identifying the plans it would follow to obtain new water supplies for such developments. In the latter instance, such plans may include information concerning: (1) the estimated total costs, and the proposed method of financing the costs, associated with acquiring additional water supplies; (2) all federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional supplies; and (3) the estimated time frames within which EDCWA expects to be able to acquire additional water supplies. (Cal. Water Code, § 10911, subd. (a).)

Urban water suppliers are also subject to 2001 State legislation commonly known as the "Kuehl Bill" (SB 221), after its author State Senator Sheila Kuehl. (See Cal. Gov. Code, § 66473.7.) That bill requires any city or county considering the approval of a proposed subdivision map for more than 500 units to consult with the relevant water supply agency to determine whether adequate water is available for the proposed subdivision, as well as for "existing and planned future uses" (including agriculture) over then next 20 years, under "normal, single-dry, and multiple-dry year" scenarios. This legal scheme, like the Urban Water Management Planning Act, requires urban water suppliers to constantly take the steps that will be necessary to accommodate the growth planned for the next 20 years by the county and cities within the supplier's service area.

2.3. WATER NEEDS ASSESSMENT METHODOLOGY

EDCWA has identified EID and GDPUD as the recipients of the water that would be made available under the proposed new CVP contract. This section describes the specific water needs of both EID and GDPUD, as determined using Reclamation's methodology for Water Needs Assessments (WNAs).

WNAs were developed for CVP water contractors eligible to participate in the CVP long-term contract renewals process. Not all CVP contractors, however, are subject to WNAs.[10] According to Reclamation, the WNAs are intended to:

10 Small purveyors serving water to areas of 2,000 irrigable acres or less, or those receiving amount of 2,000 acre-feet annually (AFA) or less are exempt from the Water Needs Assessments.

1. Confirm past beneficial use of CVP water;
2. Provide water demand and supply information under current and future conditions for the environmental documents; and
3. Provide an estimate of contractor-specific needs for CVP water by the year 2025, to serve as a starting point for discussions regarding contract quantities in the negotiations process.[11]

In order to establish the current demand of purveyors, Reclamation uses recent historical demands, rather than the full contract amount, and requires purveyors' historical water use to demonstrate beneficial use of the CVP supply.

After a baseline demand is established, the WNA projects future demand through 2025. In some cases, 2040 M&I demand has been used for re-contracting entities that have not yet reached buildout. Both agricultural demands and M&I demands are accounted for in the WNA. The M&I methodology estimates residential demand on a standard gallons-per-capita per-day (GPCD) basis, and includes additional calculations of commercial and industrial demands and system losses (such as unaccounted-for water). Agricultural demands are based on standard crop water and evapotranspiration coefficients, irrigation efficiency, and the projected number of acres expected to be cultivated.

Improvements in water use efficiency are built into the federal WNA method in a number of ways. First, purveyors are required by Section 210(b) of the Reclamation Reform Act to have a Reclamation-approved Water Conservation Plan as a prerequisite before being issued a long-term contract for federal water. Reclamation requires an implementation plan for elements of the Utility Operations and Educational Programs specified by the California Urban Water Conservation Council (CUWCC) to be included in the Water Conservation Plans. Second, the WNA method for future demand caps system losses for rural water systems at 15 percent (some rural water systems currently have system losses near 30 percent). Third, future agricultural demands are calculated using an irrigation efficiency of 85 percent, generally significantly higher than typical irrigation efficiency. Fourth, the GPCD used domestically is assumed to decrease from 75 GPCD in the baseline calculation, to 55 GPCD in the future scenario. This approximate 25 percent water conservation level is assumed to occur through the measures proposed in the Water Conservation Plans, such as water audits, tiered pricing, fixture replacement, and customer education programs.

The WNA also includes documentation of purveyors' existing water supplies, including but not limited to: State Water Project (SWP) contracts, other surface water (such as water acquired through riparian rights), groundwater supplies, water from transfers, and recycled water. Average historical deliveries over the past three years are used to evaluate a purveyor's realistic deliveries and potential supply at the time of the WNA. Reclamation takes into consideration situations where the historical supply may have been reduced due to shortage provisions.

Reclamation then determines the water "need" by subtracting a purveyor's total existing supply from the projected future demand; a purveyor's water need is the difference between the two. If this

11 Reclamation Grey literature, Central Valley Project (CVP) Water Needs Assessments Purpose and Methodology.

amount is within 10 percent of the proposed contract amount, the purveyor is deemed to have sufficient water need to justify execution of the contract. It should be noted that Reclamation's WNA methodology represents a snapshot in time and but one of several possible water needs evaluations; numerous evaluation techniques, methodologies, and assumptions are available. In fact, EDCWA completed its most recent 2007 Water Resources Development and Management Plan earlier this year and used a variety of methodologies to determine water demand and needs based on the General Plan and its own procedures and metrics as well as those of EID and GDPUD.

So, while other evaluations may differ based on varied methodologies and, as a result show, differing numbers over time, based on a different set of assumptions, the WNA determination is the process used by Reclamation to verify federal water contracting allocations. To support the new CVP water service contracting action contemplated here, the water needs methodologies relied upon must conform to Reclamation's contracting process requirements. Accordingly, the WNA represents the process relied upon for this joint environmental document.

This method was used in 2004 to determine EID's water needs during EID's long-term CVP contract renewal process, and in 2006 for GDPUD as a first step in Reclamation's establishment of a Basis of Negotiations for the proposed new CVP M&I water service contract under this action. The water needs analysis for GDPUD was extended to the year 2050 to cover the 40-year term of the proposed contract since its needs for the 7,500 AFA does not occur entirely within the 2025 timeframe.[12] It should be noted that the preliminary assessment performed for GDPUD did not include an independent analysis by Reclamation of the GDPUD's current and future agricultural water use.

For the purposes of the proposed new contract, because the contract water cannot be used for agricultural purposes, the M&I needs of each purveyor must be sufficient to support its claim to the P.L.101-514 contract allocation. As detailed below, both EID and GDPUD show sufficient M&I need to, collectively, justify this full contract. Although GDPUD existing and future agricultural acreage assumptions are based on the El Dorado County General Plan, analysis using Reclamation's WNA process must still be performed prior to contract execution. As discussed in the Alternatives Including the Proposed Action and Project Description (Chapter 3.0), the P.L.101-514 contract is tentatively proposed to be equally shared between EID and GDPUD in the amount of 7,500 AFA for each purveyor.

In addition to that used in the 2004 and 2006 water needs assessments, additional demand is projected as a result of a recent General Plan Amendment that increases the floor area ratio for commercial/industrial and research and development land use designations. The Final Environmental Impact Report for General Plan Amendment A06-0002 (December 2006) indicates that an additional 13,869 AF of water demand at buildout, occurring primarily within EID's service area, will result from the amendment.

A final updated WNA will be prepared by Reclamation prior to execution of the contract with EDCWA to reflect any substantial changes in the supply and demand data and assumptions.

12 New CVP M&I water service contracts are typically negotiated with a term of 40-years, subject to renewals.

2.4. EL DORADO IRRIGATION DISTRICT WATER NEEDS

Reclamation completed a federal Water Needs Assessment for EID as a part of the CVP long-term contract renewal process in 2004 for EID's existing CVP water contract. The assessment included justification both for the renewal of EID's existing long-term CVP contract, and for the proposed contract amount of 7,500 AFA under P.L. 101-514 Section 206(b)(1)(B), which was anticipated to be a part of EID's available supply in 2025.[13] The following is an excerpt from the letter documenting the final revision of EID's WNA:

> The revised water needs assessment documents that the District has used its CVP water beneficially in the past and confirms the District's future need of its current maximum contractual CVP supply, and 7,500 acre feet of the 15,000 acre feet identified in Section 206(b)(1)(B) of Public Law 101-514.

For the 2004 WNA, Reclamation considered EID's likely future water supply in 2025, which is anticipated to be 75,984 AFA. Table 2.4-1 provides detail of EID's existing and anticipated future water entitlements envisioned in 2004, including their source, total unadjusted quantities, and any potential shortages that may be imposed. EID has in excess of 75,000 AFA of water entitlements with the proposed P.L. 101-514 CVP contract included. With imposed shortages, this total would be reduced to a little over 67,000 AFA. The primary local water entitlements include Sly Park (Jenkinson Lake) (23,000 AFA), the pre-1914 rights of the South Fork American River Project (SFAR) (15,080 AFA), and the recently confirmed Project 184 (17,000 AFA). With the P.L.101-514 contract combined with its existing CVP supply, EID will have a total of 15,050 AFA in federal contract water (subject to dry-year cutbacks leaving a total of 11,288 AF available in those years, were Reclamation to impose the maximum shortage to M&I contractors).

On or about April of each year, EID prepares an annual update to the Water Resources and Service Reliability Report originally published in 1991. Recent available data indicate that the total water diversion was 37,655 AF in 2005, 43,358 AF in 2004, and 37,138 AF in 2003. The total diversion amount includes water used for various beneficial uses and unaccounted-for water. Beneficial uses are defined as water used for operational flushing, sewage lift station and collection system flushing, private fire services, construction meters, and aesthetic maintenance.[14]

Unaccounted-for water is defined as water that is taken into the system from all of EID's main sources, but which is not delivered to the consumers, put to beneficial use, or otherwise accounted for. EID has reduced its unaccounted-for water percentage dramatically over the past ten years, in recent years surpassing the California State goal of 15 percent or less for rural water districts such as EID (see Table 2.4-2).

13 Pers. Comm. From Donna E. Tegelman (Reclamation) to Ane Deister (EID), July 27, 2004.

14 Beneficial uses as defined here should not be confused with the "beneficial uses" of water bodies as defined in the Regional Water Quality Control Board Basin Plan.

TABLE 2.4-1

EL DORADO IRRIGATION DISTRICT
TOTAL WATER ENTITLEMENTS – SOURCE AND QUANTITIES

Water Source	Future Water Entitlements[1] (AFA)	Notes/Shortage Provisions[2]
Existing CVP water service contract	7,550	Supply after cutbacks under current CVP M&I shortage policy: 5,663 AFA
Proposed P.L. 101-514 CVP water service contract	7,500	Supply after cutbacks under current CVP M&I shortage policy: 5,625 AFA
Sly Park (Jenkinson Lake)	23,000	Facility acquired from Reclamation in 2003. Critical dry-year deficiency of 5,000 AF results in 18,000 AFA
Project 184 Crawford Ditch Satellites (Strawberry and Outingdale)	17,000 700 154	Associated with hydropower operation of Project 184, acquired from PG&E in 1999; not subject to Term 91 diversion limitation, based on outcome of recent litigation; diversion of full amount requires execution of a Warren Act Contract with Reclamation (temporary or permanent)
Pre-1914 Ditch Rights and Licensed Weber Reservoir rights[3]	3,200[4]	Farmers Free, Gold Hill, and Summerfield Ditches and Weber Reservoir storage rights
SOFAR (Pre-1914 rights)	15,080	EID's pre-1914 ditch water rights
Recycled water	1,800	Usable only for outdoor application in areas plumbed for recycled water (primarily El Dorado Hills)
Total	**75,984**	**67,222 (with critical dry-year and likely shortages)**

Notes:
1. USBR WNA developed for CVP Long-Term contract renewal process (2004). Assuming Normal water year deliveries.
2. El Dorado County Water Agency, Water Resources Development and Management Plan, Chapter 2, Historic Water Use, Table 5-2, April, 2007.
3. D. Corcoran Pers. Comm. September 2, 2008.
4. Ditch and other rights have subsequently changed to 4,560 AFA as part of the Long-Term Warren Act Contract negotiations (USBR Draft Environmental Assessment, 2008).

TABLE 2.4-2

EL DORADO IRRIGATION DISTRICT
ANNUAL DIVERSION TOTALS AND UNACCOUNTED FOR LOSSES

Calendar Year	Raw Water Diversions[a] (AF)	Real and Apparent Losses[b] (AF)	Losses as a Percentage[c] of Raw Water Diversions (%)
2005	37,656	5,046	13.4
2004	43,358	5,588	12.9
2003	37,138	4,909	13.2
2002	38,885	5,177	13.3
2001	38,847	5,218	13.4
2000	34,882	4,524	13.0
1999	35,496	4,829	13.6
1998	30,027	4,829	16.1
1997	35,748	5,485	15.3
1996	34,199	5,353	15.7

Notes:
a. Includes raw water diversions from Jenkinson Lake, Folsom Reservoir and Project 184 at Forebay Reservoir.
b. Real losses include physical water loss to the ground from pipeline leaks and breaks; while apparent losses are considered paper losses, such as under registration of large meters.
c. The percentage of real and apparent losses can be attributable to 1,245 miles of pipeline, 3 miles of open ditch and over 37,000 service connections.
Source: Appendix Table D, Historical Diversions, Demands and Losses, 2005 Water Resources and Service Reliability Report, El Dorado Irrigation District.

EID has delivered recycled water for industrial use and golf course irrigation for over 30 years. In the past 15 years, the use of recycled water has been expanded to include median and park irrigation, and, more recently, construction water and residential landscaping. Recycled water use for residential landscaping is expected to have a significant beneficial impact on the amount of water available for drinking water supplies and other domestic and commercial potable uses. Since approximately 60 percent of the water demand for single-dwellings is used for outside landscaping, the future prospects of using recycled water as a significant water demand offset is promising. However, a significant increase in recycled water availability will be dependent on the construction of a seasonal storage facility, which has not been authorized at the writing of this document.

2.4.1. Water Conservation

EID has implemented an active water conservation program including public information and educational elements promoting efficient water use to the general public. In addition to its Urban Water Management Plan (UWMP), EID also has an existing U.S. Bureau of Reclamation Water Management Plan, developed and approved according to Reclamation guidelines[15]. The plan is updated every five years. The district has also focused significant effort on water recycling in the western portions of its service area, and is continuing to increase the recycling facilities' capacity and improve the purple-pipe recycled water distribution network.

Under its UWMP, EID has implemented programs with quantifiable water savings, including residential water audits, water metering, fixture/washing machine rebates, irrigation management services, plumbing retrofits, leak detection and repair, landscape water audits, and commercial/industrial water audits. It also imposes fines and prohibitions on wasteful use of water.[16] The Reclamation Water Management Plan includes outlines of the funding, implementation, and structuring of the water conservation plans implemented by the district, including all elements of the CUWCC Utility Operations and Educational Programs.

EID's active Irrigation Management Services (IMS) program helps the District's agricultural growers use water more efficiently. The program currently conserves more than 2,000 AF every year, and was recognized in 2006 for its excellence by being chosen as a finalist for an Association of California Water Agencies award. The program was also awarded a Conservation Innovation Grant in 2006 from the USDA Natural Resources Conservation Service (NRCS).[17] The 2000 AFA savings is based on demand data prior to IMS program implementation compared to demand data after implementation.

EID has also undertaken significant water recycling efforts, and began producing recycled water for landscape irrigation purposes in 1999. EID has produced an average of 1,700 AFA of recycled water during the period from 1999 to 2005.[18]

15 Reclamation (2003), Achieving Efficient Water Management - A Guidebook for Preparing Agricultural Water Management Plans, Second Edition.
16 EID. January 2006. Final Urban Water Management Plan, 2005 Update.
17 EID. Press Release. July 20, 2006.
18 EID. Recycled Water Supply Data. Unpublished.

2.4.2. Agricultural Water Use

The County General Plan EIR states that in the year 2000, agricultural land uses within the EID service area included 1,665 acres of vineyard, Christmas trees, olive/citrus orchards, berries and similar crops, and 3,626 acres of pasture, deciduous orchards and other similar uses. Total agricultural water use in the year 2000 for irrigable land was 5,950 AF.[19] As noted previously, but for the limitation on acreage size, CVP M&I water service contracts are not permitted for agricultural use.

2.4.3. Future EID Water Demand

Table 2.4-3 is taken from the Reclamation WNA worksheet and shows the demand calculations used in verifying the water needs of EID to 2025, the time horizon used by Reclamation in its WNAs. Total anticipated M&I needs are 49,257 AF; this includes 7,484 AF of projected distribution system losses. Total residential demand, at 33,805 AFA, make up the majority of EID's anticipated future M&I demands (i.e., almost 70 percent). El Dorado County General Plan data supports the M&I WNA with a projected need of approximately 55,000 AFA at 2025 and 73,000 AFA at buildout (including associated system losses and unaccounted for beneficial uses). [20]

TABLE 2.4-3

EL DORADO IRRIGATION DISTRICT 2025 M&I WATER NEEDS ASSESSMENT[1]
U.S. BUREAU OF RECLAMATION

Residential Demand							
Interior Demand			**Landscape Demand**				
# of residents	**Per capita factor (gpcd)**	**Subtotal (AF)**	**Irrigated acreage (ac)**	**ETo**	**ET Factor**	**Subtotal (AF)**	**Total (AF)**
177,802	55	10,954	**7,161**	4	0.8	22,851	33,805
Nonresidential Demand							
Interior Demand			**Landscape Demand**				
Industrial	**Commercial/ Institutional**	**Subtotal (AF)**	**Irrigated acreage (ac)**	**ETo**	**ET Factor**	**Subtotal (AF)**	**Total (AF)**
335	**1,764**	2,099	**1,584**	4	0.8	5,804	7,903
Distribution system demand							
Distribution System Losses (AF)			**Unaccounted Beneficial Use (AF)**				**Total (AF)**
6,847			**637**				7,484
Total M&I demand (AF) =residential + nonresidential + distribution system =							**49,257**

Note:
1. Data compiled and presented in the WNA for the P.L 101-514 Water Service Contract; included as part of the BON for this contracting action.

Source: PBS&J, developed from EID, 2004, Water Needs Assessment (Reclamation); Pers. Comm. From Donna E. Tegelman (Reclamation) to Ane Deister (EID), July 24, 2004; and Reclamation WNA Worksheets.

19 Wood Rogers. March 2003. El Dorado County Water Management Plan. Agricultural Water Demand Tables.

20 EDCWA, December 2007. Water Resources Development and Management Plan, Table 5-7.

As shown in Table 2.4-4, agricultural demands are anticipated to be 24,466 AFA, based on General Plan land use and one possible scenario of growth that considers protective General Plan agricultural policies and a growing agro-tourism industry. EID's total water demands (M&I plus AG) is projected to be 73,723 AFA by the year 2025. With a normal year yield available supply of 68,484 AFA, the projected future water need at 2025 is 5,239 AFA. With a safe yield available supply of 61,597 AFA, the projected future water need of EID at 2025 is 12,126 AFA.

TABLE 2.4-4

EL DORADO IRRIGATION DISTRICT
ADDITIONAL AGRICULTURAL DEMANDS AND TOTAL DEMAND
TOTAL WATER NEEDS (AFA)

		Supply		Total Water Needs	
Ag demand	Total demand	Normal[1] Year	Critically Dry[2] Year	Normal Year	Critically Dry Year
24,466	**73,723**	68,484	61,597	**5,239**	**12,126**

Notes:
1. Total Normal Year Supply from Table 2.1 less the proposed P.L.101-514 CVP water service contract (i.e., 75,984 – 7,500 = 68,484 AFA).
2. Total Critically Dry Year Supply from Table 2.1 less the proposed P.L.101-514 CVP water service contract (i.e., 67,222 – 5,625 = 61,597 AFA).

Source: PBS&J, developed from EID 2004 Water Needs Assessment (Reclamation); Pers. Comm. From Donna E. Tegelman (Reclamation) to Ane Deister (EID), July 24, 2004; and Reclamation WNA Worksheets

2.5. GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT WATER NEEDS

The GDPUD was formed in 1946, and began acquiring the properties, facilities and water rights of the Georgetown Water Company. The GDPUD service area encompasses approximately 75,000 acres, or about 6 percent of El Dorado County. GDPUD currently provides surface water to about 30,000 acres within its service area, of which approximately 1,200 acres are currently in irrigated commercial crops. The District provides domestic treated water and untreated agricultural water to the communities of Cool/Pilot Hill, Garden Valley, Greenwood, Georgetown, and Kelsey. GDPUD's sole source of water is the Stumpy Meadows Project. Water is obtained through a total of nine pre-914 water rights and post-1914 appropriative rights and permits. The firm yield of the project is 12,200 AFA. Allowing for dry year deficiencies of 1,700 AF, the total estimated safe yield supply is 10,500 AFA.

Existing water demand is made up of current water sales plus latent demand. Latent demand is defined as current inactive meters plus non-metered parcels within assessment districts plus pre-season (April) agricultural requirements when needed. In 2005, GDPUD reported a total existing demand of 11,162 AF. Of that amount, irrigation water demand was 4,744 AF, treated water demand comprised 1,959 AF of the total, and latent demand was 1,159 AF (including pre-season irrigation requirements). The remaining demand consisted of a five-year average of losses, which includes treatment and conveyance losses, reservoir leakage, evaporation, and other system losses.

2.5.1. Water Conservation

GDPUD has adopted management practices to reduce system losses within the District's conveyance system. Georgetown's historic ditch system is a single, primarily unlined conveyance system. Ongoing management practices aimed at increasing water conservation by reducing

storage and conveyance losses include lining of ditches with Gunite, replacement of sections of ditches with pipelines, and improving system operations that affect losses.[21] Current system losses are approximately 30 percent; the goal for losses in GDPUD's system, as a rural water system, is 15 percent. The federal WNA only allows losses of 15 percent to be counted toward the District's water needs.

Beyond decreasing losses, GDPUD has developed an UWMP that outlines measures for demand management and reduction. Nearly all of GDPUD's connections are equipped with water meters, and the District has used tiered pricing since 1982.[22] The District's UWMP includes implementation summaries for past and future efforts toward the CUWCC Utility Operations and Education Programs development. laid out by the CUWCC, and provides the District's water shortage contingency plan.

Before receiving any of the P.L.101-514 contract water, GDPUD will be required by Reclamation to develop a Water Management Plan consistent with Reclamation guidelines. This plan must be approved by the Reclamation contracting officer. The plan will be updated every five years. Included in this plan will be GDPUD's policies for addressing water shortages, wasteful use of water, and implementation plans for the elements of the CUWCC Utility Operations and Educational ProgramsDemand Management Measures.

2.5.2. Agricultural Water Use

The County General Plan EIR states that in the year 2000, irrigated acreage within the GDPUD service area totaled 1,195 acres; 81 acres of vineyard, Christmas trees, orchards, berries and similar crops, and 1,114 acres of pasture and other uses.[23] Total agricultural water use in the year 2000 for irrigable land was 4,349 AF. By the year 2025, it is anticipated that GDPUD will have 3,527 acres under cultivation; by 2050, GDPUD will have 7,385 acres under cultivation.[24]

2.5.3. Future GDPUD Water Demand

Based on land use projections presented in the approved El Dorado County General Plan, the future total water demand for the existing GDPUD service area in 2050 is anticipated to be approximately 23,534 AFA. This could result in a District-wide shortfall, or "need", of approximately 11,334 AFA without the P.L. 101-514 contract water. Of this anticipated future demand, agricultural demand is estimated to be 15,476 (66 percent) with M&I demand at 8,058 AFA (34 percent). This M&I demand exceeds the proposed contract amount. By 2025, M&I demand is preliminarily estimated to be 6,660 AFA, nearly within the 10 percent margin required by Reclamation to provide the full contract allocation under Reclamation contracting provisions.

21 GDPUD. 2005. *Urban Water Management Plan 2005-2010, Including a: Water Shortage Contingency Plan*.
22 GDPUD. 2005. *Urban Water Management Plan 2005-2010, Including a: Water Shortage Contingency Plan*. p. 28.
23 El Dorado County Water Agency – *Water Resource Development and Management Plan, Agricultural Water Demand*, December, 2007.
24 Wood Rogers. March 2003. *El Dorado County Water Management Plan*. Agricultural Water Demand Tables.

The M&I demand assumptions for GDPUD include: a lot size of 0.33 acres, that 60 percent of those parcels are under irrigation, and distribution system losses of 15 percent. As previously noted, losses in the GDPUD system are currently around 30 percent; such losses would need to be significantly reduced in order to meet the target losses provided in the WNA. Agricultural demands are based on the predicted acreages from the County General Plan Update EIR, updated in the El Dorado County Water Agency Water Resources Development and Management Plan as well as Reclamation's estimates of crop water needs and evapotranspiration; these compare favorably.

The data provided in Table 2.5-5 are taken primarily from the Reclamation preliminary WNA worksheets and shows the demand calculations used in verifying the water needs of GDPUD to 2050. Again, updated information from the El Dorado County Water Agency's 2007 Water Resources Development and Management Plan have been included to more accurately portray GDPUD's current and anticipated water demand conditions to 2050. Total anticipated M&I needs are 8,058 AF; this includes 1,058 AF of projected distribution system losses and 98 AF of unaccounted for beneficial use. Residential demand, relative to non-residential demands (e.g., industrial/commercial) clearly make up the majority of GDPUD's anticipated future M&I demands (i.e., almost 80 percent).

TABLE 2.5-5

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT[1]
WATER NEEDS ASSESSMENT

Residential Demand							
Interior Demand			**Landscape Demand**				
# of residents	**Per Capita Factor (gpcd)**	**Subtotal (AF)**	**Irrigated Acreage (ac)**	**ETo = 4.58**	**ET Factor**	**Subtotal (AF)**	**Total (AF)**
20,000	55	1,232	**1,414**	4.58	0.8	5,181	6,413
Nonresidential Demand							
Interior Demand (AF)			**Landscape Demand**				
Industrial	**Commercial/ Institutional**	**Subtotal (AF)**	**Irrigated acreage (ac)**	**ETo**	**ET Factor**	**Subtotal (AF)**	**Total (AF)**
95	35	130	98	4.58	0.8	359	**489**
Distribution System Demand (AF)							
Distribution System Losses			**Unaccounted Beneficial Use**				**Total (AF)**
1,058			98				1,156
Total M&I demand (AF) = Residential + Nonresidential + Distribution System =							**8,058**

Note:
1. Data compiled and presented in the WNA for the P.L 101-514 Water Service Contract; included as part of the BON for this contracting action.

Source: PBS&J, developed from Reclamation WNA Worksheets as amended by the El Dorado County Water Agency's 2007 Water Resources Development and Management Plan; and Personal communication from Tracy Slavin (Reclamation), April 17 and 25, 2006.

As shown in Table 2.5-6, GDPUD's agricultural demands are anticipated to be 15,476 AFA by 2050, consistent with County General Plan land use projections. GDPUD's total water demands (M&I plus AG) is projected to be 23,534 AFA by the year 2050. With a firm yield available supply of 12,200 AFA, the projected future water needs at 2050 is 11,334 AFA. With a safe yield of 10,500 AFA, the projected future water needs at 2050 would be 13,034 AFA.

TABLE 2.5-6

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT
ADDITIONAL AGRICULTURAL DEMANDS AND TOTAL DEMAND
TOTAL WATER NEEDS (AF)

		Supply		Total water needs	
Ag demand[1]	Total demand	Firm Year	Critically Dry Year	Firm Year	Critically Dry Year
15,476	**23,534**	12,200	10,500	**11,334**	**13,034**

Note:
1. Acreages from El Dorado County Water Agency's 2007 Water Resources Development and Management Plan were used – in the calculation of GDPUD's ag demand using Reclamation's WNA formulas.

Source: PBS&J, developed from Reclamation WNA Worksheets; and personal communication from Tracy Slavin (Reclamation), April 17 and 25, 2006.

According to the federal WNA methodology as required by this joint document, GDPUD's total water needs within the term of the contract will exceed the proposed contract amount. However, because the proposed contract provides an M&I supply only, the new contract water may only be used to fulfill residential (5-acre limitation on residential parcels), commercial, and industrial demands. As previously indicated, the preliminary assessment performed for GDPUD did not include an independent analysis by Reclamation of the GDPUD's current and future agriculture water use, which may need to be included in the final WNA prior to contract execution.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION AND PROJECT DESCRIPTION

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3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION AND PROJECT DESCRIPTION

3.1. INTRODUCTION

This chapter presents the process upon which the alternatives carried forward for analysis in this EIS/EIR were developed. It includes discussion on the initial range of possible alternatives, including the Proposed Action (or preferred alternative); the screening process used to evaluate these alternatives; the alternatives eliminated from further analysis, while providing a rationale for their elimination; and identifies those alternatives selected to be carried forward in this EIS/EIR for further detailed environmental review.

The following alternatives were carried forward for detailed analysis in this EIS/EIR (their numbering sequences are retained throughout the remainder of this EIS/EIR):

Alternative 1A – No-Action Alternative

Alternative 1B – No-Project Alternative

Alternative 2A – Proposed Action – Scenario A (e.g., 7,500 AF each to EID and GDPUD)

Alternative 2B – Proposed Action – Scenario B (e.g., 15,000 AF to EID)

Alternative 2C – Proposed Action – Scenario C (e.g., 4,000 AF to EID and 11,000 AF to GDPUD)

Alternative 3 – Water Transfer Alternative

Alternative 4A – Reduced Diversion Alternative (12,500 AFA)

Alternative 4B – Reduced Diversion Alternative (10,000 AFA)

Alternative 4C – Reduced Diversion Alternative (7,500 AFA)

Each alternative, described in more detail in this chapter, was addressed in a similar and equal level of detail across all resource categories.

As a joint EIS/EIR, nomenclature between NEPA and CEQA should ideally be integrated or blended to the extent possible. Clear distinctions, however, in the use of specific terms or phrases between NEPA and CEQA exist. This can result in organizational challenges where joint documents are concerned. The proposed federal action or Proposed Action, for example, falls under the NEPA category of alternatives which, under the same term, has a completely different meaning under CEQA and is typically afforded separate discussion in an EIR. In this EIS/EIR, the Proposed Action, also known as the preferred alternative and all genuine alternatives to those actions are placed under the *alternatives* category, consistent with NEPA. A distinction, however, is made to those alternatives that represent variants of the proposed new CVP water service contract. Additionally, the term *project* represents a CEQA term and possesses specific meaning. The project description

and its specific requirements are retained in this EIS/EIR as a fundamental tenet of CEQA. It is considered identical with the description of the Proposed Action or preferred alternative under NEPA.

The important point in any joint document is that the intended content and detail required by both NEPA and CEQA are upheld without rigorously adhering to one statute at the exclusion of the other. Joint EIS/EIR documents should exercise flexibility in this regard and, in fact, are encouraged to do so. The goal in joint documents is not statutory rigidity, but rather, to provide an informative, comprehensive, and structured environmental review that best captures the intent and specific requirements of the governing legislation.

Under NEPA, the evaluation of alternatives should present the Proposed Action and all the alternatives in comparative form, to define the issues and provide a clear basis for choice among the options. In its regulations implementing NEPA, the Council on Environmental Quality (CEQ) calls the alternatives analysis section the "heart of the EIS" and requires that agencies preparing environmental impact statements shall:

a. Rigorously explore and objectively evaluate all reasonable alternatives and for alternatives, which were eliminated from detailed study, and briefly discuss the reasons for their having been eliminated.

b. Devote substantial treatment to each alternative considered in detail including the Proposed Action so that reviewers may evaluate their comparative merits.

c. Include reasonable alternatives not within the jurisdiction of the Lead Agency.

d. Include the alternative of No-Action.

e. Identify the Lead Agency's preferred alternative or alternatives, if one or more exists, in the draft environmental impact statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

f. Include appropriate mitigation measures not already included in the Proposed Action or alternatives

Similarly, according to CEQA Guidelines, an EIR must contain a reasonable range of alternatives to the proposed project or project location, which would feasibly attain *most* of the proposed project's basic objectives, while avoiding or substantially lessening any of the significant environmental impacts of the proposed project (see CEQA Guidelines § 15126.6). Similar to NEPA, CEQA does not require a Lead Agency to analyze every conceivable alternative; however, an EIR must consider a reasonable range to encourage informed decision-making and public participation. An ironclad rule governing the nature or scope of the alternatives to be discussed in an EIR does not exist under CEQA; however, the range of alternatives is governed by a *rule of reason*, which compels a Lead Agency to consider only those alternatives necessary to permit a reasoned choice by the decision-making body (see CEQA Guidelines § 15126.6(f)). In summary, alternatives to a proposed project shall be centered on those that would:

a. Attain most of the proposed project's basic objectives;

b. Avoid or substantially lessen one or more of the proposed project's significant environmental impacts; and

c. Be potentially feasible, both technically and economically.[25]

The following factors may be considered when evaluating feasibility: site suitability, economic viability, availability of infrastructure, general plan consistency, consistency with other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to alternative site locations (see CEQA Guidelines § 15126.6(f)(1)). In addition, case law recognizes that agency decision-makers may reject alternatives as infeasible if they do not fully meet project objectives or are reasonably determined to be undesirable from a policy standpoint. (See *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715 (court upholds findings rejecting alternatives for failing to meet project objectives; *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 ("'feasibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors"). Similar to what is required under NEPA, the discussion of alternatives under CEQA should focus on alternatives that would avoid or substantially lessen the proposed project's significant environmental impacts, even if the alternative would not attain all of the proposed project's objectives or would be more costly (see CEQA Guidelines § 15126.6(b)). CEQA requires that sufficient information about each alternative be included in the EIR to allow meaningful evaluation, analysis, and comparison with the proposed project (see CEQA Guidelines § 15126.6(d)).

3.2. NO-ACTION AND NO-PROJECT ALTERNATIVE CONTEXT

Section 1502.14(d) of NEPA requires that an EIS include the No-Action Alternative. Similarly, CEQA Guidelines section 15126.6(e) requires consideration of the No-Project Alternative. Under NEPA, the No-Action Alternative must contemplate the resulting environmental impacts of not going forward with the proposed federal action. Where the choice of "no action" by a federal Lead Agency, however, would result in predictable actions by others, this consequence of the "no action" alternative should be included in the analysis. For example, if denial of a new federal water contract would lead to the acquisition of water supplies, by other means, the EIS should answer this consequence of the No-Action Alternative (CEQ Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations). The NEPA regulations require the analysis of the No-Action Alternative even if the Lead Agency is under a court order or legislative command to act (e.g., new CVP water service contracts under P.L.101-514). This analysis provides a benchmark, enabling federal decision-makers to compare the magnitude of environmental effects of the action alternatives. It is also an example of a reasonable alternative outside the jurisdiction of the lead agency that should be analyzed.

Depending on the nature of the proposed federal action under investigation, two distinct approaches to identifying the "no action" scenario are possible. The first situation might involve a Proposed Action such as updating a land management plan. Under this situation, it might be expected that

25 Under CEQA, the ultimate determination of whether an alternative is "feasible" or "infeasible" is made by Agency decision-makers, who must address the issue in findings adopted at the time of project approval (CEQA Guidelines § 15091(a)).

ongoing programs initiated under existing legislation and regulations would continue, even as new plans are developed. In such cases, "no-action" essentially represents "no-change" from the current management direction or level of management intensity. Therefore, the No-Action Alternative under this circumstance may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, anticipated impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development.

The second approach to identifying the "no action" scenario applicable herein, is illustrated in instances involving federal decisions on proposals for projects. "No action" in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of approving the Proposed Action. As noted earlier, however, inaction by the federal lead agency may inspire actions by other parties in furtherance of project objectives, purposes, or needs that might have been pursued through action by the federal lead agency.

Under CEQA, the No-Project Alternative must also be analyzed (see CEQA Guidelines § 15126.6(e)). This requirement encourages a Lead Agency to compare the environmental effects of approving a proposed project with the effects of not approving it. Unlike the No-Action Alternative, the No-Project Alternative generally assumes that the land area or current environment would remain in its existing state. This is typically prefaced by the continuation of current plans, available infrastructure, and community services. In this EIS/EIR, both the No-Action and No-Project Alternatives are identified and analyzed to provide the widest possible evaluation of the potential effects associated with not carrying forward with the Proposed Action.

3.3. ALTERNATIVES SCREENING PROCESS

During the preparation of an EIS/EIR, an array of potential alternatives to the Proposed Action including alternative locations readily come to the fore, often suggested by stakeholders and interested parties through the scoping process. This universe of possible alternatives must then be reduced to a reasonable range of potentially feasible alternatives that can be carried forward for more detailed analysis in the environmental document. Typically, this winnowing of potential alternatives is best accomplished through the implementation of a screening process. Such processes are important in that they provide a balanced and unbiased means of reducing the initial number of identified alternatives to a *reasonable* range. Ideally, the various screening criteria are developed independent of the alternatives as well as prior to the alternatives identification process, in order to maintain an unbiased evaluation. Subchapter 3.7 – Alternatives Screening Process, below, describes the methodology, considerations, and results of the process used to screen these initial alternatives into those carried forward for detailed analysis in this EIS/EIR.

3.4. SCREENING CRITERIA

Various screening criteria were identified and developed for the initial listing of potential alternatives. These criteria are presented in Table 3.4-1. These screening criteria are the result of updates to similar criteria used in the EIS/EIR for the new CVP water service contracts under P.L.101-514

prepared by Reclamation and Sacramento County Water Agency (1998), the PCWA/Northridge Groundwater Stabilization Project EIR (1999), and have their original basis from EBMUD's Water Supply Management Program (1989). They were originally developed from professional engineering and environmental expertise.

TABLE 3.4-1

IDENTIFICATION AND DESCRIPTION OF SCREENING CRITERIA

Criterion	Description
A. Technical and Engineering Feasibility	An alternative must be technically and physically feasible. An alternative must be based on existing and accepted state-of-the-art engineering concepts and cannot be based on experimental technologies. Also, an alternative must not be dependent upon either the availability or acquisition of site locations that cannot be reasonably assured.
B. Raw Water Quality	An alternative must provide a water supply or, have the capability of providing a water supply that protects water quality and meets or exceeds State and federal water quality standards or other applicable water quality standards associated with its use.
C. Environmental Fatal Flaw	An alternative cannot have environmental impacts that are so significant as to negate the positive attributes of the alternative or, simply transfer potential environmental impacts from one location to another.
D. Economic – Capital and O&M	An alternative cannot be economically impractical or infeasible. An alternative should be economically attractive such that the total direct costs to the customers and purveyors are minimized and do not significantly exceed the costs of alternatives with similar benefits. Similarly, an alternative cannot result in excessive operation and maintenance costs.
E. Long-term Reliability	An alternative must be capable of supplying raw water reliably year round and on a long-term basis.
F. Public Health and Safety	An alternative should be able to meet all existing and anticipated future State and federal health and safety requirements.
G. Timing	An alternative must be capable of being implemented within a reasonable timeframe such that the benefits and needs of the proposed project are not unduly delayed.
H. Institutional	An alternative cannot possess significant uncertainty that all permits, licenses, or other logistical requirements can be reasonably obtained.

3.5. INITIAL IDENTIFICATION OF ALTERNATIVES

As noted previously, the following alternatives, therefore, were carried forward for detailed analysis in this EIS/EIR:

Alternative 1A – No-Action Alternative

Alternative 1B – No-Project Alternative

Alternative 2A – Proposed Action – Scenario A

Alternative 2B – Proposed Action – Scenario B

Alternative 2C – Proposed Action – Scenario C

Alternative 3 – Water Transfer Alternative

Alternative 4A – Reduced Diversion Alternative (12,500 AFA)

Alternative 4B – Reduced Diversion Alternative (10,000 AFA)

Alternative 4C – Reduced Diversion Alternative (7,500 AFA)

This section identifies and describes each of the initial alternatives developed for potential evaluation in this EIS/EIR. It follows NEPA format in that the No-Action Alternative is described first (followed by the CEQA No-Project Alternative), then the fundamental elements of the Proposed Action along with the various options (terms, scenarios) that define how the Proposed Action could be implemented, followed by other potential alternatives.

3.5.1. Alternative 1A – No-Action Alternative

The No-Action Alternative assumes that the proposed federal action, namely, execution of the P.L.101-514 water contract would not proceed. Without this new water entitlement, El Dorado County, through EDCWA, would be short 15,000 acre-feet per annum (AFA) from its total available water supplies. Both EID and GDPUD would bear the consequences of such a shortfall as it would represent a significant loss to their planned future water supplies. In lieu of this new Central Valley Project (CVP) water contract, it is likely that both EID and GDPUD would be compelled to more aggressively seek to acquire an alternative water supply. To make up the 15,000 AFA shortfall, EID and GDPUD could proceed with exploring any combination of potential alternative supply strategies. These are described in more detail later under separate dedicated headings.

New storage, transfers, assignments, and groundwater banking (in downstream aquifers) could represent feasible options. Given the extent to which EID already imposes water conserving practices, it is unlikely that water conservation would stand as an independent alternative to this action. At this time, the most likely supplemental water supply would be a new long-term permanent water transfer or new water right from the American River basin obtained through the filing for a partial assignment of a previous State-filed application or an area-of-origin application. The latter option, in fact, represents a pending project of the El Dorado Water & Power Authority. It is considered needed in addition to, not in lieu of, the Proposed Action described in this EIS/EIR. P.L.101-514 recognized that the 15,000 AFA of new CVP water was intended only as the first phase of a long-term program by El Dorado to acquire additional water supplies to meet its existing and future General Plan water needs projections. Accordingly, as a current and separate action, the pursuit of the current new water right (i.e., the El Dorado Water & Power Authority, of which both EDCWA and EID are members) does not represent an *alternative* to the P.L. 101-514 contract, but rather, an essential future water supply that is both consistent with P.L. 101-514 and the water needs projections of the El Dorado County General Plan. Without the P.L. 101-514 contract, the El Dorado Water & Power Authority would be compelled to increase its requested water right by 15,000 AFA, equivalent to the shortfall that would be experienced without the P.L. 101-514 contract water in order to fulfill its obligations to meet future General Plan water supply requirements.

3.5.2. Alternative 1B - No-Project Alternative

The CEQA No-Project Alternative would not only assume that the proposed P.L.101-514 water contract is not executed but, would further assume, that no independent new actions are initiated by

either EID or GDPUD to acquire additional water supplies in order to meet General Plan water need projections. As such, it could be referred to as the No-Additional Water Supply Alternative. This alternative would, consistent with CEQA, represent the existing conditions at the time of the NOP. It would carry the existing baseline condition forward in time as the assumed state of El Dorado County's western slope water supply without change. This condition would apply to both EID and GDPUD.

Without a new water supply, the western slopes of El Dorado County would be significantly constrained and be further subject to the risk of appreciable shortfalls during drought periods. As discussed in Chapter 2.0 (Purpose and Need), the current entitlements of both EID and GDPUD without the P.L. 101-514 contract would fall short of projected demands, and would result in likely hardships to water users were a prolonged drought to occur. Moreover, dry-year cutbacks imposed on EID's and GDPUD's existing entitlements, where applicable, would exacerbate this situation in the long-term. In fact, due to the dry-year conditions of the past two water years (WY 2007 and 2008), EID has experienced imposed deficiencies in its existing CVP water service contract supplies.

3.5.3. Alternative 2 – Proposed Action

Background

Public Law 101-514 (Section 206), as part of the Water Resources Development Act of 1990, included, in total, 50,000 AFA of new CVP M&I contract water for Sacramento and El Dorado counties. The Act acknowledged that these new CVP water contracts represented the first phase of a long-term effort to secure additional water supplies to meet the future needs of this growing region of California. Sacramento County, under the auspices of the Sacramento County Water Agency (SCWA) and the San Juan Water District (SJWD) (then, San Juan Suburban Water District) completed its joint EIS/EIR with Reclamation in 1997 and has since begun diverting this new CVP water (along with the City of Folsom, which received a portion of SCWA's allocation through a subcontract). Sacramento County's new CVP water supplies are 22,000 AFA for the SCWA (with an agreed upon 7,000 AFA of that amount allocated to the City of Folsom's East Area under a subcontract) and 13,000 AFA for SJWD (for delivery within San Juan's service area in Sacramento County which includes the Citrus Heights Water District, Fair Oaks Water District, and the Orangevale Water Company, collectively referred to as the San Juan "family"). In total, the Sacramento County portion of its new CVP M&I contract authorized under P.L. 101-514 was 35,000 acre-feet. These contracts, under P.L. 101-514, approved new diversions from Folsom Reservoir, the lower American River, and the Sacramento River.

As noted previously (see Chapter 2.0; Purpose and Need), the Proposed Action being evaluated in this EIS/EIR is the execution of the new long-term CVP water service contract between EDCWA and Reclamation.

Once executed, the contract will fulfill the mandate of P.L.101-514 and complete this congressionally authorized new water contracting action. For this Proposed Action, Reclamation is the federal water contracting entity and, accordingly, the federal Lead Agency under the National Environmental Policy Act (NEPA). EDCWA is the primary contractor and, accordingly, the State Lead Agency

under the California Environmental Quality Act (CEQA). Both agencies have jointly and cooperatively prepared this environmental document.

Under this new contract, not to exceed 15,000 AFA, CVP municipal and industrial (M&I) water would be made available to EDCWA consistent with federal Reclamation law (see below). Consistent with P.L.101-514, new CVP water can be taken directly from Folsom Reservoir, or exchanged for non-CVP water to be diverted from the American River upstream of Folsom Reservoir.

Master Contract

Under this Proposed Action, EDCWA would make this new water available to fulfill both current and future in-county water needs. EDCWA is a special district, established under the El Dorado County Water Agency Act that was established to deal with a range of water issues in El Dorado County. EDCWA has no land use authority, is not a physical supplier of water in the County, and acts as an advisory agency to purveyors in El Dorado County. Furthermore, EDCWA is governed by a Board of Directors separate from the County Board of Supervisors.

The purveyors within the county with the authority to supply water are referred to as EDCWA's member units, and include irrigation districts, public utility districts, and community service districts. Additionally, several are empowered to provide water service, but currently do not. This new CVP M&I water service contract would represent a *master* contract that, upon execution, would provide EDCWA the necessary flexibility to subsequently execute direct subcontracts with two of its member units, either the El Dorado Irrigation District (EID), Georgetown Divide Public Utility District (GDPUD), or both, depending on the timing, needs and desires of those districts. Both of these purveyors would deliver water to portions of their service area along the western slopes of El Dorado County.

The contract is titled, CONTRACT BETWEEN THE UNITED STATES AND EL DORADO COUNTY WATER AGENCY PROVIDING FOR PROJECT WATER SERVICE FROM THE AMERICAN RIVER DIVISION (Contract No. 07-WC-20-3534). It is authorized under the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented, October 12, 1982 (96 Stat. 1263), Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706), and Section 206(b)(1)(B) of the Act of November 5, 1990 (104 Stat 2074), referred to collectively, as federal Reclamation law. The proposed Master Contract (No. 07-WC-20-3534) is included in Appendix D in this Draft EIS/EIR.

Project Location

El Dorado County is located in Northern California, and stretches from the eastern border of Sacramento County to the California/Nevada border south of Lake Tahoe (see Figure 3-5-1). Folsom Reservoir lies at the western end of El Dorado County, and includes portions of Sacramento, Placer, and El Dorado counties. Much of the county is in the American River Watershed. The South Fork American, Middle Fork, and Rubicon rivers drain much of the central and northern portions of the county into Folsom Reservoir. The southern portion of the county is drained by the North, Middle, and South forks of the Cosumnes River. At its eastern end, the Upper Truckee River drains a small portion of the county within the Lake Tahoe basin.

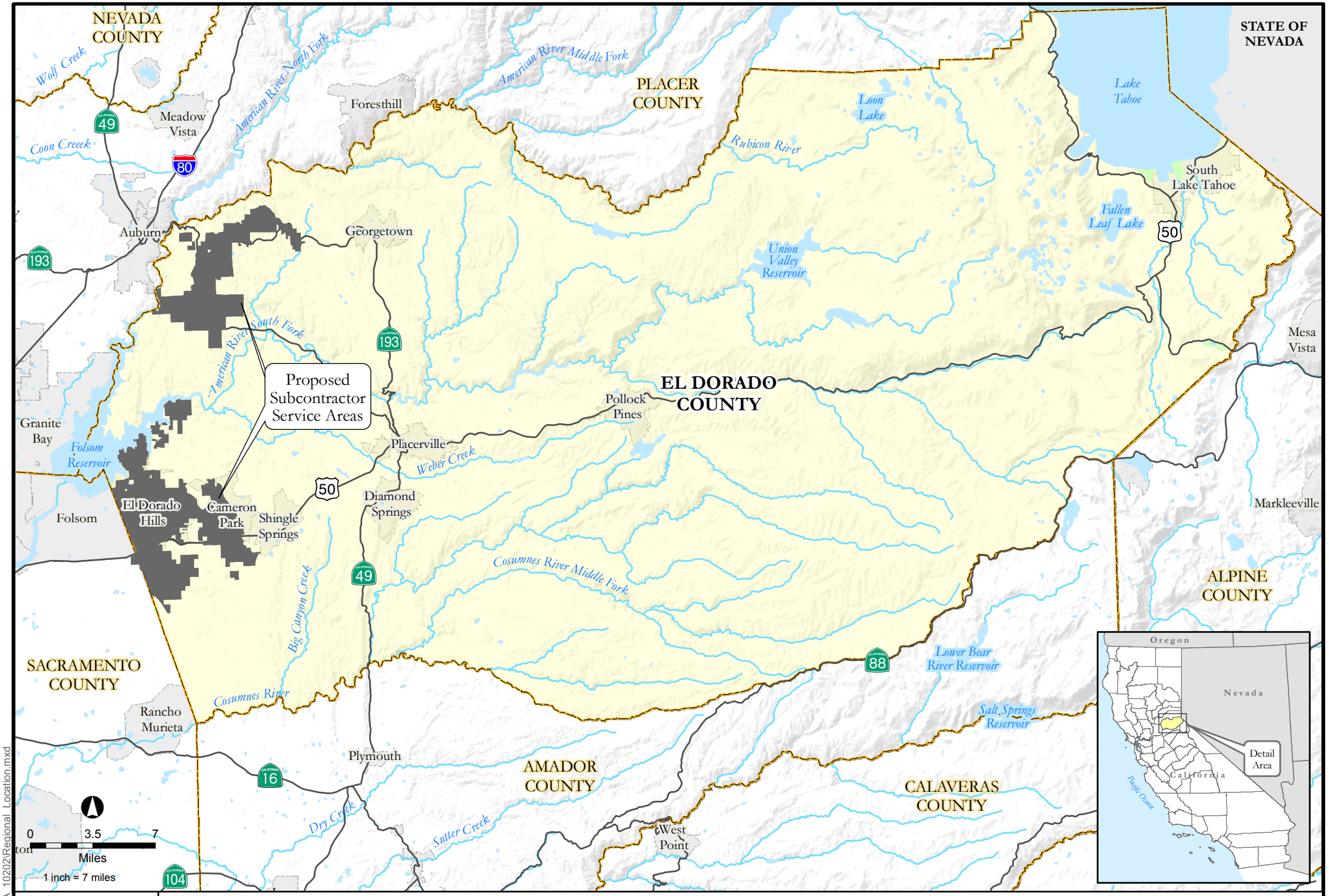

FIGURE **3.5-1**

Regional Location

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P.L. 101-514 USBR/EDCWA
CVP Water Supply Contract EIS/EIR

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The county is home to 173,407 people (DOF 2005). The primary communities are South Lake Tahoe, El Dorado Hills, Cameron Park, and Placerville which together account for approximately 64 percent of the County population (DOF 2000). Two of the most rapidly growing areas are El Dorado Hills and Cameron Park, along the western slopes of the county. With its proximity to Folsom Reservoir (a CVP facility), EID's intended use of this new water will likely occur in the El Dorado Hills and Bass Lake Tank's service area (in the western portion Cameron Park). Similarly, for GDPUD, its allocation will be used within the western portion of its service area in the vicinity of Cool, Pilot Hill, Auburn Lakes Trail, and Greenwood. See Subchapter 3.5, under the Subcontractor Service Areas heading, for a complete discussion and description of these service areas.

Distribution of P.L. 101-514 Water

P.L.101-514 does not specify how much of the contract amount would be specifically distributed to each individual water district within El Dorado County. The law, in fact, is silent on identifying specific districts by name with whom the EDCWA could subsequently enter into subcontracts. For purposes of this EIS/EIR and the analyses contained herein, the Proposed Action is intended to represent a split of the master contract evenly between EID and GDPUD through subcontracts of 7,500 AFA each. The subcontracts, under their draft forms, are provided in Appendix E and Appendix F, respectively, and include the standard Articles pertaining to CVP water service contracts.

It is possible and quite likely that the future demands of EID or GDPUD may increase independently and differentially over time. Such demand increases could prompt a need for water that is greater or lesser than the 7,500 AFA identified as the Proposed Action based on the actual demand at that time. EDCWA, together with Reclamation, would facilitate subcontract agreements with both districts as their needs developed. As noted previously, the proposal of a *master* contract maximizes EDCWA's flexibility to distribute new CVP M&I water to those areas in need within the county, as needs dictate, and in a manner consistent with federal contracting provisions. This would ensure optimum beneficial use of the new CVP water supply.

While EID and GDPUD are the intended recipient districts for this new water supply, the specifics of timing, quantity, and the identity of the first recipient of any such water supplies depends on the specific water needs and diversion/delivery capabilities of the districts. EDCWA, as the primary contractor (i.e., holder of the *master* contract) would, therefore, have oversight and control over this ongoing process, and would execute any subcontracts negotiated between the two purveyors in coordination with Reclamation. As the prime contractor, EDCWA would be identified by Reclamation as holding primary responsibility for ensuring that the various terms and conditions of the master and subcontract(s) are met. Once executed, the water service master contract authorized by P.L.101-514 would allow EDCWA essentially to hold new CVP M&I water *in trust* until such time as the member districts initiate further action. The intent of P.L. 101-514 would be preserved, as this new CVP M&I contract would remain for use in El Dorado County.

Points of Diversion

Under the Proposed Action, all water diverted by EID would be taken from Folsom Reservoir at EID's existing intake. This water would be conveyed to EID's El Dorado Hills Water Treatment Plant (see Figure 3.5-2). This EIS/EIR does not cover EID's potential new water treatment facility at Bass

Lake. EID is in the process of completing engineering design and separate NEPA environmental review and approval for a temperature control device (TCD) on its diversion from the reservoir; Reclamation is the NEPA Lead Agency for this separate action. EID has already completed its CEQA review of the TCD. Installing the TCD would also include expansion of the capacity of the existing intake and possible re-location. For purposes of analysis in this EIS/EIR, the TCD is assumed to be in place and operational for all future-level impact evaluations (see Subchapter 5.1, Introduction to Analysis).

Distinct from EID's direct diversion capabilities at Folsom Reservoir, GDPUD may only obtain water under the Proposed Action through a water exchange with another purveyor, most likely the Placer County Water Agency (PCWA), where discussions between the two purveyors were initiated several years ago. This exchange would be necessary because GDPUD does not possess a direct diversion point on Folsom Reservoir (hence, no ability to directly divert CVP water). Water obtained by GDPUD through such an exchange would be from PCWA's Middle Fork Project, and could be diverted from the North Fork American River, near Auburn.

It should be noted that at the present time, PCWA does not possess an authorized point of diversion or service area for CVP water from which a CVP diversion from Folsom Dam and Reservoir could be implemented. This is because when PCWA amended its current CVP M&I water service contact, reducing the quantity from 117,000 AFA to 35,000 AFA, its service area was erroneously redefined to only include PCWA's Zone 1. PCWA has requested that its CVP service area be revised to include SJWD's Placer County portion of their service area, the City of Roseville, and PCWA's proposed new west Placer service areas (e.g., Placer Vineyards). Reclamation has agreed to this change. Rather than initiate a separate and independent NEPA action, this change in PCWA's CVP service area is being included as part of the proposed action for the Sacramento River Water Reliability Study EIS/EIR, currently pending. Accordingly, any exchange between GDPUD and PCWA of CVP water for Middle Fork Project water would be contingent upon completion of the Sacramento River Water Reliability Study EIS/EIR along with the appropriate Reclamation adjustments to PCWA's authorized CVP place of use.

In terms of diversion facilities, PCWA has recently completed construction of a new permanent pump station on the American River at the site of the Auburn cofferdam (referred to as the American River Pump Station). On Sept. 4, 2007, the old Auburn Dam tunnel was closed and, after 35 years, the American River returned to its natural channel. River restoration has been completed along with completed construction of the American River Pump Station, which began full operation in 2008.

The American River Pump Station Project includes an empty pump bay at the pumping plant along with an under-river caisson stubbed on the south side of the river. Were an agreement to be reached between GDPUD and PCWA, GDPUD could use the empty pump bay for its own pumps, the under-river caisson and build its own conveyance infrastructure on the southern bank of the North Fork American River to pump water out of the canyon. At this time, a Memorandum of Understanding between PCWA and GDPUD has been drafted and remains under negotiation. Together, these facilities would be capable of diverting water from the river and conveying it up out of the American River canyon to one of GDPUD's existing or future new water treatment facilities on the Georgetown Divide. See below for a more detailed discussion of the GDPUD/PCWA exchange.

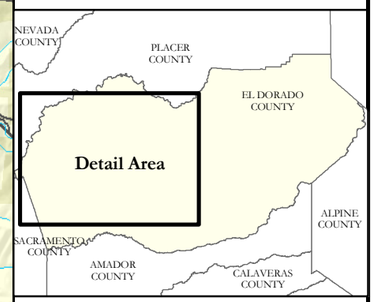
FIGURE 3.5-2

EID and GDPUD Service Area Boundaries and Proposed Subcontractor Service Areas

P.L. 101-514 USBR/EDCWA
CVP Water Supply Contract EIS/EIR

El Dorado County, CA

- Proposed Subcontractor Service Area
- Georgetown Divide Public Utility District Boundary
- El Dorado Irrigation District Boundary
- Placer County Water Agency District Boundary
- Consolidated Place of Use USBR Central Valley Project



0 2.75
Miles

1 inch equals 2.75 miles

Source: El Dorado County, GDPUD Boundary, August 2001; EID Boundary, June 2004; USBR & CDWR, PCWA Boundary, Oct. 2003; Consolidated Place of Use Boundary, May 2004.

PBS&J

Project Number - D50202.00

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For the purposes of the hydrologic analysis in this EIS/EIR, the Proposed Action is represented in two ways. First, to account for EID's proposed diversion, a depletion of 7,500 AFA (assumed to occur at the existing EID intake downstream of the South Fork American River inflow) to Folsom Reservoir was modeled. Second, to account for GDPUD's proposed exchange, a depletion of 7,500 AFA from the inflow to Folsom Reservoir from the North Fork American River was also modeled. The reduction in inflow to Folsom Reservoir represents the diversion of Middle Fork Project water by GDPUD from the exchange with PCWA. Hydrologically, this latter modeling assumption represents the only physical means by which new water, made available through P.L.101-514 can be used by GDPUD within El Dorado County (see Subchapter 5.1, Introduction to Analysis). It should be noted that, in numerous environmental documents completed by Reclamation and others involving the American River basin in recent years, this exact model configuration (i.e. how to model the new contract), has been used (see Subchapter 5.1, Introduction to Analysis, for a detailed description of the modeling framework adopted for this EIS/EIR).

GDPUD/PCWA Exchange

As noted previously, for GDPUD to receive a new allocation of water under this new contract, an exchange would first have to be negotiated between GDPUD and PCWA. Without a direct diversion at Folsom Reservoir, GDPUD must seek an alternative water source, facilitated through an exchange, since CVP water, based on current CVP water rights permits, may not be diverted from the American River upstream of Folsom Reservoir, the furthest-upstream federal impoundment on the American River. PCWA represents the only water purveyor on the upper American River that could realistically provide GDPUD with an alternative water source that could be exchanged with the new P.L.101-514 contract water. P.L.101-514, in fact, expressly provided for this situation by noting that the, "…*CVP water could be diverted directly from Folsom Lake or for exchange upstream on the American River or its tributaries*."

Since GDPUD has no direct diversion capability of any kind from the North, South, or Middle forks of the American River, it must either rely on other existing or future facilities or establish its own. As noted previously, the new American River Pump Station would provide the necessary diversion facility for GDPUD. No other current efforts are being developed by GDPUD to establish new separate diversion facilities on these waterbodies (i.e., Folsom Reservoir, North, South or Middle forks of the American River).

Under a potential water exchange, GDPUD could divert a prescribed quantity of PCWA's Middle Fork Project (MFP) water rights water at the American River Pump Station, in *exchange* for relinquishing a prescribed quantity of its new CVP allotment to PCWA for diversion at Folsom Dam PCWA is already a CVP contractor; however, as previously noted, must await completion of the Sacramento River Water Reliability Study EIS/EIR and have Reclamation redefine its CVP service area before a diversion of CVP water from Folsom Dam under this exchange could occur.

The exact quantities of the exchange and the conditions of their diversions would be the subject of an agreement between GDPUD, PCWA, and Reclamation. One important consideration in any such exchange would be the differential in shortage provisions between CVP water and non-CVP water rights (see Figure 3.5-3).

For such an exchange to be put to beneficial use by GDPUD, PCWA would ultimately have to petition the SWRCB for a Change in Place of Use (POU) of its MFP water rights. This SWRCB action would be necessary because currently, MFP water rights are not approved for use in El Dorado County. For GDPUD to use MFP water rights water, therefore, its service area would have to be included in an expanded POU for MFP water rights. Consequently, because of the necessity for this exchange, both PCWA and the SWRCB are deemed to be Responsible Agencies under CEQA for this current action based on the reasons described above.

It is acknowledged, however, that execution of the master contract between Reclamation and EDCWA does not, in itself, require any action or approval by either PCWA or the SWRCB. In fact, deliveries of the new contract water could be wholly made, consistent with both P.L.101-514 and the provisions of the master contract, without any involvement by PCWA or the SWRCB, if diversions by GDPUD could be made directly from Folsom Reservoir. PCWA and SWRCB involvement is solely contingent upon GDPUD initiating and proceeding with a request for an exchange at some point in the future, at its sole discretion.

This EIS/EIR provides the project-level hydrologic analysis which not only supports the execution of the new CVP water service contract (i.e., the Proposed Action), but also a possible future exchange between PCWA and GDPUD made at the American River Pump Station on the North Fork American River. The SWRCB, PCWA and GDPUD could, in the future, rely upon this EIS/EIR as the proper environmental tiering document under CEQA. It would contain the necessary hydrologic analyses to support the exchange.

If such an exchange as described, were to come to fruition in the future, separate project-level environmental documentation addressing issues other than hydrology, with either PCWA or GDPUD serving as the Lead Agency under CEQA, would need to be prepared. This would include any new pumping facilities, conveyance infrastructure, storage reservoirs, related appurtenances and/or ultimate new treatment facilities.

Proposed Subcontractor Service Areas

CVP water is permitted for use only within a specified area as set in Reclamation's permits with the SWRCB. This area is known as the CVP Consolidated Place of Use (or CVP CPOU) and is illustrated in Figure 3.5-2. The Subcontractor service areas where the proposed P.L.101-514 water will be put to beneficial use is identified by the black-hatched areas on Figure 3.5-2. The Subcontractor service areas where EID intends to deliver water obtained through this contract is consistent with the CVP CPOU. Consistent with Reclamation contracting law, no CVP water can or will be delivered to areas outside of the CVP CPOU.

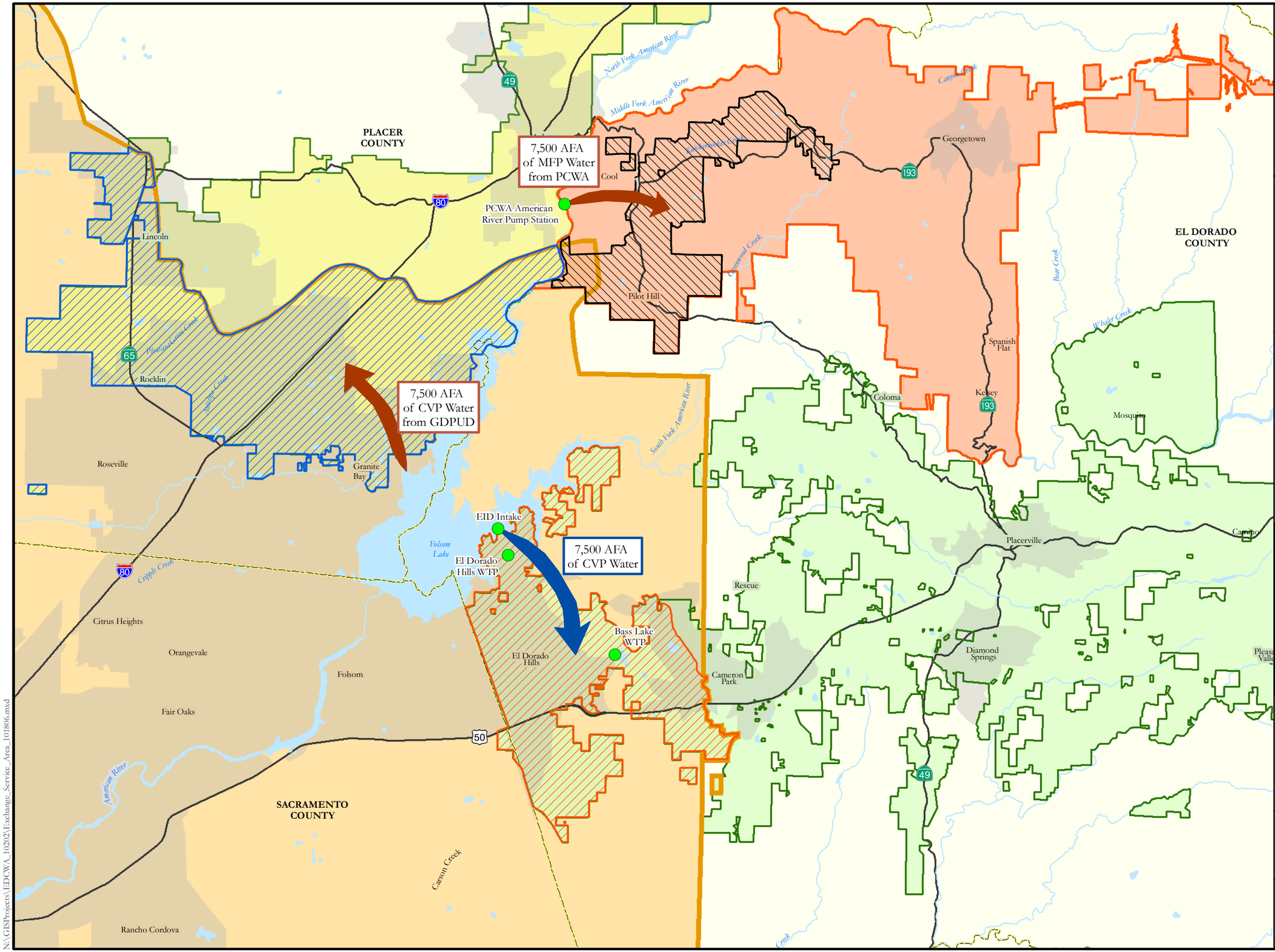
For GDPUD, since it would be acquiring new water through an exchange of CVP and non-CVP water, the CVP CPOU is not applicable for its use of new water. As long as the exchanged CVP water (to PCWA) is used within the CVP CPOU,[26] which it presumably would be, there would be no violation of federal Reclamation law regarding the exchange. The Subcontractor service areas are

26 As previously stated, PCWA has included a request for a redefined CVP service area within the Sacramento River Water Reliability Study EIS/EIR.

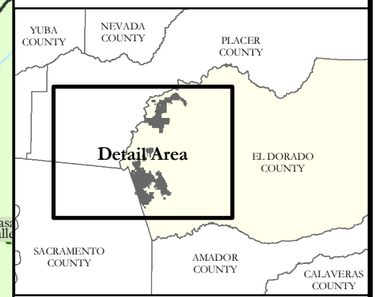
FIGURE 3.5-3
DIVERSIONS UNDER THE PROPOSED ACTION FEDERAL WATER USE AND POTENTIAL EXCHANGE

P.L. 101-514 USBR/EDCWA
CVP Water Supply Contract EIS/EIR

El Dorado County, CA



- Subcontractor's Service Area
- Exchange-party's Existing CVP Contractor Service Area **(Contract No. 14-06-200-5082A LTR1)**
- Subcontractor's Service Area for New Exchange Water
- Georgetown Divide Public Utility District
- El Dorado Irrigation District
- Placer County Water Agency Service Area Zone 1
- Consolidated Place of Use USBR Central Valley Project
- Potential Exchange Water Use
- Subcontractor Direct Water Use



0 2.75
Miles

1 inch = 2.75 miles

Source: El Dorado County, GDPUD Boundary, August 2001; EID Boundary, June 2004; USBR & CDWR, PCWA Boundary, Oct. 2003; Consolidated Place of Use Boundary, May 2004.

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also known collectively, as the landside, or terrestrial federal *action area* (e.g., this is distinct from the aquatic federal *action area* which covers the CVP/SWP reservoirs and waterways, including the Bay-Delta).

Since the new contract water would be restricted to M&I use, the black-hatched areas shown in Figure 3.5.2 are limited to areas zoned for residential, commercial, public and industrial use according to the 2004 El Dorado County General Plan. All areas in the proposed Subcontractor service areas are wholly within the current service boundaries of either EID or GDPUD. In the future, if either purveyor wishes to expand its Subcontractor service area beyond that currently delineated, two possibilities could arise. If the areas to be added are outside of the current CVP CPOU, Reclamation's inclusion process would have to be requested. Additionally, if the areas to be added are outside of the purveyor's own service area boundaries, an annexation process with the El Dorado Local Agency Formation Commission (LAFCO) would have to be initiated. All required environmental documentation to support either process would have to be prepared at that time under the direction of Reclamation or El Dorado LAFCO.

3.5.4. EID Proposed Subcontractor Service Area

The western portion of the EID service area is shown in Figure 3.5-2, where EID provides surface water to approximately 140,000 acres. Its service area covers approximately 30 percent of western El Dorado County. EID's larger sphere of influence, about 347,000 acres, spans from El Dorado Hills in the west to Pollock Pines in the east, and from the Cosumnes River on the south to the South Fork American River on the north. Elevations in the primary EID service area range from 500 feet msl in the west to over 4,000 feet msl in the east. EID provides treated water to the communities of Pollock Pines, Camino, El Dorado, Diamond Springs, Shingle Springs, Cameron Park, El Dorado Hills, Outingdale, and Strawberry. It also provides both wholesale and retail water service within the City of Placerville.

3.5.5. GDPUD Proposed Subcontractor Service Area

GDPUD currently provides surface water to about 30,000 acres within its service area, of which 2,500 acres are in irrigated orchard, vineyard and pasture crops. Its service area encompasses approximately 75,000 acres. GDPUD's sphere of influence, about 173,000 acres, extends from the Middle and North Fork American River upstream of Folsom Reservoir and the Rubicon River to the north, to the South Fork American River, to the south. Its service area continues east as far as Stumpy Meadows Reservoir on Pilot Creek. Elevations in the GDPUD service area range from between 800 feet msl in the southwest, to about 3,500 feet msl in the northeast.

GDPUD's proposed Subcontractor service area, like EID's, is also restricted to areas within its current boundaries zoned for residential, commercial, public and industrial use. At this time, GDPUD does not intend to serve water obtained through this Proposed Action east of the Greenwood area, since the elevation differential between the American River Pump Station and the Greenwood area would be at the maximum economically feasible for pumping. The relatively small number of users beyond this area would likely make the cost of pumping water further uphill to Georgetown infeasible.

Contract and Diversion Pattern

Regardless of how the total contract amount is split between EID and GDPUD, actual annual allocations would be set based on the yearly determination of water availability made by Reclamation. Early in the water year, CVP contractors request a certain amount of water, up to their full contract amount, based on anticipated needs for that year. Reclamation then allocates water for CVP contractors based on historical uses, available Project storage, and the current year's water conditions. Allocations are expressed as a percentage of historical use during the prior three years of unrestricted allocations. Allocation for the proposed new CVP water service contract could typically range from 75 to 100 percent of historic water use under the Draft CVP M&I Shortage Policy, dated September 11, 2001, depending on the availability of water.

Accordingly, the proposed new CVP water service contract would be subject to the same shortage provisions as all other CVP M&I contractors consistent with the Draft M&I CVP Shortage Policy. Adherence to Reclamation shortage provisions is a Term and Condition of the contract. The draft Master Contract (Contract No. 07-WC-20-3534), under its draft form, is provided in Appendix D and includes the standard Articles pertaining to CVP water service contracts. These include, but are not necessarily limited to:

- Terms of the Contract
- Point of Diversion
- Point of Delivery/Place of Use and Contractor Service Area
- Timing of Delivery
- Measurement of Water
- Rates and Methods of Payment
- Sales, Transfers or Exchanges
- Temporary Reductions and Shortage Provisions
- Constraints on Availability
- Water Conservation Requirements (including the provision for tiered pricing as specified under P.L. 102-575)

Typically, new water deliveries are expected to occur on a characteristic demand pattern (consistent with either M&I or Ag use) on a monthly use pattern. Table 3.5-2 below, illustrates a potential monthly demand/diversion pattern for both EID and GDPUD, and assumes an equal allocation of 7,500 AFA each to the two districts.

Operational constraints during much of the year, however, preclude EID from diverting CVP water on a typical demand pattern. In any given year, EID takes its various water right entitlements first based on its past practices and economics. Existing system capacity during the early portion of the year is not conducive to taking this new CVP water at these times since much of the available capacity is used for its water right entitlements. Consequently, EID would most likely take the new

TABLE 3.5-2

TYPICAL M&I EXPECTED MONTHLY DIVERSIONS OF THE P.L.101-514 CONTRACT WATER BY EID AND GDPUD (AF PER MONTH)

Diversion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
% of annual	4	4	4	5	8	12	16	16	13	9	5	4	100
EID	300	300	300	375	600	900	1200	1200	975	675	375	300	7,500
GDPUD	300	300	300	375	600	900	1200	1200	975	675	375	300	7,500
Total	**600**	**600**	**600**	**750**	**1,200**	**1,800**	**2,400**	**2,400**	**1,950**	**1,350**	**750**	**600**	**15,000**

CVP water allocation during a short period spanning the late summer months, at the end of its peak demand season. One scenario could have EID taking the new P.L.101-514 water - wholly during the months of July, August and September, as individual diversions of 2,500 AF per month.

Conversely, for GDPUD, without the same operational constraints, it would likely divert its allocation on a more typical yearly M&I pattern. Therefore, the Proposed Action diversion schedule assumes an EID diversion from Folsom Reservoir condensed to three late-summer months of 2,500 AF each, while the GDPUD diversion would follow a more typical yearly M&I demand pattern. Table 3.5-3 below, shows how these diversion patterns would differ, with EID's pattern skewed to the three mid-summer months. This represents Alternative 2 – Proposed Action – Scenario A or, simply, Proposed Action – Scenario A. As discussed later, adopting this diversion pattern (at least in the case of EID) also provides a *worst-case* scenario for environmental review purposes and presents a positive bias for disclosing potential environmental effects.

TABLE 3.5-3

EXPECTED MONTHLY DIVERSIONS OF THE P.L.101-514 CONTRACT WATER BY EID AND GDPUD (AF PER MONTH) PROPOSED ACTION – SCENARIO A

Diversion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EID	0	0	0	0	0	0	2500	2500	2500	0	0	0	7,500
GDPUD	300	300	300	375	600	900	1200	1200	975	675	375	300	7,500
Total	**300**	**300**	**300**	**375**	**600**	**900**	**3700**	**3700**	**3450**	**675**	**375**	**300**	**15,000**

Variations of this Proposed Action scenario exist. Each variation makes certain assumptions about the ability of either GDPUD or EID to take this water and was developed to maximize the flexibility of the environmental review to support the pending contract. Table 3.5-4, for example, illustrates a potential diversion schedule that assumes a situation where GDPUD cannot physically take any of the new contract water for whatever reason, thereby re-allocating the complete contract amount to EID. This represents the Alternative 2 – Proposed Action – Scenario B or, simply, Proposed Action – Scenario B.

TABLE 3.5-4

EXPECTED MONTHLY DIVERSIONS OF THE P.L.101-514 CONTRACT WATER BY EID AND GDPUD (AF PER MONTH) PROPOSED ACTION – SCENARIO B

Diversion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EID	0	0	0	1000	1000	2500	2500	2500	2500	2000	0	0	15,000
GDPUD	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**1000**	**1000**	**2500**	**2500**	**2500**	**2500**	**2000**	**0**	**0**	**15,000**

Conversely, Table 3.5-5 makes the assumption that GDPUD is capable of taking the entire contract amount, that is, up to the limit of the El Dorado County General Plan projections for its service area. At this level of diversion, an analysis of GDPUD's demands indicate that it could take 11,000 AFA of the new contract water, leaving 4,000 AFA for EID (pers. comm. M. Preszler, 2006). This diversion option represents Alternative 2 – Proposed Action – Scenario C or, simply, Proposed Action – Scenario C.

TABLE 3.5-5

EXPECTED MONTHLY DIVERSIONS OF THE P.L.101-514 CONTRACT WATER BY EID AND GDPUD (AF PER MONTH) PROPOSED ACTION – SCENARIO C

Diversion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EID	0	0	0	0	0	0	1300	1400	1300	0	0	0	4,000
GDPUD	500	500	500	600	900	1300	1500	1500	1500	1100	600	500	11,000
Total	**500**	**500**	**500**	**600**	**900**	**1300**	**2800**	**2900**	**2800**	**1100**	**600**	**500**	**15,000**

Each of the Proposed Action Scenarios was carried forward for hydrologic modeling as part of the environmental evaluation; as noted, this additional level of analysis provided maximum flexibility to Reclamation, EDCWA, EID, and GDPUD to implement the proposed new contract. See Subchapter 5.2 (Overview of Impact Analysis) for a complete discussion of the diversion schedules and associated details used in the hydrologic impact analysis modeling.

3.6. PRELIMINARY ALTERNATIVES OTHER THAN THE PROPOSED ACTION

The Proposed Action, as defined, is the execution and ultimate implementation of the new CVP M&I water service contract authorized under P.L.101-514 between Reclamation and EDCWA. This action, in essence, is a new water supply allocation up to 15,000 AFA from the CVP. Potential alternatives, therefore, could include other water supplies that could be used in lieu of the P.L.101-514 contract.

The identification of potential alternatives to the Proposed Action can be viewed in three categories. First, the identification of possible alternatives to the new CVP water allocation can be made. This would include alternative *water supplies* to the P.L.101-514 contract. Second, the identification of possible options can be made which could reduce the existing and future demands that resulted in the authorization of the P.L.101-514 contract in the first place. Third, possible alternative means of *implementing* the P.L.101-514 contract can be explored (separate from the differing allocations

between EID and GDPUD as represented by the Proposed Action – Scenarios). At this step of the EIS/EIR, the Alternatives are numbered (e.g., Alternative 1A – No Action Alternative) only if they are intended to be carried for further full environmental analysis in the document. The preliminary alternatives identified and discussed below are, at this point, given Alternative numbers.

Alternative water supplies *to* the P.L.101-514 contract can include the development of new water rights, securing water transfers or assignments from existing entitlement holders, obtaining a new State Water Project (SWP) contract, the development of new storage, the use of groundwater, or the use of reclaimed water. Potential alternatives that could reduce existing and future water demands could include water conservation in varying degrees of intensity and demand control through growth management. Possible alternatives to implementing the P.L.101-514 contract include variations in the allocations between the recipient parties (i.e., altering the delivery proportions between EID and GDPUD) as depicted previously in the three Proposed Action - Scenarios, looking at possible different diversion locations, and reducing the overall contract entitlement from the 15,000 AFA to something less.

In summary, the preliminary listing and description of potential alternatives are identified under the following categories:

3.6.1. Alternative Water Supplies

Potential alternative water supplies to the Proposed Action could include any of the following:

New Water Rights

A new water right for EDCWA would require a filing with the SWRCB for either a partial assignment of existing State filed applications or a new separate area-of-origin application relying on the protections provided in D-870 and D-893. In March 1957, the SWRCB, in reviewing the applications of the Sacramento Municipal Utility District (SMUD) for its Upper American River Project (UARP) and, specifically, the requests for direct diversion and diversions to storage from the South Fork Rubicon River, Rubicon River, Rock Bound Creek and Gerle Creek found that unappropriated water was available for power purposes. Moreover, the SWRCB found that water may be appropriated in the manner proposed in the applications without injury to any other lawful user. This was codified in Decision 870 (D-870). In March 1958, the SWRCB issued Decision 893 (D-893), granting permits to Reclamation for storage of water at Folsom Reservoir.[27] Reclamation's permits were subject to minimum flows for fisheries resources, as provided for in a memorandum between Reclamation and the Department of Fish & Game (e.g., 250 cfs from January 1 through September 14, and 500 cfs from September 15 through December 31). Reclamation's permits were also subject to reduction as a result of future water appropriations for reasonable beneficial use within the watershed tributary to Folsom Reservoir.

27 The Decision also granted permits to the City of Sacramento for the diversion of water from the American River. The City holds water rights on the Sacramento River as well. The Decision also granted to Sacramento, San Joaquin and Placer counties, a 10-year period in which to negotiate with the United States for a contact for American River water before the supply was permanently committed elsewhere.

A water source for an appropriation would need to be identified along with any proposed points of diversion, proposed quantities, delivery timing, and beneficial uses. A new water right acquisition for El Dorado County, however, is not a new concept. In 1980, for example, El Dorado filed applications for the proposed South Fork American River (SOFAR) project and petitioned for the assignment of various State-filed applications, including Application No. 5645.[28] Later, in March 1991, El Dorado filed four applications to appropriate water from Silver Lake, Caples Lake, Lake Aloha and the South Fork American River, which it subsequently, the following year, surrendered back to the SWRCB.

Most recently, EDCWA and SMUD have completed negotiation of a Cooperative Agreement that essentially provides EDCWA the use of SMUD's facilities in the UARP as part of the agency's longer term efforts at securing a new supplemental water supply. Currently, in fact, the El Dorado Water & Power Authority is pursuing a supplemental water supply through pending water right filings before the SWRCB; with a project known as the Supplemental Water Rights Project. This is a separate and distinct project from the P.L. 101-514 contract and supported by its own water needs justification. In other words, EDCWA and its member districts, in planning to meet demand established by the 2004 General Plan, will need not only the 15,000 AFA contemplated by this Proposed Action, but also additional supplies that might be obtained through a variety of means, including new water rights. Thus, the process of obtaining such rights is not an alternative to a contract between Reclamation and EDCWA, but rather, is a separate project with its own demand increment that is being be pursued separately albeit coincidentally.

3.6.2. Water Transfers

For EDCWA to initiate a water transfer, a willing purveyor with a reliable long-term water supply would have to be identified. Moreover, for any such transfer to be economically feasible, proximity to the ultimate use areas within the EID and GDPUD service areas would be important as would the availability of infrastructure. For EID, any purveyor holding a water entitlement in Folsom Reservoir (e.g., City of Folsom, SJWD, and Placer County Water Agency) could provide a feasible water transfer alternative if available supplies existed and those supplies were long-term.

For GDPUD, owing to its more isolated nature on the Divide, a water transfer would be again, similar to what is contemplated under the Proposed Action, likely have to rely on the closest point of diversion on a notable watercourse (i.e., American River Pump Station on the North Fork American River) as well as PCWA's Middle Fork Project (MFP) water rights. More complicated transfers are possible offering a wider range of potential willing water suppliers over a broader geographic range, but such alternatives would involve multiple parties, the likely need for exchange provisions, and increasingly complex facility and pump-back arrangements. For potential transfer partners on the Sacramento River or its tributaries, a complex arrangement would be needed in order to secure an exchange with a local purveyor having entitlements in Folsom Reservoir so that EID or GDPUD could benefit from any such agreement.

28 Application 5645, filed on July 30, 1927, was one of 37 applications filed in 1927 by the [State] Director of Finance under authorization provided by the *Feigenbaum Act* that sought a permit to appropriate for irrigation and domestic use, various amounts of water from various points in El Dorado County on the tributaries to the American and Cosumnes rivers, including the South Fork American River.

As part of the El Dorado Water & Power Authority's proposed Supplemental Water Rights Project, there is an opportunity for a long-term water transfer with the City of Sacramento. The City of Sacramento, with large unused water entitlements in the upper American River basin, may be willing to transfer a portion of its unused entitlements to EDCWA under an arrangement negotiated between the two parties. Such a transfer, however, would also need Reclamation support since the City's entitlements are tied to Reclamation's permits, as noted previously. Furthermore, as noted earlier, water demands established in the 2004 El Dorado County General Plan verify a need not only for the 15,000 AFA contemplated by the Proposed Action, but also for the Supplemental Water Rights Project as a separate and complimentary project, rather than as an alternative to the Proposed Action.

Water acquisitions under the alternative may, to some degree, also include temporary supplies such as surplus water (e.g., Section 215 water) from Reclamation "spilled" from Folsom Reservoir during the flood season under encroached conditions in the reservoir. Spill water, would not, however, be available outside of these periods and could not be used for drought planning or as a component of any firm yield projection. With the potential for continued and exacerbated water shortage conditions into the future, an increasing number of water purveyors are prudently looking at all options, short-term and long-term, as part of their overall secured water supply portfolios.

New SWP Contract

A new SWP water contract for EDCWA would likely require a complex multi-party agreement in order to provide EDCWA with a comparable water supply, relative to the Proposed Action. Since SWP supplies originate in the Feather River (at Oroville Reservoir), flow to the Sacramento River and do not include any flows from the American River, a State Water Contract held by EDCWA for such Feather/Sacramento River water would have to be exchanged with an American River purveyor holding entitlements in Folsom Reservoir and/or points upstream, but with access, either directly or through a wheeling arrangement with another party, who can access the Sacramento River (through releases from Oroville Reservoir). With the completion of the Sacramento River Water Reliability Project (i.e., new Sacramento River diversion upstream of the confluence with the American River, or "SRWRS" Project), this alternative may hold increased feasibility.

It should be noted, however, that the SRWRS Project has not yet been approved and is possibly many years away from construction. It currently does not envision the sort of very complex multi-party water exchange described herein with the El Dorado County interests. Nor is the California Department of Water Resources, which manages the SWP, a participant in the SRWRS Project, which currently involves CVP water and water obtained from State water rights, but no SWP contract water.

New Storage

For EDCWA to develop new storage, a new permanent reservoir site of sufficient capacity and proximity to both EID and GDPUD would be required. Moreover, once the reservoir(s) was approved, designed, and constructed, there would still be the need for EDCWA to perfect a water right to store, divert, and use any captured water within the new facility. The concept of new reservoir storage in the upper American River basin has been around for many years. Canyon

Creek Reservoir, for example, was identified as far back as the 1950's as a potential new storage facility for GDPUD. Recent studies have identified certain potential new on-stream reservoir sites such as Lower Ice House Reservoir[29] on the South Fork Silver Creek as well as a number of smaller reservoirs (e.g. Alder Creek Reservoir).

Within El Dorado County as well, pumped-storage reservoirs are gaining favor and interest (e.g., Iowa Hill Reservoir). Pumped-storage reservoirs are, however, typically smaller reservoirs and alone, would not meet the broader objectives for supplemental water supply development in the western slopes of the county. Moreover, current pumped-storage reservoirs are designed and operated for power production only and are not used for water supply enhancement.

The available hydrology of the American River basin in which the average annual unimpaired inflow is well over twice the maximum storage of Folsom Reservoir demonstrates that new storage alternatives are, however, feasible in terms of mass balance hydrology.

Groundwater and Groundwater Banking

Groundwater development within El Dorado County is highly tenuous and site-specific at best. Unlike the lower slopes of the Foothills and the Central Valley where deep alluvial unconsolidated materials provide excellent water bearing formations, the more igneous/metamorphic origin of the Foothills does not lend itself to high yield aquifers. Groundwater well fields for M&I use are not practical in the Sierra Foothills.

Groundwater banking, however, to an off-site location outside of the Foothills is an option that has generated, and continues to generate interest. In fact, Reclamation is now considering allowing CVP contractors to bank their unused contract water in areas outside of the authorized place of use for CVP water (i.e., outside of the CVP Consolidated Place of Use), and is working on a process to facilitate these actions. Currently, CVP contractors may bank federal water within each of their service areas without Reclamation approval. Were Reclamation to develop this process, it is true that certain contractors would seldom bank outside of the CVP Consolidated Place of Use (e.g., within the Sierra Nevada Foothills), but it is very conceivable that other contractors on the fringes of the Sierra Foothills may look to new Central Valley banking opportunities. Public workshops have been held by Reclamation introducing this new concept. While the details of any such federal program still need to be refined (e.g., accounting provisions, M&I versus Ag, financing, environmental compliance, etc.), the prospect of CVP-authorized groundwater banking represents an encouraging development and recognition by Reclamation that wider regional water management efforts need to be considered.

Under a groundwater banking program or project, EID or GDPUD could bank surplus water made available during the spring runoff period in a groundwater aquifer lower in the Sacramento Valley. An agreement with a downstream purveyor overlying a viable aquifer and possessing the appropriate infrastructure (e.g., percolation ponds or direct injection wells) would need to be negotiated and executed between the parties. Details would likely involve infrastructure cost

29 See Joint Benefit Investigation Plan, Technical Analysis of Preliminary Alternatives, Prepared for Joint Benefit Investigation Team, El Dorado County Water Agency, El Dorado Irrigation District, Sacramento Municipal Utility District, and Georgetown Divide Public Utility District, Mead & Hunt, July 2004.

sharing, timing of inputs/withdrawals, financial crediting, and water accounting. In dry years, the bank could be accessed or withdrawn by the downstream purveyor and EID or GDPUD could rely on the offsetting water entitlement held by the groundwater banking entity in Folsom Reservoir. This alternative would be more directed towards providing dry-year protection (drought contingency). Properly designed, it could provide multi-year drought protection.

Reclaimed Wastewater

EID is currently developing reclaimed wastewater in increasing quantities. In fact, surface storage sites for reclaimed wastewater are currently being planned and reviewed at several locations in western El Dorado County. EID has recognized the benefits of this drought resistant water source and has implemented its recycled water education program to help promote greater community awareness and assistance in implementation. While reclaimed wastewater can provide a genuine water demand offset for non-potable uses, reclaimed sources are not yet approved for potable uses. Accordingly, such use limitations significantly hamper reclaimed wastewater from ever being relied upon as a primary water supply source. To the extent, however, that reclaimed water can provide continually increasing supplies for landscape irrigation which can represent a significant demand on urban/rural outdoor use, reclaimed wastewater will continue to be an important component of long-term water resource management planning.

3.6.3. Demand Reduction Alternatives

Potential alternatives that would address and consider demand reduction include the following:

Increased Water Conservation

Currently, both EID and GDPUD implement a variety of water conservation practices. These are consistent with the best management practices (BMPs) identified in the California Urban Water Conservation Council's (CUWCC) *Memorandum of Understanding* and include, but are not limited to tiered pricing, water meters, leak audits, and public education. EID's Water Efficiency Division offers numerous programs directed towards conserving water uses for agricultural, commercial, residential, and landscaping purposes.

Water conservation can also be applied to raw water delivery. Both EID and GDPUD still rely on open ditches/canals as part of their delivery infrastructure to water treatment facilities. Water losses from these conveyances, through seepage, direct evaporation, evapotranspiration, and intended/unintended side and end spills still occur in varying degrees. GDPUD, for example, still experiences canal losses approximating 30 percent annually. EID, however, meets its loss targets of less than 15 percent for a rural water agency. While it is unlikely that EID or GDPUD could implement increased water conservation measures that would generate significant increased savings on the user end, raw water conveyance losses could be notably improved through full canal/ditch encasement. Such improvements, however, could increase agricultural water delivery efficiencies, especially in the GDPUD service area.

Growth Control

Growth control would involve slowing the rate of growth in those parts of the EID and GDPUD service areas where this proposed new water contract would be served. As a future water demand

reduction measure, slowed growth or even placing a moratorium on new growth has the potential to conserve existing water supplies. Neither EID nor GDPUD, however, as special district water providers, possess land use authority that would enable them to directly control growth within the County. Growth pressures in El Dorado County are generated irrespective of the water purveyors. In fact, State law gives EID and GDPUD the legal obligation to obtain the supplies necessary to serve planned growth.[30] Institutionally, the entity responsible for planning for growth within El Dorado County is the county itself, with its key document being the 2004 General Plan. That document, as noted earlier, establishes the need not only for the full 15,000 AFA contemplated by P.L.101-514, but also for additional supplies, such as might be obtained through the El Dorado Water & Power Authority's ongoing Supplemental Water Rights Project.

While the lack of new or expanded water supplies can have the practical consequences of slowing the rate of population growth, State law does not permit EDCWA or its member agencies to simply refuse to seek the full supplies necessary to serve growth. Rather, recently enacted statutes such as Senate Bill 610 (Wat. Code § 10910 et seq.) and Senate Bill 221 (Gov. Code § 66473.7) relate to the timing and procedures for obtaining water needed for planned growth, and do not permit water suppliers to either simply give up on finding needed water or to refuse to obtain water in order to thwart full implementation of growth decisions made by elected county and/or city officials.

3.6.4. Variations in P.L.101-514 Contract Implementation

Depending on the needs of EID and GDPUD which, to a large extent, would be dictated by the anticipated and actual growth within their service areas, water demands could accrue disproportionately between these water purveyors. EDCWA, as the holder of the master contract, would be responsible for ensuring that the county, within its western slopes, would derive benefit from this new water allocation. Any arrangements for water deliveries stemming from this Proposed Action will be carefully reviewed by EDCWA and Reclamation and be based on genuine water needs.

As previously described, the Proposed Action, therefore, in deference to the fact that EID and GDPUD have differing needs and capabilities in terms of physically taking the new CVP contract water, is made up of various alternative diversion scenarios (Alternative 2 – Proposed Action):

Alternative 2 - Proposed Action – Scenario A (EID – 7,500 AFA and GDPUD – 7,500 AFA)

Alternative 2 - Proposed Action – Scenario B (EID – 15,000 AFA and GDPUD – 0 AFA)

Alternative 2 - Proposed Action – Scenario C (EID – 4,000 AFA and GDPUD – 11,000 AFA)

30 See *Swanson v. Marin Municipal Water District* (1976) 56 Cal. App. 3d 512, 524 (water district has a "continuing obligation to exert every reasonable effort to augment its available water supply in order to meet increasing demands"); *Glenbrook Development Co. v. City of Brea* (1967) 253 Cal. App. 2d 267, 277 ("county water district has a mandatory duty of furnishing water to inhabitants within the district's boundaries"); *Lukrawka v. Spring Valley Water Co.* (1915) 169 Cal. 318, 332 (water company accepting franchise to furnish water assumes duty to provide service system that keeps pace with municipality's growth); *Building Industry Association of Northern California v. Marin Municipal Water Dist*. (1991) 235 Cal. App. 3d 1641, 1648-1649 (discussing municipal water district's duty to augment its water supply and discretion in determining how the existing water system can and should be augmented).

These diversion scenarios and their analysis provide a broader means of assessing the potential environmental effects of the Proposed Action. Accordingly, it covers a wider range of implementation possibilities than the use of just a single diversion scenario.

Reduced Diversions

From an alternatives perspective, reduced diversions warrant careful consideration since they represent options that would impart less impact on the aquatic environment, relative to the full diversion allocations provided for under P.L.101-514. A fundamental tenet of both NEPA and CEQA is that alternatives to the Proposed Action should reduce or minimize environmental effects, relative to the Proposed Action. A reduced diversion alternative would clearly meet those requirements.

Under these alternatives, water allocations would be made to some total lesser amount than that authorized. For the purposes of analysis in the Draft EIR, three separate possible reduced diversion alternatives were considered. These included gradations where, decreasing quantities of 2,500 AFA were made from the full 15,000 AFA down to the 50 percent allocation (from full entitlement). The three reduced diversion alternatives would, therefore, propose to divert: 12,500 AFA; 10,000 AFA; or 7,500 AFA, respectively.

It is assumed that such a reduction would be shared equally between EID and GDPUD. As noted previously, an alternative that could, intuitively, result in fewer or diminished environmental impacts on the CVP/SWP, its waterbodies, and related aquatic resources, relative to the Proposed Action, would be consistent with the requirements of both NEPA (40 CFR 1502.14) and CEQA. All of the other components necessary to deliver water as described under the Proposed Action would apply to these reduced diversion alternatives.

3.7. ALTERNATIVES SCREENING PROCESS

Each of the potential alternatives identified and described earlier was evaluated against the screening criteria listed in Table 3.4-1, covering a range of standards (e.g., industry norms). Alternatives that met the various screening criteria also had to be able to attain *most* of the Proposed Action's basic objectives and avoid or substantially lessen one or more of the Proposed Action's significant environmental impacts.

As noted in Chapter 2.0 (Purpose and Need), the following primary project objective is identified:

- Execution of a new CVP M&I water service contract between Reclamation and EDCWA in accordance with the Congressional mandate of P.L.101-514;

Additional project objectives for EDCWA also include the following:

- Consistent with P.L 101-514, diverting federal water for use in El Dorado County, following completion of the administrative procedures that Reclamation and the State Water Resources Control Board (SWRCB) must complete in order to implement that Congressional mandate;

- Consistent with P.L. 101-514, entering into a new CVP M&I water service contract to supply what Congress considers to be the first phase of a long-term effort by El Dorado County to acquire supplemental federal water supplies to meet its future needs;
- Consistent with the enabling legislation and the legal “duty to serve” customers to which EID and GDPUD are subject, obtaining water supplies needed to support planned growth as embodied in the 2004 El Dorado County General Plan;
- Consistent with the existing policies and ongoing efforts of EID, GDPUD, and El Dorado County to conserve water during single- or multiple-dry year scenarios, to provide additional reliable water supplies to reduce the severity of dry-year cutbacks imposed on County residents, businesses, and other customers; and
- Delivering the new CVP M&I water supply through existing, planned and agreed infrastructure.

By reviewing the project objectives against the alternatives, an initial assessment of the validity and reasonableness of the alternatives can be made. If an alternative does not satisfy the purpose and need for the Proposed Action, as a rule, it should not be included in the analysis as an apparent reasonable alternative. There are times in fact when an alternative that is not reasonable is nevertheless included based on the request of another agency or due to public expectation. As discussed previously, alternatives should offer some offset to the expected environmental impacts associated with the Proposed Action; providing the decision makers with a reasonable range of alternatives with which to compare impacts and associated benefits.

The degree of analysis devoted to each alternative in an EIS is to be substantially similar to that devoted to the Proposed Action. NEPA (40 CFR 1502.14) is titled "Alternatives including the Proposed Action" to reflect such comparable treatment. NEPA (40 CFR 1502.14(b)) specifically requires "substantial treatment" in the EIS of each alternative including the Proposed Action. This regulation does not dictate an amount of information to be provided, but rather, prescribes a level of treatment, which may in turn require varying amounts of information, to enable a reviewer to evaluate and compare alternatives. Notably, CEQA does not require this same level of evaluation between the proposed project and alternatives. In joint NEPA/CEQA documents such as this EIS/EIR, however, alternatives should satisfy the more stringent requirement under NEPA (i.e., providing an equal level of assessment between the alternatives and the Proposed Action).

The project objectives are, for the most part, clearly directed towards the execution, implementation, and long-term reliance on the proposed new CVP M&I water supplies provided under the authority of P.L. 101-514. Assessing the alternatives strictly in light of this objective would be somewhat deceiving, however, since none of the alternatives are specifically called out in P.L. 101-514. More practically, the purpose and need of the Proposed Action, in part, is to secure a new water supply; the Congressional mandate of P.L. 101-514 simply provides EDCWA with the authority to do so in a specific manner, and with a specific means. Accordingly, the range of feasible alternatives should be viewed in this context.

Table 3.7-6 identifies the Alternative Water Supply options and the screening results for those potential alternatives using the criteria previously identified in Table 3.4-1. All of the alternatives, in varying degrees, provide for a new water supply or, an offset to current demands such that a reduction in overall potable water would be accomplished. They warranted closer inspection through this screening process.

TABLE 3.7-6

ALTERNATIVE WATER SUPPLIES SCREENING

Alternative	T&E Feasibility	WQ	Environ. Fatal Flaw	Economics	Long-Term Reliability	Public H&S	Timing	Institut.
New Water Right	✓	✓	✓		✓	✓		
Transfers	✓	✓	✓	✓		✓	✓	✓
SWP Contract	✓	✓	✓			✓		
Storage		✓	✓		✓	✓		
GW Banking	✓		✓	✓			✓	
Reclaimed	✓		✓	✓			✓	

Note:
✓ Checkmarks denote that the alternative passed the screening for that criterion.

From Table 3.7-6, the most proficient alternative appears to be a new water transfer. This alternative passed all of the screening criteria except for Long-Term Reliability. Without knowing the specifics of any such potential transfer, it is not assured that it would possess viability in the long-term, relative to the proposed 40-year CVP M&I contract under P.L. 101-514. Yet, for all intents and purposes, it proved worthy and, hence, reasonable. Moreover, water transfers in an area such as the greater Sacramento area hold increased promise simply due to the number of water purveyors available that may be capable of participating. In fact, when looking at the various purveyor-specific agreements codified in the Water Forum Agreement, the number of inter-agency agreements that rely on some form of transfer is compelling. Transfers and assignments, within the greater Sacramento area are clearly an important component in the make-up of water purveyor portfolios.

A new water right as an alternative is complicated by both its costs and related timing. Given the pending water right filing by the El Dorado Water & Power Authority as part of its Supplemental Water Rights Project, a duplicative filing, as an alternative to the P.L 101-514 contract did not seem realistic. The economics of such an endeavor as well the timing constraints, also present problems. EDCWA would have to initiate a new regulatory process from the outset; thereby, negating any progress and timing advantage afforded by the P.L. 101-514 contract which has the benefit of many years of progress. Institutionally, the SWRCB would be confronted with potentially two water right applications and a compelling case would need to be prepared to justify this duplicative effort.

Acquiring a new SWP M&I contract, for essentially the same reasons as a new water right filing did not pass the Economics, Timing, or Institutional criteria. EDCWA would be engaging the California Department of Water Resources for a new M&I contract and again, would be starting from the beginning of that process. The complexities of any potential multi-party arrangement that would be necessary in order to allow EDCWA to hold rights to Feather/Sacramento River water in exchange for a diversion of American River water are also daunting and potentially complex.

A new storage alternative did not pass the majority of the screening criteria. While it is acknowledged that several small reservoirs are being considered within the western slopes of El Dorado County and indeed, pumped storage projects are underway, a large on-stream reservoir such as Lower Ice House or Canyon Creek failed several criteria. While these potential new reservoirs, under differing conditions of comparison may prove genuine, beneficial and indeed supportable, they did not pass the majority of the screening criteria in light of the Proposed Action. This latter point is an important one; new storage, as an alternative to the long-standing water contract authorized under P.L.101-514 is not the same as EDCWA looking at new water supply opportunities, because new water supplies are needed in addition to P.L. 101-514. A primary advantage associated with such large reservoirs would be their long-term reliability, excellent water quality, and retained control by EDCWA or its member agencies.

Significant drawbacks include the same reasons facing all new on-stream reservoirs in California; significant environmental issues, the high cost of approval, design, and construction, the lengthy approval process and, in the case of these reservoirs, the availability or acquisition of site locations that, at this time, cannot be reasonably assured. Pumped storage projects in El Dorado County are traditionally smaller than most reservoirs; numerous projects would have to be identified, approved, designed, and constructed before an equitable water supply to that provided by the P.L. 101-514 contract. Also, as noted previously, current pumped storage project design and operations would have to be revised to coincidentally include water supply development in addition to hydropower generation.

The screening of groundwater and groundwater banking as potential alternatives revealed completely opposite results from new storage reservoirs. Groundwater itself is not a viable option within El Dorado County as no appreciable aquifers or groundwater supplies exist. Groundwater banking, however, shows promise and is gaining interest throughout the region. The ability to store water in wet-years or during the annual wet season for long-term drought contingency planning is an increasingly attractive water resource management strategy. In El Dorado County where, as discussed, new surface storage reservoirs are challenging and no subsurface aquifer exists that can serve as an *underground* storage reservoir, off-site groundwater banking is gaining significant interest.

With groundwater, however, there is the patent uncertainty regarding the hydraulics of the phreatic zone and, its potential for contaminant migration. This hydraulic condition can lead to uncertainty, perhaps unacceptable, in terms of guaranteeing adequate water quality. To a certain degree, this concern can be attenuated through wellhead treatment. Additionally, with unconfined aquifers and, especially those in unadjudicated basins, water balance calculations are premised on gross assumptions of the continuity equation (what goes in, balances what comes out). A tight accounting system, therefore, would need to be developed and implemented to ensure proper tracking of accretions and depletions in any groundwater bank. While groundwater banking provides an excellent alternative to surface water storage, all of the conditions required of its proper site selection, financial agreement (with a groundwater banking purveyor), accounting system, and *in situ* hydraulics, make this alternative, at the very least, a speculative proposition at this time. Long-term reliability cannot be assured.

Reclaimed wastewater showed the same results as groundwater and groundwater banking. Its fundamental drawback is in its inability to provide a potable water supply. While increasing reliance on reclaimed wastewater can, under the proper circumstances, offset or reduce an agency's dependency on potable water, there is a maximum cap on the amount of reclaimed water that can serve new development. This is because there is only so much landscape irrigation where reclaimed wastewater could provide a benefit. Moreover, from an economic perspective, retrofitting existing development infrastructure is very costly. Reclaimed wastewater, therefore, as a means of reducing potable water demands is typically limited to new development areas only. Failure of the Water Quality, Public Health & Safety and Institutional criteria were evident with this alternative.

Table 3.7-7 identifies the screening results for the Demand Reduction Alternatives. Two alternatives in this category were evaluated; Increased Water Conservation and Growth Control. While increased water conservation easily passed all of the screening criteria, it could not meet an important check; the ability to meet the primary objectives of the Proposed Action, namely, the provision of a new water supply. Moreover, this alternative could be considered one that, for the most part, is already actively implemented. Many of the water conservation measures identified by the CUWCC *Memorandum of Understanding* are already being implemented by EID. Most importantly, however, there is general acceptance and acknowledgment that there is a limit to which additional water savings can be achieved at the consumer end. Water conservation alone, cannot be relied upon as a firm water supply for anticipated future planned growth. However, to the extent that open canals and ditches are still being relied upon by both EID and GDPUD, increased water conservation could be achieved through various conveyance improvements (e.g., canal lining and pipelines) and this would certainly help reduce current agricultural deliveries.

TABLE 3.7-7

DEMAND REDUCTION ALTERNATIVES SCREENING

Alternative	T&E Feasibility	WQ	Environ. Fatal Flaw	Economics	Long-Term Reliability	Public H&S	Timing	Institut.
Increased Conservation	✓	✓	✓	✓		✓	✓	✓
Growth Control		✓	✓			✓	✓	

Note:
✓ Checkmarks denote that the alternative passed the screening for that criterion.

Growth Control, as an alternative, similar to the Increased Water Conservation alternative would not provide an *additional* water supply for EDCWA. In fact, it would not even provide an offset or an in lieu supply. Growth Control, by definition, would simply impose restrictions on all future development (residential/commercial and institutional) for which, an additional water supply would be required. Such an alternative would halt further residential development in growing communities such as El Dorado Hills, Cameron Park, Shingle Springs, and Placerville and would remove any potential future development prospects in Pilot Hill and other areas on the Divide. Not only would the western slopes be affected, but so would areas further uphill, as EID would be faced with water needs for which no additional supplies would be available.

Administratively, a controlled growth alternative, however, could only be implemented by El Dorado County; neither EDCWA nor any of its member agencies have the authority to impose such restrictions on what is clearly a land-use and population designation issue. In the longer term, it is possible that it may be necessary to amend or update the County's General Plan to impose such an alternative (consistent with provisions of State law requiring counties to identify lands for their "fair share" of new housing demands), but again, this would be outside the purview of EDCWA or its member water agencies. Growth Control failed the Economic, Long-Term Reliability and Institutional criteria.

Table 3.7-8 identifies the three Reduced Diversion Alternatives under the Variable P.L.101-514 Contract Allocation discussion provided earlier. As discussed, these alternatives conceded implementation of the P.L. 101-514 contract, but at reduced diversion quantities. Relative to the Proposed Action, the results of the screening process were identical between the three Reduced Diversion Alternatives.

TABLE 3.7-8

VARIABLE P.L. 101-514 CONTRACT ALLOCATIONS SCREENING

Alternative	T&E Feasibility	WQ	Environ. Fatal Flaw	Economics	Long-Term Reliability	Public H&S	Timing	Institut.
Reduced Diversion – 12,500 AFA	✓	✓	✓	✓		✓	✓	✓
Reduced Diversion – 10,000 AFA	✓	✓	✓	✓		✓	✓	✓
Reduced Diversion – 7,500 AFA	✓	✓	✓	✓		✓	✓	✓

Note:
✓ Checkmarks denote that the alternative passed the screening for that criterion.

The only screening criteria that was not passed, was Long-Term Reliability. As the water needs assessment has shown (see Chapter 2.0, Purpose and Need), the full-authorized contract amount of 15,000 AFA is needed between EID and GDPUD. Any reduction from that fully entitled by P.L.101-514 would not meet this established water need.

3.8. ALTERNATIVES CARRIED FORWARD FOR DETAILED ANALYSIS

From the discussions provided above, certain potential alternatives showed distinct promise as reasonable potentially feasible options to the Proposed Action while others, clearly did not. The project objectives played an important factor in determining overall feasibility and pragmatic authenticity. The Institutional criterion was important in that it acknowledged the regulatory, administrative, and institutional framework in which these alternatives would have to operate in order to be approved. Fundamental to this acknowledgment was the fact that each of these processes would have to commence from the beginning, gaining internal political and interagency support to move forward. The Technical and Engineering Feasibility was easily passed by most alternatives, using a strict application of the criterion that, stated, "…*an alternative must be based on existing and*

accepted state-of-the-art engineering concepts and cannot be based on experimental technologies". An aspect of this same criterion that did not allow the New Storage Reservoir alternative from passing was that, "…*an alternative must not be dependent upon either the availability or acquisition of site locations that cannot be reasonably assured*."

Economics played into the screening assessment given that a new water right or new storage reservoir would likely require new facility infrastructure. None of these new facilities (and the lands upon which they would be placed) are presently assured and, as such, was assumed to have to be funded by EDCWA and its member water agencies. The costs for such new infrastructure such as a new storage reservoir would be significant. As noted in the Economic criterion, *"[A]n alternative should be economically attractive such that the total direct costs to the customers and purveyors are minimized and do not significantly exceed the costs of alternatives with similar benefits*…".

Growth Control also failed this criterion since it was assumed that a growth moratorium or even some reduced growth policy would not be economically fulfilling. In a County that is prospering[31], such an alternative would be counter to the criterion that states in relevant part, "*An alternative cannot be economically impractical or infeasible*." As noted earlier, EDCWA, EID and GDPUD are legally bound to accept the County's general plan vision and to do their best to try to find the water needed to fulfill that vision.

For two of the criteria, Public Health & Safety and Water Quality; their application was similar across the alternatives. Both groundwater and reclaimed wastewater failed these criteria.

From a potential environmental impact perspective, all alternatives passed the Environmental Fatal Flaw criterion. This was largely premised on the fact that none of these alternatives is so objectionable as to be either prohibited by law or impossible to achieve solely due to environmental concerns. The most controversial of the alternatives from an environmental perspective was a New Storage Reservoir. The fatal flaw criterion states, "*An alternative cannot have environmental impacts that are so significant so as to negate the positive attributes of the alternative or, simply transfer potential environmental impacts from one location to another*."

Clearly, however, new storage reservoirs, if operated properly, could provide multiple benefits for water supply, increasing water management flexibility, reducing diversions from rivers during critical migration periods, improve flood control, and increase Delta flows during critical times. In fact, new on-stream and off-stream reservoirs are under consideration across the State. Recently, the Governor of California committed monies as part of the State's long-term water strategy, through the Department of Water Resources, to proceed with the investigation of Sites Reservoir in Colusa County and the Temperance Flat Reservoir near Friant Dam. The Temperance Flat Reservoir would be created with a new dam on the San Joaquin River; the Sites Reservoir would require a new dam diverting water from the Sacramento River. These two large new reservoir projects indicate a growing perception and commitment by the State that new storage reservoirs are viable alternatives in future water resources management. While unrelated, specifically, to the Proposed Action, they

31 Based on a 20 percent increase in population from 1997-2007; a 12.1 percent increase in housing from 2002-2007; a 15.6 percent increase in employment from 2001-2006; and, based on the Bureau of Economic Analysis, California Realtors Association, a 2007 median home price of $487,000.

confirm that new surface storage reservoirs in California are being evaluated under certain conditions and, at least with respect to the Department of Water Resources' long-term strategy for water supply enhancement appear to have surpassed recent environmental fatal flaw constraints.

Finally, both the No-Action Alternatives and the No-Project Alternative (i.e., No-Increased Water Delivery Alternative) were carried forward as required by NEPA and CEQA.

The following alternatives, therefore, were carried forward for detailed analysis in this EIS/EIR (their numbering sequences are retained throughout the remainder of this EIS/EIR):

Alternative 1A – No-Action Alternative

Alternative 1B – No-Project Alternative

Alternative 2A – Proposed Action – Scenario A

Alternative 2B – Proposed Action – Scenario B

Alternative 2C – Proposed Action – Scenario C

Alternative 3 – Water Transfer Alternative

Alternative 4A – Reduced Diversion Alternative (12,500 AFA)

Alternative 4B – Reduced Diversion Alternative (10,000 AFA)

Alternative 4C – Reduced Diversion Alternative (7,500 AFA)

Each alternative, as noted previously, was addressed in a similar and equal level of detail. The potential impacts associated with each of these alternatives are described individually, by resource, in the Environmental Consequences chapter. A full comparative summarization is provided in the Executive Summary, impact table (see Table ES-1).

3.9. SCOPE OF THE ENVIRONMENTAL DOCUMENT

This EIS/EIR addresses the potential environmental and socioeconomic impacts of the various alternatives in two ways. First, as a new CVP water contracting action the document addresses the potential impacts of executing this *master* contract at a project-level. The specific potential effects of this new 15,000 AFA contract (or lesser amounts) diverted from the CVP, including its effects on coordinated CVP/SWP operations, Bay-Delta hydrology, and all other CVP-related water resources is evaluated in detail. This assessment is necessary to support the execution of the new full contract.

To the extent that additional facilities would, however, be required to ultimately *implement* this action, EID and GDPUD would be responsible for the eventual construction, operation, and maintenance of any such new facilities. The potential environmental impacts of any such facilities would be examined under separate, project-specific environmental documentation in the future, if or when those needs arise. To this end, this EIS/EIR provides the project-level hydrological analysis of the new CVP water service contract and, includes the necessary hydrologic assessment for the SWRCB to rely upon in a Petition for Change in POU, if or when such a petition is made by

PCWA/GDPUD to implement a water exchange, as discussed previously. Additional environmental documentation will, however, be necessary in the future in order to address any infrastructure associated with a new diversion, conveyance/pumping, and treatment facilities involved in fully implementing a water exchange between PCWA and GDPUD.

Even though a project-specific review of any new potential facilities impacts would be completed in the future, a programmatic review of the facilities needed to ultimately deliver the P.L.101-514 contract water was considered as part of this EIS/EIR, only to the extent that such information is currently known. For the most part, little detailed information was available. As explained previously, this EIS/EIR primarily focuses on a detailed (or project-specific) review of the potential hydrological impacts associated with executing the *master* contract, involving a new diversion from the American River basin and a depletion of water supply from the CVP. The evaluation of indirect, or secondary effects of implementing this action, while important, have been exhaustively undertaken by El Dorado County as part of its General Plan Update process and associated EIR.

3.10. INTENDED USES OF THE DRAFT EIS/EIR

A primary use of this Draft EIS/EIR is to fulfill the requirements for adequate NEPA and CEQA documentation as a precondition to executing the new CVP water service contracts authorized by P.L.101-514. Section 206 (b)(2) provides in relevant part;

> "Prior to entering into the contracts….the Secretary is directed to comply with the provision of the National Environmental Policy Act by preparing joint Environmental Impact Statements and California Environmental Quality Act Environmental Impact Reports."

In doing so, this EIS/EIR also supports the associated actions under CEQA by various Responsible Agencies (i.e., EID, GDPUD, PCWA and the SWRCB) to proceed with and make independent findings. As noted previously, Reclamation is the federal Lead Agency under NEPA and EDCWA is the State Lead Agency under CEQA. Both agencies have discretionary authority in acting upon this Proposed Action and have prepared this joint Draft EIS/EIR to support their ultimate decisions. Both agencies recognize the importance of cooperating to the fullest extent possible to avoid duplication and foster efficiency through joint planning processes, environmental studies, public hearings/ scoping, and this EIS/EIR document itself. After completion of the Final EIS, Reclamation will prepare a Record of Decision on the execution of the new water service contract. Similarly, after certifying the EIR portion of the Final EIS/EIR and making the findings and statements of overriding considerations required by CEQA along with the appropriate notices and filing fees, EDCWA will also be in a position to execute the new water contract.

Both of the potential recipients for this contract water, EID and GDPUD, are Responsible Agencies under CEQA. Before their individual direct subcontracts with EDCWA are executed, both member districts will also rely on the Final EIS/EIR as their CEQA compliance document. To the extent that a future exchange between GDPUD and PCWA would be supported by reliance on the hydrologic analyses contained in this environmental document, both PCWA and the SWRCB are identified as Responsible Agencies under CEQA. A petition before the SWRCB for a Change in POU regarding PCWA's MFP water rights will invoke a new and separate CEQA action but, to the extent appropriate, that process (and document) will be able to rely on this joint EIS/EIR for the hydrologic

analyses necessary to support the request for the Change in POU. Additional analyses, however, will be required in a future separate CEQA document to address the potential impacts of any new facilities or infrastructure that become known and/or part of the proposed operations to fully realize the exchange between PCWA and GDPUD.

All four Responsible Agencies have participated in scoping and consultation meetings on this project. Each Responsible Agency will consider the potential environmental effects of the portion of the overall project affected by its actions. These agencies will, moreover, limit their responsibility for mitigation or avoidance to only those direct or indirect environmental effects of those parts of the project that they intend to implement. All Responsible Agencies will ultimately make Findings and file a Notice of Determination similar to what is required of EDCWA as the CEQA Lead Agency.

3.11. CONSULTATION REQUIREMENTS/REQUIRED PERMITS AND APPROVALS

Consultation requirements for this Proposed Action cover a range of regulatory requirements. These are described and documented in greater detail in Chapter 10.0 (Consultation/Coordination and Applicable Laws). Key consultations have included those associated with the following legislation and identified public trust resource agencies (both federal and State):

- CEQA Scoping (Resource Agency/Stakeholders)
- Federal Endangered Species Act (USFWS/NOAA Fisheries)
- Fish & Wildlife Coordination Act (USFWS)
- National Historic Preservation Act (Reclamation/SHPO)
- California Endangered Species Act (CDFG)
- Clean Water Act (U.S. EPA Region 9/USACE)

A number of regulatory permits and/or approvals have been identified as potentially being required for the Proposed Action or related projects either currently or, at some point in the future. Permits and/or approvals potentially applicable to the implementation of the Proposed Action may include:

- Petition for Change in POU (SWRCB)
- Section 401 Permit (Clean Water Act)
- Section 404 Permit (Clean Water Act)
- Reclamation Board Permit
- Streambed Alteration Agreement

As noted previously, with the exception of the Petition for Change in POU, all of the other permits and/or approvals are tied to future facility projects or new infrastructure and are not necessary to execute this new CVP water service contract.

This EIS/EIR provides a project-level evaluation of the hydrological changes and, therefore, potential environmental and socio-economic impacts on water-related resource values associated with the

Proposed Action. For any of these permits and/or approvals necessitating or otherwise requiring hydrologic evaluation, this EIS/EIR provides that information. Several of these permits and/or approvals, however, remain speculative at this time, primarily because no new facilities or infrastructure are being proposed. They will only become applicable if and/or when project-level approvals for specific new projects are proposed in the future.

For this Proposed Action, significant efforts have gone into consultations under section 7(a)(2) of the federal Endangered Species Act. Two technical areas of consultations have occurred. Aquatic resources - specifically, those related to the potential adverse effects on listed aquatic fish species and their critical habitats - are being addressed in consultations with both the U.S. Fish & Wildlife Service and the NOAA Fisheries under the U.S. Department of Commerce. Detailed discussion of the consultation processes is provided in Chapter 10.0 (Consultation/Coordination and Applicable Laws).

This new CVP water service contract will be identified as a new American River Division contract. The lower American River, including Folsom Reservoir, has been the focal point of significant collaborative conservation, restoration, and ecosystem protection work over the past decade or more. The landmark Sacramento Water Forum Agreement, together with its Lower American River Habitat Management Plan, associated River Corridor Management Plan and, the most recent LAR Flow Management Standard make this watercourse one of the most highly studied reaches in the CVP. As a new contracting action, Reclamation and EDCWA, as well as EID and GDPUD have recognized the importance of stakeholder liaison and consultation with these local and regional interests. Reclamation and EDCWA have worked closely with the lower American River groups (e.g., Water Forum Successor Effort) in developing this joint environmental document.

The ongoing Water Forum work associated with the LAR Flow Management Standard and continued activities through the Water Forum Successor Effort have included both Reclamation and EDCWA as active participants. The Water Forum per se, however, is not a legislated public entity and, as such, does not hold Responsible Agency status under CEQA. While various stakeholder agencies (e.g., Department of Fish & Game, U.S. Fish & Wildlife Service, and NOAA Fisheries) within the Water Forum hold permitting and/or approval authority over certain aspects of the Proposed Action, the Water Forum itself does not. This Proposed Action has been recognized as a part of the future environmental baseline in all recent LAR initiatives and project planning.