

SECTION 3.12

Public Services and Utilities

3.12 Public Services and Utilities

3.12.1 Introduction and Summary

This section describes the environmental setting with regard to public services and utilities that could be affected by the Proposed Project. Public services and utilities include the systems, facilities, and services that are provided by cities, counties, and public and private agencies to maintain the public health and general welfare. These systems, facilities, and services include:

- Fire and police protection
- Public education services and facilities
- Potable water supply, treatment, and distribution
- Wastewater collection, treatment, and disposal
- Power generation and distribution

This section presents the impacts to public services and utilities as a result of implementing the Proposed Project and/or Alternatives, as well as associated mitigation measures, if necessary. Significant impacts are not anticipated. Potential less than significant impacts to public services and utilities would be anticipated to occur primarily in the LCR and IID water service area and AAC geographic subregions based on implementation of the Proposed Project, including the HCP. No impacts to public services and utilities are anticipated in the Salton Sea and SDCWA service area subregions. Table 3.12-1 lists the impacts to public services and utilities that could occur as a result of construction and operation of the Proposed Project and its Alternatives.

TABLE 3.12-1
Summary of Public Services Impacts¹

Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Following Only
LOWER COLORADO RIVER				
PSU-1: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the dam. Less than significant impact.	Continuation of existing conditions.	A2-PSU-1: Diversion of up to 130 KAFY at Parker Dam could impact power generation capacities at the dam. Less than significant impact.	A3-PSU-1: Diversion of up to 230 KAFY at Parker Dam could impact power generation capacities at the dam. Less than significant impact.	A4-PSU-1: Diversion of up to 300 KAFY of water at Parker Dam could impact power generation capacities at the dam. Less than significant impact.

TABLE 3.12-1
Summary of Public Services Impacts¹

Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Following Only
PSU-2: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Less than significant impact.	Continuation of existing conditions.	A2-PSU-2: Diversion of up to 130 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Less than significant impact.	A3-PSU-2: Diversion of up to 230 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Less than significant impact.	A4-PSU-2: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Less than significant impact.
IID WATER SERVICE AREA AND AAC				
PSU-3: Operation of components of the Proposed Project could result in an increased demand for utilities. Less than significant impact.	Continuation of existing conditions.	A2-PSU-3: Construction of components of the Proposed Project could result in an increased demand for utilities. Less than significant impact.		A4-PSU-3: Following would reduce the need for power. Minimal beneficial impact.
PSU-4: Construction of components of the Proposed Project could result in an increased demand for utilities. Less than significant impact.	Continuation of existing conditions.		A3-PSU-3: Construction of components of the Proposed Project could result in an increased demand for utilities. Less than significant impact.	
PSU-5: Diversion of up to 300 KAFY of water at Parker Dam would reduce flow through the AAC by up to 300 KAFY and would subsequently result in a decrease in power generation along the AAC. Less than significant impact.	Continuation of existing conditions.	A2-PSU-4: Diversion of up to 130 KAFY of water at Parker Dam would reduce flow through the AAC by up to 130 KAFY and would subsequently result in a decrease in power generation along the AAC. Less than significant impact.	A3-PSU-4: Diversion of up to 230 KAFY of water at Parker Dam would reduce flow through the AAC by up to 230 KAFY and would subsequently result in a decrease in power generation along the AAC. Less than significant impact.	A4-PSU-4: Diversion of up to 300 KAFY of water at Parker Dam would reduce flow through the AAC by up to 300 KAFY and would subsequently result in a decrease in power generation along the AAC. Less than significant impact.

TABLE 3.12-1
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Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Following Only
HCP-IID-PSU-6: Construction of the HCP components could result in an increased demand for utilities. Less than significant impact.	Continuation of existing conditions.	Same as HCP-IID- PSU-6.	Same as HCP-IID- PSU-6.	Same as HCP-IID- PSU-6.
HCP-IID-PSU-7: Implementation of HCP components could result in an increase in demand for water during the HCP's operational phase. Less than significant impact.	Continuation of existing conditions.	Same as HCP-IID- PSU-7.	Same as HCP-IID- PSU-7.	Same as HCP-IID- PSU-7.
SALTON SEA				
No impact.	Continuation of Baseline conditions.	No impact.	No impact.	No impact.
SDCWA SERVICE AREA				
No impact.	Continuation of existing conditions.	No impact.	No impact.	No impact.

¹ Programmatic level analyses of USFWS' biological conservation measures in LCR subregion. Subsequent environmental documentation will be required if potential impacts are identified.

3.12.2 Regulatory Framework

3.12.2.1 Local Regulations and Standards

Public services and utilities are provided and maintained by various public and private agencies and districts. For example, the Imperial County Fire Department and Office of Emergency Services provide fire protection in unincorporated areas of Imperial County whereas IID, a community-owned utility, provides electric power and water.

Regulations that affect the provision and maintenance of public services and utilities are generally based on local policies and other regulations. The sources of regulations are varied and include the following:

- Policies contained in general plans (e.g., Land Use Element, Housing Element) or building codes of local jurisdictions
- Ordinances or resolutions that establish growth-management or growth-control standards

3.12.3 Environmental Setting

3.12.3.1 Lower Colorado River

POTABLE WATER SUPPLY, TREATMENT, AND DISTRIBUTION

Parker Dam. In recent years, MWD has been using an average of 1.2 MAFY of water from the Colorado River for potable water (SDCWA 1997). The water is diverted at Parker Dam and imported by MWD through the 242-mile CRA to the MWD service area in southern California for treatment and distribution (SDCWA 2000B). The average yearly flow over Parker Dam from 1985 to 1999 was approximately 8,657,153 AF (Reclamation 1999).

Imperial Dam. Water is diverted at Imperial Dam to both the AAC, which transports water to the IID water service area, and the Gila Canal, which serves the Yuma, Arizona area. The maximum diversion capacities of the AAC and the Gila Canal are 15,155 cfs and 2,200 cfs, respectively (IID 1998G). The average flow at Imperial Dam (1985 to 1999) was approximately 7,588,753 AFY.

WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

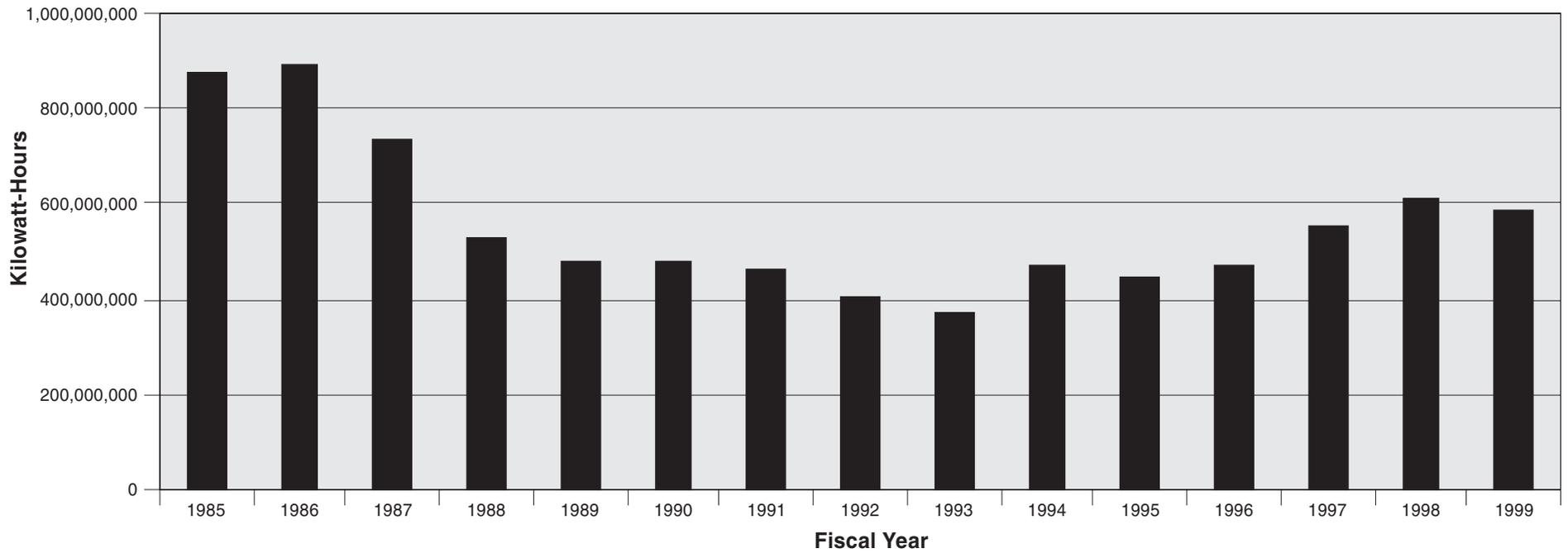
Sewer lines are typically owned and maintained by local jurisdictions, public works departments, and/or sanitation departments. Rural households not within the service area of a local sewage treatment facility typically dispose of raw sewage using individual septic tank and leach field systems.

POWER GENERATION AND DISTRIBUTION

Within the LCR subregion, hydroelectric power is generated on the LCR at Parker Dam and at Headgate Rock Dam (Headgate). Power generation at Hoover and Davis Dams is described and evaluated in the IA EIS (Reclamation 2002).

Parker Dam. Parker Power Plant is a Reclamation-administered and remotely operated hydroelectric facility located approximately 155 miles downstream of Hoover Dam on the California-Arizona state line, 12 miles northeast of Parker, Arizona. The power plant has four generators and a 108 MW maximum operating capacity. The average gross generation of power at Parker Power Plant from 1985 to 1999 was 556,965,416 kilowatt-hours (kWh) (Reclamation 2000D). Figure 3.12-1 illustrates the annual rate of power generation at Parker Dam from 1985 through 1999.

Electric power generated at Parker Power Plant is shared between Reclamation and MWD. Because of MWD's role in the construction of Parker Dam and power plant, MWD has a perpetual contract right to 50 percent of the electric power generated at Parker Dam.



Source: Reclamation 2000.

Figure 3.12-1
Gross Power Generation at Parker Dam,
Fiscal Years 1985-1999 (KWH)
 IID Water Conservation and Transfer Project Final EIR/EIS

Colorado River water is diverted into the CRA via the Whitsett Pumping Plant located along the western shore of Lake Havasu. MWD uses all of its contractual federal power to pump water from Lake Havasu through the Colorado River Aqueduct to its service area in southern California. MWD pays Reclamation 50 percent of operation, maintenance, and extraordinary maintenance costs for Parker Dam, plus 15 percent of operation and maintenance costs for Parker power plant administrative and general purposes (Reclamation 2002).

The highest priority use of Reclamation power produced at Parker Dam is given to Project Use Power (PUP) customers. PUP customers include federal projects, whether operated by the federal government or an operator under agreement with the federal government. The Western Area Power Administration (Western) is the federal agency authorized to market Reclamation's 50 percent share of power generation at Parker power generation facility that is surplus to the amount reserved for the PUP customers.

The second priority use group for Reclamation power holds firm electric service contracts; holders of these contractual and are called preference customers. Preference customers are entities (other than those operating federal projects) that use the power for non-profit purposes, such as municipalities, cooperatives, and irrigation districts. Some preference customers further distribute power received via firm electric service contracts to other entities. Both PUP and preference customers buy power "at cost"—that is, at rates that reflect the actual costs associated with the generation, transmission, and delivery of that power. This includes the cost for administering the contracts and operating, maintaining, and replacing the power plants and transmission facilities.

Under the existing firm electric service contracts, the amounts of power per month and per season are guaranteed. This means that, if the power is not available, Western would purchase the additional power required to fulfill the contracts. During the rate-setting process, Western estimates the cost for the previous year to purchase power that is under contract but anticipated not to be available when required. This is called the "purchase power cost." The purchase power cost is then figured into the rate base for firm electric service customers. If the actual purchase power cost for any given year is more or less than what was estimated, an adjustment is made in the following year's rate-setting process so that the cost of power to firm electric service contract customers continues to reflect an "at cost" rate.

Power generated by Parker Dam over and above what has been guaranteed to PUP and preference customers who hold firm electric service contracts is referred to as surplus energy. A portion of the surplus energy, referred to as excess energy, is offered to customers for purchase at an "at cost" rate or for "banking" of energy up to the limit of the contractor's contracted rate of delivery. Any remaining surplus energy may be sold at market rates to interested parties or may be "banked" for future use (Reclamation 2002).

Headgate Rock Dam. Headgate is owned and operated by BIA for the purpose of satisfying the power needs of Colorado River Indian Tribes (CRIT) and other Indian tribes. Headgate power plant, a run-of-the-river hydroplant (meaning power generation is dependent upon the flow of the river), has 3 generators and a 19.5-MW maximum operating capacity. During CY 1996 and CY 1997, the average net energy generated annually from Headgate powerplant was 87,165 MWh. CY 1996 and CY 1997 were the only years for which complete data were available for Headgate. Any surplus energy not sold to CRIT is currently being sold to the Fort Mojave Indian Tribe. There are no power contracts with nonIndian users for

any portion of the power generated at Headgate. Headgate is unable to store water in excess of the amount that can flow through the generator turbines or through CRIT's diversion facilities. Any water that is not diverted by CRIT or passed through the turbines is spilled downstream (Reclamation 2002).

FIRE AND POLICE PROTECTION

Fire Protection. The Riverside County Fire Department, USDA, USFS, and California Department of Forestry and Fire provide fire protection for the wildlands on the west side of the LCR. The USDA, USFS, and various firefighting units in Yuma and La Paz Counties in Arizona provide fire protection on the east side of the LCR.

Police Protection. The California Highway Patrol and the Riverside County and Imperial County sheriffs' departments provide law enforcement on the west side of the LCR. Various city and county law enforcement agencies, including the Yuma County and La Paz County sheriffs' departments, provide law enforcement on the east side of the LCR.

PUBLIC EDUCATION SERVICES AND FACILITIES

The County of Imperial Department of Education and the Riverside County Department of Education serve the west side of the LCR. The Yuma County School Superintendent's Office and the La Paz County School Superintendent's Office serve the east side of the LCR.

3.12.3.2 IID Water Service Area and AAC

Public utilities and services are provided to the residents in the IID water service area by a variety of organizations. Water treatment, sewage treatment, and police and fire services are provided by each of the seven incorporated cities in the IID water service area (Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland). Other services are provided to residents by school districts, special districts, and private utility companies.

POTABLE WATER SUPPLY, TREATMENT, AND DISTRIBUTION

IID diverts and delivers approximately 3.1 MAFY of Colorado River water to nine cities and nearly 500,000 acres of agricultural land in the IID water service area. Each of these cities and unincorporated communities has its own facilities for treating and distributing water within its jurisdiction (IID 1998f).

As part of its operating system, IID maintains an extensive irrigation system and 10 reservoirs with total storage capacity of more than 3 KAFY (IID 1998e, 1998g). Water is conveyed from Imperial Dam on the LCR through the AAC to the IID water service area. Three primary main canals – East Highline, Central Main, and Westside Main – receive water from the AAC and convey water to lateral canals. Of the water that IID transports, 98 percent is used for agriculture. The remaining 2 percent of the water is delivered to nine cities that treat the water to safe drinking water standards and then sell it to their residents (IID 1998e) and to industrial users. The total volume of water delivered by IID from 1993 through 1997 is shown in Table 3.12-2.

TABLE 3.12-2
Historic Water Volumes (in AF) Delivered by IID

Category	1993	1994	1995	1996	1997
Agricultural	2,414,113 (98%)	2,674,282 (98%)	2,678,768 (98%)	2,821,987 (98%)	2,803,640 (98%)
Industrial	14,897 (1%)	17,152 (1%)	17,708 (1%)	18,130 (1%)	17,458 (1%)
Municipal	30,513 (1%)	31,439 (1%)	34,052 (1%)	34,267 (1%)	31,374 (1%)
Total	2,459,523	2,722,873	2,730,528	2,874,384	2,852,472

Source: SSA and Reclamation 2000

WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

The cities and incorporated communities of Heber, Niland, and Seeley each provide sewage treatment services. CRB RWQCB issues permits under the NPDES program for sewage treatment plants, which generally provide primary and secondary sewage treatment. Rural residences on existing lots and minor subdivisions with minimum lot sizes of 20,000 square feet (approximately 0.5 acre) per dwelling (lot size required for approval by the Imperial County Health Department) use septic tanks and leach line systems.

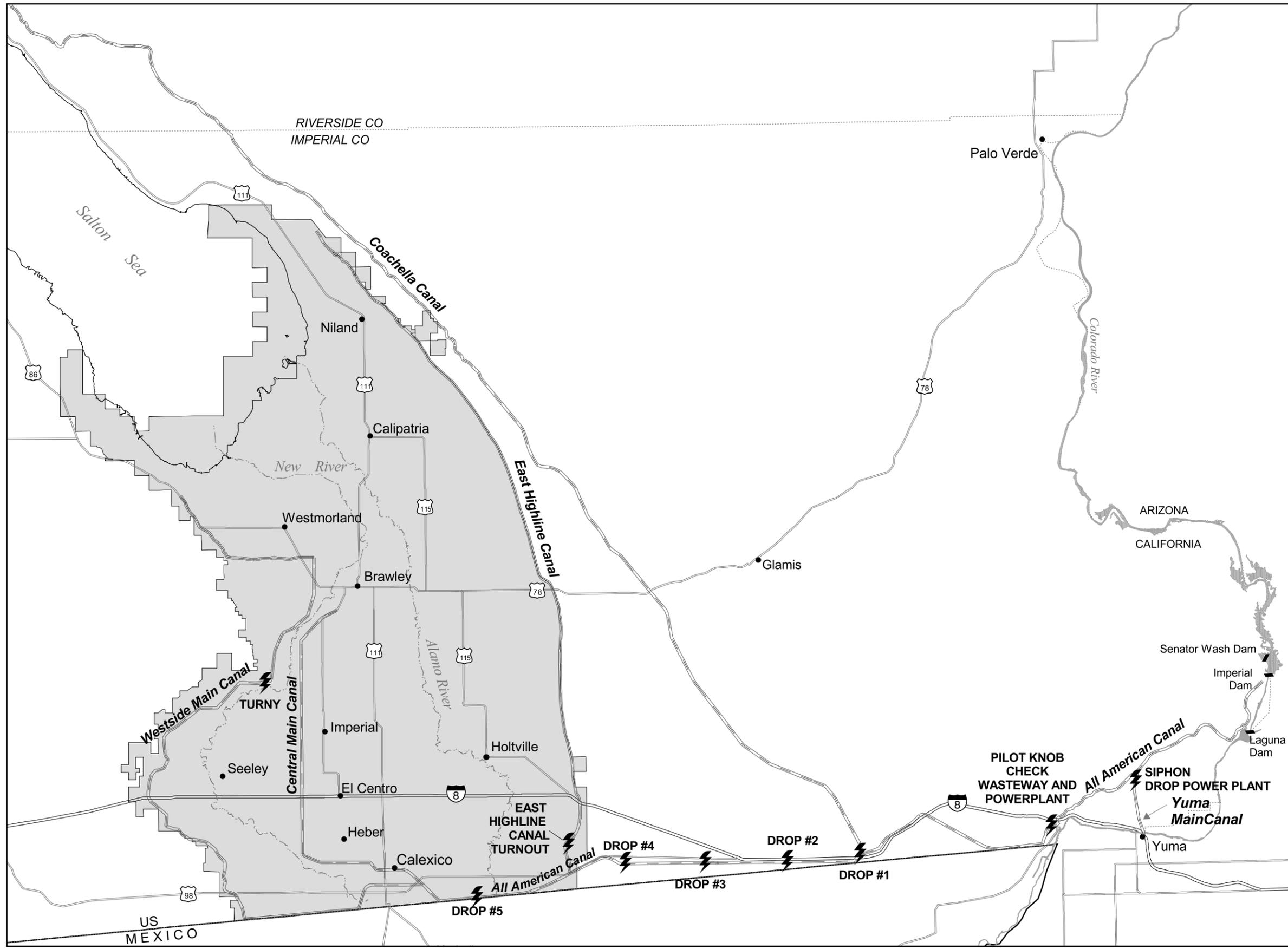
POWER GENERATION AND DISTRIBUTION

IID supplies electricity to more than 90,000 customers in Imperial County and parts of Riverside and San Diego Counties, including the Coachella Valley and Salton Sea areas. IID operates eight hydroelectric generation plants, one generating station, and eight gas turbines. For many years, the average consumption by residential customers has been the highest in the southwest, and about 30 percent higher than the national average. The all-time peak demand for energy reached 545.4 MW in June 1990 (IID 1998d). IID generates 352 MW of power; approximately 49 MW of it is hydroelectric (IID 1994).

As the need for electrical energy has increased, IID has expanded the resources available to it. IID is a one-third participant, with Southern California Edison (SCE) and Arizona Public Service Company, in a 75-MW steam plant. IID also purchased an interest in the Palo Verde-San Diego 500-kilovolt (kV) transmission facility, which allows IID access to less expensive imported energy. IID has an energy supply contract with El Paso Electric Company for 100 MW, to increase to 150 MW from 1992 to 2002 (IID 1998c). Table 3.12-3 provides information regarding the amount of energy delivered by IID from 1993 through 1998.

Hydroelectric Power. IID operates power plants at Drops 1, 2, 3, 4, 5, and at the East Highline Canal turnout along the AAC (see Figure 3.12-2). The hydroelectric power plants generate power from the water flowing through them. Power generation fluctuates with canal water delivery. To maximize power production, the canal generally is operated with the highest water level possible (Reclamation and IID 1994). The average hydroelectric power generated by IID from 1985 to 1999 was approximately 226,592 kWh (approximately 227 MW) (IID 1998d).

Fossil Fuels. There are no known available fossil fuel reserves in the IID water service area. IID imports these fuels for use in power generation (IID 1994).



- HYDROELECTRIC POWER PLANTS
- CITIES
- AQUEDUCT/CANAL
- COUNTY LINE
- INTERSTATE HIGHWAY
- REGIONAL HIGHWAY
- INTERNATIONAL BORDER
- RIVER
- SUBREGION

Sources:
University of Redlands 1999; DOI 1999;
and Reclamation LCR GIS

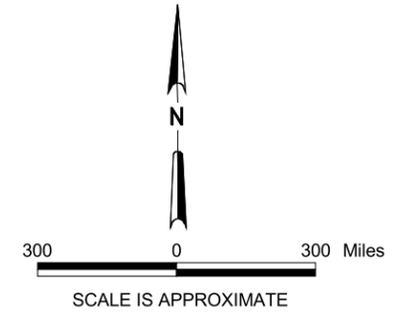


Figure 3.12-2
Power Generation
in Imperial Valley
IID Water Conservation and
Transfer Project Final EIR/EIS

TABLE 3.12-3
 Historic Electric Power Volumes in Megawatt-hours (MWh) Delivered by IID

Category	1993	1994	1995	1996	1997	1998
Residential	830,757	884,516	867,229	942,020	952,866	983,589
Commercial/Industrial	1,160,942	1,231,184	1,276,291	1,272,742	1,297,306	1,140,059
Other	144,261	154,823	157,593	167,684	162,161	230,210
Total	2,135,960	2,270,523	2,301,113	2,382,446	2,412,333	2,353,858

Source: SSA and Reclamation 2000; Sandoval 2000

Geothermal Resources. Imperial County is a leader in the development of geothermal resources and has one of the largest geothermal resources in the world (IID 1994). Currently, Imperial County has 15 geothermal plants, seven of which are in the Salton Sea KGRA. The Salton Sea known geothermal resource area (KGRA) generally encompasses the southeastern part of the Salton Sea and land to the east, approximately to the communities of Niland and Calipatria. Additionally, geothermal exploration is being conducted in the nine KGRAs in Imperial County (SSA and Reclamation 2000). Most of the geothermal power generated in Imperial County is exported out of the county (IID 1994).

FIRE AND POLICE PROTECTION

Fire Protection. The Imperial County Fire Department provides firefighting capabilities in cooperation with the fire services in incorporated cities and volunteer units in unincorporated communities. The Imperial County Fire Department's main facility is located at the county airport in Imperial (IID 1994).

Police Protection. The Imperial County Sheriff's Department is responsible for law enforcement in the county. Substations are located in Salton City, Brawley, and Winterhaven; resident deputies serve the unincorporated areas of Niland, Bombay Beach, Ocotillo, and Palo Verde. The main patrol division patrols all other areas. Except for Calipatria, the other six unincorporated cities in the IID water service area maintain their own police departments (IID 1994).

PUBLIC EDUCATION SERVICES AND FACILITIES

Sixteen independent public school districts in Imperial County provide programs for elementary and secondary school children. Imperial County has three types of school districts – elementary, high school, and unified – that serve more than 32,000 students. The unified districts serve both elementary and high school grades (Imperial County Office of Education 1996-2000).

3.12.4 Impacts and Mitigation Measures

3.12.4.1 Significance Criteria

Implementation of the Proposed Project or Alternatives would have a significant impact on Public Services and Utilities if the Proposed Project or Alternatives:

- Result in substantial, adverse physical impacts associated with the provision of new or physically altered governmental facilities (the construction or operation of which could cause significant environmental impacts) to maintain acceptable service ratios, response times, or other performance objectives for any public service, including:
 - Fire Protection
 - Police Protection
 - Schools
 - Parks
- Required or resulted in the construction of new stormwater drainage facilities or expansion of existing facilities, which could cause significant environmental effects.
- Required or resulted in the construction of new electricity generation facilities or expansion of existing facilities, which could cause significant environmental effects.
- Had insufficient water supplies available to serve the Projected Project from existing entitlements and resources, or required new or expanded entitlements.
- Substantially reduced a hydroelectric facility's ability to produce power (by reducing the amount of flow through the respective dam's power plant).

3.12.4.2 Methodology

The impact analysis is based on projected increases in the demand for public services and utilities from the construction and operation of new facilities or from the improvement of existing facilities. Utility demands were determined based on the estimated needs of construction and operation activities (see Section 3.3.4.1, Transportation, Methodology). The potential effects of the Proposed Project and Alternatives on public services and utilities were analyzed against existing conditions to determine changes to services dependent on power generation and distribution.

Public services and utilities related to potable water supply, treatment, and distribution; and wastewater collection, treatment, and disposal will not be impacted by the Proposed Project and Alternatives because the water conservation and transfer would not result in the need for additional facilities, changes to distribution system components, or treatment of water delivered within any of the subregions. In addition, the Proposed Project and Alternatives do not involve wastewater collection, treatment, or disposal or solid waste collection, disposal, or recycling. Therefore, these services and utilities will not be discussed in the impact analysis.

Projected increases in demand for public services, such as fire protection, police services, and schools, generally result from population increases. Section 5.2, Growth-Inducing Impacts, notes that the Proposed Project is intended to provide reliability for existing service needs only within the SDCWA service area. The Proposed Project itself would not induce

population growth in any of the four geographic regions. Because population increases are not anticipated as a result of implementing the Proposed Project (see Section 5.2), fire protection, police services, parks and schools will not be affected by the Proposed Project and Alternatives and are therefore not discussed in the impact analysis.

Subregions Excluded from Impact Analysis. No impacts to public services and utilities are expected in the Salton Sea geographic subregion. In addition, no impacts would occur in the SDCWA service area as a result of implementation of the Proposed Project. Delivery of water transferred via the CRA to existing facilities and distribution systems would not change the existing facilities and distribution system. As discussed in Section 5.2, no growth-inducing impacts will occur as a result of delivery of a portion of the conserved water to the SDCWA service area. Also, no construction of new facilities or changes in operation of existing facilities would occur that would result in impacts on public services and utilities.

3.12.4.3 Proposed Project

LOWER COLORADO RIVER

Water Conservation and Transfer

Impact PSU-1: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Parker Dam. Gross power generation at Parker Dam fluctuated by nearly 250 percent between 1985 and 1999, from a minimum of 374,402,616 kilowatt-hours (kWh) (in 1993) to a maximum of 891,950,000 kWh (in 1986) (Reclamation 2000). Average gross power generated at Parker Dam from 1985 to 1999 was approximately 556,965,416 kWh/yr (Reclamation 2000), and average flow volume over Parker Dam from 1985 to 1999 was 8,657,153 AFY (CRBC 2000b); therefore, average gross power generation during the period was approximately 64 kWh/AF.

Reducing the flow over Parker Dam by 300 KAFY could reduce average annual gross power generation by 19,200,000 kWh, which represents approximately 3.5 percent of the average annual gross power generated at Parker Dam. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation (3.5 percent vs. almost 250 percent), the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Impact PSU-2: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in terms of Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Headgate Dam. The IA EIS describes the average percentage of lost energy due to the IA (changing the point of delivery of approximately 388 KAF) as 5.37 percent. Diversion of up to 300 KAF would result in proportionately less lost energy and therefore less impact on power generation losses. Significance criteria set for impacts to power generation indicate that impacts must be substantial. Because the

diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation, the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Additional details regarding the impacts to hydroelectric power are addressed in the IA EIS and are incorporated by reference (Reclamation 2002).

IID WATER SERVICE AREA AND AAC

Water Conservation and Transfer

No change in the population in the IID water service area would be anticipated from construction or operation of the water conservation measures (see Section 5.2, Growth-Inducing Impacts). Mostly local workers would participate in construction of any components of the Proposed Project (e.g., water delivery system improvements). Import of workers from other areas would be short term to meet peak demand for construction assistance. Once components were constructed, local farmers or IID staff would operate most water conservation measures. Because mostly local workers would be used to construct and operate any water conservation measures, and because the import of workers would be temporary, the population would not increase; thus, the demand for public services and utilities would not increase. Therefore, no impact would occur on public services and utilities from the presence of the workforce.

None of the components of the Proposed Project would require additional water or wastewater services during operation; therefore, these services would not be impacted.

Impact PSU-3: Operation of components of the Proposed Project could result in an increased demand for utilities. On-farm irrigation management would not create a demand for electricity. The demand for electricity for the on-farm irrigation system improvements and water delivery system improvements would mainly result from operating sprinklers, pumps, and gates, and would be expected to be minimal. Therefore, there would be less than significant impacts to power generation and distribution would occur. (Less than significant impact.)

Impact PSU-4: Construction of components of the Proposed Project could result in an increased demand for utilities. The demand for short-term, construction-related water service is expected to be minimal because water would be used mainly for dust control. Wastewater services for the construction effort would be provided by portable facilities, and wastewater would be disposed of in accordance with all applicable rules and regulations. Electrical services for the construction effort would be provided by portable generators or by self-powered construction equipment; therefore, demand on existing electricity sources would be minimal. Excavation of reservoirs would create material that would be made available to construction projects requiring clean fill. In addition, topsoil would be reused for agricultural purposes. A minimal amount of other construction debris generated by the Proposed Project would be hauled offsite to a designated landfill. Implementing these practices during construction would mean that construction-related impacts to public utilities would be less than significant. (Less than significant impact.)

Impact PSU-5: Diversion of up to 300 KAFY of water at Parker Dam would reduce flow through the AAC by up to 300 KAFY and would subsequently result in a decrease in power generation along the AAC. The Proposed Project would divert up to 300 KAFY of water at Parker Dam and transfer it via the CRA to the SDCWA service area. Implementation of the transfer would reduce flow through the AAC by up to 300 KAFY and would result in a decreasing power generation at Drop No. 1, Drop No. 2, Drop No. 3, Drop No. 4, Drop No. 5, and East Highline Canal in the AAC. Reducing the flow along the AAC by 300 KAFY could reduce average annual power generation by 24,000 kWh, which represents approximately 10.5 percent of the average annual power generated in the AAC. The variation from average-annual power generation to minimum power generation within the past 15 years is greater than 97 percent of the average generation. Implementation of the Proposed Project would not cause average power production to be less than the minimum amount of recent power generation (i.e., during the past 15 years). Furthermore, most of the power that IID generates is derived from fossil fuels, and only the generation of hydropower is affected by flows in the AAC.

Because the reduction in power generation attributable to the diversion of water from the AAC represents less than 10 percent of the overall power generated by IID, the impact on power generation from the reduced flow in the AAC would be less than significant. (Less than significant impact.)

Inadvertent Overrun and Payback Policy (IOP)

Compliance with the IOP would not result in any impacts to public services or utilities in the IID water service area and AAC subregion.

Impacts resulting from compliance with the IOP would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.

Habitat Conservation Plan (HCP-IID) (IID Water Service Area Portion)

Impact HCP-IID-PSU-6: Construction of HCP components could result in an increased demand for utilities. The demand for short-term, construction-related water service is expected to be minimal as water would be used mainly for dust control. Wastewater services for the construction effort would be provided by portable facilities, and wastewater would be disposed of in accordance with all applicable rules and regulations. Electrical services for the construction effort would be provided by portable generators or by self-powered construction equipment; therefore, demand on existing electricity sources would be minimal. Excavation of planting areas or channels would create material that would be made available to construction projects requiring clean fill. In addition, topsoil would be reused for agricultural purposes. A minimal amount of other construction debris generated by implementation of the HCP would be hauled offsite to a designated landfill.

Implementing these practices during construction would mean that construction-related impacts to public utilities would be less than significant. (Less than significant impact.)

Impact HCP-IID-PSU-7: Implementation of HCP components could result in an increased demand for water during the HCP's operational phase. There would be demand for water to irrigate the newly created marsh and tree habitats. However, most of the lands to be used for the HCP are currently in active production, using approximately 6AF of water per acre.

This water would become available for implementation of the HCP. (Less than significant impact.)

Salton Sea Habitat Conservation Strategy (HCP-SS)

Mitigation water for the Salton Sea Habitat Conservation Strategy could be generated via fallowing in the IID water service area, but other sources of water could be used as described in Section 2.2.6.7. If fallowing is used, impacts to public services or utilities would occur.

Impacts to Public Services and Utilities resulting from the implementation of the HCP would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.

3.12.4.4 Alternative 1: No Project

The demand for public services and utilities would remain the same as under current conditions if the Proposed Project were not implemented.

3.12.4.5 Alternative 2 (A2): Water Conservation and Transfer of Up To 130 KAFY to SDCWA (On-farm Irrigation System Improvements as Exclusive Conservation Measure)

LOWER COLORADO RIVER

Water Conservation and Transfer

Impact A2-PSU-1: Diversion of up to 130 KAFY at Parker Dam could impact power generation capacities at the dam. Reducing the flow over Parker Dam by 130 KAFY could reduce average annual gross power generation by 8,320,000 kWh, which represents approximately 1.5 percent of the average annual gross power generated at Parker Dam. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation (1.5 percent vs. almost 250 percent), the impact to power generation from changing the diversion point for up to 130 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Impact A2-PSU-2: Diversion of up to 130 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Headgate Dam. The IA EIS describes the average percentage of lost energy due to the IA (changing the point of delivery of approximately 388 KAF) as 5.37 percent. Diversion of up to 130 KAF would result in proportionally less lost energy and therefore less impact to power generation losses. Significance criteria set for impacts to power generation indicate that impacts must be substantial. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation, the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Additional details regarding the impacts to hydroelectric power are addressed in the Draft IA EIS and are incorporated in this EIR/EIS by reference (Reclamation 2002).

IID WATER SERVICE AREA AND AAC

Impact A2-PSU-3: Construction of components of the Proposed Project could result in an increased demand for utilities. The demand for short-term, construction-related utilities would be of the same type but of lesser magnitude than those discussed for the Proposed Project under PSU-3 above. Implementing the practices listed above during construction would mean that construction-related impacts to public utilities would be less than significant. (Less than significant impact.)

Impact A2-PSU-4: Diversion of up to 130 KAFY of water at Parker Dam would reduce flow through the AAC by up to 130 KAFY and would subsequently result in a decrease in power generation along the AAC. As discussed under PSU-4, diversion of the amount of conserved water at Parker Dam would reduce the volume of water flowing through the AAC by the same amount and would, therefore, result in a proportional reduction in power generation. If 130 KAFY were diverted, the reduction in hydroelectric power generated along the AAC would be approximately 4.6 percent (compared to the annual average of approximately 227 MW). Because most of the power generated by IID is derived from fossil fuels, this reduction in hydroelectric power generation would be considered a less than significant impact. (Less than significant impact.)

3.12.4.6 Alternative 3 (A3): Water Conservation and Transfer of Up To 230 KAFY to SDCWA, CVWD, and/or MWD (All Conservation Measures)

LOWER COLORADO RIVER

Water Conservation and Transfer

Impact A3-PSU-1: Diversion of up to 230 KAFY at Parker Dam could impact power generation capacities at the dam. Reducing the flow over Parker Dam by 230 KAFY could reduce average annual gross power generation by 8,320,000 kWh, which represents approximately 2.6 percent of the average annual gross power generated at Parker Dam. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation (2.6 percent vs. almost 250 percent), the impact to power generation from changing the diversion point for up to 230 KAFY would fall within the operation range, and would, therefore, be less than significant. (Less than significant impact.)

Impact A3-PSU-2: Diversion of up to 230 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Headgate Dam. The IA EIS describes the average percentage of lost energy due to the IA (changing the point of delivery of approximately 388 KAF) as 5.37 percent. Diversion of up to 230 KAF, would result in less lost energy and therefore less impact to power generation losses. Significance criteria set for impacts to power generation indicate that impacts must be substantial. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation, the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Additional details regarding the impacts to hydroelectric power are addressed in the IA EIS (Reclamation 2002) and are incorporated by reference.

IID WATER SERVICE AREA AND AAC

Impact A3-PSU-3: Construction of components of the Proposed Project could result in an increased demand for utilities. The demand for short-term, construction-related utilities would be of the same type but of lesser magnitude as discussed for the Proposed Project under PSU-3 above. Implementing the practices listed above during construction would mean that construction-related impacts to public utilities would be less than significant. (Less than significant impact.)

Impact A3-PSU-4: Diversion of up to 230 KAFY of water at Parker Dam would reduce flow through the AAC by up to 230 KAFY and would subsequently result in a decrease in power generation along the AAC. As discussed under PSU-4, diversion of the amount of conserved water at Parker Dam would reduce the volume of water flowing through the AAC by the same amount, and would, therefore, result in a proportional reduction in power generation. If 230 KAFY were diverted, the reduction in hydroelectric power generated along the AAC would be approximately 8.0 percent (compared to the annual average of approximately 227 MW). Because most of the power generated by IID is derived from fossil fuels, this reduction in hydroelectric power generation would be considered a less than significant impact. (Less than significant impact.)

3.12.4.7 Alternative 4 (A4): Water Conservation and Transfer of up to 300 KAFY to SDCWA, CVWD, and/or MWD (Fallowing As Exclusive Conservation Measure)

The demand for public services and utilities would not be impacted by implementation of fallowing for water conservation. Letting land lie fallow would not affect the need for fire or police protection, school, or parks. However, it would reduce the demand for water, so conserved water could be transferred to the SDCWA service area. The demand for wastewater treatment and/or solid waste disposal facilities would not change. The only potential impact would occur in the IID subregion.

LOWER COLORADO RIVER

Water Conservation and Transfer

Impact A4-PSU-1: Diversion of up to 300 KAFY of water at Parker Dam could impact power generation capacities at the dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Parker Dam. Gross power generation at Parker Dam fluctuated by almost 250 percent between 1985 and 1999, from a minimum of 374,402,616 kilowatt-hours (kWh) (in 1993) to a maximum of 891,950,000 kWh (in 1986) (Reclamation 2000). Average gross power generated at Parker Dam from 1985 to 1999 was approximately 556,965,416 kWh/yr (Reclamation 2000), and average flow volume over Parker Dam from 1985 to 1999 was 8,657,153 AFY (CRB CA 2000); therefore, average gross power generation during the period was is approximately 64 kWh/AF.

Reducing the flow over Parker Dam by 300 KAFY could reduce average annual gross power generation by 19,200,000 kWh, which represents approximately 3.5 percent of the average

annual gross power generated at Parker Dam. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation (3.5 percent vs. almost 250 percent), the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Impact A4-PSU-2: Diversion of up to 300 KAFY at Parker Dam could impact power generation capacities at the Headgate Rock Dam. Under the Law of the River and under IA EIS project-specific legislation, power production has the lowest priority in Colorado River operations (Reclamation 2002). Reducing the flow over Parker Dam could result in impacts to power generation capacities at Headgate Dam. The IA EIS describes the average percentage of lost energy due to the IA (changing the point of delivery of approximately 388 KAF) as 5.37 percent. Diversion of up to 300 KAF would result in proportionately less lost energy and therefore less impact to power generation losses. Significance criteria set for impacts to power generation indicate that impacts must be substantial. Because the diversion of water as a result of the Proposed Project would be much smaller than the fluctuation in the gross generation, the impact to power generation from changing the diversion point for up to 300 KAFY would fall within the operation range and would, therefore, be less than significant. (Less than significant impact.)

Additional details regarding the impacts to hydroelectric power are addressed in the IA EIS and are incorporated by reference (Reclamation 2002).

IID WATER SERVICE AREA AND AAC

Impact A4-PSU-3: Flowing would reduce the need for power. The demand for power would be slightly reduced as the need for pumping water and powered farm equipment would be reduced. This would constitute a minimal beneficial impact. (Minimal beneficial impact.)

Impact A4-PSU-4: Diversion of up to 300 KAFY of water at Parker Dam would reduce flow through the AAC by up to 300 KAFY and would subsequently result in a decrease in power generation along the AAC. See impact PSU-5. (Less than significant impact.)