ENVIRONMENTAL REPORT

FOR

BUCKSKIN SANITARY DISTRICT
PHASE 4 WASTEWATER CONVEYANCE PROJECT
PARKER, ARIZONA

PREPARED FOR

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ON BEHALF OF

BUCKSKIN SANITARY DISTRICT
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FOR SUBMITTAL TO

US DEPARTMENT OF AGRICULTURE
RURAL DEVELOPMENT, RURAL UTILITIES SERVICE
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ACRONYMS AND ABBREVIATIONS

ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
APE	area of potential effects
ASLD	Arizona State Land Department
AZPDES	Arizona Pollutant Discharge Elimination System
BLM	Bureau of Land Management
BMP	best management practice
CFR	Code of Federal Regulations
District	Buckskin Sanitary District
ER	Environmental Report
FEMA	Federal Emergency Management Agency
NEPA	National Environmental Policy Act
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
LSD	Logan Simpson Design Inc.
RD	Rural Development
ROW	right-of-way
RUS	Rural Utilities Service
SDG	small-diameter gravity
SHPO	State Historic Preservation Office
STEP	septic tank effluent pump
SWPPP	storm water pollution prevention plan
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
WWTP	Wastewater Treatment Plant

1.0 PURPOSE AND NEED OF THE PROPOSAL

The Buckskin Sanitary District (District) has applied for financial assistance from the US Department of Agriculture (USDA) Rural Development (RD), Rural Utilities Service's (RUS's) Water and Environmental Program to expand its wastewater system. Prior to providing funding for the project, USDA RD/RUS is required by the National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code 4321-4346), to analyze the potential environment impacts that would occur as a result of providing financial assistance to the District for expansion of its wastewater system. This Environmental Report (ER) has been prepared in order to assist USDA RD/RUS in its decision to provide financial assistance to the District and support USDA RD/RUS's environmental review as required by NEPA and USDA RD/RUS's environmental policies and procedures (7 Code of Federal Regulations [CFR] 1794). This ER has also been prepared in conjunction with the Preliminary Engineering Report in accordance with 7 CFR 1780.33.

1.1 Project Description (Proposed Action)

Federal funding would be used by the District to expand its wastewater collection and conveyance facilities within Phase 4 of its Southern Planning Area, which is located approximately four miles north of Parker, in La Paz County, Arizona (see Section 6, Figures 1 and 2). The District's overall Planning Area is generally bound by Parker Dam to the north, the Colorado River Indian Reservation to the south, the Colorado River to the west, and the Buckskin Mountains to the east. The Proposed Action would include the expansion of wastewater facilities to serve Phase 4 of the District's Southern Planning Area, which extends from the Buckskin Wastewater Treatment Plant (WWTP) (formerly the Sandpiper WWTP) on the south to the Sundance Resort on the north, between the Colorado River and the road interchangeably referred to as Riverside Drive or Business 95A. For clarity, this report uses the Riverside Drive designation.

The Proposed Action would include the construction of a backbone conveyance system and service to the existing community collection systems via gravity sewer lines. The backbone conveyance system would consist of a series of 8-inch and 10-inch gravity collector sewers, 4-inch and 6-inch force mains, and three lift stations. The gravity collector sewers and force mains would be constructed primarily within the existing Riverside Drive right-of-way (ROW), which is owned and maintained by La Paz County and varies in width between 50 feet and 200 feet. The backbone conveyance system would be sized to accommodate existing and future wastewater flows from the Phase 4 area communities, but would not be sized to handle wastewater flows from communities located further north in Phases 5 and 6 of the District's Planning Area. The District is currently planning a separate wastewater treatment plant and conveyance system to serve Phases 5 and 6.

The three proposed lift stations would convey wastewater from the northern portion of Phase 4 to the Buckskin WWTP and would be constructed outside of the Riverside Drive ROW. Lift Station 1 would consist of converting an existing lift station located within the Rio Lindo development into a District-owned lift station, which would accommodate the existing communities in this portion of the planning area. Lift Station 1 would encompass approximately 2,400 square feet. Lift Station 2 would be 1,575 square feet and would be located at the north end of La Paz County Park immediately west of the Riverside Drive ROW and south of the entrance to the Roadrunner RV Park. Lift Station 3 would be located near the District's existing effluent holding ponds east of Riverside Drive and south of Golf Course Drive on Bureau of Land Management (BLM) land that has been patented to La Paz County. This land is currently leased to the District by La Paz County. Lift Station 3 would include the footprint of the facility (1,575 square feet), a 13-foot-wide by 300-foot-long gravel road to provide access from Riverside Drive to Lift Station 3, 200 linear feet of trenching for the installation of a 6-inch force main from the Riverside Drive ROW to Lift Station 3, and 36 linear feet of trenching for the installation of a 10-inch sewer line between Lift Station 3 and an existing reclaimed waterline parallel to the south side of Golf Course Drive.

The three proposed lift stations would be sized to handle existing flows at peak conditions. Each lift station would include dual submersible pumps, capable of independent operation, with dedicated discharge pipes and valves. All above-ground equipment at the lift stations would be raised above the finished grade on concrete slabs. The lift stations would be enclosed by an 8-foot-high concrete block wall, and access into the lift stations would be provided by a 12-foot-wide gate.

The existing communities within the Phase 4 project limits are currently served by individual or community-wide septic systems, several of which have a centralized collection system conveying their wastewater to an on-site community septic system for treatment and discharge to groundwater. The District is coordinating with several communities within Phase 4 to determine the optimum method for providing sewer service to the individual communities. These communities include Sundance Resort, Rio Lindo, Fox's Resort, Sandbar at Redrock, Marina Village North, Marina Village, Marina Village Annex, Roadrunner RV Park, Branson's Resort/River's Edge, Casino Beach, Jolly Knight, Desert Star RV Park, and Plantation Resort. Because Fox's Resort and Sandbar at Redrock are located on land administered by the Arizona State Land Department (ASLD), these communities cannot be assessed by the District and therefore cannot participate in the financing process. The District would require Fox's Resort and Sandbar at Redrock to connect to the District's backbone conveyance system when service becomes available.

To support the service connections within Phase 4, the District would either provide a gravity sewer line into the communities or provide sewer stubs to the edge of the Riverside Drive ROW to enable access to the backbone conveyance system. Individual connections to residences or businesses would be the responsibility of the property owner. In accordance with Arizona Department Environmental Quality (ADEQ) guidelines, individual property owners would be responsible for hiring their own District-approved qualified contractor to abandon their existing septic and leach fields and connect to the District's facilities. In accordance with the Buckskin Sanitary District Code, each property owner would be required to obtain the necessary permits and inspections from La Paz County and the District when connecting to the District's facilities.

1.2 Purpose and Need of the Proposal

The District owns and operates a wastewater collection system and the Buckskin WWTP, which was initially constructed to serve only the Sandpiper Condominiums adjacent to the treatment plant. However, the Buckskin WWTP now serves all of the wastewater flow from the sewered portions of the southern part of the District's Planning Area (Buckskin Sanitary District 2011). Existing residential communities north of the treatment plant rely on individual and community septic systems.

The Buckskin WWTP is subject to unpredictable fluctuations in influent flow rates (Buckskin Sanitary District 2011). In addition, the septic systems currently used by Phase 4 area residents and businesses are aging and some of the leach fields have failed, resulting in high maintenance costs and the potential for septic contamination of the surface and groundwater in the surrounding area. Consistent with the District's mission, the purpose of the proposed Phase 4 Wastewater Conveyance Project is to provide efficient wastewater facilities to developed, unserved portions of the District's service area. The Proposed Action would help regulate wastewater flows into the Buckskin WWTP, alleviate the risk of failure associated with individual and community septic systems, and protect the health and safety of the community and the surface and groundwater quality in the area.

2.0 ALTERNATIVES TO THE PROPOSED ACTION

2.1 Alternatives Considered but Eliminated from Detailed Study

This section includes a description of the alternatives that were considered for the Phase 4 Southern Planning Area, but were eliminated from detailed study. The rationale for elimination is also provided.

2.1.1 Treatment Alternatives

Previous engineering and design reports that were prepared to support the District's 2007 *Wastewater Master Plan* (Buckskin Sanitary District 2007) and 2011 *Wastewater Master Plan Update* (Buckskin Sanitary District 2011) considered new and/or additional treatment plants to accommodate wastewater flow projections for the Phase 4 Southern Planning Area. In December 2011, Energy and Water Solutions prepared a Preliminary Design Report to verify the number of existing lots in Phase 4 that have the potential to contribute wastewater to the Buckskin WWTP (Energy and Water Solutions 2011). As a result, the population of the existing communities in the Phase 4 Southern Planning Area was determined to be less than what was documented in the District's 2007 master plan and 2011 master plan update. In addition, wastewater flow projections were also determined to be less than what was projected in the 2007 and 2011 master plans.

The District is authorized to operate the Buckskin WWTP under an existing Aquifer Protection Permit, which was issued by ADEQ in May 2000 and amended in 2003 and in 2012. This permit authorizes the District to operate the Buckskin WWTP with a maximum average monthly flow of 228,000 gallons per day. Following completion of the proposed Phase 4 conveyance system, the available capacity of the Buckskin WWTP would be greater than the maximum average monthly flow estimated for the service area. Based on ADEQ's approval to allow the District to use the unused treatment capacity of the Buckskin WWTP, the District determined that there was no need to evaluate the construction of a second treatment plant in the Southern Planning Area to serve Phase 4. Additional treatment alternatives were not considered because they do not meet the purpose and need of the project.

2.1.2 Collection and Conveyance Alternatives

To meet its responsibilities to provide sewer service to Phase 4, the District determined that it would be necessary to construct a wastewater conveyance system that would collect all existing and future flows from existing communities. Several of the existing communities within Phase 4 already use a central collection system to discharge wastewater to on-site treatment facilities. For these reasons, the only collection and conveyance alternatives considered were gravity sewer service and pumping, as described below.

2.1.2.1 Small-Diameter Gravity Sewers

One type of collection and conveyance is the small-diameter gravity (SDG) system, which requires the installation of a septic tank or maintenance of an existing tank for each user. With SDG systems, solids are removed from the wastewater before it enters sewer mains, allowing the use of a smaller-diameter pipe at a lesser grade. The use of an SDG system requires all septic tanks to be well-maintained. The District would be responsible for pumping solids from septic tanks once every four to six years. SDG systems are frequently used in areas with sparse development. The major benefit of the SDG system is reduced pipe size.

David Burchard, section chief of Engineering Review for Subdivisions, Sewage Collection Systems, and On-Site Systems, stated in a teleconference with Energy and Water Solutions on October 22, 2012, that,

consistent with the Arizona Administrative Code, ADEQ would not entertain small-diameter sewers as collectors. Therefore, the SDG system was eliminated from further consideration.

2.1.2.2 Septic Tank Effluent Pump

Another type of collection and conveyance is the septic tank effluent pump (STEP) system, which, like SDG systems, also requires the use of septic tanks for the removal of solids, as well as for the routine pumping of those solids from the septic tanks. However, unlike SDG systems, septic tank effluent (gray water) is pumped from the tank through a pressurized small-diameter pipe. STEP systems typically use a common pressure sewer to convey sewage to a collection point. Compared to the SDG system, the benefit of the STEP system is that the main piping does not need to be constructed at a constant grade, which allows for shallower trenches.

ADEQ would require septic tanks to pass leakage tests. Since septic tanks, when manufactured, are not typically constructed to meet leakage tests, many of the existing tanks would require replacement or retro-fitting prior to use. ADEQ has indicated that the District would be required to own and operate the individual septic tanks if the STEP system was approved and implemented. The District's policy precludes ownership or operation of septic tanks due to legal and maintenance concerns. For these reasons, this alternative was eliminated from further consideration.

2.2 No Action Alternative

If no action is taken and the existing septic systems remain in service, system failures would continue to occur due to aging facilities. The No Action Alternative would result in the continued potential negative effects to the health and safety of the community and the surface and groundwater quality in the area because of the potential contamination due to aged and failing septic systems and leach fields.

Two alternatives are carried forward for analysis in this document: the Proposed Action and the No Action Alternative. The No Action Alternative evaluates the status quo and provides a basis for comparison of impacts.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

This section provides the existing or baseline conditions occurring within and around the project area, and analyzes the potential impacts associated with the Proposed Action and No Action Alternative. Potential impacts are described in terms of duration, intensity, type, and context. For the purposes of this analysis, duration of the impact is defined as:

- *Short-term*: impacts that would be less than 5 years in duration.
- *Long-term*: impacts that would be 5 years or more in duration.

For the purposes of this analysis, intensity or severity of the impact is defined as:

- *Negligible*: impact is barely perceptible or not measurable and is confined to a small area.
- *Minor*: impact is perceptible or measurable and is localized.
- *Moderate*: impact is clearly detectable or measurable and could have an appreciable effect on the resource or discipline.
- *Major*: impact would have a substantial, highly noticeable influence on the resource or discipline.

3.1 Land Use

3.1.1 Affected Environment

3.1.1.1 General Land Use

The proposed project is located within the Parker Strip, an area composed of residential, commercial, and recreational uses located between the Colorado River and State Route 95. Land adjacent to the Riverside Drive ROW includes private, ASLD, La Paz County, and BLM land. The *La Paz County Comprehensive Plan* designates the Parker Strip as its own mixed-use area, which allows for higher density residential development compared to the remainder of the county and encourages infill and redevelopment projects (La Paz County 2010). Proposed Lift Stations 1 and 3 would be located in zoning district C-2 (Regional Commercial Zoning) and proposed Lift Station 2 would be located in zoning district RA-5 (Rural Agricultural), both of which allow for public and semi-public neighborhood facilities, including pump stations less than 5,000 square feet in area (La Paz County 2012a).

3.1.1.2 Important Farmland

A review of the USDA Natural Resources Conservation Service's (NRCS) web soil survey indicates that no prime farmland, unique farmland, or farmland of statewide or local importance is located within or adjacent to the proposed project area (NRCS 2012).

3.1.1.3 Formally Classified Lands

Formally classified lands is a USDA RD/RUS classification which includes properties that are administered by federal, state, or local agencies or properties that have been afforded special protection. Formally classified lands include but are not limited to national parks and monuments; natural landmarks; national historic sites and parks; wilderness areas; wild and scenic and recreational rivers; wildlife refuges; national seashores, lakeshores, and trails; state parks; BLM-administered lands; national forests and grasslands; tribal lands; or leases administered by the Bureau of Indian Affairs.

Although not designated as a wild or scenic river by the National Wild or Scenic Rivers System, the Colorado River is a recreational river located adjacent to the project area. In addition, proposed Lift Station 3 would be located on BLM land that has been patented to La Paz County.

3.1.2 Environmental Consequences

3.1.2.1 General Land Use

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no changes to land use would occur.

Proposed Action

Many elements of the Proposed Action would occur in developed areas that include utility, transportation, and residential uses, including the Riverside Drive ROW; Lift Station 1; and the Sundance Resort, Rio Lindo, Fox's Resort, Sandbar at Redrock, Marina Village North, Marina Village, Marina Village Annex, Roadrunner RV Park, Branson's Resort/River's Edge, Casino Beach, Jolly Knight, Desert Star RV Park, and Plantation Resort communities. Areas of new disturbance would be limited to Lift Stations 2 and 3, as well as the force main, sewer line, and access road associated with Lift Station 3. Construction of the Proposed Action would be consistent with the La Paz County land use designations and zoning districts and therefore no direct effects to land use would occur.

Indirect effects associated with the Proposed Action include the potential to encourage new development within Phase 4 as a result of the improved sewer facilities. Given the amount of land surrounding Phase 4 that is under the jurisdiction of county, state, or federal land management agencies, however, there is a limited amount of private land available for new development. In addition, the *La Paz County Comprehensive Plan* encourages infill and redevelopment within the Parker Strip, so the Proposed Action may assist in meeting an existing need to provide wastewater facilities for approved development. Therefore, the Proposed Action may have a minor, short- or long-term beneficial effect on general land use by providing wastewater facilities to area that is currently unserved, but deemed appropriate for development by La Paz County.

3.1.2.2 Important Farmland

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. No direct or indirect impacts to important farmland would occur.

Proposed Action

None of the lands included in the Proposed Action are designated as prime farmland, unique farmland, or farmland of statewide or local importance, and therefore construction of the new Phase 4 wastewater system would not have direct or indirect effects on farmland.

3.1.2.3 Formally Classified Lands

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. No direct or indirect impacts to formally classified lands would occur.

Proposed Action

The Colorado River would continue to be used for recreational purposes. A beneficial, indirect effect of the Proposed Action on the Colorado River would be the reduced potential for septic contamination of surface and groundwater quality. The construction of proposed Lift Station 3 by the District on BLM land that has been patented to La Paz County would be consistent with the terms of the District's lease with La Paz County and with the accepted use of the land per the patent.

3.1.3 Mitigation

No mitigation would be required.

3.2 Floodplains

3.2.1 Affected Environment

A review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panels 04012C0202C, 04012C0203C, 04012C0204C, and 04012C0206C indicate that six tributaries to the Colorado River extend through the Parker Strip area (FEMA 2012) (see Section 6, Figure 3). These tributaries are also delineated by FEMA as the 100-year floodplain. None of the three proposed lift stations would be located within the areas defined by FEMA as the 100-year floodplain. As depicted in Figure 3, the proposed wastewater collection and conveyance facilities would cross the 100-year floodplain in six locations along Riverside Drive. In addition, the existing communities of Marina Village and Marina Village Annex and a portion of Sundance Resort are currently located within the 100-year floodplain.

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. No direct or indirect impacts to the 100-year floodplain would occur.

3.2.2.2 Proposed Action

The project elements proposed within the 100-year floodplain would be limited to sewer lines and stubs, which would be installed subsurface. Installation of the sewer lines potentially would result in a short-term, minor disruption to the floodplain during project construction where the lines would cross the tributaries. No long-term effects to flood flows or flood elevations are anticipated as a result of the Proposed Action because the Proposed Action would not permanently impede or redirect flows.

The Phase 4 Wastewater Conveyance Project is intended to serve existing communities which currently rely on septic systems, and therefore the Proposed Action is not expected to result in increased development within the floodplain. As described in Section 1.1, the District is coordinating with several existing communities within Phase 4 to determine the optimum method for providing sewer service to the individual communities. To support the service connections within Phase 4, the District would either provide a gravity sewer line into the communities or provide sewer stubs to the edge of the Riverside Drive ROW to enable access to the backbone conveyance system. Individual connections to residences or businesses would be the responsibility of the property owner. It also would be the responsibility of individual property owners to obtain the required permits from La Paz County, including any necessary coordination with the La Paz County Flood Control District to comply with its *Floodplain Management Ordinance 2010-01*.

Overall, construction of the Proposed Action would result in short-term, minor impacts to the 100-year floodplain, which would cease upon completion of construction. No indirect impacts to the 100-year floodplain are anticipated.

3.2.3 Mitigation

Construction of the Proposed Action would be required to comply with Section 5.3, Standards for Utilities, of the La Paz County Flood Control District's *Floodplain Management Ordinance 2010-01*. In addition, the finished grade of each lift station would be constructed at least one foot above the established 100-year flood elevation for the area to ensure protection of the proposed lift stations from flood events. All above-ground equipment at the lift stations would be constructed on concrete slabs above the finished grade.

3.3 Wetlands

3.3.1 Affected Environment

A review of the online National Wetlands Inventory maintained by the US Fish and Wildlife Service (USFWS) indicates that there are no wetlands within the Phase 4 project area (USFWS 2012).

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect impacts to wetlands would occur.

3.3.2.2 Proposed Action

The proposed Phase 4 project would not result in direct or indirect effects to wetlands as none occur within the project area.

3.3.3 Mitigation

No mitigation would be required.

3.4 Cultural Resources

Because the proposed project may receive financial assistance from USDA RD/RUS's Water and Environmental Program, it is an action subject to compliance with Section 106 of the National Historic Preservation Act, as amended (16 United States Code 470 et seq.). Section 106 (36 CFR Part 800, as amended August 5, 2004) requires federal agencies to consider the effects of their undertakings on historic properties and to consult with the State Historic Preservation Office (SHPO) and Native American tribes.

3.4.1 Affected Environment

The area of potential effects (APE) for the Proposed Action includes the existing Riverside Drive ROW, which varies in width between 50 feet and 200 feet; three proposed lift stations located outside of the existing ROW; and the existing Sundance Resort, Rio Lindo, Fox's Resort, Sandbar at Redrock, Marina Village North, Marina Village, Marina Village Annex, Roadrunner RV Park, Branson's Resort/River's Edge, Casino Beach, Jolly Knight, Desert Star RV Park, and Plantation Resort communities for which the District would either provide a gravity sewer line into the communities or provide sewer stubs to the edge of the Riverside Drive ROW to enable access to the backbone conveyance system.

Portions of the APE were previously surveyed for cultural resources for unrelated undertakings. Due to previous surface and subsurface disturbance, USDA RD/RUS directed that Lift Station 1, the existing Riverside Drive ROW, and the areas containing the existing communities—except for a vacant approximately two-acre parcel within Branson's Resort/River's Edge—would not require an inventory for cultural resources. While there are no immediate plans to develop this two-acre vacant parcel, the provision of stubs to this area would create additional incentive for its future development. Consequently, based on the direction from USDA RD/RUS, Logan Simpson Design Inc. (LSD) surveyed the two-acre vacant parcel, along with the areas proposed for Lift Stations 2 and 3 and their associated footprints.

The Class III (100 percent coverage) cultural resources survey did not identify any cultural resources (LSD 2013a). Research conducted for the Class I overview identified three previously recorded cultural resources within the APE. AZ L:16:53(ASM), is a cultural resources site, which at the time of initial recording, consisted of buildings and structures. The site has been previously recommended not eligible for inclusion in the National Register of Historic Places (NRHP) and no longer exists in the project area. The other two sites are AZ L:7:30(ASM), the historic alignment of State Route 95 and AZ L:12:15(ASM), the Parker-Gila 161-kilovolt transmission line. Neither site was re-recorded by LSD as the information potential of the sites has been recovered by previous survey. AZ L:12:15(ASM) has been previously recommended not eligible for listing in the NRHP. Although AZ L:7:30(ASM) has been previously determined eligible for inclusion in the NRHP, the segment of the road in the project area has been previously determined as non-contributing.

Based on the above information, USDA RD/RUS has determined that a finding of "no adverse effect" is appropriate for the Proposed Action, and the SHPO concurred (pending SHPO concurrence). USDA RD/RUS also consulted with ASLD, BLM, the Chemehuevi Tribe, the Colorado River Indian Tribes, the Fort Mojave Tribe, the Hopi Tribe, the Hualapai Tribe, the Moapa Band of Paiute Indians, the Yavapai-Apache Nation, and the Yavapai-Prescott Indian Tribe (Appendix A).

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect impacts to cultural resources would occur.

3.4.2.2 Proposed Action

No direct or indirect impacts to cultural resources would occur as a result of the Proposed Action.

3.4.3 Mitigation

It is possible that buried cultural resources could be encountered during ground-disturbing activities associated with the Proposed Action. If cultural resources are encountered during project construction, all ground-disturbing activities would cease in the immediate vicinity of the discovery. The District would be required to contact USDA RD/RUS immediately and allow time to properly assess the discovery and determine the appropriate treatment. If the discovery were to occur on BLM land patented to La Paz County, the District should also contact BLM.

3.5 Visual Aesthetics

3.5.1 Affected Environment

Land adjacent to Riverside Drive is composed primarily of undeveloped land, with clusters of houses, buildings, and RV parks on the west side of the road and directly adjacent to the Colorado River. The east side of Riverside Drive is characterized by varied landforms associated with the river valley bottom and its transition into the foothills of the Gibraltar Mountains to the east. The project limits generally traverse flat to slightly rolling topography of the river valley, but occasionally climb up and over the rugged, rolling foothill formations. Two transmission lines flank each side of Riverside Drive. The transmission line west of the road is composed of wood monopoles. To the east, the transmission structures are composed of two wood monopoles connected with a cross-beam and are located on the peaks of the foothills adjacent to Riverside Drive. The California shoreline of the Colorado River is visible where there are breaks in development and where Riverside Drive closely parallels the river. Across the river, the Whipple Mountains rise above the flat river valley bottom. Vegetation within the Riverside Drive ROW is sparse and limited to saltbush, iodinebush, seepweed, brittlebush, and bermudagrass. Native vegetation in adjacent upland areas is extremely sparse and dominated by creosotebush and brittlebush. Vegetation along the banks of the Colorado River is also visible in the northern portion of the project vicinity.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no change to the visual or aesthetic character of the area would occur.

3.5.2.2 Proposed Action

Due to ground disturbance, presence of construction equipment, and removal of existing vegetation, the Proposed Action would result in a short-term, moderate visual change during construction that would be clearly detectable compared to existing conditions. The proposed sewer lines and stubs would be buried below ground. Some segments of the sewer line would be constructed below the surface of Riverside Drive, and would therefore have no associated visual impact after the surface of the roadway is repaired. Other segments of the sewer line would cross flat to slightly rolling landforms adjacent to the roadway. In these locations, the ground surface and vegetation removal associated with the project would create horizontal lines and forms that would contrast with the natural landscape, but would be fairly consistent with the lines and forms of the existing roadway. Portions of the sewer line would be installed near the toe of the existing cut slopes associated with the roadway. It is understood within these locations, the area of disturbance would not affect the existing cut slopes.

The above-ground components of the proposed project would be limited to the three proposed lift stations, each of which would be enclosed by an eight-foot-high masonry block wall. Lift Stations 1 and 2 are proposed in developed areas. The forms, lines, colors, and textures of the components associated with these lift stations would be similar to those of the existing structures in the project vicinity, and would therefore result in a negligible visual change to these areas. Lift Station 3 would be located in a less developed portion of Riverside Drive adjacent to existing effluent holding ponds. Construction of Lift Station 3 would introduce a minor aesthetic change in its immediate vicinity, but would be consistent with the existing structures visible from this location.

Overall, the potential visual changes associated with the Proposed Action would be similar in line, form, and color with the features of the existing roadway, and would contrast minimally with the existing

landscape. With the implementation of site-specific mitigation measures, the degree of modification in visual conditions and character from the existing to post-construction conditions would be considered a long-term, minor change. No indirect impacts are expected to occur.

3.5.3 Mitigation

The contractor would be required to minimize the amount of vegetation clearing. When necessary, vegetation clearing would be irregular, and straight clearing lines would be avoided by varying the width of the area to be cleared or by leaving selected clumps of vegetation near the edge of the clearing limit. The contractor would avoid damaging vegetation that is to remain in place. In addition, the contractor would be required to restore the areas affected by ground-disturbing activities to conditions deemed acceptable by the District.

3.6 Biological Resources

3.6.1 Affected Environment

The Endangered Species Act of 1973, as amended, requires the protection of federally listed threatened and endangered species and their habitat. To comply with the requirements of the Endangered Species Act, a field visit and Biological Evaluation (BE) have been completed to identify threatened or endangered species with the potential to occur within the vicinity of the Proposed Action (LSD 2013b; Appendix B). The BE documents a "no effect" determination for the species with the potential to occur within the project area, and the USFWS concurred on January 29, 2013 (Appendix B).

3.6.1.1 Fish and Wildlife Resources

The USFWS list of threatened, endangered, proposed, and candidate species occurring in La Paz County (dated January 19, 2012) was reviewed to determine if any of these special status species have the potential to occur in the vicinity of the project limits. In addition, the Arizona Game and Fish Department's (AGFD) On-line Environmental Review Tool was accessed to determine if any special status species have been documented within three miles of the project limits.

The research identified 11 special status species with the potential to occur in the project vicinity. Seven of these species were eliminated from further analysis due to lack of suitable habitat or because the project is outside of the species' known distribution. The four remaining species include: bonytail chub (*Gila elegans*), desert tortoise (Sonoran population) (*Gopherus agassizii*), razorback sucker (*Xyrauchen texanus*), and the southwestern willow flycatcher (*Empidonax traillii extimus*).

There is designated critical habitat for the razorback sucker and critical habitat that has been proposed for the southwestern willow flycatcher along the Colorado River in the immediate project vicinity. The Colorado River and its 100-year floodplain from Parker Dam downstream to Imperial Dam has been designated as critical habitat for the razorback sucker, which is inclusive of the reach of the Colorado River in the project vicinity. The existing critical habitat designation for the southwestern willow flycatcher is being revised following a settlement agreement stemming from legal challenges to the 2005 critical habitat designation. The existing critical habitat designation does not include the Colorado River in the project vicinity, but the currently proposed critical habitat designation does include this section of river.

3.6.1.2 Vegetation

The project area occurs within the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Turner and Brown 1994). Vegetation observed within the Riverside Drive ROW includes

saltbushes (*Atriplex canescens, A. polycarpa,* and *A. lentiformis*), iodinebush (*Allenrolfea occidentalis*), seepweed (*Suaeda moquinii*), brittlebush (*Encelia farinosa*), and bermudagrass (*Cynodon dactylon*). Native vegetation in adjacent upland areas (i.e., the low hills to the east of the project area) is extremely sparse and dominated by creosotebush (*Larrea tridentata*) and brittlebush. There is very limited vegetation along the banks of the Colorado River in the project vicinity, including small patches of arrowweed (*Pluchea sericea*), seepweed, and tamarisk, as well as the occasional clump of cattails (*Typha* spp.) or giant reed (*Arundo donax*). Desert palms (*Washingtonia filifera*) are also fairly common on the banks along this stretch of river.

Some of Arizona's plant species are protected under the Arizona Native Plant Law (Arizona Revised Statutes, Chapter 7, Article 1:3-915A), requiring notification to the Arizona Department of Agriculture prior to the removal of any protected species. During the field visit, the project area was surveyed for the presence of protected native plants by visually inspecting potential disturbance areas (LSD 2013b; Appendix B). No protected native plants were observed within the project limits.

3.6.2 Environmental Consequences

3.6.2.1 Fish and Wildlife Resources

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. No direct or indirect impacts to fish or wildlife resources would occur.

Proposed Action

Bonytail Chub and Razorback Sucker

The Proposed Action would be restricted to the existing ROW along Riverside Drive and adjacent residential areas where the sewer line and ancillary facilities would be installed. The project would not impact the aquatic habitat associated with the Colorado River; therefore, no direct effects are anticipated. In addition, all construction activities would comply with the terms and conditions of the Clean Water Act Section 404 Permit and Section 401 Water Quality Certification (see Section 3.7 Water Quality). Therefore, no indirect effects to aquatic habitats downstream from the project area or any other indirect effects are anticipated. The Proposed Action would have no effect on the bonytail chub, razorback sucker, or their habitat.

Desert Tortoise (Sonoran Population)

Sonoran desert tortoises are not considered likely to occur within the project limits based on the lack of their preferred habitat (i.e., boulder-covered slopes) and the lack of suitable shelter sites. The AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* would be followed in the event that a Sonoran desert tortoise is encountered during construction. Because any Sonoran desert tortoises that may be found during project construction can be avoided or safely relocated out of harm's way, the project would have no direct or indirect impacts on the Sonoran desert tortoise or their habitat.

Southwestern Willow Flycatcher

Project activities would be restricted to the existing Riverside Drive ROW and adjacent residential areas where the sewer line and ancillary facilities would be installed. The project would not impact any riparian habitat associated with the Colorado River; therefore, no direct or indirect effects are anticipated to this species or its habitat.

3.6.2.2 Vegetation

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect impacts to vegetation or native plants would occur.

Proposed Action

Although protected native plants (i.e., mesquite and palo verde trees) were observed in adjacent areas outside of the project limits, none were found to occur within the project limits. No direct effects to protected native plants would occur. There would be a negligible short-term direct effect on vegetation resulting from the clearing of trees and bushes (not protected by the Arizona Native Plant Law) within the Riverside Drive ROW prior to sewer line installation. Vegetation cover similar to current levels would reestablish quickly. No indirect impacts to vegetation or native plants would occur.

3.6.3 Mitigation

3.6.3.1 Fish and Wildlife Resources

If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (Revised October 23, 2007) (Appendix B).

3.6.3.2 Vegetation

The contractor would be required to minimize the amount of vegetation clearing and avoid damaging vegetation that is to remain in place. In addition, the contractor would be required to restore the areas affected by ground-disturbing activities to conditions deemed acceptable by the District.

3.7 Water Quality

3.7.1 Affected Environment

Flows in this reach of the Colorado River are regulated by Parker Dam, which is located approximately six miles upstream of the project limits. The Bureau of Reclamation manages water levels in upstream reservoirs and regulates releases to meet the needs of downstream water users. Eagle Wash and five unnamed washes cross the project limits. These desert washes are normally dry and flow only in response to precipitation events when they convey storm flows west to the Colorado River. The proposed project is not located in a sole source aquifer.

The District is authorized to operate the Buckskin WWTP under an existing Aquifer Protection Permit, which was issued in May 2000 and amended in 2003 and in 2012. This permit authorizes the District to operate the Buckskin WWTP with a maximum average monthly flow of 228,000 gallons per day. All treated effluent is reused under a Type 2 Reclaimed Water Permit. Effluent produced by the treatment plant must meet Class A reclaimed water standards required by the Arizona Administrative Code.

As described in Section 1.2, the septic systems currently used by Phase 4 area residents and businesses are aging and some of the leach fields have failed, resulting in the potential for septic contamination of the surrounding area.

3.7.2 Environmental Consequences

3.7.2.1 No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. The risk of septic system failure would remain. The potential for degraded water quality resulting from septic contamination would continue.

3.7.2.2 Proposed Action

Construction of the Proposed Action would cross jurisdictional waters of the United States, resulting in a minor direct short-term impact. Waters of the United States are regulated by the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act; therefore, a Section 404 Permit would be required. The activities proposed for the Phase 4 Wastewater Conveyance Project meet the conditions of Nationwide Permit Number 12 (Utility Line Activities). All construction activities would comply with the terms and conditions of the USACE Section 404 Permit and Section 401 Water Quality Certification.

Because more than one acre of land would be disturbed, an Arizona Pollutant Discharge Elimination System (AZPDES) permit would be required. To comply with the terms and conditions of these permits, discharges of dredged or fill material (including all earthwork activities, such as clearing, grading, filling, and excavating) into watercourses would be minimized or avoided to the maximum extent practicable and would not involve the use of unsuitable material or toxic pollutants in toxic amounts. In addition, no excess concrete, curing agents, formwork, loose embankment materials, or fuel would be disposed of within the project area. As part of the AZPDES permit, a stormwater pollution prevention plan (SWPPP) would be prepared and implemented, which would minimize the transport of sediment by requiring the contractor to use stormwater and erosion control best management practices (BMPs).

3.7.3 Mitigation

The District and its contractor would be required to comply with the terms and conditions of Nationwide Permit Number 12 (Utility Line Activities) and the AZPDES permit. Implementation of a SWPPP and associated BMPs would protect water quality by controlling erosion and reducing the potential for sediment transport.

3.8 Coastal Resources

3.8.1 Affected Environment

The State of Arizona does not have a coastal zone management program, and no coastal resources occur.

3.8.2 Environmental Consequences

There is no potential to affect coastal resources.

3.8.3 Mitigation

No mitigation would be required.

3.9 Environmental Justice and Socioeconomics

3.9.1 Affected Environment

3.9.1.1 Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” and USDA Departmental Regulation 5600-2, “Environmental Justice,” provide guidance on identifying sensitive populations in order to prevent the exclusion of persons or populations from participation in or denial to persons or populations the benefits of any proposed action/activity, or subjection of persons or populations to discrimination because of race, color, or national origin.

These directives require the consideration of low-income, minority, disabled, and elderly populations. A minority person refers to a person who is racially classified as African American, Asian American, Native American or Alaskan Native, or anyone who classifies as “other” race. Hispanics are also considered minorities regardless of their racial affiliation. Elderly refers to individuals 60 years of age and over. Low-income households include households where the income level is below the established poverty level. Non-institutionalized civilians who are 16 years of age and older are considered to be disabled if they report a mobility disability, or a self-care limitation, or are work disabled. To assess whether minority, elderly, low-income, or disabled populations are disproportionately represented near the study area, data for the census tract and block groups is compared with the data for La Paz County and all of Arizona (Tables 1, 2, and 3).

The project area lies within one census tract and two block groups (see Section 6, Figure 4). Block Groups 1 and 3 of Census Tract 202.01 include the Parker Strip and a portion of the Buckskin Mountain State Park. The boundaries of the census tract and block groups extend beyond the project area; therefore, the exact population and demographic characteristics of the project area may vary from the data presented in Tables 1, 2, and 3.

The two census block groups contain 935 people, of which more than 94 percent are White (Table 1). Hispanic, which is considered an ethnicity rather than a race, represents the second largest population with an average of 6 percent of the population throughout the two block groups (Table 2). The racial composition of the block groups is notably different from the racial composition of La Paz County and Arizona. The block groups include more people who identify as White and far fewer who identify as Hispanic. The minority population, which excludes the White non-Hispanic population, is significantly lower within the block groups than within La Paz County and Arizona (Table 2).

The average elderly population in the two block groups is higher than that in La Paz County and is more than double the elderly population statewide (Table 3). The percentage of people living in poverty in Census Tract 202.01 is higher than the percentages in La Paz County and statewide. The percentage of disabled individuals living within Census Tract 202.01 is lower than the percentage within La Paz County but is higher than the statewide percentage.

Table 1. 2010 population and racial demographics

Area	Total Population	No. of White (%)	No. of African American (%)	No. of Native American (%)	No. of Asian (%)	No. of Native Hawaiian/Pacific Islander (%)	No. of Other (%)	No. of Two or More Races (%)
Tract 202.01, BG 1	712	673 (94.5)	3 (0.4)	10 (1.4)	3 (0.4)	0 (0)	11 (1.5)	12 (1.7)
Tract 202.01, BG 3	223	207 (92.8)	3 (1.3)	1 (0.4)	2 (0.9)	0 (0.0)	2 (0.9)	8 (3.6)
Total	935	880 (94.1)	6 (0.6)	11 (1.2)	5 (0.5)	0 (0)	13 (1.4)	20 (2.1)
La Paz County	20,489	14,306 (69.8)	129 (0.6)	2,628 (12.8)	107 (0.5)	7 (0.03)	2,551 (12.5)	761 (3.7)
Arizona	6,392,017	4,667,121 (73.0)	259,008 (4.0)	296,529 (4.6)	176,695 (2.8)	12,648 (0.2)	761,716 (11.92)	218,300 (3.4)

Source: US Census Bureau 2010.

Note: BG = block group; No. = number; % = percent.

Table 2. 2010 Hispanic and minority population

Area	No. of Hispanic (%)[a]	No. of Minority (%)[b]
Tract 202.01, BG 1	45 (6.3)	84 (11.8)
Tract 202.01, BG 3	11 (4.9)	27 (12.1)
Total	56 (6.0)	111 (11.9)
La Paz County	4,806 (23.5)	9,537 (46.5)
Arizona	1,895,149 (29.6)	2,648,571 (41.4)

Source: US Census Bureau 2010.

Note: BG = block group; No. = number; % = percent.

[a] *Hispanic* refers to the total population with the exception of the white non-Hispanic population.

[b] *Minority* refers to ethnicity, not a separate race, and is derived from the total population.

Table 3. Age 60 years and over, below poverty level, and disabled populations

Area	No. of Age 60 Years and Over (%)[a]	No. of Below Poverty Level (%)[b]	No. of Disabled (%)[c]
Tract 202.01, BG 1	307 (43.1)	—	—
Tract 202.01, BG 3	125 (56.0)	—	—
Total Tract	432 (46.2)	431(17.5)	761 (27.8)
La Paz County	8,516 (41.6)	2,767 (16.8)	5,186 (35.0)
Arizona	1,232,791 (19.3)	590,506 (13.1)	806,249 (23.3)

Note: BG = block group; No. = number; % = percent.

[a] Data obtained from the US Census Bureau (2010).

[b] 2010 poverty levels are not available at the census block group level. The data presented is for the census tract only (*2006–2010 American Community Survey 5-Year Estimates*). American Community Survey data is aggregated over 5 years for a given census tract.

[c] Disability data is unavailable for the 2010 census; data presented is from the 2000 census (US Census Bureau 2000), which included the project area census tract and block groups.

3.9.1.2 Socioeconomics

Data available from the 2007-2011 American Community Survey (ACS) 5-year Estimates indicate that the median household income in Census Tract 202.01 is $36,750 and the unemployment rate is 9.9 percent (US Census Bureau 2011). Residents within Census Tract 202.01 are employed in a diverse range of occupations including service occupations (30.1 percent); management, business, science, and the arts (28.4 percent); natural resources, construction, and maintenance (20.8 percent); sales and office occupations (11.1 percent); and production, transportation, and material moving occupations (9.6 percent) (US Census Bureau 2011).

3.9.2 Environmental Consequences

3.9.2.1 Environmental Justice

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities, and no direct or indirect impacts to sensitive populations would occur. However, the risk of septic system failure would remain, and the potential for degraded water quality resulting from septic contamination would continue.

Proposed Action

Minority populations occur in lower numbers within the Phase 4 area than in La Paz County or in Arizona. The elderly, low-income, and disabled populations within the census tract are higher compared to countywide and statewide populations. All people within Phase 4 would be afforded equal access to the services this project would provide, and no group would be disproportionately or adversely affected by any of the minor, short-term impacts associated with construction or operation of the wastewater system. No direct or indirect environmental justice impacts are anticipated to occur.

3.9.2.2 Socioeconomics

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities. Residents and businesses would not benefit from the wastewater facilities and would continue to rely on septic systems. The risk of septic system failure would remain, and the potential for degraded water quality resulting from septic contamination would continue.

Proposed Action

Construction of the Proposed Action would have a direct, beneficial effect on residents and businesses in the area by providing safe, efficient wastewater facilities. No residences or businesses would have to be relocated to accommodate the proposed Phase 4 project. No indirect socioeconomic impacts are anticipated.

3.9.3 Mitigation

No mitigation would be required.

3.10 Miscellaneous Issues

3.10.1 Affected Environment

3.10.1.1 Air Quality

The proposed Phase 4 project is in attainment for all criteria pollutants (ADEQ 2012).

3.10.1.2 Transportation

Riverside Drive is a north-south two-lane route serving the communities within the Parker Strip. Alternative north-south access between Parker and Parker Dam is provided by State Route 95, which generally parallels Riverside Drive. Within the Phase 4 area, Golf Course Drive and Resort Road enable east-west access between Riverside Drive and State Route 95.

3.10.1.3 Noise

Ambient noise levels within the Parker Strip are associated with residential, recreational, and transportation uses between Riverside Drive and the Colorado River. Noise receptors include the existing communities that would be served by the Proposed Action.

3.10.2 Environmental Consequences

3.10.2.1 Air Quality

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect impacts to air quality would occur.

Proposed Action

Short-term, minor impacts to local air quality would include emissions from construction vehicles and fugitive dust associated with the subsurface installation of force mains and sewer lines and ground preparation for the construction of Lift Stations 2 and 3. In accordance with ADEQ's design requirements for sewage collection systems, each lift station would include an odor-control unit which would draw malodorous air from the enclosed space through a series of chambers and air diffusers before releasing the air into the atmosphere. No long-term direct adverse impacts to air quality are anticipated as a result of the Proposed Action. No indirect impacts are anticipated.

3.10.2.2 Transportation

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect transportation impacts would occur.

Proposed Action

During construction, short-term, minor impacts to local traffic along Riverside Drive would be anticipated as individual portions of the wastewater system are installed. While large segments of the new force mains and sewer lines would be installed within unpaved portions of the ROW, there are sections of the wastewater conveyance system that would be installed beneath the paved surface of Riverside Drive to avoid topographic features and/or conflicts with other utilities located within the ROW. Temporary shoulder or single-lane closures may be required for construction of the Proposed Action, which would result in

temporary increases in traffic congestion and travel times. No long-term or indirect adverse transportation impacts are anticipated as a result of the Proposed Action.

3.10.2.3 Noise

No Action

Under the No Action Alternative, the District would not expand its wastewater facilities and no direct or indirect noise impacts would occur.

Proposed Action

There would be a short-term, minor increase in ambient noise levels during construction. Noise associated with the operation of the pumps at the lift stations is expected to be minor. The lift stations would be surrounded by an eight-foot-high enclosure, which would also serve as a sound barrier. No indirect impacts would occur.

3.10.3 Mitigation

3.10.3.1 Air Quality

La Paz County does not currently have a dust control ordinance. However, the contractor would be required to comply with the *Public Works Standards* for La Paz County, which include specifications for earthwork and the use of water trucks to control fugitive dust during construction (La Paz County 2012b).

3.10.3.2 Transportation

In accordance with the *Public Works Standards* for La Paz County, the contractor would be required to implement traffic control measures during construction to minimize impacts to local traffic.

3.10.3.3 Noise

La Paz County does not have a noise ordinance. The La Paz County Sheriff's Office is responsible for handling community noise complaints. The contractor would be required to limit construction to daylight hours.

3.11 Cumulative Effects

A *cumulative effect* is defined by the Council on Environmental Quality regulations as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7).

Past and present actions that have influenced the Parker Strip area include residential, commercial, recreational, utility, and transportation projects. The Town of Parker, La Paz County, ASLD, and BLM were contacted to introduce the project and solicit input on the Proposed Action (refer to Section 5.0, Agency Correspondence). In addition, the Town of Parker and La Paz County websites were reviewed to identify foreseeable future projects. No reasonably foreseeable future projects were identified within the project vicinity.

Based on the analysis presented in Sections 3.1 through 3.10, the Proposed Action has limited potential to contribute an incremental impact to the respective resource areas. Because the Proposed Action would not affect important farmlands, formally classified lands, wetlands, cultural resources, visual aesthetics, special

status species, coastal resources, or socioeconomic/environmental justice populations, the project would not have a cumulative impact on any of these resource areas.

Minor effects to air quality, local traffic patterns, and noise are anticipated during project construction. However, these impacts are temporary in nature and would last only for the duration of construction. It is unlikely that the construction of the Phase 4 wastewater facilities would occur simultaneously with other construction projects in the vicinity; therefore, cumulative impacts associated with air quality, traffic, or noise during construction are not anticipated.

Noise associated with the operation of the pumps at the lift stations is expected to be minor, and would be reduced by construction of the eight-foot-high enclosure around each lift station. As a result, operation of the lift stations is not expected to result in a cumulatively considerable increase in ambient noise within the Phase 4 area.

As described in Section 3.1.2.1, expansion of the District's wastewater system has the potential to encourage limited development within Phase 4 as a result of the improved sewer facilities. However, the new system is proposed to serve existing communities which currently rely on septic systems. The exception is a vacant two-acre parcel within the Branson's Resort/River's Edge community. While there are no immediate plans to develop this parcel, the provision of stubs to this area would create additional incentive for its future development. The size of the parcel, however, would severely limit the number of residences that could be developed at this location. Infill and redevelopment within the Parker Strip is strongly encouraged in the *La Paz County Comprehensive Plan*, and therefore the provision of wastewater infrastructure to the vacant parcel would be consistent with the County's Comprehensive Plan which guides future development. Therefore, the Proposed Action would not have a cumulatively considerable impact on land use.

Construction of the Phase 4 system would cross the 100-year floodplain in six locations. Installation of the sewer lines potentially would result in a short-term, minor disruption to the floodplain during project construction where the sewer lines cross the tributaries. The Proposed Action is intended to serve existing communities which currently rely on septic systems, and therefore the proposed project is not expected to result in increased development within the floodplain. Any future development would be required to comply with the La Paz County Flood Control District's *Floodplain Management Ordinance 2010-01*. The Proposed Action would not result in cumulatively considerable impacts to the 100-year floodplain.

Construction of the Phase 4 system would require compliance with the terms and conditions of Nationwide Permit Number 12 (Utility Line Activities) and the AZPDES permit. In addition, implementation of a SWPPP and associated BMPs would protect water quality by controlling erosion and reducing the potential for sediment transport. No cumulative effect on water quality would be anticipated during project construction. The purpose of the Proposed Action is to provide wastewater facilities to portions of the District's service area currently served by septic systems to alleviate the risk of septic failure and protect water quality in the area. By reducing the risk of septic failure, the Proposed Action would have a cumulatively beneficial effect on water quality.

4.0 SUMMARY OF MITIGATION

4.1 Land Use

No mitigation would be required.

4.2 Floodplains

Construction of the Proposed Action would be required to comply with Section 5.3, Standards for Utilities, of the La Paz County Flood Control District's *Floodplain Management Ordinance 2010-01*. In addition, the finished grade of each lift station would be constructed at least one foot above the established 100-year flood elevation for the area to ensure protection of the proposed lift stations from flood events. All above-ground equipment at the lift stations would be constructed on concrete slabs above the finished grade.

4.3 Wetlands

No mitigation would be required.

4.4 Cultural Resources

It is possible that buried cultural resources could be encountered during ground-disturbing activities associated with the Proposed Action. If cultural resources are encountered during project construction, all ground-disturbing activities would cease in the immediate vicinity of the discovery. The District would be required to contact USDA RD/RUS immediately and allow time to properly assess the discovery and determine the appropriate treatment. If the discovery were to occur on BLM land patented to La Paz County, the District should also contact BLM.

4.5 Visual Aesthetics

The contractor would be required to minimize the amount of vegetation clearing. When necessary, vegetation clearing would be irregular, and straight clearing lines would be avoided by varying the width of the area to be cleared or by leaving selected clumps of vegetation near the edge of the clearing limit. The contractor would avoid damaging vegetation that is to remain in place. In addition, the contractor would be required to restore the areas affected by ground-disturbing activities to conditions deemed acceptable by the District.

4.6 Biological Resources

4.6.1 Fish and Wildlife Resources

If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (Revised October 23, 2007) (Appendix B).

4.6.2 Vegetation

The contractor would be required to minimize the amount of vegetation clearing and avoid damaging vegetation that is to remain in place. In addition, the contractor would be required to restore the areas affected by ground-disturbing activities to conditions deemed acceptable by the District.

4.7 Water Quality

The District and its contractor would be required to comply with the terms and conditions of Nationwide Permit Number 12 (Utility Line Activities) and the AZPDES permit. Implementation of a SWPPP and associated BMPs would protect water quality by controlling erosion and reducing the potential for sediment transport.

4.8 Coastal Resources

No mitigation would be required.

4.9 Environmental Justice and Socioeconomics

No mitigation would be required.

4.10 Miscellaneous Issues

4.10.1 Air Quality

La Paz County does not currently have a dust control ordinance. However, the contractor would be required to comply with the *Public Works Standards* for La Paz County, which include specifications for earthwork and the use of water or other dust palliative to control fugitive dust during construction (La Paz County 2012b).

4.10.2 Transportation

In accordance with the *Public Works Standards* for La Paz County, the contractor would be required to implement traffic control measures during construction to minimize impacts to local traffic.

4.10.3 Noise

La Paz County does not have a noise ordinance. The La Paz County Sheriff's Office is responsible for handling community noise complaints. The contractor would be required to limit construction to daylight hours.

5.0 AGENCY CORRESPONDENCE

Coordination letters were sent to several resource and land management agencies during the preparation of this ER to gather information and input on the Proposed Action. These agencies included AGFD, ASLD, BLM, La Paz County Community Development Department, Town of Parker, and USFWS. To date, three responses have been received from AGFD, ASLD, and USFWS, as summarized below.

In his response dated December 21, 2012, Tab Bommarito, Habitat Specialist for Region IV of AGFD, stated that AGFD does not anticipate that the Proposed Action would result in impacts to any of the listed species with the potential to occur in the project vicinity.

Manny Patel of ASLD responded by telephone on January 15, 2013. He stated that ASLD is interested in speaking with the District about the project and asked for a District point of contact to discuss the possibility of future service to some of the surrounding ASLD parcels. A District point of contact was provided to Mr. Patel in an email on January 22, 2013. Mr. Patel also noted that some of the communities at the northern extent of the project area are on ASLD land. To confirm land ownership, Mr. Patel asked Jenna Straface, Senior GIS Analyst with ASLD, to provide ASLD's GIS layer to confirm land ownership of the northern communities. Ms. Straface provided the data by email on January 16, 2013.

On January 18, 2013, Carrie Marr, Environmental Contaminant Specialist for USFWS, responded by email and provided a species list for La Paz County. The species list, which was already reviewed during the preparation of the BE for the Phase 4 project, provides information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act, and which may occur in the Phase 4 project area.

6.0 EXHIBITS/MAPS

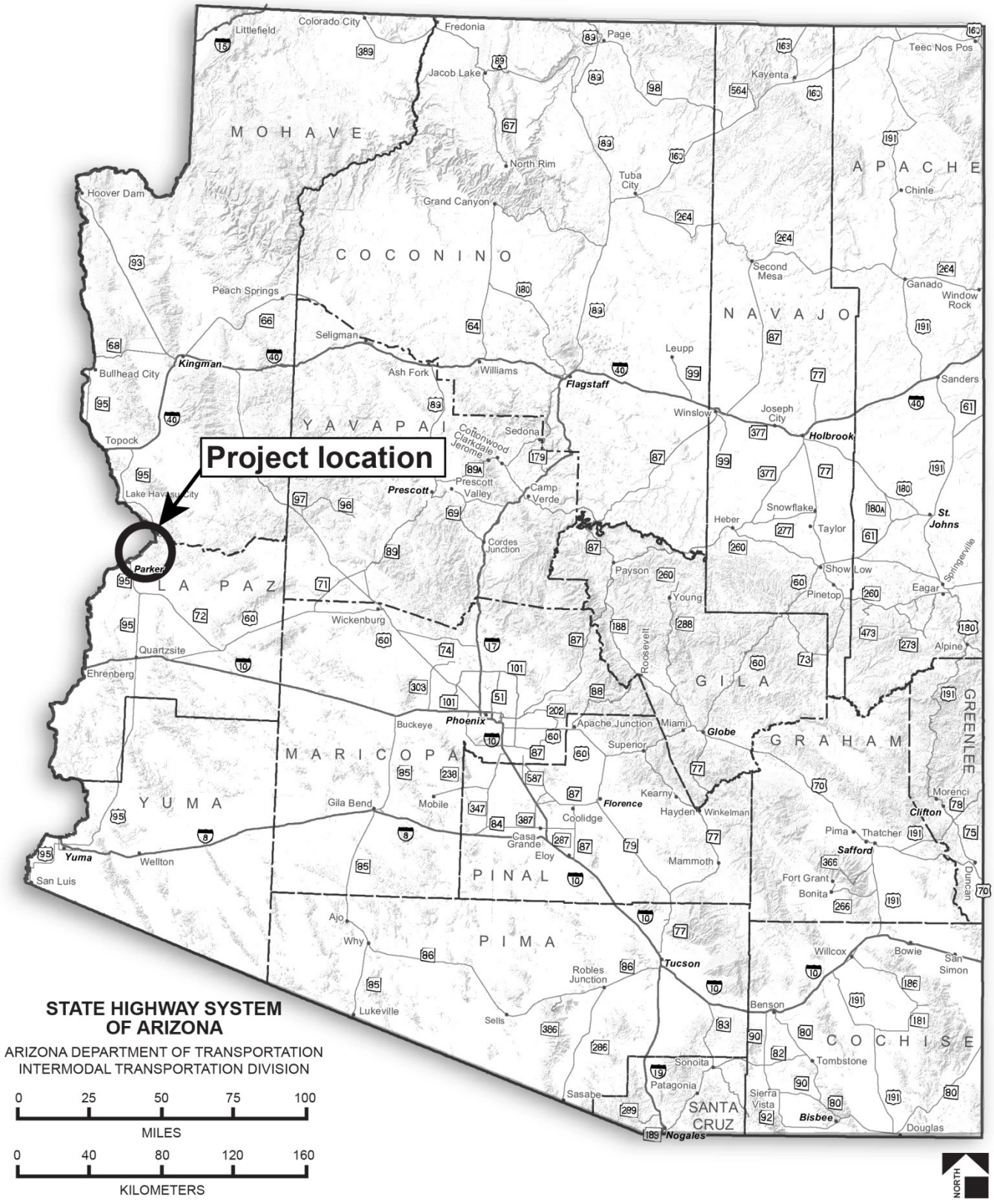


Figure 1. State Location Map

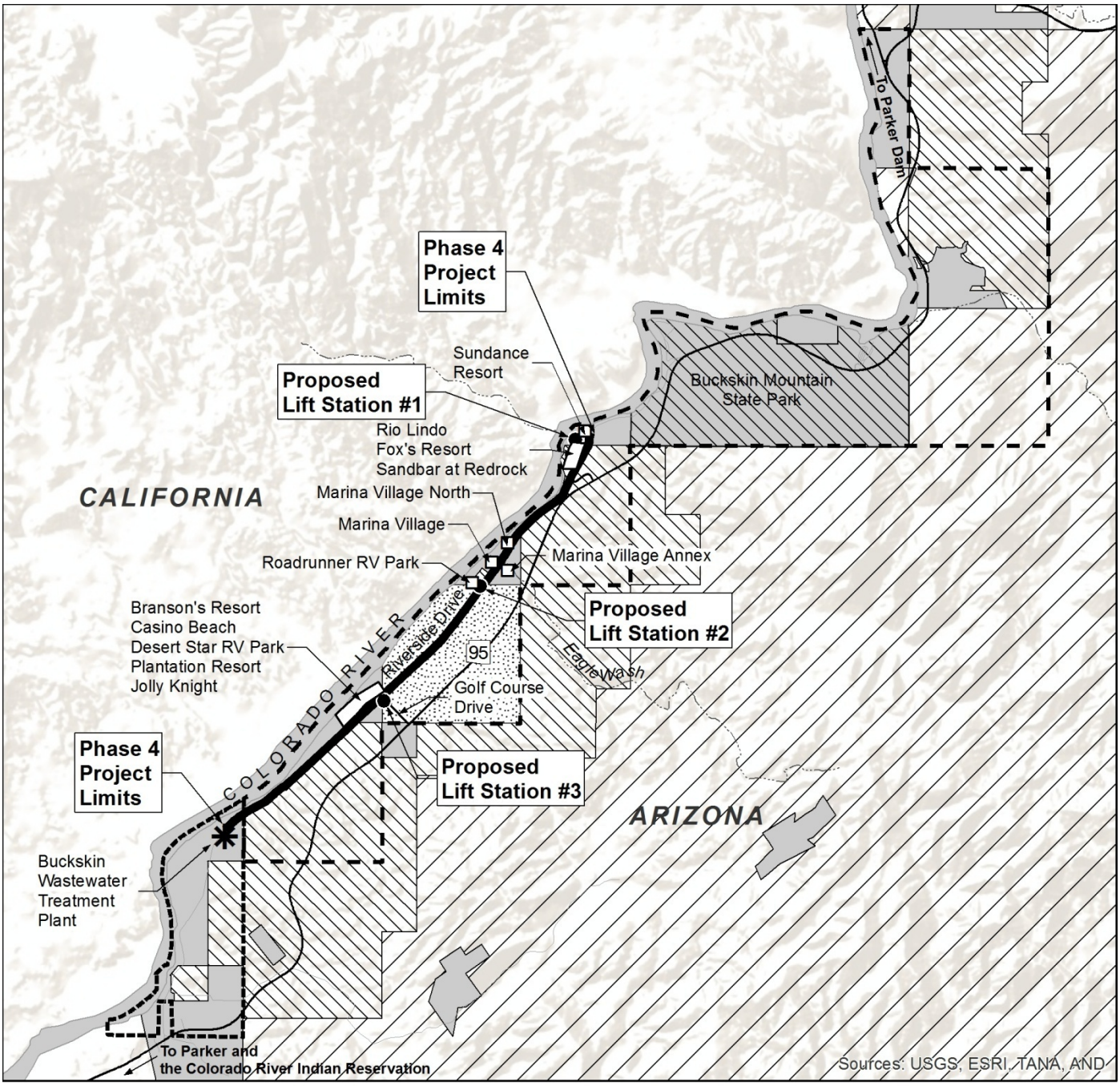


Figure 2. Project Location Map

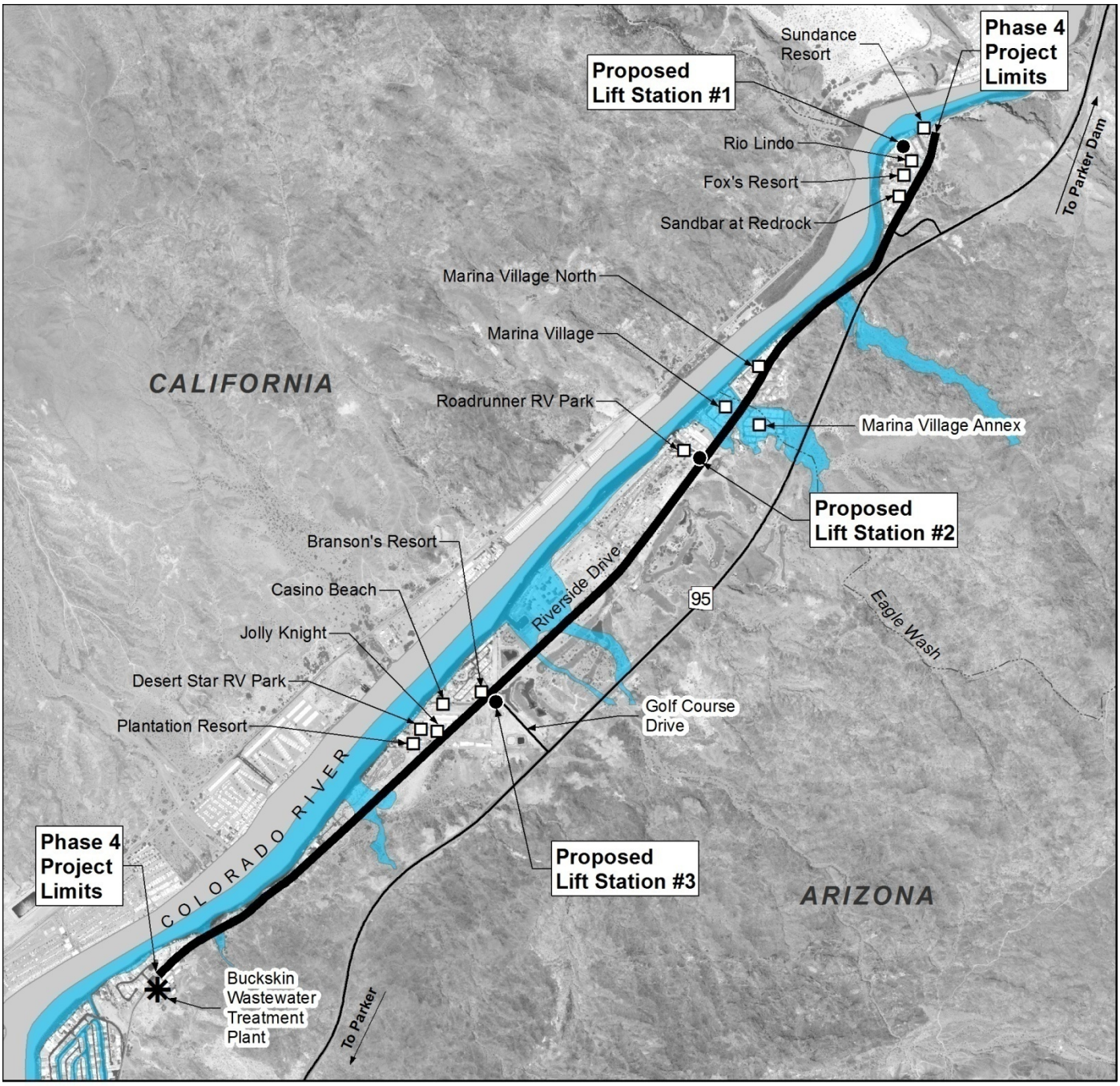
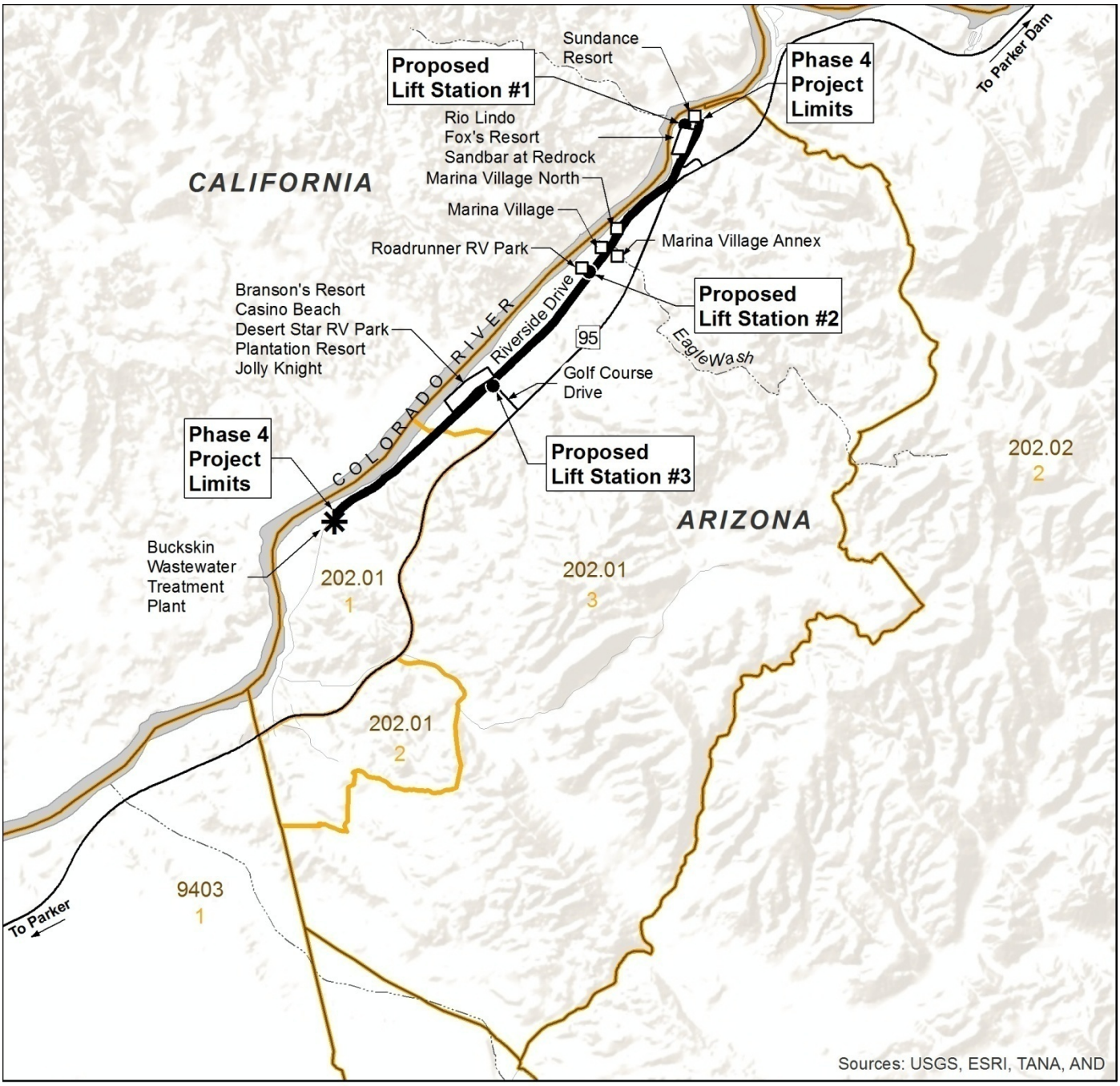


Figure 3. 100-Year Floodplain



Source: Arizona Transportation Information System GIS Coverage (2007); US Census Tract (2012); US Census Block Group (2012)

Key

- Community expected to receive sewer service (not to scale)
- 2010 Census Tract
- 2010 Block Group
- Proposed Lift Stations
- Phase 4 Project Limits

Miles
0 0.5 1

NORTH

Figure 4. Census Tract and Block Groups

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Appendix A
SECTION 106 CONSULTATION LETTERS

TO BE APPENDED

PENDING COMPLETION OF SECTION 106 CONSULTATION

Appendix B
BIOLOGICAL EVALUATION

Biological Evaluation
for
Buckskin Sanitary District
Phase 4 Wastewater Conveyance Project

Prepared for

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January 2013

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1. Project Location

The proposed sewer system expansion project is located approximately 4 miles north of Parker in La Paz County, Arizona (Figure 1). The project limits extends along Riverside Drive from the Buckskin Wastewater Treatment Plant (WWTP) north to the Sundance Resort (Figure 2). The project would occur within the existing right-of-way along Riverside Drive, which is maintained by La Paz County, and on adjacent private land, La Paz County land, and land patented to La Paz County by the Bureau of Land Management (BLM). The project area legal description includes a portion of Section 31, Township 11 North, Range 18 West; a portion of Section 6, Township 10 North, Range 18 West; and portions of Sections 1, 11, 12, 14, and 15, Township 10 North, Range 19 West (Gila and Salt River Baseline and Meridian).

Throughout this Biological Evaluation, the term “project limits” is used to represent the construction footprint (area of disturbance), while the term “project area” also includes surrounding lands, outside but adjacent to the project limits. The term “project vicinity” is used to denote a more expansive landscape context.

2. Project Description

The Buckskin Sanitary District (District), with financial assistance from US Department of Agriculture (USDA) Rural Development (RD), is proposing to expand its wastewater collection and conveyance facilities within a portion of its Southern Planning Area. The proposed project would expand wastewater facilities to serve Phase 4, which extends along Riverside Drive from the Buckskin WWTP to the Sundance Resort.

The District owns and operates a collection system and the Buckskin WWTP, which was initially constructed to serve only the Sandpiper Condominiums adjacent to the treatment plant. However, the Buckskin WWTP now serves all of the wastewater flow from the sewered portions of the southern part of the District’s Planning Area. Existing residential communities north of the treatment plant rely on individual and community septic systems. The Buckskin WWTP is subject to considerable fluctuations in influent flow rates. In addition, the septic systems currently used by Phase 4 residents and businesses are aging and some of the leach fields have failed, resulting in high maintenance costs and the potential for septic contamination of the surrounding area.

Consistent with the District’s mission, the purpose of the proposed project is to provide wastewater facilities to developed, unserved portions of the District’s service area. In addition, the proposed project would help regulate wastewater flows into the Buckskin WWTP and alleviate the risk of failure associated with

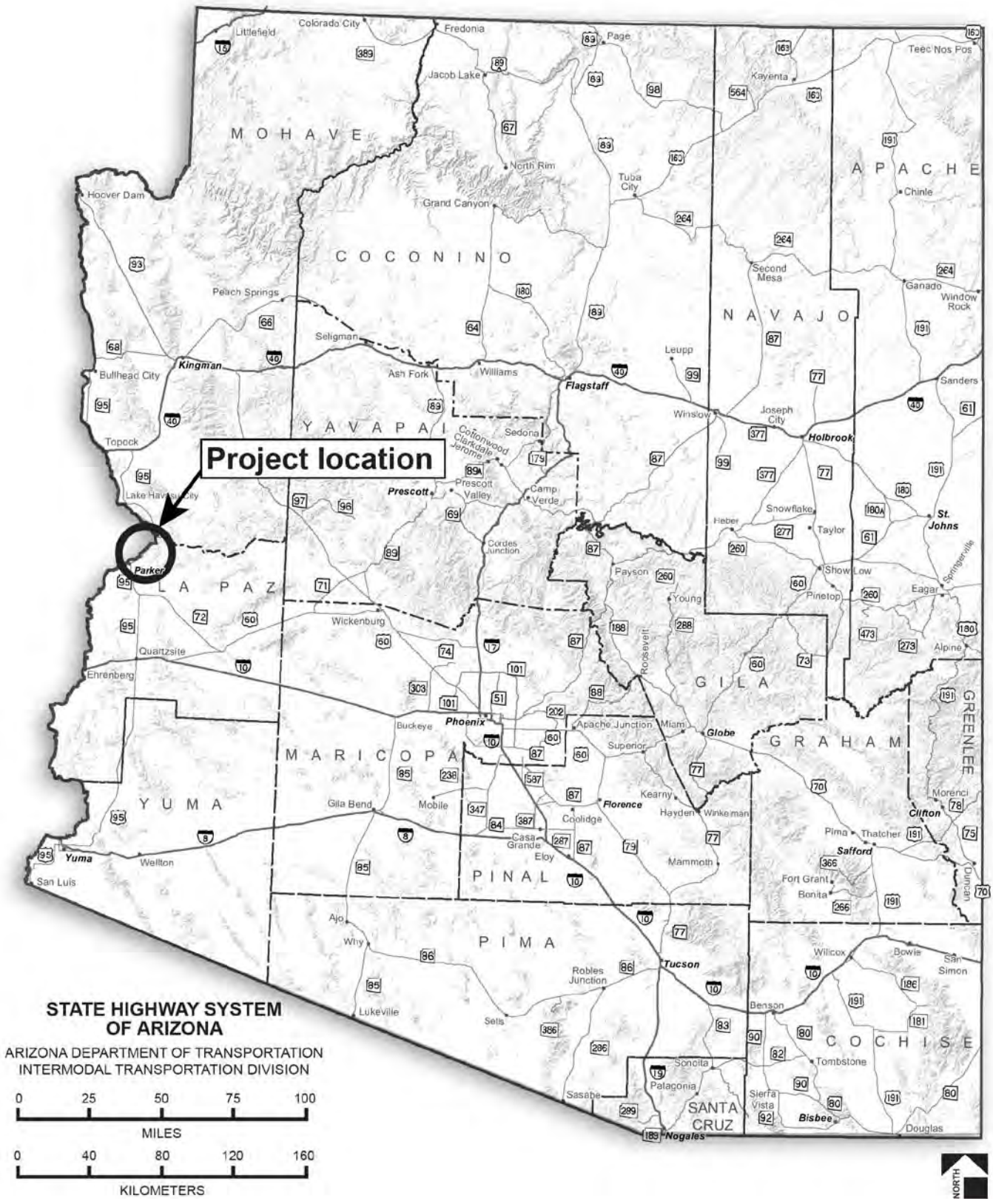
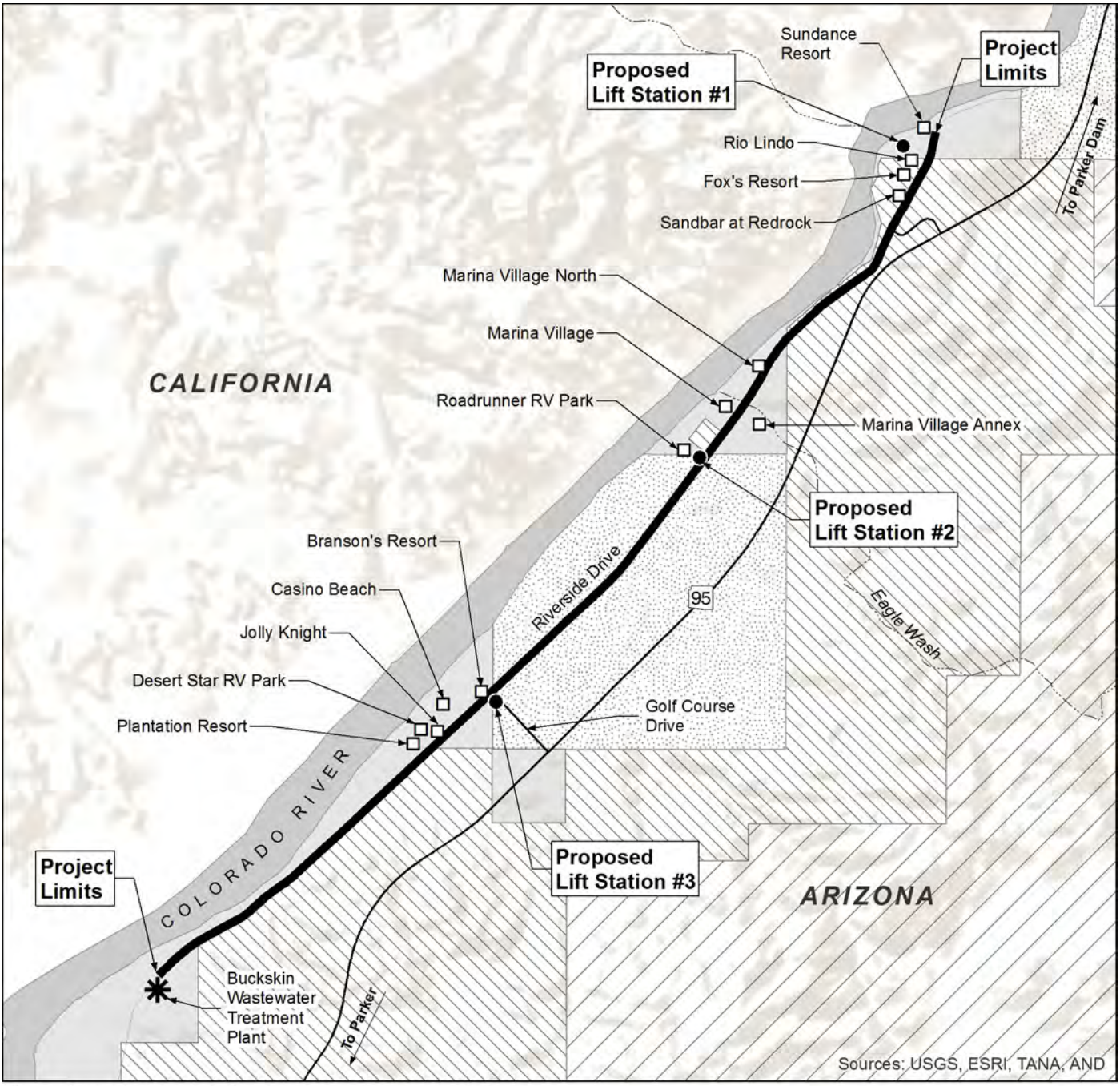


Figure 1. Project location



Source: Arizona Transportation Information System GIS Coverage (2007); Arizona State Land Department GIS Coverage (2008)

Figure 2. Project vicinity

individual and community septic systems, thereby protecting the health and safety of the community and the surface and groundwater quality in the area.

The proposed project would include the construction of a backbone conveyance system and service to the existing community collection systems. The backbone conveyance system would consist of a series of 8-inch and 10-inch gravity collector sewers, 4-inch and 6-inch force mains, and three lift stations. The gravity collector sewers and force mains would be constructed primarily within the existing Riverside Drive right-of-way, which is maintained by La Paz County.

The three proposed lift stations would convey wastewater from the northern portion of Phase 4 to the Buckskin WWTP, and would be constructed outside of the Riverside Drive right-of-way. Lift Station 1 would consist of converting an existing pump station into a District-owned lift station. Lift Station 2 would be a new facility, and would be located west of Riverside Drive and south of the Roadrunner recreational vehicle (RV) park. Lift Station 3 also would be a new facility, and would be located near the District's existing effluent holding ponds east of Riverside Drive and south of Golf Course Drive on BLM land that has been patented to La Paz County.

The District is coordinating with several communities within Phase 4 to determine the optimum method(s) of providing sewer service to the individual communities. These communities include: Sundance Resort, Rio Lindo, Sandbar at Redrock, Fox's Resort, Marina Village North, Marina Village Annex, Marina Village, Roadrunner RV Park, Branson's Resort, River's Edge, Casino Beach, Plantation Resort, Desert Star RV Park, and Jolly Night.

The project would result in encroachment into jurisdictional waters of the United States as regulated by the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act; therefore, a Section 404 Permit would be required. The activities proposed for the Phase 4 wastewater conveyance project meet the conditions of Nationwide Permit 12 (Utility Line Activities); preconstruction notification to the USACE would not be required because of the small area that would be disturbed. All construction activities would comply with the terms and conditions of the USACE Section 404 Permit and associated Section 401 Water Quality Certification. Because more than 1 acre of land would be disturbed, an Arizona Pollutant Discharge Elimination System (AZPDES) permit would be required. To comply with the terms and conditions of these permits, discharges of dredged or fill material (including all earthwork activities, such as clearing, grading, filling, and excavating) into watercourses would be minimized or avoided to the maximum extent practicable and would not involve the use of unsuitable material or toxic pollutants in toxic amounts. In addition, no excess concrete, curing agents, formwork, loose embankment materials, or fuel would be disposed of within the project area. As part of the AZPDES permit, a Storm Water Pollution Prevention

Plan (SWPPP) would be prepared and implemented, which would minimize the transport of sediment by requiring the contractor to use storm water and erosion control best management practices (BMPs).

3. Location Description

The project area is located along the Parker Strip, which borders the Colorado River in western Arizona, at elevations from 370 feet to 410 feet above mean sea level. This area lies near the northwestern limit of the Sonoran Desert Ecoregion (Marshall et al. 2000), which has a characteristic bimodal rainfall pattern, high summer temperatures, and mild winters. The project area is located on a relatively flat and narrow strip of land that is situated between the Colorado River to the west and the Buckskin Mountains to the east. Most of the project area along Riverside Drive has been developed for residential, commercial, and recreational use.

The project area occurs within the Lower Colorado River Valley subdivision of the Sonoran Desertscrub Biotic Community (Turner and Brown 1994), which is characterized by high temperatures, generally low precipitation, and an assemblage of vegetation and wildlife species that is specifically adapted to these conditions. However, most of the vegetation within the project right-of-way along Riverside Drive is regularly cleared during roadway maintenance; plants that were occasionally observed within the roadway right-of-way included saltbushes (*Atriplex canescens, A. polycarpa,* and *A. lentiformis*), iodinebush (*Allenrolfea occidentalis*), seepweed (*Suaeda moquinii*), brittlebush (*Encelia farinosa*), and bermudagrass (*Cynodon dactylon*). Native vegetation in adjacent upland areas (i.e., the low hills to the east of the project area) is extremely sparse and dominated by creosotebush (*Larrea tridentata*) and brittlebush. There is very limited vegetation along the banks of the Colorado River in the project vicinity, including small patches of arrowweed (*Pluchea sericea*), seepweed, and tamarisk, as well as the occasional clump of cattails (*Typha* spp.) or giant reed (*Arundo donax*). Desert palms (*Washingtonia filifera*) are also fairly common on the banks along this stretch of river.

The proposed sewer lines would cross Eagle Wash and five other, unnamed, washes within the project limits; these desert washes are normally dry and flow only in response to precipitation events when they convey storm flows west to the Colorado River. Vegetation tends to be denser along these desert washes than in other upland areas, with larger shrubs (e.g., wolfberry [*Lycium* sp.], saltbushes [*Atriplex* spp.]) and trees including mesquites (*Prosopis* spp.), paloverdes (*Parkinsonia* spp.), and tamarisk (*Tamarix* sp.).

The Colorado River defines the border between Arizona and California in this area. Flows in this reach are regulated by Parker Dam, which is located approximately 6 miles upstream of the project area. The Bureau of Reclamation manages water levels in upstream reservoirs and regulates releases to meet the needs of

downstream water users. The lower Colorado River is well known for its boating and fishing opportunities, and the magnitude of recreational watercraft use on the river has increased dramatically over the past several decades. Native fish species that occur in the lower Colorado River include the bonytail chub (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), and flannelmouth sucker (*Catostomus latipinnis*). Non-native fish species include the largemouth bass and smallmouth bass (*Micropterus salmoides* and *M. dolomieu*), striped bass (*Morone saxatilis*), sunfish (*Lepomis* spp.), black crappie (*Pomoxis nigromacalatus*), common carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), and flathead catfish (*Pylodictis olivaris*).

4. Critical Habitat/Other Special Land Use Designations

Critical Habitat

There is designated critical habitat for the razorback sucker and critical habitat that has been proposed for the southwestern willow flycatcher along the Colorado River in the immediate project vicinity. The Colorado River and its 100-year floodplain from Parker Dam downstream to Imperial Dam has been designated as critical habitat for the razorback sucker, which is inclusive of the reach of the Colorado River in the project vicinity. The existing critical habitat designation for the southwestern willow flycatcher is being revised following a settlement agreement stemming from legal challenges to the 2005 critical habitat designation; the existing critical habitat designation does not include the Colorado River in the project vicinity, but the currently proposed critical habitat designation does include this section of river. Potential impacts to critical habitats that have been designated or proposed for listed species under the Endangered Species Act are discussed in Section 6.

Other Special Land Use Designations

In 1995, the US Bureau of Reclamation and other Federal, state, and tribal agencies formed a partnership to develop and implement the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The program is intended to protect threatened, endangered, and sensitive species and their habitats along the lower Colorado River while maintaining river regulation and water management requirements. The LCR MSCP has focused on securing partnerships with resource agencies to ensure adequate land and water resources are available to create habitat and provide for its long-term maintenance. The lower Colorado River has been divided into discrete “reaches” for the purpose of resource management under the LCR MSCP; the portion of the Colorado River from Parker Dam (River Mile 192.3) downstream to the Adobe Ruin and Reclamation Cibola Gage (River Mile 87.3) is located within Reach 4 of the lower Colorado River, as designated by the LCR MSCP.

5. Species Identification

The US Fish and Wildlife Service (USFWS) list of threatened, endangered, proposed, and candidate species occurring in La Paz County (dated January 19, 2012; refer to Appendix B) was reviewed to determine if any of these special status species have the potential to occur in the project area. In addition, the Arizona Game and Fish Department's (AGFD) On-line Environmental Review Tool was accessed to determine if any special status species have been documented within 3 miles of the project area (refer to Appendix C). Table 1 lists the species that will be analyzed in detail within this document. Species included on the USFWS list and the AGFD On-line Environmental Review Tool Receipt, but excluded from further evaluation, are addressed in Table 2. This project, and the resulting SWPPP, would have no effect on the species listed in Table 2.

Table 1. Species evaluated in detail

Common Name	Scientific Name	Status[a]
Bonytail chub	*Gila elegans*	ESA LE
Desert tortoise (Sonoran population)	*Gopherus agassizii*	ESA C
Razorback sucker	*Xyrauchen texanus*	ESA LE
Southwestern willow flycatcher	*Empidonax traillii extimus*	ESA LE

Source: US Fish and Wildlife Service list of threatened, endangered, candidate, and conservation agreement species occurring in La Paz County, <http://www.fws.gov/southwest/es/arizona/>, accessed December 6, 2012.

[a] Status definitions: C=Candidate, ESA=Endangered Species Act, LE=Listed Endangered

Table 2. Species excluded from evaluation and justification for their exclusion

Species Name	Status[a]	Habitat Requirements	Exclusion Justification
Amphibians			
Arizona toad (*Bufo [Anaxyrus] microscaphus*)	—	Rocky, shallow streams from Arizona Upland Sonoran Desertscrub communities up to Petran Montane Conifer Forest communities, from near sea level to around 8,000 feet.	No suitable (i.e., aquatic) habitat is present within the project limits
Fish			
Gila topminnow (*Poeciliopsis occidentalis occidentalis*)	ESA LE	Small streams, springs, and cienegas in vegetated shallows below 4,500 feet. Extirpated from more than 95 percent of its historical range, and is now restricted in Arizona to fewer than a dozen small, isolated natural sites and about two dozen reintroduced sites in springs, creeks, and washes.	The project area is outside this species' known distribution
Roundtail chub (*Gila robusta*)	ESA C	Cool to warm waters of rivers and streams from 1,000 to 7,500 feet, often occupying the deepest pools and eddies of large streams. Historically distributed throughout the Colorado River basin, this species is currently known to occur in two tributaries of the Little Colorado River, several tributaries of the Bill Williams River basin, the Salt River and four of its tributaries, the Verde River and five of its tributaries, Aravaipa Creek, Eagle Creek, and the upper Gila River in New Mexico.	The project area is outside this species' known distribution

Table 2. Species excluded from evaluation and justification for their exclusion (continued)

Species Name	Status[a]	Habitat Requirements	Exclusion Justification
Birds			
Sprague's pipit (*Anthus spragueii*)	ESA C	Native grasslands with vegetation of intermediate height and lacking woody shrubs below 5,000 feet; cultivated, dry Bermuda grass and alfalfa fields mixed with patches of dry grass, or fallow fields appear to support the species during wintering. There are no breeding records in Arizona.	No suitable (i.e., grassland or cultivated field) habitat is present in the project area
Yellow-billed cuckoo (*Coccyzus americanus*)	ESA C	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries) below 6,500 feet.	While migrants are possible in riparian habitats along the Colorado River, there is no suitable habitat for this species in the project area or immediate project vicinity
Yuma clapper rail (*Rallus longirostris yumanensis*)	ESA LE	Fresh and brackish marshes with dense emergent vegetation and wet substrates along the lower Colorado River and its tributaries below 4,500 feet.	While migrants or breeding individuals are possible in emergent marsh habitats along the Colorado River, there is no suitable habitat for this species in the project area or immediate project vicinity
Mammals			
California leaf-nosed bat (*Macrotus californicus*)	WSCA	Occurs south of the Mogollon Rim in Sonoran and Mojave desertscrub habitats below 4,000 feet. Roosts in mines and caves, preferring roost sites with large areas of ceiling and flying space.	No suitable roosting habitat is present in the project area; the species likely forages in the project vicinity, but would not be impacted by project activities

Source: US Fish and Wildlife Service list of threatened, endangered, proposed, candidate, and conservation agreement species occurring in La Paz County, <http://www.fws.gov/southwest/es/arizona/>, accessed December 6, 2012.

[a] Status Definitions: C=Candidate, ESA=Endangered Species Act; LE=Listed Endangered, LT=Listed Threatened, WSCA=Wildlife of Special Concern in Arizona (Arizona Game and Fish Department Draft 3/16/96)

6. Species Evaluation

Bonytail Chub

Life History Information

The bonytail chub (also known as the bonytail) is a medium-sized fish (generally 12–14 inches in length, but up to 24 inches) that is gray or oliveaceous above with silvery sides and a white belly (USFWS 1990). This species gets its name from its long, thin tail, and has a highly streamlined body that arches smoothly into a predorsal hump in adults. Like most fish endemic to the lower Colorado River, the bonytail has reduced or embedded scales and small eyes, which may be adaptations to the high silt loads that were present in the turbid Colorado River system prior to the construction of dams (Minckley 1973).

The bonytail was historically common and widespread throughout the warm-water reaches of mainstem rivers in the upper and lower Colorado River basins. Bonytail populations have been greatly reduced from historic levels, and this species is currently considered the rarest native fish in the Colorado River basin. In the lower Colorado River basin, small populations are known to persist in Lake Mohave and Lake Havasu, where hatchery-produced bonytail are stocked as part of an ongoing reintroduction effort (LCR MSCP 2008). No wild populations of bonytail currently exist in the lower Colorado River (USFWS 2012).

Little is known about the specific habitat requirements of bonytail because the species was extirpated from most of its historic range prior to extensive fishery surveys. Available information suggests that adult bonytail occupy fast-moving reaches of large rivers, as well as eddies and pool habitat; young fish are presumed to behave similarly to other chub species, living in low-velocity habitats and along shorelines while they feed and grow, and then moving into progressively deeper waters (Minckley 1973, LCR MSCP 2008). In reservoirs, bonytails occupy a variety of habitats but seem to prefer the open water areas (AGFD 2001).

Recent telemetry studies have led to some additional observations of bonytail habitat use in the lower Colorado River basin. One study at Lake Havasu found that a majority of telemetered fish dispersed near shore or in coves (Minckley 2006). In contrast, a subsequent study at Lake Havasu found that most detections of tagged fish were associated with open waters of the reservoir, with little apparent use of near-shore habitats (Karam et al. 2011). The study also provided limited evidence that stocked bonytail almost exclusively utilize habitat in and near the Bill Williams River National Wildlife Refuge. Adult bonytail were found to prefer interstitial spaces associated with shoreline riprap during daylight hours in Cibola High Levee Pond, whereas open-water areas were more commonly utilized during the nighttime hours (Mueller et al. 2003).

Bonytail spawn in April or May when water temperatures reach 60 to 65º F (Mueller and Marsh 2002). Bonytail have been documented spawning over gravel substrates near shore, and were found in water up to 30 feet deep in reservoir situations (LCR MSCP 2008). Mueller et al. (2003) documented successful natural reproduction in the lower Colorado River Basin at Cibola High Levee Pond, where bonytail selected shoreline-associated riprap materials for spawning activities. Bonytail feed on a wide variety of aquatic and terrestrial insects, worms, algae, plankton, and plant debris (Mueller and Marsh 2002).

The bonytail was listed as an endangered species in 1980 (USFWS 1980). The decline of the bonytail is attributed to stream alteration caused by construction of dams (with resultant changes in flow, channel morphology, and temperature), flow depletion from irrigation and other uses, hybridization with other members of the genus, and the introduction of nonnative fish species (USFWS 1990). Critical habitat was

designated for the bonytail in 1994 in the lower Colorado River from Hoover Dam to Davis Dam and from the northern boundary of Havasu National Wildlife Refuge to Parker Dam (including Lake Havasu) (USFWS 1994). Additional critical habitat is located in Colorado, Utah, Nevada, and California.

A recovery plan for the bonytail was published in 1990 (USFWS 1990) and updated in 2002 (USFWS 2002a). The project area is located in the Lower Colorado River Basin Recovery Unit, which includes the mainstem Colorado River and its tributaries from Lake Mead downstream to the International Boundary with Mexico. A 5-year review of the species' status was recently conducted, where it was determined that threats to the continued existence of bonytail remain high and the potential for recovery of the species remains low (USFWS 2012).

Survey History

The Bill Williams River National Wildlife Refuge at the southern end of Lake Havasu is one of the primary stocking locations for bonytail under the LCR MSCP; however, no stocking of this species into the mainstem Colorado River has occurred downstream of Parker Dam. On one occasion, fish were inadvertently released into the river near Parker when they escaped from a local golf course pond through an outfall drain. Bonytail have been stocked into two isolated floodplain ponds within Reach 4/5: Cibola High Levee Pond near Blythe, California, and Achii Hanyo Hatchery ponds near Parker (LCR MSCP 2006).

Habitat Evaluation and Suitability

Bonytails occupy fast-moving reaches of large rivers, as well as eddies and pool habitat. Habitat conditions in the project vicinity are marginal for bonytails, primarily due to the presence of nonnative species and the lack of a natural hydrograph. Hatchery-reared fish are stocked in isolated floodplain ponds within Reach 4/5, but no stocking of this species has occurred downstream of Parker Dam, so it is unlikely that any bonytails remain in the mainstem Colorado River in the project vicinity. While suitable habitat for the bonytail is present in the nearby Colorado River, there is no suitable (i.e., aquatic) habitat for this species within the project limits.

Analysis and Determination of Effects

Direct Effects: The project would involve the use of heavy construction equipment in the vicinity of suitable habitat for the bonytail (i.e., the Colorado River). Project activities would be restricted to the existing right-of-way along Riverside Road and adjacent residential areas where the sewer line and ancillary facilities would be installed. The project would not impact the aquatic habitat associated with the Colorado River; therefore, no direct effects are anticipated.

Indirect Effects: Indirect effects are those effects that are caused by or would result from the proposed action and are later in time, but are still reasonably certain to occur. As part of the AZPDES permit that would be required for the project, a SWPPP would be prepared and implemented, which would minimize the transport of sediment by requiring the contractor to use storm water and erosion control BMPs. In addition, all construction activities would comply with the terms and conditions of the Clean Water Act Section 404 Permit and Section 401 Water Quality Certification. Thus, no adverse effects to aquatic habitats downstream from the project area or any other indirect effects are expected.

Cumulative Effects: Cumulative effects are those effects of future nonfederal actions (i.e., state, local government, tribal, and private actions) that are reasonably certain to occur in the project area. Future federal actions unrelated to the proposed action would be subject to individual ESA consultation requirements established in Section 7 of the ESA and, therefore, are not considered as cumulative to the proposed project. Some activities on private lands may require federal permits (e.g., Clean Water Act Section 404 permits) and thus would be subject to Section 7 consultation. The Section 10(a)(1)(B) permit process can be used to address activities that may involve "take" of a listed species where there are no federal lands, funds, or permits involved. Lands adjacent to the project area consist primarily of private and State Trust lands. While unrelated activities that may be planned in the project vicinity could add to a cumulative, incremental loss of habitat components for the bonytail, the planned expansion of the sewer system within the Buckskin Sanitary District would not contribute to this loss and, therefore, would not result in any cumulative effects.

Determination: The project would not result in any direct, indirect, or cumulative impacts to bonytails or the aquatic habitat in the nearby Colorado River. Therefore, the project would have no effect on the bonytail chub or its habitat.

Desert Tortoise (Sonoran Population)

Life History Information

The adult desert tortoise is fairly large (8–15 inches in length), with a high-domed brownish carapace and yellowish unhinged plastron, short tail, and stocky limbs. Both the carapace and plastron exhibit prominent growth lines, and the forelimbs are covered with large conical scales. Individuals of the Sonoran population of desert tortoise tend to be more pear-shaped and have a flatter carapace than the more oval-shaped Mojave population (Arizona Game and Fish Department [AGFD] 2010).

Two genetically and morphologically distinct populations of desert tortoise are found in Arizona. The Mojave population occurs west and north of the Colorado River and is listed as threatened under the Endangered Species Act, whereas the Sonoran population occurs east and south of the Colorado River and is currently a candidate for Endangered Species Act listing. For clarification, only the Sonoran population is evaluated in this document since the project area is located east and south of the Colorado River.

Sonoran desert tortoises typically inhabit bajadas and rocky slopes associated with Mojave desertscrub, Sonoran desertscrub, semidesert grassland, and chaparral. Elevations in these communities range from approximately 500 feet in Mojave desertscrub to 5,300 feet in chaparral communities. In Sonoran desertscrub, desert tortoises occur most often in the paloverde-mixed cacti association in areas with boulders and rock outcrops. These formations offer shelter sites, an important component and limiting factor of desert tortoise habitat. Most often, tortoises will excavate shallow burrows in deeper soils at the base of boulders and rock outcrops; however, caliche caves and the incised, under-cut banks of washes are also important shelter sites. Desert tortoises may also rest directly under live or dead vegetation without constructing a burrow, particularly on warm summer nights (AGFD 2010; Arizona Interagency Desert Tortoise Team [AIDTT] 1996).

The activity period of Sonoran desert tortoises is variable between individuals and discrete populations. The active period begins when temperatures warm in February and March, decreasing during the arid foresummer and peaking with the summer monsoons. Sonoran desert tortoises hibernate at burrow sites similar to those used the rest of the year with the onset of cool temperatures in November. Sonoran desert tortoises typically mate in spring and early summer. Once mated, females dig a nest hole in the soil and lay 1–13 eggs, and are capable of laying fertile eggs for up to 4 years or more. After the eggs are deposited, the female fills in the nest hole and may defend the site for some time against potential predators; however, the female does not care for the hatchlings (AGFD 2010).

Sonoran desert tortoises are herbivorous and consume a variety of annual and perennial grasses, forbs, and succulents (AGFD 2010). Arthropods, bones, soil, and feces of vertebrates (including that of other tortoises) have also been documented as being consumed by tortoises (AIDTT 1996).

The Sonoran desert tortoise was petitioned for federal listing under the Endangered Species Act in October 2008. In December 2010, the USFWS determined that listing the Sonoran population of the desert tortoise was warranted, but was precluded by higher priority actions. Therefore, the Sonoran population of desert tortoise is currently a candidate for listing under the Endangered Species Act. Threats to this population include livestock grazing, urbanization and development, mining, international border patrol

activities, illegal collection, inadequacy of existing regulations, altered fire regimes, off-highway vehicle use, drought, and climate change (USFWS 2010).

Survey History

The AGFD On-Line Environmental Review Tool was accessed on December 6, 2012, to obtain a list of special status species occurring within 3 miles of the project area (refer to Appendix C); the AGFD does not have any documented occurrences of Sonoran desert tortoise within 3 miles of the project area. No tortoises, tortoise sign, or potential tortoise burrows were observed in the project area during a site visit conducted on November 27, 2012; while the timing of the site visit was not optimal for observing active desert tortoises, a field review conducted at this time of year could potentially identify burrows used by hibernating desert tortoises.

Habitat Evaluation and Suitability

The Sonoran desert tortoise occurs on rocky slopes and bajadas in Sonoran desertscrub and adjacent vegetation communities throughout central, southern, and western Arizona. While boulder-covered slopes are the preferred habitat of the Sonoran desert tortoise, tortoises may also be present in low densities on lower mountain bajadas and along washes when suitable shelter sites are present (Grandmaison et al. 2010).

The project area is near the lower elevation limit for this species, and there is no suitable habitat for desert tortoises within the project limits where project activities would occur. While the AGFD does not have any documented occurrences of Sonoran desert tortoises within 3 miles of the project area, it is possible that desert tortoises could forage in and disperse through the project area from suitable habitats in the project vicinity. Based on the habitat conditions observed during the site visit that was conducted for this project, the lack of any potential tortoise burrows, and overall lack of suitable shelter sites in the project area, there is a low probability of encountering Sonoran desert tortoises during construction of the proposed sewer system improvements.

Analysis and Determination of Effects

Direct Effects: There is suitable foraging habitat for the Sonoran desert tortoise in nearby undeveloped areas where native desertscrub vegetation is present; however, there appears to be a general lack of suitable shelter sites in proximity to the project area and no desert tortoises or burrows were observed within the project limits. There is a low potential for any Sonoran desert tortoises to be present during construction; for this reason, and because any desert tortoises that might wander into the project area could be avoided or safely relocated by the contractor, no direct effects are anticipated.

Indirect Effects: Indirect effects are those effects that are caused by or would result from the proposed action and are later in time, but are still reasonably certain to occur. The expansion of the sewer system in the project area would not alter existing habitat conditions for desert tortoises; therefore, no indirect effects are anticipated.

Determination: Sonoran desert tortoises are not considered likely to occur in the project area based on the lack of their preferred habitat (i.e., boulder-covered slopes) and the lack of suitable shelter sites. The AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (included in Appendix D) would be followed in the event that a Sonoran desert tortoise is encountered during construction. Because any Sonoran desert tortoises that may be found in the project area can be avoided or safely relocated out of harm's way, the project has no impact on the Sonoran desert tortoise.

Razorback Sucker

Life History Information

The razorback sucker is a "big river" fish of the Colorado River Basin that can grow to lengths of up to 3 feet and weigh up to 13 pounds, though adults of this species are more typically 1.3 to 2.3 feet long and weigh less than 6.6 pounds. The razorback sucker is olivaceous to brownish-black dorsally and lighter ventrally, with brown or pinkish to reddish-brown stripes on its sides. It has an elongated head and body, and adults are distinguished from other suckers by a sharp-edged, bony keel that grows from the dorsal surface of its back behind its head (Minckley 1973).

The razorback sucker was historically an abundant and widely distributed fish in warm-water reaches of the mainstem and major tributary rivers of the Colorado River Basin; this species now occurs only in remnant or reintroduced populations in a few lakes and river reaches. Razorback suckers are currently found in small numbers in the Green River, upper Colorado River, and San Juan River basins; the reservoirs of Lake Mead and Lake Mohave; the lower Colorado River between Lake Havasu and Davis Dam; the lower Colorado River between Parker Dam and Imperial Dam; tributaries of the Gila River Basin (Verde River, Salt River, and Fossil Creek); and in local areas under intensive management such as Cibola High Levee Pond and Achii Hanyo Native Fish Facility (LCR MSCP 2006; USFWS 2002b; USFWS 2009).

Razorback suckers evolved with and are adapted to the fluctuating hydrologic regime representative of the Colorado River Basin of the past, which included episodic extreme flow conditions and high sediment loads. They utilize a variety of aquatic habitats, including backwaters, sloughs, oxbows, reservoirs, and seasonally inundated floodplains at elevations below 6,000 feet. Seasonal habitat use by adults includes

the use of deep runs, eddies, backwaters, and flooded off-channel environments in spring; runs and pools in shallow water with submerged sandbars in summer; and low-velocity runs, pools, and eddies in winter. Young fish require nursery environments with quiet, warm, shallow water such as tributary mouths, backwaters, or inundated floodplain habitats in rivers, and coves or shorelines in reservoirs (USFWS 2002b).

Spawning usually occurs in late winter to early summer (Minckley 1973). Adults have been documented to travel to spawning locations which are typically over bars of cobble, gravel, and sand substrates along riverine habitats and along shorelines in reservoirs (USFWS 2002b). Razorback suckers have a diet that consists primarily of filamentous algae, insect larvae, planktonic crustaceans, diatoms, and detritus (Minckley 1973; Marsh 1987).

The razorback sucker was listed as an endangered species in 1991 (USFWS 1991). The decline of this species has been associated with major physical, biological, and chemical changes in riverine ecosystems; current threats to the species include streamflow regulation, habitat modification, competition with and predation by nonnative fish species, and pesticides and other pollutants (USFWS 2002b). In 1994, critical habitat was designated in 15 river reaches within the species' historical range, including portions of the Colorado, Duchesne, Green, Gunnison, San Juan, White, and Yampa rivers in the Upper Colorado River Basin, and the Colorado, Gila, Salt, and Verde rivers in the lower Colorado River Basin (USFWS 1994). The Colorado River and its 100-year floodplain from Parker Dam downstream to Imperial Dam has been designated as critical habitat for the razorback sucker, which is inclusive of the reach of the Colorado River in the project vicinity.

Survey History

Stocking and research programs are ongoing throughout the Colorado River Basin, with the intent to reestablish the razorback sucker within its historical range. Between 1981 and 1990, more than 13 million hatchery-produced razorback sucker were released at 57 sites into historic habitat in Arizona, primarily in the Verde, Gila, and Salt rivers and their tributaries; low short-term survival and no long-term survival was reported from these releases, primarily because of predation by nonnative fishes (USFWS 2002b). Razorback suckers are currently being reared at several hatcheries for reintroductions into the Colorado River from Lake Mead to Imperial Reservoir under the LCR MSCP's *Final Fish Augmentation Plan* (LCR MSCP 2006). The plan proposes to stock 6,000 razorback suckers annually for 45 years, plus an additional 6,000 per year for a five year period for species research. A total of 7,360 razorback suckers were stocked into Reach 4/5 of the Colorado River (i.e., below Parker Dam) in 2011, with a total of 57,533 razorback suckers stocked into this reach between 2005 and 2011 (LCR MSCP 2012).

Habitat Evaluation and Suitability

The razorback sucker utilizes a wide variety of habitat types over its life cycle; suitable habitats for this species generally include mainstem channels and flooded river bottoms as well as backwaters and other slow-moving areas of riverine and lacustrine environments, including reservoirs, below 6,000 feet in elevation (USFWS 1998). Habitat conditions in the project vicinity are marginal for razorback suckers, primarily due to the presence of nonnative species and the lack of a natural hydrograph. Razorback suckers are stocked annually in the Colorado River below Parker Dam, and this species could potentially occur in the mainstem river in the project vicinity. While suitable habitat for the razorback sucker is present in the nearby Colorado River, there is no suitable (i.e., aquatic) habitat for this species within the project limits.

A review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panels 04012C0202C, 04012C0203C, 04012C0204C, and 04012C0206C indicate that the project area crosses six tributaries to the Colorado River that are delineated by FEMA as part of the river's 100-year floodplain. As previously stated, the Colorado River and its 100-year floodplain from Parker Dam downstream to Imperial Dam has been designated as critical habitat for the razorback sucker; however, only those portions of the 100-year floodplain that contain the primary constituent elements (PCEs) of razorback sucker habitat are included in the designation.

According to the critical habitat designation for the razorback sucker (USFWS 1994), the three PCEs that have been identified for this species include, but are not limited to:

- Water – This includes a quantity of water of sufficient quality (i.e., temperature, dissolved oxygen, lack of contaminants, nutrients, turbidity, etc.) that is delivered to a specific location in accordance with a hydrologic regime that is required for the particular life stage for each species.

- Physical Habitat – This includes areas of the Colorado River system that are inhabited or potentially habitable by fish for use in spawning, nursery, feeding, and rearing, or corridors between these areas. In addition to river channels, these areas also include bottom lands, side channels, secondary channels, oxbows, backwaters, and other areas in the 100- year flood plain, which when inundated provide spawning, nursery, feeding and rearing habitats, or access to these habitats.

- Biological Environment – Food supply, predation, and competition are important elements of the biological environment and are considered components of this constituent element. Food supply is a function of nutrient supply, productivity, and availability to each life stage of the species. Predation and competition, although considered normal components of this environment, are out of balance due to introduced nonnative fish species in many areas.

These three PCEs are present in the Colorado River in the project vicinity, although the biological environment associated with the Colorado River in this area is significantly degraded by the presence of nonnative fish species that predate upon and compete with razorback suckers and other native fish species. Regardless of the degraded condition of one or more PCEs, the Colorado River meets the requirements established by the USFWS to be considered as designated critical habitat. While six tributary washes within the project limits are within the 100-year floodplain, as delineated by FEMA, none of the three aforementioned PCEs occur within the project limits due to the extent of existing development in the area. Therefore, designated critical habitat for the razorback sucker is not present within the project limits.

Analysis and Determination of Effects

Direct Effects: The project would involve the use of heavy construction equipment in the vicinity of suitable habitat for the razorback sucker (i.e., the Colorado River). Project activities would be restricted to the existing right-of-way along Riverside Drive and adjacent residential areas where the sewer line and ancillary facilities would be installed. The project would not impact the aquatic habitat associated with the Colorado River; therefore, no direct effects are anticipated.

Indirect Effects: Indirect effects are those effects that are caused by or would result from the proposed action and are later in time, but are still reasonably certain to occur. As part of the AZPDES permit that would be required for the project, a SWPPP would be prepared and implemented, which would minimize the transport of sediment by requiring the contractor to use storm water and erosion control BMPs. In addition, all construction activities would comply with the terms and conditions of the Clean Water Act Section 404 Permit and Section 401 Water Quality Certification. Thus, no adverse effects to aquatic habitats downstream from the project area or any other indirect effects are expected.

Cumulative Effects: Cumulative effects are those effects of future nonfederal actions (i.e., state, local government, tribal, and private actions) that are reasonably certain to occur in the project area. Future federal actions unrelated to the proposed action would be subject to individual ESA consultation requirements established in Section 7 of the ESA and, therefore, are not considered as cumulative to the proposed project. Some activities on private lands may require federal permits (e.g., Clean Water Act Section 404 permits) and thus would be subject to Section 7 consultation. The Section 10(a)(1)(B) permit process can be used to address activities that may involve “take” of a listed species where there are no federal lands, funds, or permits involved. Lands adjacent to the project area consist primarily of private and State Trust lands. While unrelated activities that may be planned in the project vicinity could add to a cumulative, incremental loss of habitat components, the planned expansion of the sewer system within the Buckskin Sanitary District would not contribute to this loss and, therefore, would not result in any cumulative effects.

Determination: The project would not result in any direct, indirect, or cumulative impacts to razorback suckers or the aquatic habitat in the nearby Colorado River. Therefore, the project would have no effect on the razorback sucker or its habitat.

Effects to Critical Habitat: The Colorado River in the immediate project vicinity is designated critical habitat for the razorback sucker based on the presence of the three PCEs identified in the USFWS's critical habitat designation. As previously discussed, the project crosses six tributaries to the Colorado River that are delineated by FEMA as part of the river's 100-year floodplain, but the physical and biological attributes that are essential to this species' conservation (i.e., the PCEs discussed in the previous section) are not present within the project limits.

No direct impacts to designated critical habitat for the razorback sucker in the Colorado River are anticipated because the project would not require any work in areas designated as critical habitat for this species. As discussed above, the contractor would be required to minimize the transport of sediment through the use of storm water and erosion control BMPs, so no adverse effects to aquatic habitats downstream from the project area are expected. Therefore, the project would have no effect on designated critical habitat for the razorback sucker.

Southwestern Willow Flycatcher

Life History Information

The southwestern willow flycatcher is a small songbird that winters in Central America and migrates north to breed in the United States during the summer. Four subspecies of willow flycatcher are generally recognized in North America, with each subspecies occupying distinctly different breeding ranges and varying slightly in color and morphology. Southwestern willow flycatchers are riparian obligates, breeding only in dense riparian vegetation near a permanent or semi-permanent source of water or saturated soil throughout the southwestern United States from at or near sea level to 8,530 feet (Sogge et al. 2010).

Historical breeding habitat in Arizona was typically mature cottonwood-willow riparian forest at lower elevations or willow thickets (often coyote willow or Geyer willow [*Salix geyeriana*] that is 10 to 23 feet high) at higher elevations (Sogge et al. 2010). Both types of riparian habitat are now mostly degraded or destroyed throughout the state because of the damming and diverting of rivers and streams; groundwater pumping; overgrazing by cattle; recreational vehicle use; and invasion by tamarisk, an exotic tree species that has replaced most historical cottonwood-willow riparian forests in the Southwest. However, southwestern willow flycatcher populations at lower elevations now also breed in dense stands of tamarisk,

as it approximates the structure of their preferred habitat. The southwestern willow flycatcher is an insectivore that forages in the dense vegetation found along rivers, streams, and wetlands (USFWS 2002c).

Southwestern willow flycatchers typically arrive at breeding sites in Arizona from late April to mid-June. Males generally arrive before females and claim territories by constantly singing at favored perches within the territory. When females arrive, pairs are established and mating begins. Females build a tightly woven, open-cup nest, typically in forked branches of the substrate tree. Average clutch size is three eggs, which generally hatch in 12 days. Fledging usually occurs within 12 days of hatching, and fledglings are dependent on parents for food for approximately 2 weeks. Only the female incubates the eggs, although both parents feed nestlings and fledglings. Willow flycatchers typically begin their southward migration in early August (USFWS 2002c).

The southwestern willow flycatcher was listed by USFWS under the Endangered Species Act as endangered in 1995 and critical habitat was designated in October 2005. In Arizona, critical habitat was designated along sections of the Big Sandy, Bill Williams, Colorado, Gila, Little Colorado, Salt, San Pedro, Santa Maria, Verde, and Virgin Rivers and their tributaries (USFWS 2005). The USFWS has proposed to revise the critical habitat designation for the southwestern willow flycatcher, and has identified a segment of the Colorado River from Parker Dam downstream past Highway 62 in their proposed critical habitat designation (USFWS 2011). However, because this area is covered by the LCR MSCP, the USFWS is considering excluding this river segment from the final critical habitat designation. Threats to this species include riparian habitat loss and degradation attributable to invasion by nonnative species; livestock grazing; brood parasitism by the brown-headed cowbird (*Molothrus ater*); and water management practices such as damming or diverting water, flood control, channelization, and bank protection (USFWS 2002c).

A Recovery Plan has been prepared that identifies six Recovery Units, each with four to seven Management Units (USFWS 2002c). The project area is located within the Lower Colorado Recovery Unit, which encompasses the Colorado River and its major tributaries from Glen Canyon Dam downstream to the Mexico border. In 2007, this unit contained 150 known territories (12 percent of the rangewide total), with the majority of the territories occurring in the Pahranagat, Virgin, and Bill Williams Management Units (Durst et al. 2008). The project area falls within the Parker-Southerly International Border Management Unit; a total of 16 sites with 1 territories were documented in the Parker-Southerly International Border Management Unit in 2007 (Durst et al. 2008).

Survey History

Presence/absence surveys, along with life history studies, have been conducted along the lower Colorado

River since 1996 (LCR MSCP 2008). Approximately 100 sites have been surveyed in an area that includes the Virgin River, Pahranagat NWR, the Grand Canyon south of Separation Canyon, and throughout the LCR from Lake Mead to the Southerly International Boundary with Mexico. These surveys indicate that the main breeding populations occur along the Virgin River from north of Mesquite, Nevada, to the Virgin River Delta with Lake Mead, at Pahranagat National Wildlife Refuge, in the Grand Canyon from Separation Canyon to the delta of Lake Mead, at Topock Marsh near Needles, California, and at the Bill Williams National Wildlife Refuge. Willow flycatchers also have been detected during migration at several sites along the Colorado River, south of the Bill Williams River to the Mexico border, with over 200 detections recorded in 2003, over 600 in 2004, and over 300 in 2005. Behavioral observations and timing of detections strongly suggest that this section of the river is a major flyway for migrant willow flycatchers.

Habitat Evaluation and Suitability

Suitable breeding habitat for the southwestern willow flycatcher includes dense riparian vegetation that can be organized into three broad types: native-dominated, exotic-dominated, and native-exotic mixed habitats. Common native plant species in breeding habitats include willow (*Salix* spp.), cottonwood (*Populus fremontii*), seepwillow (*Baccharis salicifolia*), and boxelder (*Acer negundo*). Common exotic plant species include tamarisk and Russian olive (*Eleagnus angustifolia*). Although plant species composition, patch size, and patch shape can vary dramatically, certain habitat characteristics are present at most known breeding sites. Occupied breeding sites always have dense vegetation in the patch interior, often within the first 10–13 feet above ground, and canopy cover is usually at least 80 percent (USFWS 2002c). Most breeding sites are also located near a permanent or semi-permanent source of water or saturated soil, such as along stream reaches, stream backwaters, swampy abandoned channels, marshes, cienegas, and at the margins of impounded water, including inflows into reservoirs. Potentially suitable native-dominated breeding habitat can be found at most elevations within the flycatcher's breeding elevation range, whereas potentially suitable exotic-dominated and native-exotic mix breeding habitats are generally found at elevations below 3,940 feet. Known breeding habitats in Arizona are located below 3,658 feet or above 7,874 feet (Graber et al. 2007).

Although the characteristics of suitable breeding habitat vary, some vegetation types are not suitable breeding habitat for willow flycatchers, such as cottonwood-willow gallery forests without an understory or tamarisk patches that are sparse or uniformly short (<13 feet). In addition, isolated, linear riparian stringers less than approximately 33 feet wide do not provide breeding habitat, although aggregations of these stringers can be used for nesting, particularly at higher elevations. During migration, willow flycatchers may occur in nonriparian habitats and/or riparian habitats unsuitable for breeding, which may be critically important resources affecting local and regional flycatcher productivity and survival (USFWS 2002c).

Southwestern willow flycatchers are not known to nest in the immediate project vicinity, as riparian vegetation along this section of the Colorado River is extremely limited and does not provide suitable nesting habitat. Occupied habitat exists at known sites upstream and downstream of the project area along the Colorado River (i.e., at Bill Williams National Wildlife Refuge in Arizona and the Palo Verde Ecological Reserve in California), and the number of flycatcher detections along the lower Colorado River over time strongly suggests that the river is a major flyway for several species of willow flycatcher. There are small patches of salt cedar (typically consisting of one or several trees at any one location) in the immediate project vicinity; these small patches, while not suitable for nesting, can provide foraging and resting habitats for migrating flycatchers.

As previously stated, the USFWS has proposed to designate the Colorado River from Parker Dam downstream to Highway 62 as critical habitat for the southwestern willow flycatcher, but is also considering excluding this area in their final critical habitat designation because the LCR MSCP provides for conservation of the southwestern willow flycatcher and its habitat in this area. Within the proposed critical habitat boundaries, only lands containing some or all of the PCEs will be designated as critical habitat. Existing man-made features and structures within critical habitat, such as buildings; roads; residential landscaping; residential, commercial, and industrial developments; and other features, do not contain some or all of the PCEs. Therefore, these areas will not be considered critical habitat and will be specifically excluded from critical habitat by definition.

According to the proposed critical habitat designation for the southwestern willow flycatcher (USFWS 2011), the two PCEs that have been identified for this species include:

- Riparian Vegetation – Riparian habitat in a dynamic river or lakeside, natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs and some combination of:
    - Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 6 to 98 feet. Lower-stature thickets (6 to 13 feet tall) are found at higher elevation riparian forests and tall-stature thickets are found at middle and lower-elevation riparian forests; and/or
    - Areas of dense riparian foliage at least from the ground level up to approximately 13 feet above ground or dense foliage only at the shrub or tree level as a low, dense canopy; and/or
    - Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground); and/or

- Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.25 acre or as large as 175 acre; and

- Insect Prey Populations – A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (Hymenoptera); dragonflies (Odonata); flies (Diptera); true bugs (Hemiptera); beetles (Coleoptera); butterflies, moths, and caterpillars (Lepidoptera); and spittlebugs (Homoptera).

As noted in the proposed critical habitat designation, existing man-made features and structures within critical habitat, such as buildings; roads; residential landscaping; residential, commercial, and industrial developments; and other features, do not contain these PCEs. As these areas will not be considered critical habitat and will be specifically excluded from critical habitat by definition, the project area is not considered here as proposed critical habitat for the southwestern willow flycatcher because it does not contain the aforementioned PCEs.

Analysis and Determination of Effects

Direct Effects: Project activities would be restricted to the existing right-of-way along Riverside Drive and adjacent residential areas where the sewer line and ancillary facilities would be installed. The project would not impact any riparian habitat associated with the Colorado River; therefore, no direct effects are anticipated.

Indirect Effects: Indirect effects are those effects that are caused by or would result from the proposed action and are later in time, but are still reasonably certain to occur. The expansion of the sewer system in the project area would not alter existing habitat conditions for southwestern willow flycatchers; therefore, no indirect effects are anticipated.

Cumulative Effects: Cumulative effects are those effects of future nonfederal actions (i.e., state, local government, tribal, and private actions) that are reasonably certain to occur in the project area. Future federal actions unrelated to the proposed action would be subject to individual ESA consultation requirements established in Section 7 of the ESA and, therefore, are not considered as cumulative to the proposed project. Some activities on private lands may require federal permits (e.g., Clean Water Act Section 404 permits) and thus would be subject to Section 7 consultation. The Section 10(a)(1)(B) permit process can be used to address activities that may involve “take” of a listed species where there are no federal lands, funds, or permits involved. Lands adjacent to the project area consist primarily of private and State Trust lands. While unrelated activities that may be planned in the project vicinity could add to a

cumulative, incremental loss of habitat components, the planned expansion of the sewer system within the Buckskin Sanitary District would not contribute to this loss and, therefore, would not result in any cumulative effects.

Determination: The project would not result in any direct, indirect, or cumulative impacts to southwestern willow flycatchers or any riparian habitats. Therefore, the project would have no effect on the southwestern willow flycatcher or its habitat.

Effects to Critical Habitat: The Colorado River in the immediate project vicinity is included in the USFWS's proposed critical habitat designation for the southwestern willow flycatcher, but is being considered for exclusion from the final critical habitat designation. The project area does not contain some or all of the PCEs identified in the proposed critical habitat designation, and is specifically excluded from the proposed critical habitat designation because of the presence of man-made features (e.g., the paved roadway) so the project area is not considered here as proposed critical habitat for the southwestern willow flycatcher. The project would also not result in any direct or indirect impacts to proposed critical habitat for the southwestern willow flycatcher in the project vicinity. Therefore, the project would have no effect on proposed critical habitat for the southwestern willow flycatcher.

7. Arizona Native Plant Law

Some of Arizona's plant species are protected under the Arizona Native Plant Law (Arizona Revised Statutes, Chapter 7, Article 1:3-915A), requiring notification to the Arizona Department of Agriculture prior to the removal of any protected species. The project area was surveyed for the presence of protected native plants by visually inspecting potential disturbance areas during a site visit on November 27, 2012. Although protected native plants (i.e., mesquite and palo verde trees) were found in adjacent areas outside of the project limits, none were found to occur within the project limits. Therefore, no protected native plants would be impacted by this project.

8. Mitigation Measures

Desert Tortoise (Sonoran Population)

The following mitigation measure would be implemented to avoid impacts to any desert tortoises that are encountered within the project limits during construction:

1. If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the Arizona Game and Fish Department's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (Revised October 23, 2007)*.

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10. Additional Information

Ian Tackett conducted a field review of the project area on November 27, 2012. Photographs and field notes are on file at Logan Simpson Design Inc.

11. Signatures

Prepared By:  Date: January 2, 2013

Ian Tackett, Biologist
Logan Simpson Design Inc.

Reviewed/Approved By:  Date: January 2, 2013

Bruce Palmer, Senior Biologist
Logan Simpson Design Inc.

Appendix A

Project Area Photographs

Photo 1. View to the southwest from the western end of the project area (i.e., the Buckskin Waste Water Treatment Plant).

Photo 2. View to the northeast from the western end of the project area (opposite view of previous photo).

Photo 3. View to the southwest from of a wash crossing near the western end of the project area.

Photo 4. View to the west of riverside vegetation at a wash crossing near the western end of the project area.

Photo 5. View to the northeast from near the western end of the project area (across from the Buckskin Fire Department).

Photo 6. View to the northeast from near the western end of the project area (across from the Patria Flats Day Use Area).

Photo 7. View to the northeast from just west of Golf Course Drive.

Photo 8. View to the southeast, along Golf Course Drive, of the planned site of Lift Station #3.

Photo 9. View to the northeast from just east of Golf Course Drive.

Photo 10. View to the northeast at Emerald Canyon Drive.

Photo 11. View to the west, at the east end of La Paz County Park, of the planned site of Lift Station #2.

Photo 12. View to the northeast from Arete Road, near the eastern end of the project area.

Photo 13. View to the northeast from near the eastern end of the project area.

Photo 14. View to the northeast from near the eastern end of the project area at Resort Drive.

Photo 15. View to the southwest from the eastern end of the project area.

Appendix B

US Fish and Wildlife Service List of Threatened, Endangered, Proposed, and Candidate Species Occurring in La Paz County

La Paz County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Bonytail chub	*Gila elegans*	Endangered	Large (12-14 up to 24 inches) minnow characterized by small head, large fins, slightly humped back and long thin caudal peduncle.	La Paz, Mohave	< 4,000 ft	Warm, swift, turbid mainstem rivers of the Colorado River basin, reservoirs in lower basin.	Endemic to Colorado River Basin. Rarest of Colorado River fish. Population augmentation is ongoing in Lake Mohave and Lake Havasu. Critical habitat includes the Colorado River from Hoover Dam to Davis Dam and another section of the Colorado River from the northern boundary of Havasu National Wildlife Refuge to Parker Dam including Lake Havasu in Mohave County, Arizona. Additional critical habitat is located in Colorado, Utah, Nevada, and California (59 FR 13374).
Gila topminnow	*Poeciliopsis occidentalis occidentalis*	Endangered	Small (2 inches), guppy-like, live bearing, lacks dark spots on its fins. Breeding males are jet black with yellow fins.	Cochise, Gila, Graham, La Paz, Maricopa, Pima, Pinal, Santa Cruz, Yavapai	< 4,500 ft	Small streams, springs, and cienegas vegetated shallows.	Species historically also occurred in backwaters of large rivers but is currently isolated to small streams and springs.
Razorback sucker	*Xyrauchen texanus*	Endangered	Large, up to 3 feet long and up to 6 lbs, high sharp-edged keel-like hump behind the head. Head flattened on top. Olive-brown above to yellowish below.	Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, Yuma	< 6,000 ft	Riverine and lacustrine areas, generally not in fast moving water and may use backwaters.	Big River fish also found in Horseshoe reservoir (Maricopa County). Critical habitat includes the 100-year floodplain of the river through the Grand Canyon from confluence with Paria River to Hoover Dam; Hoover Dam to Davis Dam; Parker Dam to Imperial Dam. Also Gila River from Arizona/New Mexico border to Coolidge Dam; and Salt River from Hwy 60/SR77 Bridge to Roosevelt Dam; Verde River from FS boundary to Horseshoe Lake (59 FR 13374).

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 8,500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Riparian-obligate bird that occupies migratory/breeding habitat from late April-Sept. Critical habitat was finalized on October 19, 2005 in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties (70 FR 60886). Revised critical habitat was proposed August 15, 2011 (76 FR 50542) and includes river segments in counties currently designated plus those in La Paz, Santa Cruz, and Yuma counties. The 2005 critical habitat designation remains in effect until the current proposal is finalized. Training seminar/permits required for those conducting call playback surveys.
Yuma clapper rail	*Rallus longirostris yumanensis*	Endangered	Water bird with long legs and short tail. Long, slender decurved bill. Mottled brown or gray on its rump. Flanks and undersides are dark gray with narrow vertical stripes producing a barring effect.	Gila, La Paz, Maricopa, Mohave, Pinal, Yuma	< 4,500 ft	Fresh water and brackish marshes.	Species is associated with dense emergent riparian vegetation. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging. Channelization and marsh destruction are primary sources of habitat loss.
Desert tortoise, Sonoran population	*Gopherus agassizii*	Candidate	Large herbivorous reptile with domed shell and round stumpy hind legs. The carapace is a dull brown or grey color and the plastron is unhinged, often pale yellow in coloration. Sonoran desert tortoises generally have a flatter carapace than tortoises in the Mohave population. Active in spring and during the monsoon; dormant in winter and mid-summer months.	Cochise, Gila, Graham, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 7,800 ft	Primarily rocky (often steep) hillsides and bajadas of Mohave and Sonoran desertscub but may encroach into desert grassland, juniper woodland, interior chaparral habitats, and even pine communities. Washes and valley bottoms may be used in dispersal.	Desert tortoises that occur east and south of the Colorado River in Arizona are referred to as the Sonoran population. Individuals are found throughout their historic range; but populations are becoming increasingly fragmented due to threats to their habitat in valley bottoms, which are used for dispersal and exchange of genetic material.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Roundtail chub	*Gila robusta*	Candidate	Member of the minnow family Cyprinidae and characterized by streamlined body shape. Color usually olive gray with silvery sides and a white belly. Breeding males develop red or orange coloration on the lower half of the cheeks and on the bases of paired fins. Individuals may reach 49.0 cm (19.3 in) but usually average 25-30 cm (9.8 - 11.8 in).	Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, Yavapai	1,000-7,500 ft.	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams.	Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.
Sprague's pipit	*Anthus spragueii*	Candidate	Small, sparrow-sized bird (10-15 cm in length), with buff and blackish streaking on the crown, nape, and underparts. Has a short bill with a blackish upper mandible, a buffy face with a large eye ring, white outer tail feathers and pale to yellowish legs.	Cochise, Maricopa, La Paz, Santa Cruz, Yuma	<5,000 ft	Strong preference to native grasslands with vegetation of intermediate height and lacking woody shrubs.	Rare in Arizona. Few individuals of this elusive species have been sighted during October through March. Native grass fields are rare in Arizona but cultivated, dry Bermuda grass, alfalfa fields mixed with patches of dry grass, or fallow fields appear to support the species during wintering. They will not use mowed or burned areas until the vegetation has had a chance to grow. There are no breeding records in Arizona.
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill that is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos are primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.

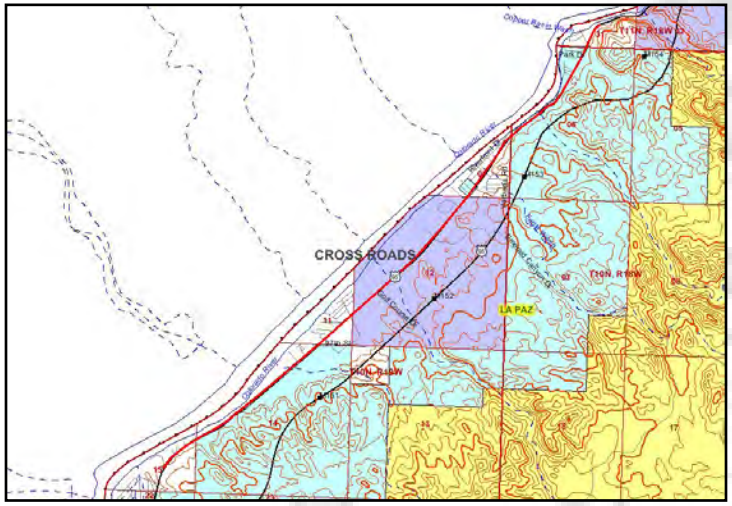
COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
American peregrine falcon	*Falco pereginus anatum*	Delisted	A crow-sized falcon with slate blue-gray on the back and wings, and white on the underside; a black head with vertical “bandit’s mask” pattern over the eyes; long pointed wings; and a long wailing call made during breeding. Very adept flyers and hunters, reaching diving speeds of 200 mph.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	3,500-9,000 ft	Areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Nests are found on ledges of cliffs, and sometimes on man-made structures such as office towers and bridge abutments.	Species recovered with over 1,650 breeding birds in the US and Canada.
Bald eagle	*Haliaeetus leucocephalus*	Delisted	Large, adults have white head and tail. Height 28 to 38 inches; wingspan 66 to 96 inches. Juveniles and subadults are dark brown with varying degrees of white mottling on chest, wings, and head.	Apache, Coconino, Gila, Graham, La Paz, Maricopa, Mohave, Pinal, and Yavapai	Varies	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey.	Nationwide and throughout the State of Arizona, the bald eagle is currently not listed under the Endangered Species Act. On September 30, 2010, the U.S. District Court dissolved an injunction that led to the bald eagle in the Sonoran Desert Area of central Arizona being placed on the Endangered Species list in 2008. This determination is presently (January 2011) under judicial consideration. Bald eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act) and other Federal and state statutes. The word “disturb” under the Eagle Act was recently clarified, as well as the implementation of new regulations requiring permits to incidentally “take” eagles. Retrieve more information on management and life history at http://SWBEMC.org.
California brown pelican	*Pelecanus occidentalis californicus*	Delisted	Large, dark gray-brown water bird with webbed feet, pouch underneath its long bill, and wingspan of 7 ft. Adults have a white head and neck, brownish black breast, and silver gray upper parts.	Gila, La Paz, Maricopa, Mohave, Pinal, Yuma	Varies	Coastal land and islands; species found occasionally around Arizona's lakes and rivers.	Considered an uncommon transient in Arizona. Most observations recorded along the Colorado River and in the Gila Valley. Individuals known to wander up from Mexico in summer and fall. No breeding has been documented in Arizona. Delisted on November 17, 2009 (74 FR 59444).

Appendix C

Arizona Game and Fish Department
On-line Environmental Review Tool Receipt

Arizona's On-line Environmental Review Tool
Search ID: 20121206019198
Project Name: Buckskin Sanitary District Area 4 Wastewater Conveyance
Date: 12/6/2012 3:48:14 PM

Project Location



Project Name: Buckskin Sanitary District Area 4 Wastewater Conveyance System
Submitted By: Ian Tackett
On behalf of: CONSULTING
Project Search ID: 20121206019198
Date: 12/6/2012 3:48:08 PM
Project Category: Waste Transfer, Treatment, and Disposal,Liquid waste/effluent,Sewer line (new - construction in new location)
Project Coordinates (UTM Zone 12-NAD 83): 205845.454, 3791851.436 meter
Project Length: 6653.960 meter
County: LA PAZ
USGS 7.5 Minute Quadrangle ID: 1005
Quadrangle Name: CROSS ROADS
Project locality is not anticipated to change

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Anaxyrus microscaphus	Arizona Toad	SC	S		
Bat Colony					
CH for Xyrauchen texanus	Designated Critical Habitat for razorback sucker				
Colorado River Indian Reservation	Colorado River Indian Reservation				
Gila elegans	Bonytail	LE			WSC
Macrotus californicus	California Leaf-nosed Bat	SC	S	S	WSC
Xyrauchen texanus	Razorback Sucker	LE			WSC

 APPLICATION INITIALS: _____

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: http://arizonaes.fws.gov/.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

 APPLICATION INITIALS: _____

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Waste Transfer, Treatment, and Disposal,Liquid waste/effluent,Sewer line (new - construction in new location)

Project Type Recommendations:

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered; coordination with State Historic Preservation Office may be required http://azstateparks.com/SHPO/index.html

Based on the project type entered; coordination with the Environmental Protection Agency may be required http://www.epa.gov/

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants http://www.azda.gov/PSD/quarantine5.htm. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

Project Location and/or Species recommendations:

Tribal Lands are within the vicinity of your project area (refer to page 1 of the receipt) and may require further coordination. Please contact:
Colorado River Tribal Coucil
Route 1, Box 23-B
Parker, AZ 85344
Phone: 928-669-1339
Fax: 928-669-5675

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the

 APPLICATION INITIALS: _____

Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act .
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.
5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature:_____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

 APPLICATION INITIALS: _____

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

 APPLICATION INITIALS: _____

Appendix D

Arizona Game and Fish Department
Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects
(Revised October 23, 2007)

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mojave population of desert tortoises (north and west of the Colorado River). Mojave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.

- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

Appendix E

Agency Correspondence

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION IV, 9140 E. 28TH ST., YUMA, AZ 85365

December 21, 2012

Jodi Strohmayer
Logan Simpson Design Inc
51 West Third Street
Suite 450
Tempe, AZ 85281

Re: Buckskin Sanitary District Phase 4 Wastewater Conveyance

Ms. Strohmayer:

The Arizona Game and Fish Department (Department) has reviewed the December 17, 2012 proposed expansion of wastewater collection and conveyance facilities approximately four miles north of Parker, Arizona. The proposed project would expand wastewater facilities to serve Phase 4, which extends along Riverside Drive from the Buckskin Water Treatment Plant on the south to the Sundance Resort on the north. A search on the Department's Heritage Data Management System (HDMS) showed the presence of several species as potentially occurring within or near the project location. However, the Department does not foresee impacts to any of the listed species from the expansion of wastewater and conveyance facilities.

The Department has no further comments at this time. If you have any questions, please contact me at 928-341-4069 or tbommarito@azgfd.gov.

Sincerely,

Tab Bommarito
Habitat Specialist
Region IV, Yuma

cc: Pat Barber, Regional Supervisor, Region IV
Bill Knowles, Habitat Program Manager, Region IV
Laura Canaca, PEP Supervisor, Habitat Branch
Leonard Ordway, Assistant Director, Field Operations

AGFD # M12-12192936

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:
AESO/SE
02EAAZ00-2013-I-0071

January 29, 2013

Mr. J.R. Pooler
District Manager
Buckskin Sanitary District
P.O. Box 5398
Parker, Arizona 85344

Re: Phase 4 Wastewater Conveyance Project

Dear Mr. Pooler:

Thank you for your correspondence of January 17, 2013, received in our office on January 24. This letter documents our review of the proposed implementation of the Phase 4 Wastewater Conveyance Project north of Parker in La Paz County, Arizona, in compliance with section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.). You have concluded the proposed project would have no effect to the endangered bonytail (*Gila elegans*), razorback sucker (*Xyrauchen texanus*) and its designated critical habitat, the southwestern willow flycatcher (*Empidonax trailli extimus*), and the candidate Sonoran desert tortoise (*Gopherus agassizii*). We concur with your determinations and provide our rationale below.

The proposed action would occur within the existing right of way along Riverside Drive from the existing Buckskin Wastewater Treatment Plant to the Sundance Resort. This corridor contains existing developments for residential and commercial purposes. Construction activities would not have effects to adjacent aquatic, riparian, or upland habitats occupied by the three listed and one candidate species, nor to any associated critical habitat.

Thank you for your efforts to conserve threatened and endangered species. No further section 7 consultation is required for this project at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, this determination may need to be reconsidered. In all future correspondence on this project, please refer to consultation number 02EAAZ00-2013-I-0071.

Should you require further assistance or if you have any questions, please contact Lesley Fitzpatrick (x239) or me (x244).

Steven L. Spangle

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

W:\Lesley Fitzpatrick\13-71 Buckskin Sanitary District.docx:cgg

Jodi Strohmayer

From: Marr, Carrie [carrie_marr@fws.gov]
Sent: Friday, January 18, 2013 10:36 AM
To: Jodi Strohmayer
Subject: Buckskin Sanitary District
Attachments: LaPaz.pdf

AESO/SE

02EAAZ00-2013-TA-0065 January 18, 2013

Ms. Jodi Strohmayer

Logan Simpson Design Inc.

51 W. Third Street, Suite 450

Tempe, Arizona 85281

RE: Buckskin Sanitary District, Phase 4 Wastewater Conveyance Project

Dear Ms. Strohmayer:

Thank you for your invitation to review the proposed expansion of the Buckskin Sanitary District's wastewater collection and conveyance facilities, with financial assistance from the U.S. Department of Agriculture Rural Development. I have attached a La Paz County species list, which provides information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (ESA), which may occur in your project area. Please review the attached list for species information in La Paz county where your project occurs.

The Arizona Ecological Service Office has posted lists of the endangered, threatened, proposed, and candidate species occurring in each of Arizona's 15 counties on the Internet. You can also visit our website to obtain county species lists: **http://www.fws.gov/southwest/es/arizona.** After opening the web page, find County Species Lists on the main page. Then click on the county of interest. The arrows on the left will guide you through information on species that are listed, proposed, candidates, or have conservation agreements. Here you will find information on the species' status, a physical description, all counties where the species occurs, habitat, elevation, and some general comments. Additional information can be obtained by going back to the

main page. On the left side of the screen, click on Document Library, then click on Documents by Species, then click on the name of the species of interest to obtain General Species Information, or other documents that may be available. Click on the "Cactus" icon to view the desired document.

Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Under the General Species Information, citations for the Federal Register (FR) are included for each listed and proposed species. The FR is available at most Federal depository libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency will need to request formal consultation with us. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency will need to enter into a section 7 conference. The county list may also contain candidate or conservation agreement species. Candidate species are those for which there is sufficient information to support a proposal for listing; conservation agreement species are those for which we have entered into an agreement to protect the species and its habitat. Although candidate and conservation agreement species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, we recommend the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona and some of the Native American Tribes protect some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species, or contact the appropriate Native American Tribe to determine if sensitive species are protected by Tribal governments in your project area. We further recommend that you invite the Arizona Game and Fish Department and any Native American Tribes in or near your project area to participate in your informal or formal Section 7 Consultation process.

Some projects may potentially impact species that are protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. sec. 703-712) and/or bald and golden eagles protected under the Bald and Golden Eagle Protection Act (BEGPA). Prohibitions under the MBTA include the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except as specifically authorized by the FWS. If you believe migratory birds will be affected by the project, we recommend you contact our

Migratory Bird Permit Office, P.O. Box 709, Albuquerque, NM 87103, (505) 248-7882 or by email *FW2_birdpermits@fws.gov*. For more information regarding the MBTA and permitting process, please visit the following web site: *http://www.fws.gov/migratorybirds/mbpermits.html*. For information on protections for bald eagles under the BEGPA, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) that were published in the Federal Register on June 5, 2007. Existing take authorizations for bald eagles issued under the ESA became covered under the BEGPA via a final rule published in the Federal Register on May 20, 2008 (73 FR 29075).

For additional communications regarding this project, please refer to consultation number 02EAAZ00-2013-TA-0065. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Lesley Fitzpatrick (602) 242-0210 (x236) or myself at (x214).

Sincerely,

Carrie Marr

****

Carrie Marr
Environmental Contaminant Specialist
Arizona Ecological Services Office
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http://www.fws.gov/southwest/es/arizona/contaminants.htm

A Class I Overview and a Class III Cultural Resource Survey of 2.48 Acres for the Buckskin Sanitary District Phase 4 Wastewater Conveyance Project Located Along Riverside Drive, Northeast of Parker, La Paz County, Arizona

ASM Accession No.: 2013-0004

ASM Permit No.: 2012-35bl

Prepared for:

Buckskin Sanitary District
8832 Riverside Drive, Suite 4
Parker, Arizona 85344

On Behalf of:

Energy and Water Solutions
P. O. Box 20112
Fountain Hills, Arizona 85269

Prepared by:

Mary-Ellen Walsh, M.A., RPA

Logan Simpson Design Inc.
51 West Third Street, Suite 450
Tempe, AZ 85281

August 2014

LSD Technical Report No. 125164

ABSTRACT AND MANAGEMENT SUMMARY

Report Title	A Class I Overview and a Class III Cultural Resources Survey of 2.48 Acres for the Buckskin Sanitary District Phase 4 Wastewater Conveyance Project Located along Riverside Drive, Northeast of Parker, La Paz County, Arizona
Agencies Involved	U.S. Department of Agriculture Rural Development, Rural Utilities Service's Water and Environmental Program (RUS); La Paz County; Buckskin Sanitary District (District); Arizona State Land Department, Bureau of Land Management (BLM); State Historic Preservation Office
ASM Accession No.	2013-0004
ASM Permit No.	2012-35bl
LSD Project No.	125164
Report Date	August 2014 (submittal 3)
Project Description	The Buckskin Sanitary District is planning to expand its wastewater system approximately four miles northeast of Parker, La Paz County, Arizona. The proposed project would include the construction of a backbone conveyance system and service to the existing community collection systems. The backbone conveyance system would consist of a series of 8-inch and 10-inch gravity collector sewers, 4-inch and 6-inch force mains, and three lift stations. The proposed project would be funded by RUS. Energy and Water Solutions, subconsultant to the District, requested that Logan Simpson Design Inc. (LSD) complete a Class III cultural resources survey of two lift station locations and an undeveloped parcel in the Branson's Resort/River's Edge community—and a Class I summary of the entire project area—to identify, document, and evaluate the National Register of Historic Places (NRHP) eligibility of cultural resources that could be affected by the proposed project.
Project Location	Within portions of Section 31, Township 11 North (T11N), Range 18 West (R18W); Section 6, T10N, R18W; and Sections 1, 11, 12, 14, and 15, T10N, R19W, Gila and Salt River Baseline and Meridian (USGS 7.5' Crossroads, Calif.-Ariz. 1959, 1977)
Land Ownership	BLM land patented to La Paz County, La Paz County, and private
Methods	Pedestrian survey spaced at 15-m intervals
Acres Surveyed	Total: 2.48 La Paz County – 0.04 acre BLM land patented to La Paz County – 0.78 acre Private – 1.66 acres
Number of Sites	3, previously recorded
Eligibility Status	AZ L:7:30(ASM); determined eligible, noncontributing segment AZ L:12:15(ASM); determined not eligible AZ L:16:53(ASM); recommended not eligible/demolished

Summary

Three previously recorded cultural resources sites were identified within the area of potential effects (APE). AZ L:16:53(ASM) is a cultural resources site, which at the time of initial recording, consisted of buildings and structures. The site has been previously recommended not eligible for inclusion in the

NRHP and no longer exists in the project area. AZ L:12:15(ASM) is the Parker-Gila 161-kV Transmission Line. This site was not re-recorded by LSD as the site is in-use electrical transmission infrastructure and has not substantially changed since the prior recording.. AZ L:12:15(ASM) has been previously determined not eligible for listing in the NRHP. AZ L:7:30(ASM) is the historic alignment of State Route (SR) 172 and SR 95. The portion of the site within the project area had not been previously evaluated for NRHP-eligibility. AZ L:7:30(ASM) has been previously determined eligible for inclusion in the NRHP as part of the Historic State Highway System; however, the segment of the road in the project area is recommended as a non-contributing segment.

Based on the above information, LSD recommends the proposed wastewater conveyance project will have “no adverse effect” on historic properties. No further investigations are recommended.

If previously unrecorded cultural resources are encountered during ground-disturbing activities, these activities must be discontinued in the immediate vicinity of the discovery, and work should not resume until a qualified archaeologist has been notified and allowed time to properly address the nature and significance of the discovery.

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INTRODUCTION

The Buckskin Sanitary District (District) is planning to expand its wastewater system approximately four miles northeast of Parker, La Paz County, Arizona (Figure 1). The proposed project would include the construction of a backbone conveyance system and service to the existing community collection systems. The backbone conveyance system would consist of a series of 8-inch and 10-inch gravity collector sewers, 4-inch and 6-inch force mains, and three lift stations. The project would occur within the existing County-owned right-of-way (ROW) along Riverside Drive, from the Buckskin Wastewater Treatment Plant (WWTP) on the south to the Sundance Resort on the north, and on adjacent private land, La Paz County land, State Trust land administered by the Arizona State Land Department, and Bureau of Land Management (BLM) land patented to La Paz County (Figures 2–4). The area of potential effects (APE) consists of the existing Riverside Drive ROW from the WWTP on the south to the Sundance Resort on the north, which varies in width between 50 feet and 200 feet; three proposed lift stations located outside of the existing ROW; and the existing Sundance Resort, Rio Lindo, Fox's Resort, Sandbar at Redrock, Marina Village North, Marina Village, Marina Village Annex, Roadrunner RV Park, Branson's Resort/River's Edge, Casino Beach, Jolly Knight, Desert Star RV Park, and Plantation Resort communities for which the District will provide collection systems or sewer stubs to the edge of the Riverside Drive ROW. The legal description of the overall project area includes portions of Section 31, Township 11 North (T11N), Range 18 West (R18W); Section 6, T10N, R18W; and Sections 1, 11, 12, 14, and 15, T10N, R19W, Gila and Salt River Baseline and Meridian (G&SRB&M) (USGS 7.5' Quadrangle, Crossroads, Calif.-Ariz., 1959, 1977) (Figures 3 and 4). The proposed project would be funded by US Department of Agriculture Rural Development, Rural Utilities Service's Water and Environmental Program (RUS); as such, it is considered a federal undertaking as defined under 36 CFR § 800 (as revised in 2004), the regulations implementing Section 106 of the National Historic Preservation Act.

Energy and Water Solutions (EWS), subconsultant to the District, requested that Logan Simpson Design Inc. (LSD) complete a Class I overview and Class III cultural resources survey to identify, document, and evaluate the National Register of Historic Places (NRHP) eligibility of cultural resources that could be affected by the proposed project. The majority of the planned construction would occur in areas that were previously surveyed for cultural resources, are disturbed, and/or developed. Therefore, the intensive field survey was limited to three areas identified at a meeting with RUS, EWS, and LSD, based on critical evaluation of aerial photographs. The subsequent field visit by LSD verified these disturbances. The survey areas encompassed a total of 2.48 acres (Table 1 and Figure 2). The Class I overview covers the entire limits of the APE, as described above, as well as the surrounding one-mile radius. An identification and evaluation of traditional cultural properties that may be located in the project area was not completed.

PHYSICAL SETTING

The project area is located in the Empire Flats on a relatively flat and narrow strip of land situated between the Colorado River to the west and the Buckskin Mountains to the east. The Colorado River defines the border between Arizona and California in this area. Elevation in the project area ranges from 370 ft to 410 ft above mean sea level. The project area occurs in the Basin and Range physiographic province,

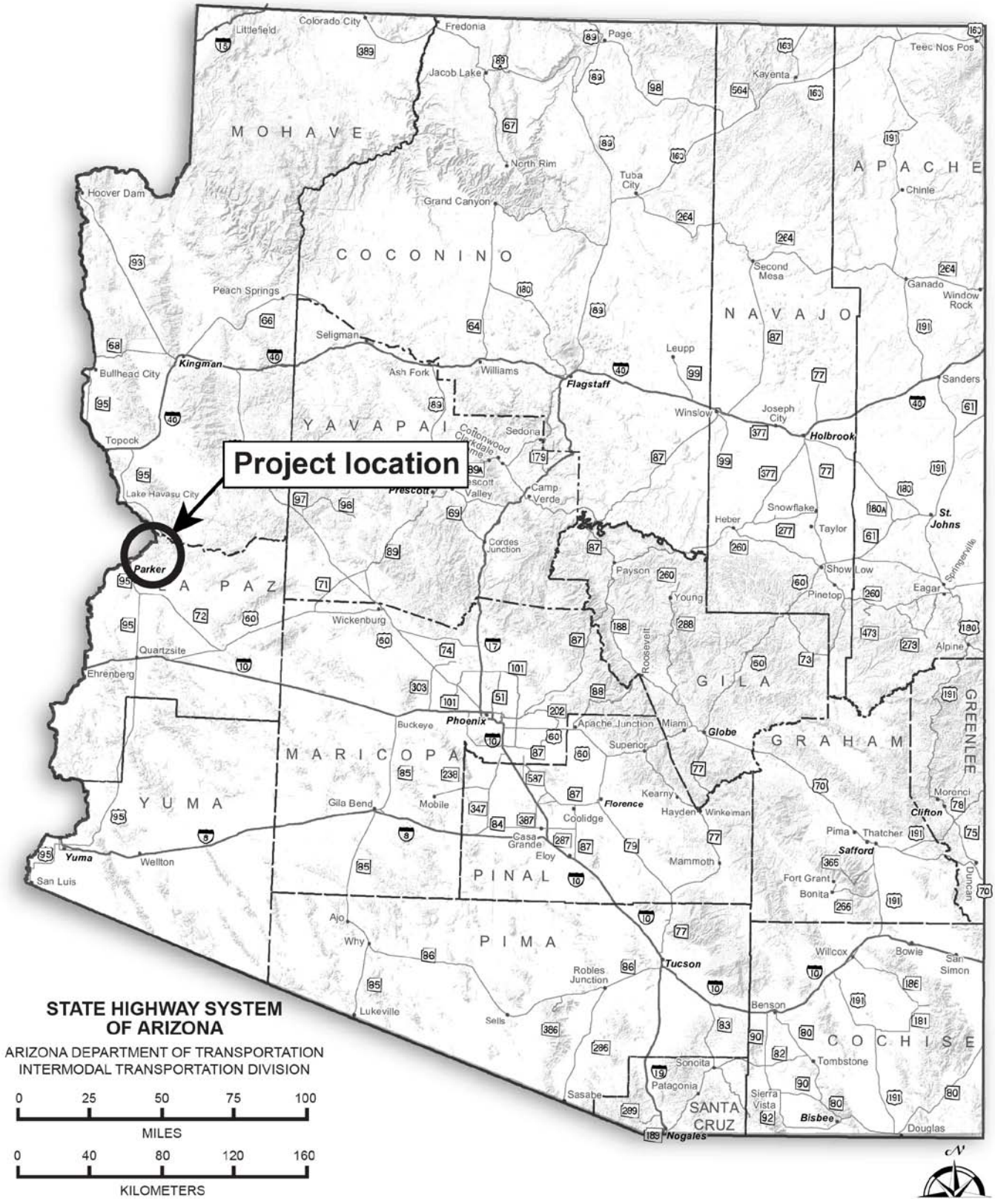

Figure 1. County/State location.

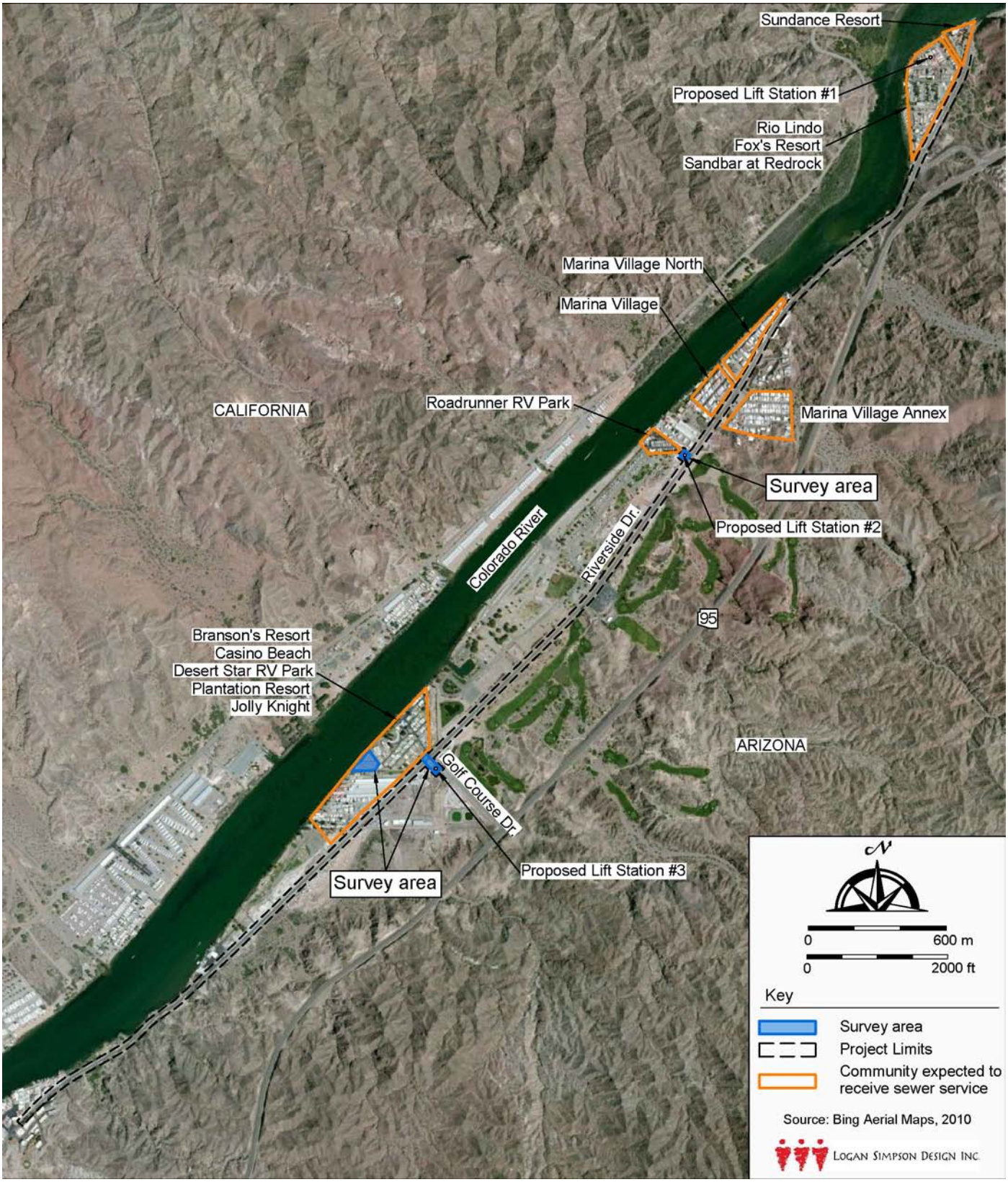

Figure 2. Project limits and areas surveyed.

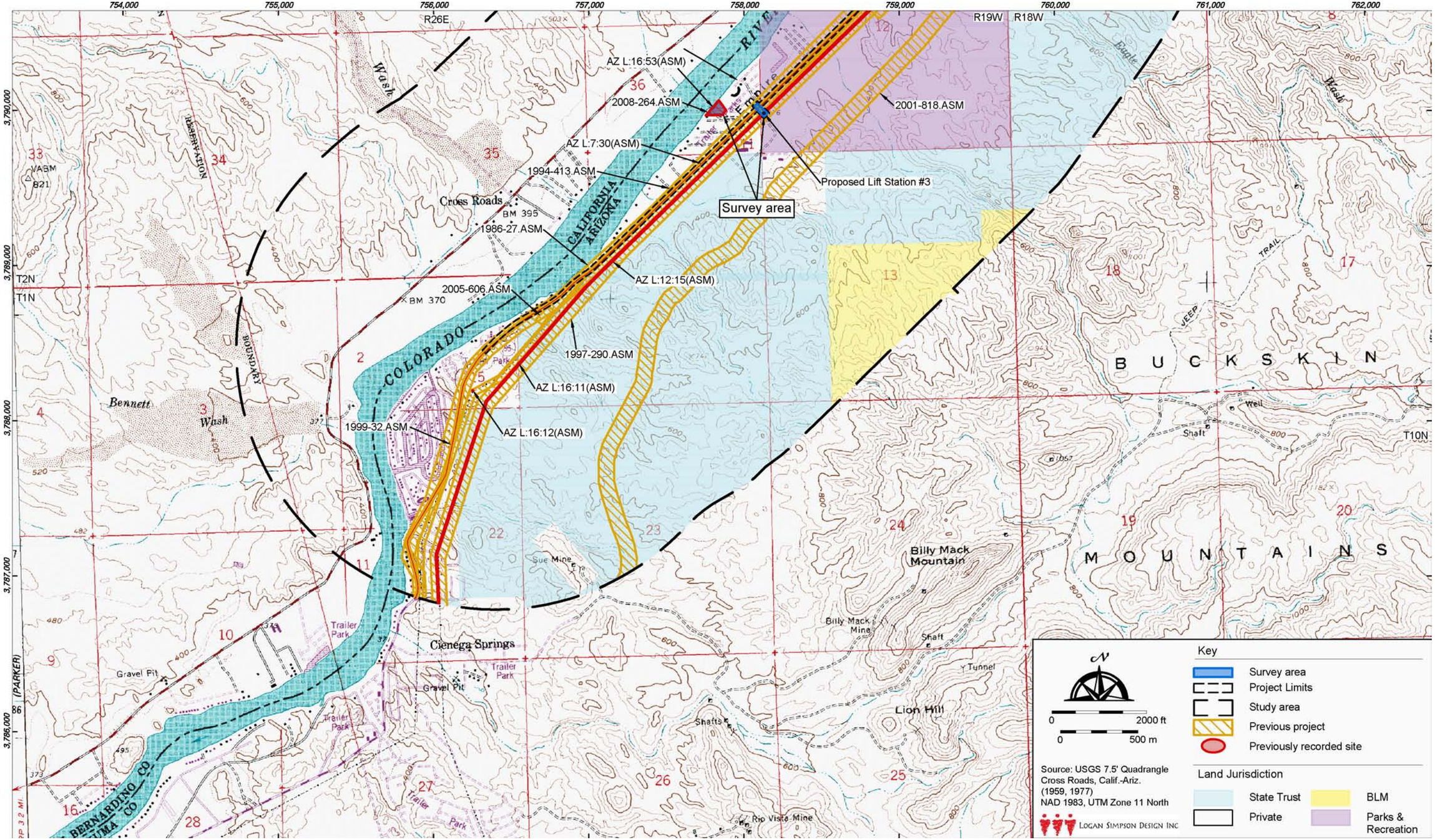

Figure 3. South half of project area showing land jurisdiction, previous research, and previously recorded cultural resources sites.

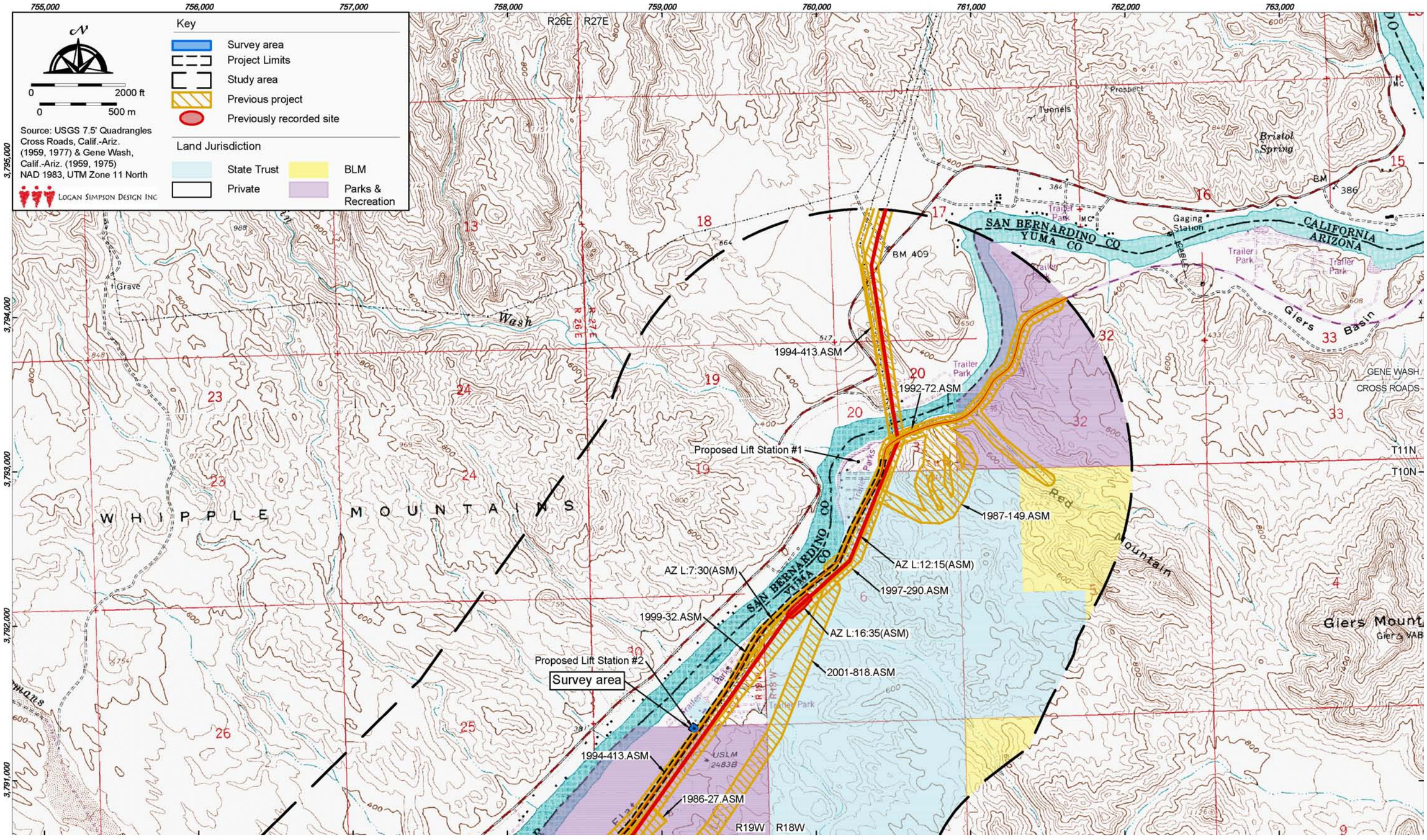

Figure 4. North half of the project area showing land jurisdictioin, previous research, and previously identified cultural resources.

Table 1. Areas surveyed.

Survey parcel	Legal description[a]	Land jurisdiction	Area surveyed
Lift station #2	Sections 1 & 12	La Paz County	100 ft^2 / 0.04 acre
Lift station #3 and access road	Sections 11 & 12	BLM land patented to La Paz County	100 ft by 300 ft parcel / 0.69 acre 13 ft by 300 ft access road / 0.09 acre
Undeveloped parcel	Section 11	Private	240 ft by 300 ft / 1.66 acres

[a] All USGS 7.5' Cross Roads, Calif-Ariz., 1959, 1977; T10N, R19W, G&SRB&M, Zone 11, NAD 83 Conus.

which is characterized by low desert surrounded by fault-block mountain ranges (Chronic 1983). The region is part of Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Turner and Brown 1994), which has high temperatures and generally low precipitation. The proposed sewer line would cross Eagle Wash and several other unnamed washes. Native vegetation is dominated by creosotebush and brittlebush; observed vegetation included saltbush, iodinebush, seepweed, brittlebush, and Bermuda grass. The geology of the project area is primarily represented by limestone, siltstone, and claystone of the Bouse Formation, as well as sand dunes.

CULTURE HISTORY

The adoption of pottery and use of floodplain agriculture between A.D. 500 and 750 characterizes the beginning of the Patayan Tradition in the Lower Colorado River valley (Rogers 1945). As derived from limited published survey and excavation (McGuire 1982: 218–219; Rogers 1945; Stone 1986:66–68, 1991), it is likely that the prehistoric Patayan are ancestral to ethnographically documented Colorado River Yuman groups, with which they shared many traditions, including a mixed strategy of seasonal floodwater cultivation of maize, squash, and beans and the supplemental collection of mesquite pods, along with saguaro and other desert plants obtained from interior desert areas (Castetter and Bell 1951; McGuire 1982:220–221; Rogers 1945; Schroeder 1979). Land use features associated with the Patayan include geoglyphs (intaglios), petrogylphs, trail systems, rock cairns, modified desert-pavement surfaces (“sleeping circles”), and lithic and ground-stone quarries and manufacturing sites.

The project area is situated within the traditional territory of the Mohave and the Chemehuevi (Castetter and Bell 1951; Spier 1933). European contact in the region was first established in 1604 when Don Juan de Onate traveled down the Bill Williams River to the junction with the Colorado River. He sent a small expedition north to the Mohave Valley to contact the *Ahamakav* people living there and was met shortly thereafter by a group of forty Mohaves. Farming settlements were located along the river; subsistence practices included hunting and wild plant gathering in areas outside the riverine corridor to offset the unpredictable nature of the annual flow of the Colorado River (Castetter and Bell 1951). The Mohave were also active agents in long-distance trade, facilitating the exchange of goods over a large area that ranged from the California coast to the Hopi and Zuni pueblos.

The Town of Parker and the Colorado River Indian Reservation were both established in 1865. The original townsite was located four miles downstream of its current location; it moved to its present location in 1905

when the Arizona and California Railroad built a bridge across the Colorado River (Trimble 1986). The project area today is largely developed for residential, commercial, and recreational use.

PREVIOUS RESEARCH

Before field survey, archaeological site files and inventory reports were checked at the Arizona State Historic Preservation Office (SHPO) and the Arizona State Museum (ASM) using AZSITE, the state's electronic inventory of cultural resources. Subsequent to fieldwork, information received from ASM indicated the Branson' Resort/River's Edge vacant parcel had, in fact, been previously surveyed in its entirety. The National Register Information System database and historic General Land Office (GLO) cadastral survey maps were reviewed electronically. The parameters of the records search included the project area and the surrounding one-mile radius.

No NRHP-listed properties are located in the project area and its vicinity. The available GLO maps depict a road and telephone lines within the project area dating to 1914, and a transmission line constructed in 1962 (Table 2). The road represents an early alignment of State Route (SR) 172 and later SR 95, which has been designated AZ L:7:30(ASM) (Phifer 1994). The segment of AZ L:7:30(ASM) within the project area has not been previously evaluated. The transmission line has also been previously recorded as a site and is designated AZ L:12:15(ASM). These are further discussed below.

Table 2. Features identified on GLO maps.

Location[a]	Feature	Plat number and file date
T10N, R19W	Road, telephone lines	#2898, 2/4/1914 #2897, 9/12/1919
T10N, R19W	Transmission line	#2897A, 9/17/1962
T10N, R18W	Road, telephone lines	#2896, 7/2/1919
T10N, R18W	Transmission line	#2896A, 7/17/1962

[a] NAD 83, Zone 11, G&SRB&M.

AZSITE records indicate that nine surveys were previously conducted in the project area and its vicinity (Table 3). Riverside Drive represents the original alignment of SR 172 and later SR 95, which has been surveyed for two Arizona Department of Transportation projects (Hector and Wade 1987; Shepard 1999). Surveys were also conducted for transmission line projects (Moreno et al. 1994, 1997; Punzmann 1992; Stokes 2005), sewer line projects (Greenwald 1986) and projects of unknown purpose (Lindly 2006; 2001-818.ASM). Only one project, 2001-818.ASM, did not intersect the current project area.

Table 3. Previous investigations in the project area vicinity.

Reference number	Author and year	Location relative to project area
1986-27.ASM	Greenwald 1986	Within/outside
1987-149.ASM	Hector & Wade 1987	Within/outside

continued

Table 3. Previous investigations in the project area vicinity.

Reference number	Author and year	Location relative to project area
1992-72.ASM	Punzmann 1992	Within/outside
1994-413.ASM	Moreno et al. 1994	Within/outside
1997-290.ASM	Moreno et al. 1997	Within/outside
1999-32.ASM	Shepard 1999	Within
2001-818.ASM	Davis 2002	Outside
2005-606.ASM	Stokes 2005	Within/outside
2008-264.ASM	Lindly 2006	Within

A total of six sites have been previously documented within the overall study area (Table 4); of these, three sites occur within the project's APE and intersect the areas surveyed by LSD. AZ L:16:53(ASM) was recorded in the Branson's Resort/River's Edge community in an area surveyed by LSD for the current project and was described as historic buildings and structures (Lindly 2006); these have been demolished since its recordation (see Photograph 4 in Methods and Results Section). The Parker-Gila 161-kV transmission line, AZ L:12:15(ASM), intersects the project area at Lift Station #3. The transmission line was constructed in 1962 and has been individually determined not eligible for inclusion in the NRHP (SHPO). AZ L:7:30(ASM) represents the SR 172 and later the SR 95 alignment and is part of the historic state highway system (HSHS), the network of roadways developed between 1912 and 1955 whose remnants are preserved as in-use and abandoned segments of roadway.

Table 4. Previously recorded sites within the project area vicinity.

Site number	Land jurisdiction and location[a]	Site type	Affiliation and age[b]	Eligibility status	Report citation
AZ L:7:30(ASM)	Private, ASLD, Parks & Recreation, County; Multiple sections	Road	H–1939–present	Determined eligible, Criterion D (SHPO 2002)	Phifer 1992
AZ L:12:15(ASM)	Private, ASLD, Parks & Recreation, County; Sections 14, 36, T10N, R19W; Sec. 12, 30, T10N, R19W; Sec. 6, T10N, R18W	Transmission line	H–1951-present	Determined not eligible (SHPO 7/23/2002)	Moreno et al. 1997
AZ L:16:11(ASM)	Private Section 14, T10N, R19W	Artifact scatter with features	P/H–unknown	Recommended not eligible	Moreno et al. 1994
AZ L:16:12(ASM)	Private; Section 15, T10N, R19W	Lithic scatter	P–unknown	Recommended not eligible	Moreno et al. 1994
AZ L:16:35(ASM)	ASLD; NW ¼ Section 6, T10N, R18W	Petroglyphs	P–unknown	Not evaluated	AZSITE
AZ L:16:53(ASM)	Private; SE¼ Section 36, T10N, R19W	Buildings	H–unknown	Recommended not eligible	Lindly 2006

[a] USGS 7.5' Cross Roads, Calif.- Ariz., 1959,1977; NAD 83, Zone 11 North, Conus.
[b] H = historic; P = prehistoric

SURVEY METHODS AND RESULTS

LSD maintains an Arizona Antiquities Act Permit (2012-35bl) issued by ASM to conduct archaeological survey on public lands, and ASM was notified of the project before fieldwork. Mary-Ellen Walsh, M.A., RPA (project manager and field director) and Helena Reuter, M.A., completed the field survey of 2.48 acres on December 20, 2012. The survey was restricted to Lift Station #2 and Lift Station #3, and a vacant parcel of land located in the Branson's Resort/River's Edge community; a total of 2.48 acres was surveyed (see Table 1 and Figures 2–4). The survey was completed in conformance with ASM survey and site recording standards. The areas were surveyed by maintaining parallel transects oriented with a compass and spaced no more than 15 m apart, resulting in 100 percent coverage. Information obtained from AZSITE subsequent to fieldwork showed that one parcel had, in fact, been previously surveyed, as discussed below. The remainder of the APE has been previously surveyed for cultural resources or has been disturbed and developed, and was not resurveyed by LSD.

Ground surface visibility averaged 85 to 95 percent open in all three areas. Lift Station #2 (Photograph 1) is a 100 ft^2 parcel of cleared land within a recreational vehicle park. Observed vegetation consisted of mesquite and grasses. The Lift Station #3 survey area encompassed a 100-ft by 300-ft parcel (Photograph 2) and a 13-ft-wide by 300-ft-long access road (Photograph 3). Vegetation has been cleared; however, shrubs and grasses were observed. The 240-ft by 250-ft parcel of vacant land in the Branson's Resort/River's Edge community has been cleared of its previous buildings and structures (Photograph 4). Vegetation consisted of scattered grass.

Photograph 1. Lift station #2 survey area, facing east.

Photograph 2. Lift station #3 survey area, facing west.

Photograph 3. Lift station #3 access road, facing east.

Photograph 4. Vacant parcel overview, facing southwest.

No new cultural resources were identified during LSD's survey; however, three sites have been previously recorded within the APE. AZ L:16:53(ASM), which consisted of buildings and structures, was recorded in the vacant parcel on private land in the Branson's Resort/River's Edge community (Lindly 2006). The site was previously recommended not eligible for inclusion in the NRHP and has been demolished since its recordation.

AZ L:12:15(ASM) is the Parker-Gila Transmission Line, which has been individually determined not eligible for inclusion in the NRHP (Moreno et al. 1997). Within the APE, the transmission line is on BLM land that has been patented to La Paz County (Parks and Recreation Land on Figure 3). The transmission line was constructed around 1950 as part of the Parker–Davis Project (Moreno et al. 1997). This project, which was a consolidation of the Parker and Davis Dams Projects, was developed in response to a need for water in the Los Angeles area. The Parker project began in 1933, and construction of the hydroelectric power plant began in 1939, one year after the Parker Dam was completed. A network of transmission lines was constructed primarily to provide pumping power for irrigation systems. This transmission line was one of the many later lines constructed after the 1950s. Construction of the line may have employed local workers, and access to more electricity may have allowed for additional businesses in the area, but the line did not contribute significantly to the economics of the region historically.

AZ L:7:30(ASM), the historic alignment of SR 172 and SR 95, is part of the HSHS and crosses ASLD, Parks and Recreation, and private land within the APE (Photograph 5). Under the Interim Procedures for the Treatment of Historic Roads, developed jointly by the Federal Highway Administration, Arizona Department of Transportation (ADOT), and Arizona SHPO, the HSHS is considered eligible for inclusion in

the NRHP under Criterion D (information potential). SR 95B/Riverside Drive was part of SR 172 from 1958 to 1962, and was subsequently incorporated into SR 95 when SR 172 was decommissioned. ADOT later decommissioned the old alignment of SR 95 in this area when the new alignment was built in the 1980s. Although the SR 95B ROW was surveyed by Archaeological Research Services, Inc., in 1999 as part of a pavement preservation project, it was not evaluated as a historic property. LSD recommends that the segment of AZ L:7:30(ASM) within the project area is noncontributing to the NRHP-eligibility of the overall site (Photograph 5). Although it retains integrity of setting, the integrity of association and feeling of the old alignment of SR 172/SR 95 within the project area has been compromised as it is no longer part of the main transportation route between Parker and other communities in western Arizona. In addition, repaving the roadway and building up the shoulders during a previous ADOT project has compromised the site's integrity of materials and workmanship. No additional investigation is recommended.

Photograph 5. SR 95B/Riverside Drive, facing northwest near Proposed Lift Station #2.

SUMMARY AND RECOMMENDATIONS

At the request of EWS, LSD completed a Class I inventory of the defined APE and a Class III survey of three parcels and an access road totaling 2.48 acres for the Buckskin Sanitary District wastewater conveyance project northeast of Parker, Arizona. This federally funded project is considered an undertaking as defined under 36 CFR § 800 (as revised in 2004), the regulations implementing Section 106 of the National Historic Preservation Act.

Three previously recorded cultural resources sites were identified within the area of potential effects (APE). AZ L:16:53(ASM) is a cultural resources site, which at the time of initial recording, consisted of buildings

and structures. The site has been previously recommended not eligible for inclusion in the NRHP and no longer exists in the project area. AZ L:12:15(ASM) is the Parker-Gila 161-kV Transmission Line. This site was not re-recorded by LSD as the site is in-use electrical transmission infrastructure and has not substantially changed since the prior recording.. AZ L:12:15(ASM) has been previously determined not eligible for listing in the NRHP. AZ L:7:30(ASM) has been previously determined eligible for inclusion in the NRHP as part of the Historic State Highway System; however, the segment of the road in the project area is recommended as a non-contributing segment.

Based on the above information, LSD recommends the proposed wastewater conveyance project will have "no adverse effect" on historic properties. No further investigations are recommended.

If previously unrecorded cultural resources are encountered during ground-disturbing activities, these activities must be discontinued in the immediate vicinity of the discovery, and work should not resume until a qualified archaeologist has been notified and allowed time to properly address the nature and significance of the discovery.

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