APPENDIX L

BIOLOGICAL ASSESSMENT

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WILTON RANCHERIA
FEE-TO-TRUST AND CASINO PROJECT

AUGUST 2015

LEAD AGENCY:

U.S. Department of the Interior
Bureau of Indian Affairs
Pacific Region Office
2800 Cottage Way # W2820
Sacramento, CA 95825

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1.0 INTRODUCTION

This Biological Assessment (BA) has been prepared in support of an application to the Bureau of Indian Affairs (BIA) to place approximately 282-acres (Twin Cities site) into federal trust status (Proposed Action) on the behalf of the Wilton Rancheria (Tribe) and subsequent development of the trust property with a variety of uses including a casino, hotel, parking, and other supporting facilities (Proposed Project). This BA has been prepared to document the extent to which the Proposed Project may affect federally listed species and to facilitate consultation with the U.S. Fish and Wildlife Service (USFWS), in accordance with the legal requirements set forth under Section 7 of the Federal Endangered Species Act (FESA) (16 U.S.C. 1536 [c]). An Environmental Impact Statement (EIS) is currently being prepared by the BIA for the project (AES, 2014). The EIS evaluates impacts associated with the Proposed Project, project alternatives, both on the Twin Cities site and on alternative site locations, as well as a No Action/No Development alternative. This BA evaluates impacts associated with the Proposed Project, described as Alternative A in the EIS, because it has the largest impact area and the greatest potential to be chosen and therefore to have actual impacts of the proposed alternatives. Should the decision maker determine that the casino development will be developed under another alternative; the potential impacts would be different, but similar to those discussed within this BA.

For the purposes of this BA, federally listed species include those plant and animal species that are listed as endangered or threatened, formally proposed for listing, or candidates for listing under the FESA.

To fulfill its purpose, this BA:

- Characterizes the habitat types present within the 282-acre Twin Cities site;
- Evaluates the potential for the occurrence of federally listed endangered, threatened, proposed, or candidate species within the project site;
- Assesses the potential for the Proposed Project to adversely impact federally listed endangered, threatened, proposed, or candidate species; and
- Recommends mitigation measures designed to avoid or minimize project-related impacts.

1.1 THREATENED, ENDANGERED, PROPOSED THREATENED, AND PROPOSED ENDANGERED SPECIES

The following listed species may be affected by the Proposed Project:

- Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)
- Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)
- California Tiger Salamander (*Ambystoma californiense*)
- Giant Garter Snake (*Thamnophis gigas*)

1.2 CRITICAL HABITAT

The Twin Cities site does not provide critical habitat for any federally listed plants or wildlife.

2.0 PROJECT LOCATION/ACTION AREA

The Twin Cities site is located 0.2 mile north of the City of Galt, California (**Figure 1**). The site is situated within Section 3, Township 5 North, Range 6 East, of the Galt, Sacramento, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), and is within the Mt. Diablo Baseline and Meridian. The centroid of the development area on the Twin Cities site is located at approximately 38º18'15.65 N, 121º19'19.17 W. The site is located immediately west of Highway 99 and West Stockton Boulevard, and is bound by Twin Cities Road to the south, by agricultural land to the north, and by the Union Pacific Railroad to the west (**Figure 2**). Elevation within the site is approximately 41 feet. The site is relatively flat and typically exhibits slopes of less than 1 percent. A topographic map and an aerial photograph of the project site are provided in **Figures 2** and **3**, respectively. The Action Area for this BA is the actual project site (site plan shown in **Figure 4**) and the offsite areas of impact that would otherwise not occur but for the development of the proposed project. The offsite areas are shown in **Figure 5** and include: 1) upgrades to the simple exit entrance points at the Mingo Road intersection near Hwy 99; 2) one of the two proposed pipeline alignments to connect to the City of Galt's existing wastewater treatment plant (WWTP); and 3) the freshwater pipeline alignment to the proposed City of Galt water treatment plant (WTP). Not shown in this figure are the proposed improvements to Twin Cities Rd., widening the current road from two lanes to four from Marengo Rd. to Femoy Way (instead, these improvements are shown on **Figure 8**). The proposed new wells and the proposed future City of Galt WTP itself (which will likely occur independent of the Proposed Project) are also depicted on **Figure 5.** Consequently, the proposed freshwater WTP does not meet the "but for" test and is not covered in the Action Area for this proposed federal action.

3.0 PROJECT DESCRIPTION

3.1 PROJECT COMPONENTS

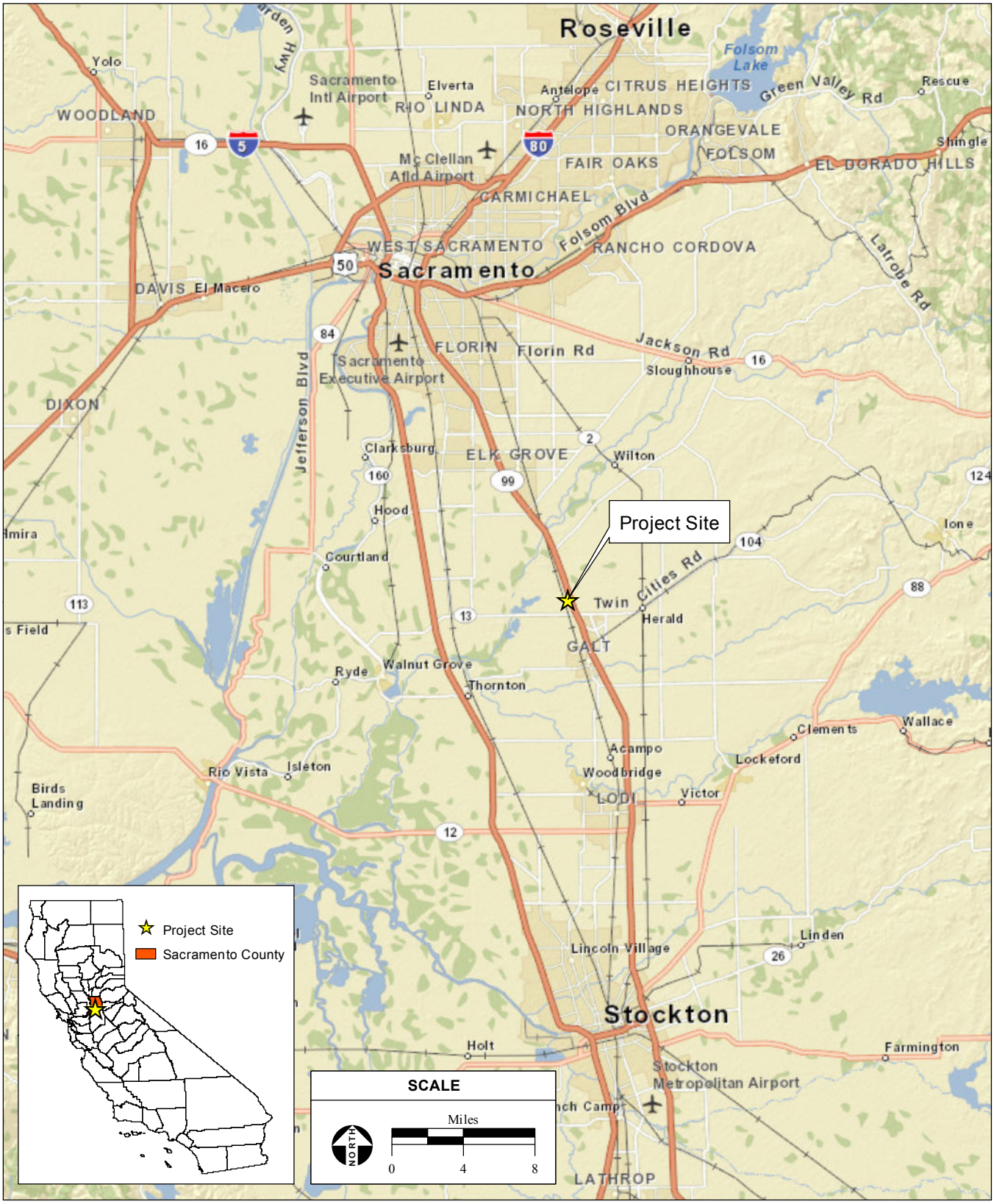
The Proposed Action consists of the placement of 7 parcels totaling approximately 282-acres (Sacramento County Assessor's parcel numbers (APNs): 148-0010-018, 148-0041-009, 148-0041-006, 148-0041-004, 148-0041-001, 148-0031-007, and 148-0010-060) into federal trust status for the Tribe. Under the Proposed Project, development of the Twin Cities site would include a gaming facility, hotel, parking lots, stormwater detention basins, either a wastewater treatment plant (WWTP) and water treatment facilities or wastewater pipeline tied into the city's infrastructure, and supporting roads and infrastructure. The Proposed Project site plan is provided in **Figure 4**. The components of the Proposed Project are described in more detail below.

LAND TRUST ACTION

The fee-to-trust action would shift civil regulatory jurisdiction over the 282-acres from the State of California (State) and Sacramento County (County) to the Tribe and the BIA.

DESIGNATED TRIBAL LAND USES

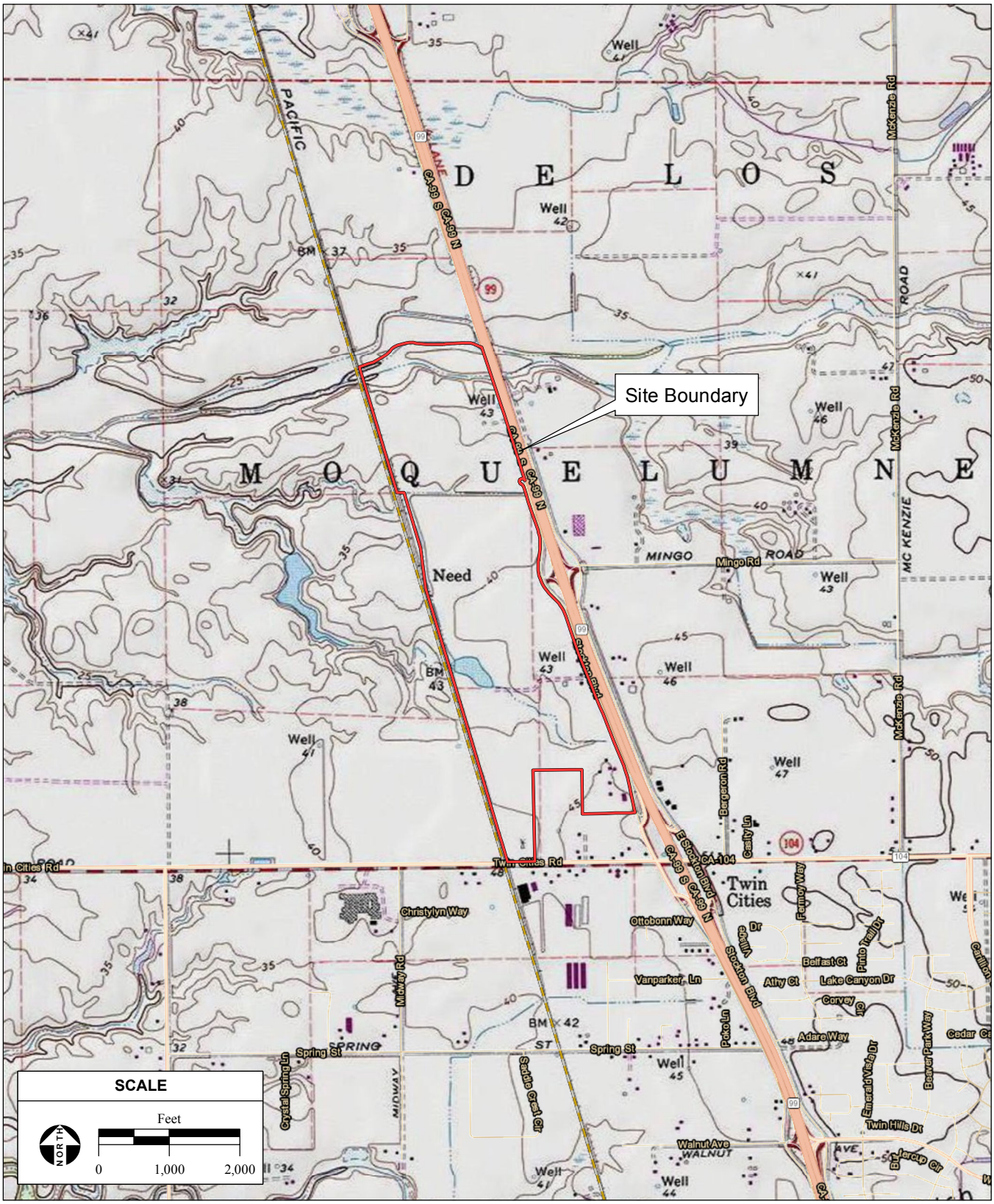
Once accepted into federal trust the Tribe would develop a casino/hotel primarily on the north/central portion of the Twin Cities site. The Federal action is the taking of the land into trust with the anticipated construction of the casino and hotel on the site.



SOURCE: ESRI Data, 2014; AES, 2014

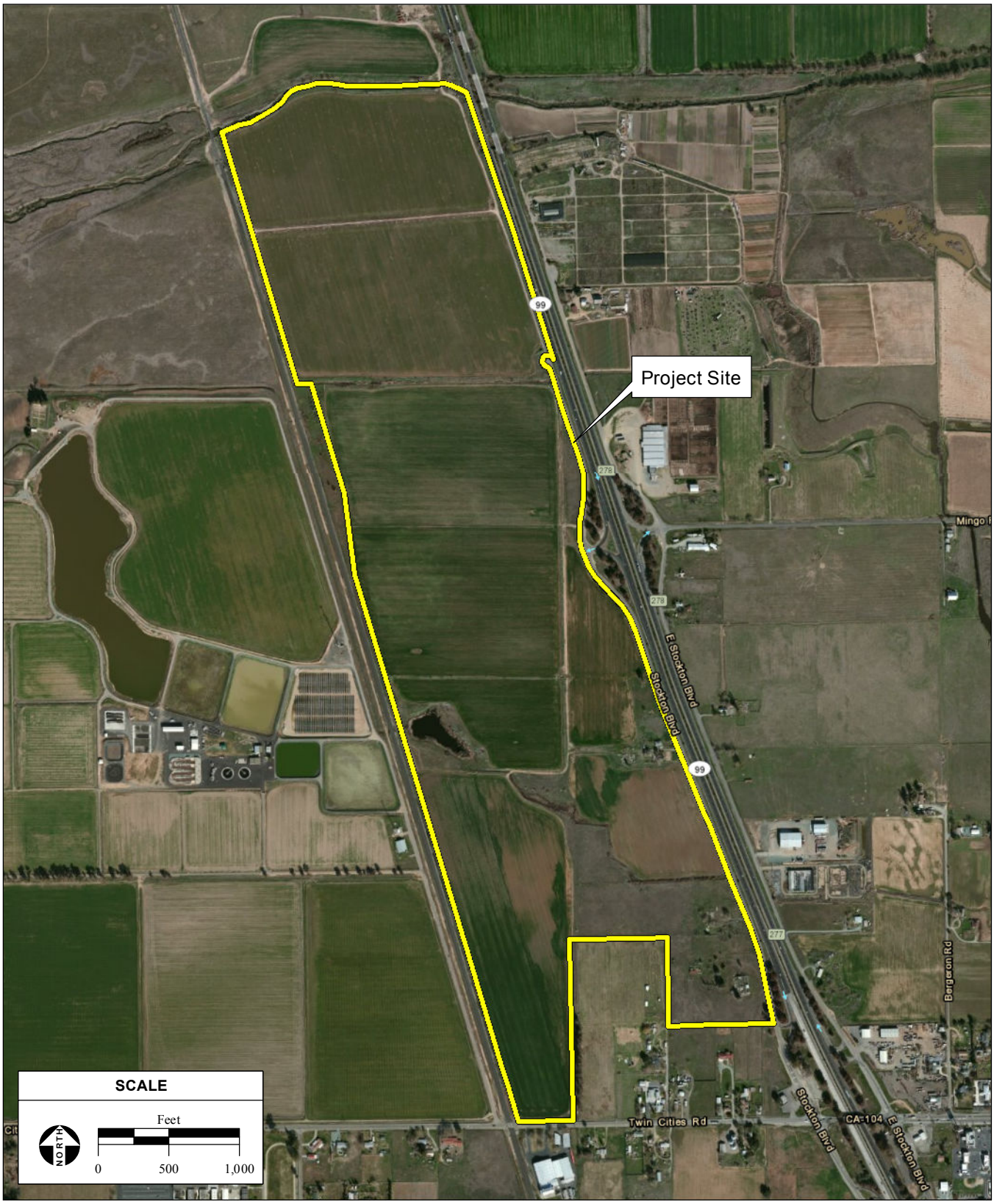
Wilton Rancheria Fee-to-Trust and Casino BA / 212544

Figure 1
Regional Location



SOURCE: "Galt, CA" USGS 7.5 Minute Topographic Quadrangle,
T5N, R5E, Unsectioned Area of Sanjon Delos Moquelumnes,
Mt. Diablo Baseline & Meridian; Sacramento County GIS 2012; AES, 2014

Figure 2
Site and Vicinity



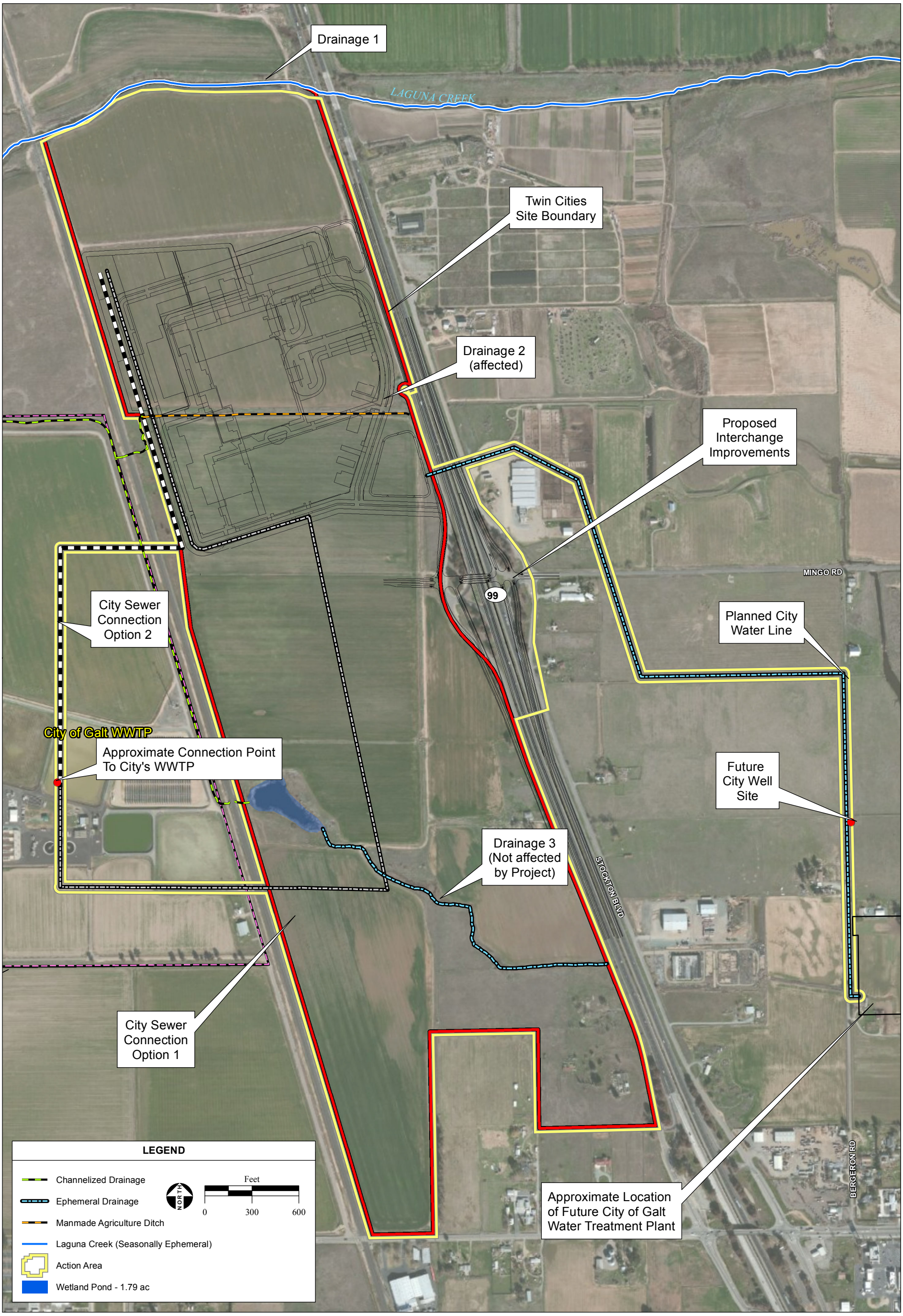
SOURCE: Microsoft aerial photograph, 2/2/2012;
Sacramento County GIS 2012; AES, 2014

Figure 3
Aerial Photograph

SOURCE: Microsoft aerial photograph, 2/2/2012; AES, 2014

Figure 4

Alternative A - Proposed Twin Cities Casino Resort Site Plan



SOURCE: City of Galt, 2010; UC-G Aerial Photograph, 02/2012; AES, 2014

Figure 5
BA Action Area

WATER SUPPLY

The Proposed Project would obtain water supply either via the development of an on-site wells or through a connection to the City of Galt municipal water system. The proposed on-site water system would obtain water from the existing and/or new wells and the development of an onsite treatment system. The potential freshwater pipeline alignment between the Twin Cities site and the proposed City of Galt WTP is shown as part of the Action Area.

WASTEWATER TREATMENT AND DISPOSAL

The Proposed Project would obtain wastewater service either via the development of an on-site wastewater treatment plant (WWTP) or through a connection to the City of Galt municipal wastewater treatment and disposal system. As the direct connection to the City of Galt wastewater collection and treatment system is not developed or agreed upon, preliminary areas have been set aside for the development of a tertiary treatment WWTP, as shown in **Figure 4**. The treated effluent would be disposed of on-site via recycling for use in landscaping, appropriate internal facilities, and through the development of spray fields, and/or leach fields. Appropriate EPA approved drainage controls would be installed to prevent comingling with stormwater runoff prior to off-site discharge. Recycled water use would be fully compliant with EPA requirements and so that no discharge to waters is generated from the on-site WWTP system. The Action Area includes the two proposed pipeline alignments.

ROADWAYS

A driveway would be constructed on West Stockton Boulevard to provide access to the proposed casino hotel facility. The current Mingo Road intersection with Hwy 99 immediately adjacent to the site would be improved to accommodate the traffic from the Proposed Project. Currently there are simple exit and entrances to Hwy 99 but no overpass or full off- and on-ramps to accommodate the proposed increase in traffic which would need to interface with Stockton Blvd on the west side of this new intersection. The Proposed Project will ask the city to abandon the portion of Stockton Blvd adjacent to the Project Site. The area of improvement for this intersection is part of the Action Area.

GRADING AND DRAINAGE

Construction would involve grading and excavation of material for building pads and internal roadways. Cut and fill would be balanced to the extent feasible; however, some structural grade fill may be imported to meet engineering requirements. On-site generated stormwater will be directed to on-site stormwater detention and treatment facilities, sized to treat increased flows from impervious surfaces throughout the site. These ponds will act as a settling and retention basins. Stormwater would be retained on site within detention basins prior to discharging at rates not to exceed pre-development conditions.

Existing drainage corridors would be protected to the degree feasible from development via avoidance or implementation of buffers. These drainage corridors would be maintained or managed appropriately to maintain water quality filtering to a level which is at least equivalent to the quality of these water courses prior to project implementation. This will also require that potential off-site runoff, especially from impervious surfaces, will be fully managed on site prior to release to watercourses or wetlands.

Culverts under Hwy 99 convey off-site stormwater flows from the east of the Twin Cities site. Stormwater flows from these culverts to Laguna Creek (hereinafter referred to as Drainage 1) on the

northern boundary of the site and a partially channelized ephemeral drainage, hereinafter referred to as Drainage 3, on the southern portion of the property. Both Drainage 1 and Drainage 3 will be avoided to the greatest extent feasible. An additional culvert system under Hwy 99 connects to a manmade agriculture ditch, hereinafter referred to as Drainage 2, which passes through the north central portion of the Twin Cities site. Drainage 2 would be impacted by the development of the proposed project. Drainage 2 would either be relocated around the development footprint to avoid significant modification of the drainage patterns, or placed in a pipe that would carry the stormwater entering the site via the new culvert to the other side of the property, adjacent to the railroad tracks. Drainage 2 is not likely to be considered a jurisdictional water of the US; however, the final design or how this drainage will be treated will be dependent on a USACE jurisdictional determination, and if it is determined to be jurisdictional the Section 404 CWA permit process will be followed.

CONSTRUCTION SCHEDULE

The project components would be constructed after the Twin Cities site has been placed into federal trust for the Tribe.

3.2 PURPOSE AND NEED

The Tribal Government wishes to improve its short-term and long-term economic condition and promote self-sufficiency, both with respect to its government operations and its members. The Proposed Action serves the needs of the BIA by advancing the agency's "Self Determination" policy of promoting the Tribe's self-governance capability. It serves the needs of the Tribe by promoting opportunities for economic development and self-sufficiency of the Tribe and its members.

The Tribe has a total enrollment of 676 members, of which approximately 40.2 percent of members are under the age of 18, approximately 9.3 percent of members are age 55 or older, and approximately 4.9 percent members are age 62 or older, while 62.4 percent of families are below the federal poverty line (Wilton Rancheria, 2014).

The Tribe has immediate need for a reliable and significant source of income because of its present financial situation. The needs of the Tribe are expected to continue as the tribal membership grows. The Tribe's need for the Proposed Project is based on:

- Strengthening the socioeconomic status of Tribe by providing a revenue source that could be used to fund the tribal government;
- Funding a variety of social, housing, governmental, administrative, educational, health, and welfare services to improve the quality of life of tribal members;
- Providing capital for other economic development and investment opportunities;
- Providing business and job opportunities for Tribal members and non-Tribal members; and
- Improving local communities through economic opportunities.

Each of these purposes is consistent with the limited allowable uses for gaming revenues, as specified in the Indian Gaming Regulatory Act (IGRA; 25 U.S.C. § 2710(b)(2)(A)). The Proposed Project would also provide employment opportunities for tribal members as well as the general public. Additionally, the facilities located on trust land would require the purchase of goods and services, increasing opportunities for local businesses, further stimulating the local economy.

In summary, the purpose and need for the Proposed Action is to advance the BIA's "Self Determination" policy of promoting the Tribe's self-governance capability by providing a sufficient, sustained income source that will enable the Tribal Government to provide essential social, housing, educational, health, and welfare programs, thereby improving the quality of life for tribal members and their families.

4.0 STUDY METHODS

For the purposes of this BA, the Action Area includes the entire 282-acres being proposed to be taken into federal trust (Twin Cities site) and the offsite area identified above.

Preliminary Data Gathering and Research

Prior to conducting biological surveys, existing biological information regarding the project site was reviewed from the following sources:

- USFWS list, dated September 18, 2011, updated January 7, 2014, of federally listed species with the potential to occur on or be affected by projects on the Galt U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad) (USFWS, 2014) (**Attachment 1**);
- California Native Plant Society (CNPS) query, dated January 7, 2014, of state and federally listed special status plant species known to occur on the Galt quad and surrounding quads located within a 5-mile radius (the surrounding quads include: Bruceville, Elk Grove, Clay, Lodi North, Lockeford, and Thornton) (CNPS, 2014) (**Attachment 1**).
- California Natural Diversity Database (CNDDB) query, dated August 2, 2013, of state and federally listed special status species known to occur on the Galt quad and the six surrounding quads within a 5-mile radius (CDFW, 2013) (**Attachment 1**);
- CNDDB map of state and federally listed special status species known to occur within five miles of the Twin Cities site (CDFW, 2013);
- USFWS National Wetlands Inventory (NWI) map of wetland features in the vicinity of the Twin Cities site (USFWS, 2013b).

The USFWS, CNPS, and CNDDB lists for the Twin Cities site are provided in **Attachment 1**.

FIELD SURVEYS AND ANALYSIS

Biological surveys of the project site were conducted on July 15, 2013, August 6, 2013, April 7, 2014, August 15, 2014, and April 3 and 8, 2015. Biological surveys consisted of walking surveys throughout the Twin Cities site to characterize terrestrial and aquatic habitat types, conduct botanical inventories, and document potential habitat to support regionally occurring special status species. Botanical inventories were conducted to the degree necessary so that all visible plants and wildlife were noted and identified to the lowest possible taxon, thereby enabling determination of rarity and listing status. Lists of all plants and wildlife observed during the surveys are provided in **Attachment 2**. Road surveys were conducted on July 22, 2015 to determine potential archaeological and biological affects of the interrelated road widening projects.

Global Positioning System (GPS) technology, a Trimble Geo XH™ receiver, was used to locate and map preliminary boundaries of waters of the U.S. during the biological surveys. The geographic coordinate system used to reference the data was Universal Transverse Mercator (UTM–Zone 10), North American Datum (NAD83) in meters. Potential wetland boundaries were mapped at a level of accuracy of less than one meter. Habitat boundaries were identified during the biological surveys on an aerial photograph. Environmental Systems Research Institute (ESRI) shape files were generated based on the habitat boundaries, potentially jurisdictional waters of the U.S., and other sensitive biological resources mapped within the project site. Geographic analyses were performed using Geographic Information System (GIS) software (ArcView 3.3 GIS, ESRI, Inc.). The ESRI data and GIS software were used to calculate the acreages of habitat types and wetland features. A list of regionally occurring federally listed species was compiled into a table based on the USFWS, CNDDB, and CNPS lists (**Attachment 1**). The potential for each of the species to occur on the project site was subsequently evaluated based on the results of the 2013 and 2014 surveys, review of applicable literature, and proximity of known occurrences of federally listed species to the project site. The table provides a list of the distributions, habitat types, and potential for each regionally occurring federally listed species to occur on the project site. Several regionally occurring federally listed species were determined to not have the potential to occur within the project site because either the project site lacks suitable habitat or the project site occurs outside of the known elevation range or geographical distribution. Federally listed species without the potential to occur within the Twin Cities site are not discussed further in this BA.

Additional reviews of aerial photos were used to further review potential off site portions of the Action Area which were not fully accessible.

5.0 HABITAT TYPES

A habitat map of the Twin Cities site is shown in **Figure 6**.

Four terrestrial and four aquatic habitat types have been identified within the Twin Cities site. Terrestrial habitat types include: agriculture (221.35 acres), grassland (42.58 acres), riparian (2.97 acres) and ruderal/developed areas (13.21 acres). Aquatic habitat areas totaling 2.41 acres and drainage features totaling 9560.29 linear feet are identified within the Twin Cities site during the wetland/waters assessment:

- Drainage 1: Laguna Creek, which runs along the northern boundary of the site
- Drainage 2: a man-made agricultural ditch that is very unlikely to be a jurisdictional water
- Drainage 3: an un-named partially channelized ephemeral drainage which deepens and broadens into a wetland feature
- Wetland 1: a 0.217 acre wetland outside of the project boundary near the western border of the site to which Drainage 2 flows.
- Wetland 2: a 0.165 acre wetland within the Drainage 3 complex.
- Wetland 3: a 0.278 acre wetland within the Drainage 3 complex.
- Wetland 4: a 1.968 acre wetland near the western border of the site to which Drainage 3 flows.
- Wetland 5/pond: a 0.083 acre wetland/pond complex on the edge of the northeast boundary of the project site and extending beneath US-999

SOURCE: JRN Civil Engineers, 9/3/2013; Microsoft aerial photograph, 2/2/2012; AES, 2014

Figure 6
Habitat Types

Several vegetated swales also exist on the site, but are unlikely to be jurisdictional based on current wetland and waters of the US delineation standards, pending confirmation from the USACE. Dominant vegetation in each vegetative community is discussed below. Photographs of the habitat types within the Twin Cities site are illustrated in **Figures 7a** and **7b**.

5.1 TERRESTRIAL HABITAT TYPES

AGRICULTURE

Agricultural fields are located throughout the northern, eastern, and southeastern portions of the Twin Cities site. Cultivated alfalfa (Medicago sativa) and corn (Zea mays) were growing at the time of the biological surveys.

GRASSLAND

Nonnative grassland occurs predominately within the southeastern portion of the Twin Cities site. Dominant vegetation includes: wild oat (*Avena fatua*), slender oat (*Avena barbata*), barley (*Hordeum murinum*), rat-tail vulpia (*Festuca myuros*), soft brome (*Bromus hordeaceus*), filaree (*Erodium botrys*), filaree (*Erodium cicutarium*), ripgut grass (*Bromus diandrus*), bur clover (*Medicago polymorpha*), hairgrass (*Aira caryophyllea*), yellow star thistle (*Centaurea solstitialis*), milk thistle (*Silybum marianum*), field mustard (*Brassica rapa*), English plantain (*Plantago lanceolata*), and mouse-hair chickweed (*Cerastium glomeratum*).

RIPARIAN

Riparian habitat occurs within two portions of the Twin Cities site: along the banks of Laguna Creek and within the wetland/pond within the southern portion of the Twin Cities site. Dominant vegetation along Laguna Creek, the pond, and the wetland includes: Oregon ash (*Fraxinus latifolia*), broad-leaf cattail (*Typha latifolia*), tule (*Bolboschoenus* sp.), creeping spikerush (*Eleocharis macrostachya*), red willow (*Salix laevigata*), Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), marsh seedbox (*Ludwigia palustrus*), and fennel (*Foeniculum vulgare*). Single plum trees (*Prunus* sp.) occur on the sides of the channelized drainage, with slender willows (*Salix exigua*) prevalent towards the western edge of the drainage. A patch of native forbs, represented by Ithuriel's spears (*Triteleia laxa*) and fiddleneck (*Amsinskia menziesii)* also occur in one location on the bank of the drainage. Noxious weeds which were identified to occur along the wetland drainage include broad-leaved peppergrass (*Lepidium latifolium*).

RUDERAL/DEVELOPED AREAS

Ruderal/developed areas include graded roads throughout the Twin Cities site and two residential dwellings and associated outbuildings within the southeastern portion of the Twin Cities site. Dominant plant species interspersed throughout the ruderal/developed areas include: hairy geranium (*Geranium molle*), bristly ox tongue (*Helminthotheca echioides*), milk thistle, wild oat, yellow star thistle, fennel, and peppergrass (*Lepidium nitidum*). There are several elderberry bushes found in the extreme southeastern part of the ruderal area, adjacent to one of the buildings.

5.2 AQUATIC HABITAT TYPES

DRAINAGE 1 (LAGUNA CREEK)

Drainage 1 flows east to west along the northern boundary of the Twin Cities site. The creek enters the site through a culvert in the northeastern corner of the site. Drainage 1 receives runoff from upstream properties, which are primarily irrigated agricultural fields to the east of Hwy 99, and treated effluent from the City of Galt Wastewater Treatment Plant (WWTP), located downstream of the project site, before draining into the Consumnes River. Drainage 1 exhibits sloped banks and a diverse streambed morphology giving it a more natural appearance relative to other drainages on the property. Dominant species observed include: Oregon ash (*Fraxinus latifolia*), broad-leaf cattail (*Typha latifolia*), tule (*Bolboschoenus* sp.), creeping spikerush (*Eleocharis macrostachya*), red willow (*Salix laevigata*), Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), and fennel (*Foeniculum vulgare*). Marsh seedbox (*Ludwigia palustrus*) and other *Ludwigia* Spp. occur in the water. Herbaceous vegetation on the banks is represented mostly by weedy species, for instance, harding grass (*Phalaris aquatica*), and non-native forbs, including poison hemlock (*Conium maculatum*). Native species are represented by iris-leaved rush (*Juncus phaeoceohalus*) and tules (*Schoenoplectus acutus* var. *occidentalis*).

DRAINAGE 2

The banks of this modified agricultural ditch, which appears fully manmade, are linear, well incised, and have a very low gradient. The primary flow within Drainage 2 appears to be correlated with agriculture irrigation activities, with minimal offsite stormwater pass through flow from culverts off of Hwy 99. The ditch does not appear to connect to any drainages on the east side of Hwy 99, only manmade roadside ditches. Crops on the site are currently flood or furrow irrigated and drain back to Drainage 2, and then some of the tailwater is again used for irrigation. Drainage 2 has been maintained with periodic dredging. Currently, this drainage is dominated by vegetation of broad-leafed cattail but includes willow (*Salix* sp.) and non-native blackberry.

DRAINAGE 3

This drainage is partially natural and partially channelized to facilitate water movement. Several culverts convey off-site stormwater flows originating east of Hwy 99 on to the Twin Cities site. For much of its on-site course, the banks have been modified to become linear, and have a very low gradient and act as a collector for agricultural irrigation runoff from surrounding fields. Three elderberry shrubs occur within Drainage 3 before it enters the pond near the center of the project site. This drainage is to the south of the proposed development area on the Twin Cities site (**Figure 5**).

WETLAND 1

A wetland occurs on the western edge of the Twin Cities site and is fed by agricultural runoff from Drainage 2. It appears to be perennially wet due to irrigation practices. It is dominated by tule (*Schoenoplectus acutus*) and bounded on the west by the railroad grade with an associated trestle allowing for drainage further to the west. The wetland has a clear topographic break and a apparent vegetation difference, being surrounded by narrowleaf willow (*Salix exigua*) and burr chervil (*Anthriscus cavcalis*). No wetland or aquatic animal species were observed within the wetland

WETLAND 2/WETLAND 3

These wetlands occur within the larger Drainage 3 complex. They represent a break in the ordinary high water mark and bed/bank complex that characterize the rest of Drainage 3 and represent a widening of the

channel. They are dominated by vegetation typical of other wetlands on the project site, such as Tule (*Schoenoplectus*) and Cattails (*Typha*). They receive water from agricultural field drainage and from a culvert flowing under Highway 99 and ultimately drain towards Wetland 4 and under a trestle on the west side of the project site.

WETLAND 4

A pond occurs on the southwestern portion of the Twin Cities site and is essentially a broader and deeper segment of Drainage 3. In most years it remains wetted year-round due to summer irrigation and winter stormwater. Dominant aquatic and shoreline vegetation includes red willow, Himalayan blackberry, Fremont cottonwood (*Populus fremonti*), willow, and broad-leafed cattail. Cattail stalks surround much of the perimeter of the pond, but the interior is relatively clear and provides habitat for waterfowl. Willows provide some shade, mostly to the perimeter of the pond. Reptiles, amphibians, and invertebrates were observed are likely to be self-sustaining within this ecosystem. However, due to the potential for the pond to dry during periods of reduced irrigation and drought, fish would not likely be supported naturally, and none were observed. The pond is fed by Drainage 3 as described above and receives agricultural runoff both through this drainage and directly from annual irrigation associated with the agricultural field to the north of the pond. This pond drains off-site (west) to an ephemeral drainage adjacent to the railroad tracks bordering the Twin Cities site.

The pond is surrounded by wetland vegetation. Dominant vegetation includes red willow, sandbar willow (*Salix exigua*), curly dock, Himalayan blackberry, tall flatsedge (*Cyperus eragrostis*), broad-leaf cattail, and ryegrass. It is anticipated that at lower levels of water, much of the currently wetted area within the pond would fill in with similar wetland vegetation.

WETLAND 5/POND

This wetland is located in the northeast corner of the project site, adjacent to the frontage road (Stockton Blvd) and extending underneath US-99. It is an area of open water with a small fringe of emergent wetland vegetation. Only the most extreme western edge of the pond complex was accessible during the April 2015 site visit. This wetland is characterized by perennial open water ringed by tule and willow species.

5.3 POTENTIAL WATERS OF THE U.S.

During the site assessments conducted on April 3 and 8, 2015, the Twin Cities site was formally assessed for jurisdictional wetlands and waterways. Any water features found were assessed using USACE guidance for their potential to be regulated under the Clean Water Act (CWA) (waters of the U.S.). The following likely jurisdictional features were identified within the Twin Cities site during the wetland/waters assessment as potentially jurisdictional: Drainage 1, Drainage 3, Wetland 1 (associated with Drainage 2), the wetland/ponds adjacent to Drainage 3 (Wetland 2, 3, and 4), and Wetland 5.

A habitat map that shows these features is presented in **Figure 6**. Photographs of the aquatic habitats are shown in **Figure 7a** and **7b**.

6.0 FEDERALLY LISTED SPECIES

6.1 FEDERALLY LISTED PLANTS

The Twin Cities site does not provide habitat for any federally listed plants and no federally listed plants were identified to occur within the site through documentation during the site visit and database resource.

6.2 FEDERALLY LISTED WILDLIFE

Potential habitat for five federally listed wildlife species is located within the Twin Cities site:

- Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*; VELB),
- Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS),
- Vernal Pool Tadpole Shrimp (*Lepidurus packardi*; VPTS),
- California Tiger Salamander (*Ambystoma californiense*; CTS), and
- Giant Garter Snake (*Thamnophis gigas;* GGS).

These species are discussed in detail below.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*; VELB)

Federal Status-Threatened

The VELB is only found in close association with its host plant, elderberry (*Sambucus* spp.). Elderberry plants are found in or near riparian and oak woodland habitats. The VELB's life history is assumed to follow a sequence of events similar to those of related taxa. Female beetles deposit eggs in crevices in the bark of living elderberry plants. Presumably, the eggs hatch shortly after they are laid, and the larvae bore into the pith of the trunk or stem. When larvae are ready to pupate, they move through the pith of the plant, open an emergence hole through the bark, and return to the pith for pupation. Adults exit through the emergence holes and can sometimes be found on elderberry foliage, flowers, or stems or on adjacent vegetation. The entire life cycle of the VELB is thought to encompass 2 years, from the time eggs are laid and hatch until adults emerge and die (USFWS 1984). The presence of exit holes in elderberry stems indicates previous VELB habitat use. Exit holes are cylindrical and approximately 0.25 inch in diameter. Exit holes can be found on stems that are 1 or more inches in diameter. The holes may be located on the stems from a few inches to about 9–10 feet above the ground (Barr 1991).

Regional Distribution: The VELB's range extends from southern Shasta County to Fresno County (Talley et al. 2006). Along the eastern edge of the species' range, adult beetles have been found in the foothills of the Sierra Nevada at elevations up to 2,220 feet, and beetle exit holes have been located on elderberry plants at elevations up to 2,940 feet. Along the western edge of the species' range, adult beetles have been found on the eastern slopes of the Coast Ranges at elevations of up to 500 feet, and beetle exit holes have been detected on elderberry plants at elevations up to 730 feet (Barr 1991).

Potential to Occur in the Action Area: Three elderberry shrubs occur within Drainage 3 to the south of the development area on the Twin Cities site near the center of the project site (**Figure 5**). During the site visit on April 8, 2015, the elderberry shrub was examined. Out of 20 total stems, only 8 were greater than 1" in diameter. No exit holes were found on any stem, but the plant does occur within riparian habitat. Two other elderberry shrubs occur in the extreme southeastern portion of the project site near an existing

PHOTO 1: View northward of agriculture from the southwestern boundary of the project site.

PHOTO 2: View eastward of nonnative grassland. Photograph taken from the south-central portion of the project site.

PHOTO 3: View southward of nonnative grassland to the east, ruderal/developed areas in the center, and agricultural to the west. Photograph taken from the central portion of the project site.

PHOTO 4: View eastward of a drainage and surrounding riparian habitat located within south-central portion of the project site.

PHOTO 5: View northwestward of pond and riparian habitat located within the southwestern portion of the project site.

SOURCE: AES, 2014

Wilton Rancheria Fee-to-Trust and Casino BA / 212544 ■

Figure 7a
Site Photographs

PHOTO 6: View southward of ditch located within the eastern portion of the project site.

PHOTO 8: View is looking west at the manmade agriculture ditch and an existing well.

PHOTO 10: View eastward of Laguna Creek and riparian habitat. Photograph taken from the northeastern boundary of the project site.

PHOTO 7: View westward of manmade agriculture ditch. Photograph taken from the northeastern portion of the project site.

PHOTO 9: View southward of ditch located along the northwestern portion of the project site.

SOURCE: AES, 2014

Wilton Rancheria Fee-to-Trust and Casino BA / 212544 ■

Figure 7b
Site Photographs

structure. These shrubs are south of the proposed disturbance and will not be affected by the proposed project.

Potential Impacts: The USFWS Conservation Guidelines state that no adverse effects to VELB are expected when project activities occur at least 100 feet from elderberry shrubs with stems measuring at least one inch diameter. The identified elderberry shrub is not located within the Proposed Project development area and mitigation measures (identified below) provided for a 250 ft buffer around the southern channelized drainage. Therefore, the Proposed Project has **no effect** to VELB.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

Federal Status-Threatened

VPFS inhabit small, shallow wetlands and vernal pools of the Central Valley and coast range from 10 to 290 meters. VPFS are most commonly found in small swales, earth slumps, or basalt-flow depression basins with grassy or muddy bottoms in unplowed soils. VPFS eggs hatch when water at a temperature of less than 10°C fills vernal pools. VPFS reach maturity in approximately 18 days depending on water temperature (Gallagher, 1996; Helm, 1998). This species occurs mostly in vernal pools (79% of observations), although VPFS may also inhabit a variety of natural and artificial seasonal wetland habitats including ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools (NatureServe, 2014).

Regional Distribution: VPFS are known from Alameda, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kings, Madera, Merced, Monterey, Napa, Placer, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, and Yuba counties in California and in southern Oregon (NatureServe, 2011).

Recovery Plan: VPFS is covered as a federally listed threatened species under the *Recovery Plan for Vernal Pool Ecosystems for California and Southern Oregon* (Vernal Pool Recovery Plan) (USFWS, 2005a). The USFWS published the Vernal Pool Recovery Plan on December 15, 2005. The Vernal Pool Recovery Plan covers 20 federally threatened or endangered species and 13 special status species that inhabit vernal pool ecosystems in California and southern Oregon.

Potential to Occur in the Action Area: There were no identified vernal pools on the Twin Cities site; however, potential habitat for VPFS may occur within the 1.79-acre wetland/pond. The wetland feature is outside of the development area and will have a 250 ft buffer. The Twin Cities site is approximately 5 miles west of the nearest documented VPFS Critical Habitat (South Sacramento Daft Habitat Conservation Plan). There are five CNDDB records for VPFS within five miles of the site (Occurrence numbers: 89,128,160, 341, and 364). The closest is occurrence (number 89) is located approximately 3/4 miles north of the Twin Cities site. Habitat at this occurrence consisted of disked or fallow pastureland within non-native annual grassland. This population of over 1,000 VPFS individuals was last seen in 2002 in an area once proposed for development. The occurrence is now within the Cosumnes River State Ecological Reserve. This closest known occurrence drains away from the project site.

Potential Impacts: The Proposed Project design avoids the 1.79-acre wetland/pond but one project alternative has a wastewater treatment pipeline crossing a potentially jurisdictional drainage feature. VPFS may occur within the Twin Cities site and therefore VPFS could be affected by construction

activities. The avoidance and minimization measures identified below would ensure that the Proposed Project **may affect, but is not likely to adversely affect,** VPFS.

Mitigation Measures: The following mitigation measures are required to avoid or minimize potential for adverse affects to VPFS.

1) Potential VPFS habitat shall be avoided by development, and a 250-foot setback shall be implemented around the on-site wetland/pond. This aquatic habitat and its 250-foot buffer shall be clearly marked using orange construction fencing. Fencing shall remain in place throughout the duration of construction on the Proposed Project.

2) No staging of materials or equipment or other construction activity may occur within the buffer areas.

3) A qualified biologist shall conduct a habitat sensitivity training program for project contractors and personnel and shall monitor construction during initial grading activities within the Twin Cities site.

4) Should VPFS or other listed federal species be detected within the construction footprint, grading activities shall halt and the USFWS shall be consulted. No grading activities shall commence until USFWS authorizes the re-initiation of grading activities.

5) Should the crossing of a jurisdictional feature with a pipeline become necessary, directional drilling will be utilized to avoid negative impacts to waters of the US and associated aquatic species

Vernal Pool Tadpole Shrimp (*Lepidurus packardi*; VPTS)

Federal Status- Endangered

Regional Distribution: Known from Amador, Butte, Colusa, Calaveras, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Fresno, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, and Yuba Counties in California and Southern Oregon (NatureServe, 2012). This species is found in a variety of natural and artificial, seasonally ponded habitat types including vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts. Wetland habitat may vary in size and depth (up to 15 centimeters). Adults may be identified from November to April; cysts may be identified from May to October.

Potential to Occur in the Action Area: There were no identified vernal pools on the Twin Cities site; however, potential habitat for VPTS may occur within the 1.79-acre wetland/pond. This wetland feature is outside of the development area. There are five CNDDB occurrences documented within a 5-mile radius of the site (Occurrence numbers: 28, 34, 86, 115, and 209). The nearest record is from 1991 and is mapped approximately 0.75 miles north of the Twin Cities site (CNDDB occurrence number: 209). The record states that eight VPTS were collected from unspecified habitat in this location. VPFS are not listed as being in proximity to the site under the South Sacramento Habitat Conservation Plan.

Potential Impacts: The proposed development area avoids the wetland features on the Twin Cities site. Effects may occur to VPTS if they are present during construction activities. The avoidance and minimization measures identified below would ensure that the Proposed Project **may affect, but is not likely to adversely affect** VPTS.

Mitigation Measures: The same mitigation measures listed above for VPFS will apply for this species and VPTS shall be added to the habitat sensitivity training program required under Mitigation Measure 3 for VPFS.

California Tiger Salamander (*Ambystoma californiense*; CTS)

Federal Status-Threatened

Regional distribution: CTS are known to occur in Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Fresno, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo Counties (Californiaherps, 2013). The Central population range excludes CTS populations in Santa Barbara and Sonoma Counties. This species is found in grassland, oak savannah, edges of mixed woodland, and in lower elevation coniferous forest. CTS breed in temporary ponds during winter months following multiple rain events. These ponds often dry out in the summer. CTS are known for their yearly migration to the breeding ponds and their return to upland habitat where they remain underground in small burrows during the dry season.

Potential to Occur in Action Area: The Twin Cities site is located approximately 8 miles west of the nearest CTS Critical Habitat as described under the South Sacramento draft Habitat Conservation Plan. One CNDDB occurrence is documented within a 5-mile radius of the site (Occurrence number: 415), located south of the site in the proximity of the City of Galt. No other occurrences or breeding sites are documented within five miles of the site. As a result CTS is very unlikely to occur on the Twin Cities site; however, limited potential habitat exists.

Potential Impacts: Due to lack of documented CTS occurrences on and in the vicinity of the Twin Cities site, coupled with the continuous agricultural activities (deep disking, flood irrigation) on the Twin Cities site, it is very unlikely that upland habitat adjacent to the on-site water features would be utilized by CTS or serve as corridors for migration to breeding sites. As discussed above, the wetland habitats (although not anticipated to be breeding sites) would be protected by the measures listed for the VPFS and VPTS, including the implementation of 250 buffers. Therefore, the Proposed Project would have **no affect to** CTS.

Mitigation Measures: No new mitigation measures are required for the CTS as this species is not anticipated to be present on the Twin Cities site. As an element of caution, CTS shall be included in the habitat sensitivity training program as required under the mitigation measure presented for VPFS and VPTS.

Giant Garter Snake (*Thamnophis gigas*; GGS)

Federal Status- Threatened

Regional Distribution: GGS are known to occur in Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Fresno, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba Counties (Stebbins, 2003). This species is found in agricultural wetlands, irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent woodlands. GGS require water during their active season from early spring through mid-fall. GGS utilize herbaceous wetland habitat for cover and foraging, and are found basking in openings along grassy banks and in upland vegetation. During winter GGS range further from wetted areas to find refuge from high water and flood events. Upland area use consists of mammal burrows and other soil crevices with sunny exposures along south and west facing slopes.

Potential to occur in Action Area: Three occurrences of GGS are documented within a CNDDB 5-mile radius surrounding the Twin Cities site (Occurrence numbers: 76, 77, and 78). The nearest occurrence to the site (number 78) was documented in 1986 with two adults observed approximately 0.5 mile northeast of the Twin Cities site, across Hwy 99. An unknown number of GGS were observed in the same location during a 1992 follow-up visit. Habitat consists of a creek with cattails and rushes bordering a dairy waste pond. Observers hypothesized that GGS documented under this occurrence utilized a Hwy 99 stormwater culvert to move to the Willow Creek marshlands located to the west. Occurrence 78, documented in 2008, states that GGS were captured within a marsh comprised of bulrush, nutsedge, cattail, marsh seedbox, cottonwood, and willow at the confluence of Willow and Badger creeks just west of Highway 99 at Arno Road, approximately 0.6 mile north of the Twin Cities site.

Drainage 1 and Drainage 3, including the 1.79-acre wetland/pond area may provide potential habitat for GGS. Unfarmed upland habitat near some water features may contain suitable aestivation habitat for GGS; however, the constant agricultural activities including deep disking and flood irrigation for croplands degrades borrows and migration routes within the bulk of the property. As noted above, both Drainage 1 and Drainage 3 would be avoided by construction and protected by a 250-foot buffer, which would provide sufficient onsite protection for GGS. Drainage 2, due to ongoing maintenance, discharge of agricultural water runoff and the close proximity to intensively farmed and tilled agricultural land, is poor habitat for GGS. Further, there were no usable food sources, such as frogs, etc., observed during surveys of the Drainage 2, unlike Drainage 1 and Drainage 3, in which food sources were identified. The avoidance and minimization measures identified below would ensure that the Proposed Project **may affect, but is not likely to adversely affect** GGS.

Potential Impacts: The Proposed Project avoids the potentially jurisdictional wetland/water features Drainage 1 and 3; while Drainage 2 is not likely jurisdictional there is some potential low-quality GGS habitat within Drainage 2. GGS may occur within the Twin Cities site, and therefore the avoidance and minimization measures identified below would ensure that the Proposed Project **may affect, but is not likely to adversely affect** GGS.

Mitigation Measures: The following mitigation measures are required to avoid or minimize potential adverse affects to GGS.

1) Mitigation measures one (1) through four (4) for VPFS and VPTS shall be implemented to additionally avoid or minimize potential impacts to GGS, including buffers around wetland/water features and the inclusion of GGS in the habitat sensitivity training program.

2) A qualified biologist shall conduct a preconstruction survey to assess potential presence of GGS prior to the onset of construction activities along Drainage 2. This preconstruction

survey shall occur during the appropriate identification period for GGS (May 1through October 1). This pre-construction survey should occur no more than 24-hours prior to the start of construction; however, if the construction activities stop on the site for a period of two weeks or more, then an additional pre-construction survey shall be conducted no more than 24-hours prior to the start of construction.

3) If GGS are identified on the Twin Cities site during the preconstruction survey or during construction activities, the USFWS shall be notified immediately. If found on-site, the GGS shall be encouraged to leave the identified area, or an USFWS approved biologist shall move the GGS to one of the protected areas (Drainage 1 or Drainage 3). The move shall be consistent with the USFWS approved GGS Move Plan which shall be developed prior to any grading activity on site and approved by the USFWS. No construction activity shall commence within 50 feet of the drainage until the GGS has left or been moved from the site.

7.0 CRITICAL HABITAT

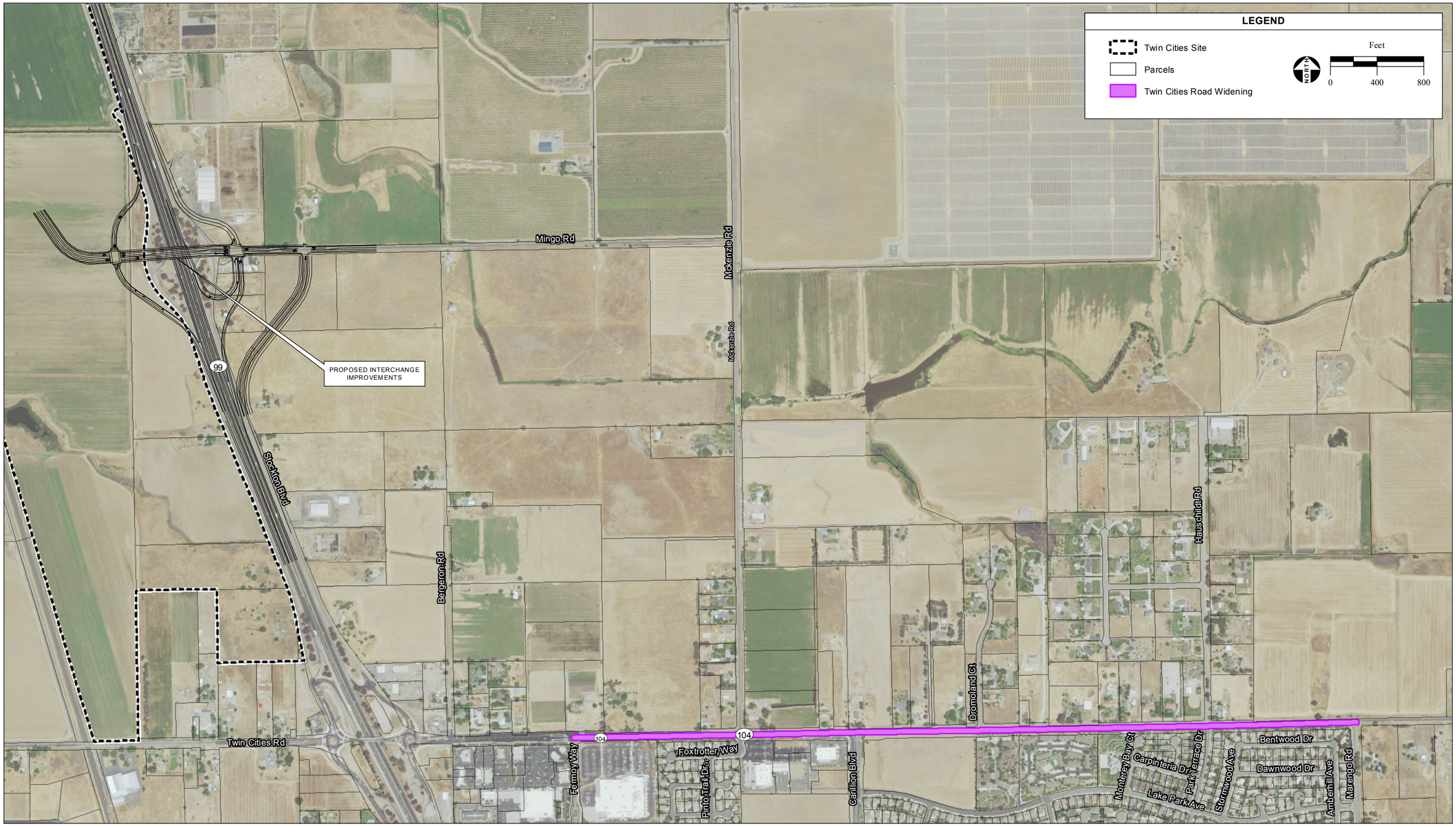
The Twin Cities site does not provide critical habitat for any federally listed plants or wildlife. Potential nesting habitat exists on site for species covered under the Migratory Bird Treaty Act. The project effects and a discussion of species covered by this act can be found in Section 5 of Environmental Impact Statement (EIS).

8.0 INTERRELATED AND INTERDEPENDENT EFFECTS

Interrelated and interdependent effects are direct or indirect effects that occur as a result of activities that are closely affiliated with a project in areas outside proposed project area. Such actions include road or utility improvements off site which would not be constructed but for implementation of the Proposed Project. Only those activities which would not require a separate federal action and would otherwise not be addressed for compliance with Section 7 of the ESA will be addressed in this BA.

As described in **Section 2.0**, there are four off-site infrastructure projects that may be needed to support the Proposed Project: 1) the improvement of the Mingo Road intersection with Hwy 99, 2) a pipeline to connect the Proposed Project with the existing Galt WWTP, 3) a pipeline which would connect the proposed project to the anticipated new Galt WTP and 4) road widening of Twin Cities Rd. from two lanes to four between Marengo Rd. and Femoy Way.. The Action Area (**Figure 5**) reflects the first three of these possible off site impacts, and the road improvement areas can be seen in **Figure 8**. In the event that an agreement with the City is not reached, then the WWTP and WTP will be developed on-site.

The interchange improvements at Mingo Road would occur on both the east and west sides of Hwy 99, around the location of existing on- and off-ramps. The area where interchange improvements are proposed is largely in the parcels directly adjacent to the current on/off ramps as shown in **Figure 5**. The area is largely ruderal/developed with the exception of several large trees, most of which are primarily non-native eucalyptus (blue gum) on both sides of Hwy 99. There are some manmade roadside ditches on the southeast corner of Mingo Rd. and Stockton Blvd which may be impacted but are not likely jurisdictional due to a lack of ordinary high water mark (OHWM) features consistent with a jurisdictional water of the U.S. If they are later



SOURCE: Kimley Horn. 4/2015; County of Sacramento, 2015; UC-G Aerial Photograph, 2012; AES, 7/21/2015

Figure 8
Twin Cities Vicinity Traffic Mitigation

determined to be jurisdictional, a Section 404 permit will be obtained and mitigation consistent with the USACE and EPA guidelines will be implemented. The construction of the Mingo Road/Hwy 99 interchange improvements will not affect any listed species.

The Twin Cities Rd. will be expanded from two lanes to four lanes from Marengo Rd. to Femoy Way east of the project area to handle the expected increase in traffic. There are a large number of manmade ditches on the north side of Twin Cities Rd. along the proposed widening section. These are likely to be impacted during the widening. These features are not likely jurisdictional due to a lack of OHWM features consistent with a jurisdictional water of the U.S.

The connection to the City water supply would be via a new pipeline, as shown in Figure 5. This pipeline would be within existing roads, disturbed areas, and existing agricultural fields and would not impact habitat for the listed species which have been identified in reasonable proximity to the site. This pipeline connection would have **no effect**.

Should an agreement be reached for the City to provide WWTP services to the proposed project, a pipeline to connect the proposed project to the existing WWTP would be constructed. Two potential alignments are shown in **Figure 5**. Both alignments would run parallel to the western boundary of the project site before turning west and running under railroad tracks and the adjacent road on the west side of the tracks. Either alignment would require horizontal drilling under the road and railroad tracks. Impacts to the roadside ditches along the railroad track and the adjacent road would be avoided by this horizontal drilling, and therefore the pipeline would not impact wetlands or other waters of the US. City sewer construction option 1 would pass below drainage three and require horizontal drilling to avoid impacts to waters of the US. Construction of this pipeline would have **no effect** on listed species.

9.0 CUMULATIVE EFFECTS

For the purposes of this BA, cumulative effects are defined as the effects of future state, local, or private activities that are reasonably foreseeable in the Action Area. This BA only discusses future state, local, or private activities occurring outside the Action Area if they result in effects within the Action Area.

Cumulative projects that are anticipated to occur in the vicinity of the Action Area include a residential development within the City of Galt to the southeast of the site across Hwy 99 and potential development of the City of Galt Sphere of Influence Area. Planned growth in this area, which includes the Twin Cities site, has been documented in the approved 2030 City of Galt General Plan. Any future development in the area would be required to mitigate impacts to biological resources based on the California Environmental Quality Act (CEQA), the California Endangered Species Act, the federal Clean Water Act, and the FESA. No significant cumulative effects are reasonably anticipated to occur.

10.0 CONCLUSIONS AND DETERMINATION

The Proposed Project **is not likely to adversely affect** VELB, VPFS, VPTS, CTS and/or GGS or any federal listed plant species as a result of proposed development on the Twin Cities site, provided the mitigation measures identified above are implemented.

11.0 REFERENCES

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ATTACHMENT 1

USFWS, CNDDB, AND CNPS LISTS

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 150303094707

Current as of: March 3, 2015

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
- Conservancy fairy shrimp (E)

Branchinecta lynchi
- Critical habitat, vernal pool fairy shrimp (X)
- vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
- valley elderberry longhorn beetle (T)

Lepidurus packardi
- Critical habitat, vernal pool tadpole shrimp (X)
- vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
- green sturgeon (T) (NMFS)

Hypomesus transpacificus
- Critical habitat, delta smelt (X)
- delta smelt (T)

Oncorhynchus mykiss
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- Central Valley spring-run chinook salmon (T) (NMFS)
- Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
- California tiger salamander, central population (T)
- Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
- California red-legged frog (T)

Reptiles

Thamnophis gigas
- giant garter snake (T)

Birds

Coccyzus americanus occidentalis
- Western yellow-billed cuckoo (T)

Mammals

Sylvilagus bachmani riparius
- riparian brush rabbit (E)

Plants

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)

Orcuttia tenuis
slender Orcutt grass (T)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Quads Containing Listed, Proposed or Candidate Species:

LOCKEFORD (478B)
LODI NORTH (479A)
THORNTON (479B)
SLOUGHHOUSE (495B)
CLAY (495C)
ELK GROVE (496A)
FLORIN (496B)
BRUCEVILLE (496C)
GALT (496D)

County Lists

Listed Species

Invertebrates

Apodemia mormo langei
Lange's metalmark butterfly (E)
S

Branchinecta conservatio
Conservancy fairy shrimp (E)
S

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)
S

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)
S

Elaphrus viridis
delta green ground beetle (T)
S

Incisalia mossii bayensis
San Bruno elfin butterfly (E)
S

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)
S

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)
S

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)
S

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)
S

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)
S

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)
S

Rana draytonii
California red-legged frog (T)
S

Reptiles

Thamnophis gigas
giant garter snake (T)
S

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)
S

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (T)
S

Rallus longirostris obsoletus
California clapper rail (E)
S

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)
S

Vireo bellii pusillus
Least Bell's vireo (E)
S

Mammals

Reithrodontomys raviventris
salt marsh harvest mouse (E)
S

Sylvilagus bachmani riparius
riparian brush rabbit (E)
S

Vulpes macrotis mutica
San Joaquin kit fox (E)
S

Plants

Arctostaphylos myrtifolia
Ione manzanita (T)
S

Calystegia stebbinsii
Stebbins's morning-glory (E)
S

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)
S

Ceanothus roderickii
Pine Hill ceanothus (E)
S

Cordylanthus mollis ssp. mollis
soft bird's-beak (E)
S

Cordylanthus palmatus
palmate-bracted bird's-beak (E)
S

Eriogonum apricum var. apricum
Ione buckwheat (E)
S

Eriogonum apricum var. prostratum
Irish Hill buckwheat (E)
S

Erysimum capitatum ssp. angustatum
Contra Costa wallflower (E)
Critical Habitat, Contra Costa wallflower (X)
S

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)
S

Galium californicum ssp. sierrae
El Dorado bedstraw (E)
S

Lasthenia conjugens
Contra Costa goldfields (E)
S

Neostapfia colusana
Colusa grass (T)
S

Oenothera deltoides ssp. howellii
Antioch Dunes evening-primrose (E)
Critical habitat, Antioch Dunes evening-primrose (X)
S

Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)
S

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)
S

Senecio layneae
Layne's butterweed (=ragwort) (T)
S

Sidalcea keckii
Keck's checker-mallow (=checkerbloom) (E)
S

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service.

Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two

procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands,

please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 01, 2015.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Galt (3812133) or Elk Grove (3812143) or Florin (3812144) or Sloughhouse (3812142) or Clay (3812132) or Lockeford (3812122) or Lodi North (3812123) or Thornton (3812124) or Bruceville (3812134))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Endangered	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S2	2B.3
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Castilleja campestris var. succulenta succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2	S2	1B.2
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T3T4	S2	2B.1
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4T5	SH	2B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T2	S2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S2S3	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10050	None	None	G4G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G2	S2	SSC
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Scutellaria galericulata marsh skullcap	PDLAM1U0J0	None	None	G5	S2	2B.2
Scutellaria lateriflora side-flowering skullcap	PDLAM1U0Q0	None	None	G5	S1	2B.2
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Sylvilagus bachmani riparius riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant garter snake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 59

CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

25 matches found. *Click on scientific name for details*

Search Criteria

Found in 9 Quads around 38121C3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb	2B.3	S2	G5
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	2B.1	S2	G5
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	4.2	S3	G3T3
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	2B.1	S2	G5T3T4
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	2B.2	SH	G5T4T5
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb	1B.2	S2	G5T2
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	1B.1	S1	G1
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	4.2	S3	G3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	1B.2	S2	G5T2
Legenere limosa	legenere	Campanulaceae	annual herb	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	1B.2	S2	G4T2
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	1B.1	S2	G2
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	2B.1	S2	G4G5
Navarretia eriocephala	hoary navarretia	Polemoniaceae	annual herb	4.3	S4	G4
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	1B.1	S2	G2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
			perennial			

Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	rhizomatous herb	1B.2	S3	G3
Scutellaria galericulata	marsh skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S2	G5
Scutellaria lateriflora	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S1	G5
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	1B.2	S2	G2

Suggested Citation

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ATTACHMENT 2

PLANTS AND WILDLIFE OBSERVED

WILDLIFE OBSERVED WITHIN THE TWIN CITIES 7-MILE SITE

Biological surveys conducted on: July 15, 2013, August 6, 2013, April 3, 2015, and April 8, 2015

Family	Scientific Name	Common Name
Accipitridae	*Buteo jamaicensis*	red-tailed hawk
Accipitridae	*Buteo swainsoni*	Swainson's hawk
Accipitridae	*Circus cyaneus*	northern harrier
Accipitridae	*Elanus leucurus*	white-tailed kite
Alcedinidae	*Megaceryle alcyon*	belted kingfisher
Anatidae	*Anas platyrhynchos*	mallard
Anatidae	*Anas strepera*	Gadwall
Anatidae	*Anser albifrons*	greater white-fronted goose
Ardeidae	*Ardea alba*	great egret
Ardeidae	*Ardea herodias*	great blue heron
Cathartidae	*Cathartes aura*	turkey vulture
Charadriidae	*Charadrius vociferus*	killdeer
Columbidae	*Streptopelia decaocto*	Eurasian collard dove
Columbidae	*Zenaida macroura*	mourning dove
Corvidae	*Corvus brachyrhynchos*	American crow
Corvidae	*Corvus corax*	common raven
Cricetidae	*Microtus californicus*	California vole
Didelphidae	*Didelphis virginiana*	opossum
Emberizidae	*Melospiza melodia*	song sparrow
Emberizidae	*Passerculus sandwichensis*	savannah sparrow
Emberizidae	*Zonotrichia leucophrys*	white crowned sparrow
Fringillidae	*Spinus psaltria*	lesser goldfinch
Hirundinidae	*Hirundo rustica*	barn swallow
Hirundinidae	*Petrochelidon pyrrhonota*	cliff swallow
Hirundinidae	*Tachycineta bicolor*	tree swallow
Icteridae	*Agelaius phoeniceus*	red-winged blackbird
Icteridae	*Euphagus cyanocephalus*	Brewer's blackbird
Leporidae	*Lepus californicus*	black-tailed jackrabbit
Mimidae	*Mimus polyglottos*	mocking bird
Phyrnosomatidae	*Sceloporus occidentalis*	western fence lizard
Rallidae	*Fulica americana*	American coot
Ranidae	*Lithobates catesbeianus*	American bullfrog
Recurvirostridae	*Recurvirostra americana*	American avocet
Trochilidae	*Calypte anna*	Anna's hummingbird
Turdidae	*Turdus migratorius*	American robin
Tyrannidae	*Sayornis nigricans*	black phoebe
Tyrannidae	*Tyrannus verticalis*	western kingbird

LIST OF PLANT SPECIES OBSERVED WITHIN THE PROJECT SITE

Biological surveys conducted on: July 15, 2013, August 6, 2013, April 3, 2015, and April 8, 2015

Family	Scientific Name	Common Name	Native/Invasive
Apiaceae	*Foeniculum vulgare*	Fennel	I
Apiaceae	*Heracleum lanatum*	Cow parsnip	N
Apocynaceae	*Asclepias* sp.	-	-
Apocynaceae	*Asclepias fascicularis*	narrow leaf milkweed	N
Asteraceae	*Baccharis pilularis*	coyote brush	N
Asteraceae	*Carduus pycnocephalus*	Italian thistle	I
Asteraceae	*Centaurea solstitialis*	yellow star-thistle	I
Asteraceae	*Cichorium intybus*	chicory	I
Asteraceae	*Conyza* sp.	-	-
Asteraceae	*Holocarpha virgata*	tarweed, tarplant	N
Asteraceae	*Latuca serriola*	prickly lettuce	I
Asteraceae	*Picris echioides*	bristly ox-tongue	I
Asteraceae	*Rudbeckia hirta* var. *pulcherrima*	Black-eyed Susan	I
Asteraceae	*Silybum marianum*	Milk thistle	I
Asteraceae	*Xanthium strumarium*	Cocklebur	N
Boraginaceae	*Heliotropium curassavicum*	Heliotrope	N
Brassicaceae	*Brassica* sp.	-	-
Brassicaceae	*Brassica rapa*	Field mustard	I
Caryophyllaceae	*Cerastium glomeratum*	Mouse-ear chickweed	I
Convolvulaceae	*Convolvulus arvensis*	Bindweed	I
Cyperaceae	*Bolboschoenus* sp.	Bulrush	
Cyperaceae	*Cyperus esculentus*	yellow nutgrass	N
Cyperaceae	*Eleocharis macrostachya*	Spikerush	N
Cyperaceae	*Scirpus californicus*	California tule	N
Dipsacaceae	*Dipsacus fullonum*	Fuller’s teasel	I
Euphorbiaceae	*Eremocarpus setigerus*	Turkey mullein	N
Fabaceae	*Medicago polymorpha*	California burclover	I
Fabaceae	*Melilotus alba*	White sweetclover	I
Fabaceaea	*Lotus corniculatus*	Bird's-foot trefoil	I
Fabaceaea	*Medicago sativa*	Alfalfa	I
Gentianaceae	*Centaurium muehlenbergii*	Monterey centaury	N
Geraniaceae	*Erodium botrys*	Filaree	I
Geraniaceae	*Erodium cicutarium*	Filaree	I
Geraniaceae	*Geranium molle*	Cranesbill	I
Lamiaceae	*Mentha pulegium*	Pennyroyal	I
Malvaceae	*Malva parviflora*	Cheeseweed	I
Moraceae	*Ficus carica*	Edible fig	I
Myrsinaceae	*Anagallis arvensis*	Scarlet pimpernel	I

Myrtaceae	*Eucalyptus globulus*	Blue gum	I
Oleaceae	*Fraxinus latifolia*	Oregon ash	N
Onagraceae	Epilobium sp.	Willowherb	
Onagraceae	Ludwigia palustrus	Marsh seedbox	N
Onagraceae	Ludwigia repens	creeping primrose willow	N
Plantaginaceae	Plantago lanceolata	English plantain	I
Poaceae	Aira caryophyllea	Silver European hairgrass	I
Poaceae	Avena barbata	Slender wild oat	I
Poaceae	Avena fatua	Wild oat	I
Poaceae	Briza minor	little rattlesnake grass	I
Poaceae	Bromus diandrus	Ripgut grass	I
Poaceae	Bromus hordeaceus	Soft brome	I
Poaceae	Cynodon dactylon	Bermuda grass	I
Poaceae	Echinochloa crus-galli	Barnyard grass	I
Poaceae	Festuca perennis	Rye grass	I
Poaceae	Hordeum murinum ssp. leporinum	Foxtail	I
Poaceae	Polypogon monspeliensis	rabbitsfoot grass	I
Poaceae	Sorghum halepense	Johnson grass	I
Poaceae	Zea mays	Corn (cultivated)	
Polygonaceae	Polygonum sp.	red stem knotweed	
Polygonaceae	Polygonum californicum	California knotweed	N
Polygonaceae	Rumex conglomeratus	clustered dock	I
Polygonaceae	Rumex crispus	Curly dock	I
Rosaceae	Rubus armeniacus	Himalayan blackberry	I
Salicaceae	Populus fremontii	Fremont’s cottonwood	N
Salicaceae	Salix exigua	sandbar willow	N
Salicaceae	Salix laevigata	Red willow	N
Typhaceae	Typha angustifolia	Narrow-leaved cattail	N
Typhaceae	Typha latifolia	Broad-leaved cattail	N
Zygophyllaceae	Tribulus terrestris	puncture vine	I