

4.9 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section considers and evaluates the potential impacts of the proposed project on cultural and paleontological resources. Cultural resources include historic buildings and structures, historic districts, historic sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts. Paleontological resources include fossil remains, as well as fossil localities and formations, which have produced fossil material in other nearby areas.

CONCEPTS AND TERMINOLOGY FOR EVALUATION OF CULTURAL RESOURCES

The following definitions are common terms used to discuss the regulatory requirements and treatment of cultural resources:

Cultural resource is a term used to describe several different types of properties: prehistoric and historical archaeological sites; architectural properties such as buildings, bridges, and infrastructure; and resources of importance to Native Americans.

Historic properties is a term defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property.

Historical resource is a CEQA term that includes buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance, and is eligible for listing or is listed in the California Register of Historical Resources (CRHR).

Paleontological resource is defined as fossilized remains of vertebrate and invertebrate organisms, fossil tracks and trackways, and plant fossils. A unique paleontological site would include a known area of fossil-bearing rock strata.

4.9.1 EXISTING SETTING

PREHISTORY

The Central Valley of California has long held the attention of California archaeologists. The project area in particular has been of archaeological interest dating to the 1920s and is significant in the development of both Central Valley and California archaeology. Archaeological work during the 1920s and 1930s led to the development of the first cultural chronology for Central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. The chronology identified three archaeological cultures. These cultures were named Early, Transitional, and Late (Lillard, et al., 1939). An antecedent to the Early Culture was postulated, but neither characteristics nor probable origins of this earlier culture were discussed in detail (Lillard, et al., 1939).

Heizer (1949) redefined these three archaeological cultures. He subsumed the three cultural groups into three time periods, designated the Early, Middle, and Late Horizons. Heizer (1949), based on his excavations at CA-Sac-107, identified the Windmill cultural pattern as representative of the Early Horizon. Heizer intimated that new research and a reanalysis of existing data would also be initiated for cultures associated with the Middle and Late Horizons, but did not complete this work.

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Ragir (1972), a student of Heizer, further refined the Windmill Pattern. Ragir (1972), working near the project area, reanalyzed, updated, and elaborated the description, temporal span, and geographic distribution of the Windmill Pattern. The Windmill Pattern is highlighted by large, heavy, stemmed and leaf-shaped projectile points commonly made of a variety of materials; perforate charmstones; *haliotis* and *olivella* shell beads and ornaments; trident fish spears; baked clay balls (presumably for cooking in baskets); flat slab millstones; small numbers of mortars; and ventrally extended burials oriented toward the west (Heizer, 1949; Ragir, 1972). The subsistence pattern of Windmill groups probably emphasized hunting and fishing, with seed collecting (possibly including acorns) supplementing the diet (Heizer, 1949; Ragir, 1972; Moratto, 1984). Ragir (1972) dates the Windmill Pattern from 4,500-2,500 B.P., with a maximum age of 7,000 B.P.

Windmill groups appear to be firmly established in the Lower Sacramento River Valley by 4,000 B.P. and are routinely interacting with their neighbors. For example, Windmill groups acquired obsidian from at least two Coast Range and three trans-Sierran sources, *haliotis* and *olivella* shells and ornaments from the coast, and quartz crystals from the Sierra foothills (Heizer, 1949; Ragir, 1972). It is hypothesized that the bulk of these materials were acquired through trade. Some of these materials, however, may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills. Johnson's work (1967; 1970) along the edge of the Sierra Nevada foothills at Camanche Reservoir and CA-Ama-56, the Applegate site, further support a link between Windmill cultures of the Central Valley and cultures of the Sierra Nevada foothills.

Ragir (1972) not only investigated the Windmill Pattern, but also investigated cultures associated with the Middle and Late Horizon. She identified the Cosumnes Culture as representative of the Middle Horizon, based on excavations at CA-Sac-66 (Ragir, 1972). The Middle Horizon is characterized by tightly flexed burial with variable orientation, red ochre stains in burials, distinctive *olivella* and *haliotis* beads and ornaments, distinctive charmstones, cobble mortars and evidence of wooden mortars, numerous bone tools and ornaments, large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian, and objects of baked clay. Middle Horizon cultures are generally quite different from Windmill, but do continue to exhibit some of the characteristics of Windmill such as similar projectile point forms. The similarities in projectile point forms may be indicative of cultural continuity and/or functional and adaptational success of particular forms.

The Late Horizon is characterized by the Hotchkiss Culture (Ragir, 1972) and spans the time period from 1,500 B.P. to contact. The Hotchkiss Culture primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. It is distinguished by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead.

The work of Lillard, Fenenga, Heizer, and Ragir in the lower Sacramento River Valley is significant in the development of archaeology in the Central Valley of California. The research of Ragir is particularly relevant due to its impact on the Central California Taxonomic System (CCTS) originally presented by Beardsley (1954). The CCTS and its refinement is a dominant theme in the archaeology of Central California, and research in the Lower Sacramento River Valley has played a significant part in its development. The CCTS attempted to organize a cultural sequence for the area of Central California from the interior to the coast. Ragir's work corrected and refined aspects of the CCTS and also facilitated future research of its temporal sequence and cultural units. Therefore, the area surrounding the proposed project is not only interesting in terms of its archaeological sites and their constituents, but also in terms of the historical development of archaeology in Central California.

ETHNOGRAPHY

Prior to the arrival of Euroamericans in the region, California was inhabited by groups of Native Americans speaking more than 100 different languages and occupying a variety of ecological settings. Kroeber (1925, 1936) subdivided California into four subculture areas, Northwestern, Northeastern, Southern, and Central. The Central area encompasses the project area and the territory of the Plains Miwok. The Plains Miwok inhabited the lower reaches of the Mokelumne and Cosumnes rivers and the banks of the Sacramento River from Rio Vista to Freeport (Levy, 1978). The Plains Miwok are members of the Utian Language Family of the Penutian Stock.

The basic social and economic group of Plains Miwok was the family or household unit, with the nuclear and/or extended family forming a corporate unit. These basic units were combined into distinct, named village or hamlet groups, which functioned as headquarters of a localized patrilineage (Levy, 1978). Lineage groups were important political and economic units that combined to form tribelets, with the largest sociopolitical unit of Plains Miwok numbering between 300 and 500 persons. Each tribelet had a chief or headman who exercised political control over the villages that comprised it. Tribelets assumed the name of the head village where the chief resided (Levy, 1978). The office of tribelet chief was hereditary, with the chieftainship being the property of a single patrilineage within the tribelet. The office usually passed from father to son, but in the absence of a male heir a daughter could assume the office of chief (Levy, 1978).

Plains Miwok built a variety of structures including residential dwellings, ceremonial structures, semi-subterranean sweat lodges, and menstruating huts (Levy, 1978). The typical dwelling was a thatched house, consisting of a conical framework of poles that was covered by brush, grass, or tules. Semi-subterranean earth lodge roundhouses were also built for ceremonial gatherings, assemblies, local feasts, and housing visitors (Levy, 1978).

A variety of flaked and ground stone tools were common among Plains Miwok (e.g., knives, arrow and spear points, and rough cobble and shaped pestles) (Levy, 1978). Obsidian was a highly valued material for tool manufacture, and Plains Miwok imported it. They also engaged in trading relationships with neighboring groups for commodities such as salt, marine shells, and basketry. In addition, other tools and weapons were made of bone and wood, including both simple and sinew-backed bows, arrow shafts and points, looped stirring sticks, flat-bladed mush paddles, pipes, and hide preparation equipment. Cordage was made from plant material and used to construct fishing nets and braided and twined tumplines. Soaproot brushes were commonly used during grinding activities to collect meal and/or flour.

Fishing formed a large component of Plains Miwok subsistence activity. Consequently, they used an extensive assemblage of fishing-related implements and facilities including spears, cordage lines with bone fishhooks, harpoons with detachable points, dams for stream diversion, nets of cordage and basketry, weirs, and an array of fish traps (Levy, 1978). In addition, tules, lashed logs, and bark rafts were used to acquire resources and facilitate travel.

Specialized food processing and cooking techniques used by Plains Miwok included grinding and leaching of ground acorn and buckeye meal. Acorns, buckeyes, pine nuts, seeds and other plant foods, and meat were routinely processed using bedrock mortars and pestles. A soaproot brush was used to sweep "meal" into mortar cups and collect flour. Fist-sized, heated stones were used to cook and/or warm "liquid-based" foods such as acorn gruel. In addition to these plant resources, other plants may have been "managed," primarily by controlled burning, for both food (e.g., edible grasses and seed-producing plants) and the manufacture of baskets and other useful equipment (Blackburn and Anderson, 1993).

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HISTORIC PERIOD

The Sacramento River delta area was discovered and named by Spanish explorers passing through the region in the late eighteenth century. The area, however, was not thoroughly explored until the early nineteenth century. Father Narisco Durán, who led a Spanish expedition across the area in 1817, accomplished the most complete exploration of the Sacramento River region. This expedition was probably the first to pass the current location of the City of Sacramento (Hoover, et al., 1966:297). The Sacramento region, however, remained at the fringes of the Spanish settlement of California, with the northernmost mission and associated facilities located in Sonoma (Hoover, et al., 1966:527).

Even after Mexican independence from Spain, in the 1820s, the Mexican government continued to consider the Sacramento Valley as the periphery of Mexican territory and left it unsettled. In 1826, however, an American fur trapper named Jedediah Strong Smith and a small number of associates made the first overland expedition into California, returning in 1827 to explore the San Joaquin and Sacramento valleys. The Mexican government insisted he and his men leave, but the path into the Sacramento Valley had been opened (Hoover, et al., 1966:297).

John A. Sutter, a German-Swiss immigrant, came to California via the overland route with Captain Tripp of the American Fur Company in 1836 as part of a group on their way to Fort Vancouver. Sutter, however, returned to California in 1839 and petitioned Governor Alvarado of Mexico for a land grant in the Sacramento Valley to establish a settlement. At the time, interior Native American groups were rustling cattle from coastal Mexican settlements, and the Mexican government viewed Sutter's potential settlement in the Sacramento area as a buffer between the Native Americans and their settlements. Consequently, Governor Alvarado agreed to allow Sutter to explore the area and granted him his "colony" once he decided on a location for the settlement (Davis, 1890:7). In 1841, Sutter was granted eleven leagues of land in current Sacramento County to establish New Helvetia, also known as Sutter's Fort (Hoover, et al., 1966:298). The settlement acted both as a safe haven and a trading post for Euroamericans in the area, and during the 1840s it became a rest stop and/or destination for immigrants entering California via the overland trail. In addition to John Sutter, the Mexican government granted several other ranchos to immigrants in the Sacramento Valley during the 1830s and 1840s. These grantees included J. B. R. Cooper (Rancho Río Ojotska), John Sinclair (Rancho del Paso), W. A. Leidesdorff (Rancho Río de los Americanos), and William Daylor and Jared Sheldon (Rancho Omochumnes) (Hoover, et al., 1966:300).

In 1846, a group of American settlers in the Sacramento Valley believed they might be driven from California by the Mexican government because of the Mexican-American War. Consequently, John C. Fremont was enlisted to lead a revolt against Mexico. The Bear Flag Revolt, as it came to be known, took possession of General Vallejo's stronghold in Sonoma and kept Vallejo prisoner for two months. Since the Bear Flag Revolt was not authorized by the United States government, the Bear Flag was raised over Sonoma after its capture (Hoover, et al., 1966:529-530). With the end of the Mexican-American War, California became a possession of the United States in 1848.

The discovery of gold in 1848 at John Sutter's sawmill in Coloma dramatically affected California. The 1849 Gold Rush brought immigrants from all over the world to California and the Sacramento Valley. Indeed, the City of Sacramento was incorporated in 1850 and the capital was moved to the city in 1854. The capitol building was started in 1860 and completed in 1874 (Hoover, et al., 1966).

Outside of Sacramento, mining camps sprung up along the American and Cosumnes Rivers. Most of these camps disappeared at the end of the Gold Rush and were replaced by other businesses including agriculture and timber harvesting, which were familiar and former professions of many miners. Many miners discovered that supplying other miners with equipment and food was an easier and more lucrative business than prospecting or mining.

Cattle ranching boomed during the 1850s to 1860s in California in response to the expanding population. Livestock previously used to produce hides, tallow, and wool was now sold for slaughter to provide meat for miners and other members of the rapidly expanding population in California (Burcham, 1981:128). Timber harvesting during the 1850s to 1860s, particularly in areas near cities such as San Francisco and Sacramento and mining areas such as the Mother Lode, also provided an alternate occupation for discouraged miners and eventually developed into a major industry in California (Hoover, et al., 1966:399, 455, 469).

Agriculture was an attractive business because imported crops from Hawaii and Chile were expensive and there was a ready market for agricultural products (e.g., produce and dairy products) in California. Consequently, agriculture quickly became an important industry in California, supplying its ever-expanding population with produce and dairy products. The primary cash crops produced in California between 1867 and 1885 were wheat and other cereal grains. Other crops and products produced at the time included wool, raisins, hops, sugar beets, and wine (McGowan, 1961 [I]: 268). During the 1870s and 1880s, fruit orchards also developed into an important agricultural industry. Initially, most fruit was sold at local markets, but some fruit crops were shipped by transcontinental railroad as far as Denver. Spoilage of fruit crops, however, prevented them from being shipped greater distances. In the 1880s, refrigerator cars and better-ventilated cars were designed to solve the problem of fruit spoilage (McGowan, 1961 [I]: 379). In addition, fruit canneries were established in the 1880s that produced transportable fruits and vegetables. These innovations helped California agriculture to transition from a wheat industry to a fruit-based industry between 1883 and 1900 (McGowan, 1961 [II]: 1).

At the start of the Gold Rush, the supply of mining camps and subsequently other businesses required construction of roads between the camps and other newly established settlements. Consequently, roads and railroads were established in the 1850s to 1870s to facilitate transportation. An outgrowth of the development of the transportation system was the establishment of towns along road and railroad alignments such as Folsom, Galt, and Elk Grove. Elk Grove was originally established along Upper Stockton Road, which linked Sacramento and Stockton. The construction of the Central Pacific railroad line, however, bypassed Elk Grove and the town was subsequently reestablished along the railroad line. J. Everson is credited with establishing Elk Grove along the railroad line in 1876. Everson also founded the Elk Grove Building Company, which was a group of businessmen who wanted to establish a business center along the new Central Pacific railroad line. They built two hotels, a flourmill, a general store, a hardware store, a meat market, furniture manufactory, a carriage and wagon manufactory, dressmaker and milliner shops, and a grain warehouse over the course of ten years in the Elk Grove area (Thompson and West, 1880:234).

Elk Grove developed as a rural community tied to agriculture. Wheat was the primary cash crop of large ranches in the Sacramento Valley during the 1860s to 1880s, but raisins, wool, and wine were also produced and sold in the area (McGowan, 1961 [I]: 268). In 1860, 175,000 bushels of wheat and 300,683 bushels of barley were harvested in Sacramento County. By 1879, county production had risen to 237,851 bushels of wheat and 592,000 bushels of barley (Thompson and West, 1880:193). In addition to grain, the grape industry got its start in 1855 in the area near Elk Grove, Florin, and Brighton (Thompson and West, 1880:191). Viticulture became a significant industry in the county during this period. McGowan (1961 [I]: 272) notes that the number of

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grapevines rose from about 50,000 in 1855 to almost 2,000,000 in 1870. Along with agriculture, wool production also prospered in the 1860s due to high prices caused by the Civil War. In fact, sheep tolerated the periodic droughts during the 1860s better than cattle and consequently were a more reliable source of income (McGowan, 1961 [I]: 270).

The fruit industry replaced grain production between 1870 and 1900 and grew to dominate the agriculture of the Sacramento Valley (McGowan, 1961 [I]: 383). Fruit crops initially included apples, peaches, pears, cherries, plums, prunes, and added citrus fruits by the 1890s (McGowan, 1961 [I]: 276). According to McGowan (1961 [I]: 383), Sacramento became the "fruit shipping center of the west" in the 1880s with approximately 90 percent of California's fruit going to the east coast. By the 1900s additional crops were also being grown in the area, as noted by G. W. Reed (1923:46) in his history of Sacramento County. Some of these other crops included asparagus, olives, almonds, alfalfa, beans, hops, and corn. This variety in crops suggests a continuing diversification in agricultural production in Sacramento County. In addition, small-scale livestock ranching was a prosperous industry in the Elk Grove area during the early twentieth century.

The growth of agriculture and livestock ranching in the Elk Grove area is related to a population expansion in the Sacramento Valley from approximately 1900 to 1920. The population grew from 156,000 in 1900 to 246,000 in 1920 (McGowan, 1961 [II]: 186). Population growth continues to typify Sacramento County and the Elk Grove area, and expansion of suburban housing and associated businesses into formerly rural areas of Sacramento County highlights the late twentieth century. The City of Elk Grove, incorporated in 2000, highlights the development of areas surrounding Sacramento and is witnessing a rapid expansion of residential units and businesses.

KNOWN CULTURAL RESOURCES IN THE PROJECT AREA

Previous archaeological and historical investigations conducted by PMC (2004a and 2004b) encompassed the entire project area. These investigations identified CRU-93-Sac-19H, Bow Street, and buildings and structures that are over 50 years old. PMC (2004a and 2004b) previously determined that CRU-93-Sac-19H, Bow Street, and buildings and structures over 50 years old within the project area are not eligible for inclusion in the California Register of Historical Resources.

PALEONTOLOGICAL RESOURCES

Paleontology is defined as the science dealing with the life of past geological periods as known from fossil remains. Paleontological resources include fossil remains, as well as fossil localities and formations that have produced fossil material. Such locations and specimens are important nonrenewable resources. CEQA offers protection for these sensitive resources and requires that they be addressed during the EIR process.

A search of the University of California Museum of Paleontology (UCMP) collections database identified paleontological resources in southern Sacramento County and the City of Elk Grove. These paleontological resources primarily consist of vertebrates that are associated with the geological formation known as the Riverbank Formation. The entire City of Elk Grove is located within the Pleistocene nonmarine sedimentary rocks (Riverbank Formation) and Quaternary alluvium geologic units. These geologic units are considered to have paleontological resource sensitivity. These geologic units are mostly located around the Sacramento and Cosumnes rivers (City of Elk Grove, 2003). There are no previously recorded paleontological resources within project boundaries, but the City of Elk Grove is sensitive for paleontological resources.

4.9.2 REGULATORY FRAMEWORK

STATE

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a], [b]). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC, Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process (PRC 5024.1 [g]), lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a][3]). Following CEQA Guidelines Section 21084.5 (a) and (b), a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

- a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California; and
- b) Meets any of the following criteria:
 - 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - 2) Is associated with the lives of persons important in our past;
 - 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - 4) Has yielded, or may be likely to yield, information important in prehistory or history.

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Archaeological resources may also qualify as “historical resources,” and PRC 5024 requires consultation with the Office of Historic Preservation (OHP) when a project may impact historical resources located on state-owned land.

For historic structures, State CEQA Guidelines Section 15064.5, subdivision (b)(3), indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact “unique archaeological resources.” PRC Section 21083.2, subdivision (g), states that “ ‘unique archaeological resource’ means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.”

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a “unique archaeological resource”).

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has

determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult, in a timely manner, with the appropriate Native Americans, if any, as identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discoveries of human remains, the State CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

As of March 1, 2005, Senate Bill 18 (Gov. Code, Sections 65352.3, 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction. The City of Elk Grove contacted appropriate Native American groups and individuals pursuant to stipulations of SB 18.

Paleontological resources are classified as non-renewable scientific resources and are protected by state statute (PRC Chapter 1.7, Section 5097.5, Archeological, Paleontological, and Historical Sites and Appendix G). No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site.

LOCAL

City of Elk Grove General Plan

The City of Elk Grove General Plan contains goals and policies encouraging the inventory, protection, and interpretation of significant archaeological and historical resources. **Table 4.9-1** identifies these policies and summarizes the project's consistency with the General Plan. While this DEIR analyzes the project's consistency with the General Plan pursuant to CEQA Section 15125(d), the Elk Grove City Council and the Planning Commission determine consistency with the General Plan.

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**TABLE 4.9-1
PROJECT CONSISTENCY WITH GENERAL PLAN CULTURAL RESOURCE POLICIES**

General Plan Policies	Consistency with General Plan	Analysis
<p>Policy HR-1: Encourage the preservation and enhancement of existing historical and archaeological resources in the City.</p>	<p align="center">Yes</p>	<p>Archaeological and historical investigations were conducted for the project. There are no significant historical or archaeological resources within project boundaries, and implementation of the project does not impact any historical or archaeological resources or discourage the preservation and enhancement of historical and archaeological resources. Therefore, the project is consistent with this policy.</p>
<p>Policy HR-6: Protect and preserve prehistoric and historic archaeological resources throughout the City.</p>	<p align="center">Yes</p>	<p>Archaeological and historical investigations were conducted for the project. There are no significant prehistoric or historic archaeological resources within project boundaries, and mitigation measures in this DEIR address the inadvertent discovery of unknown prehistoric and historic archaeological resources. Therefore, the project is consistent with this policy.</p>

City of Elk Grove Historic Preservation Ordinance

The City of Elk Grove's Historic Preservation Ordinance contains regulatory requirements for the identification and protection of cultural resources. Archaeological and historical resources investigations were conducted for the project. These investigations comply with regulatory requirements presented in the City's Historic Preservation Ordinance. The project is in compliance with the City's Historic Preservation Ordinance.

4.9.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Following PRC Sections 21083.2 and 21084.1, and Section 15064.5 and Appendix G of the State CEQA Guidelines, cultural resource impacts are considered to be significant if implementation of the project considered would result in any of the following:

- 1) Cause a substantial adverse change in the significance of an archaeological resource or an historical resource as defined in Public Resources Code section 21083.2 and CEQA Guidelines section 15064.5, respectively;
- 2) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- 3) Disturb any human remains, including those interred outside of formal cemeteries.

State CEQA Guidelines Section 15064.5 defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired.

METHODOLOGY

PMC (2004a and 2004b) conducted archaeological and historical investigations for the project that included a records search at the North Central Information Center at California State University, Sacramento; archival research at the Sacramento County Assessor's Office, Sacramento County Records Office, Sacramento County Historic Record Archive, California State Library, and the Elk Grove Historical Society; and pedestrian surface survey of the project area. These investigations identified CRU-93-Sac-19H, Bow Street, and buildings and structures that are over 50 years old within boundaries of the Sheldon/99 GPA and Rezone project. PMC (2004a and 2004b) previously determined that CRU-93-Sac-19H, Bow Street, and buildings and structures over 50 years old within the project area are not eligible for inclusion in the California Register of Historical Resources. Similarly, Bow Street and buildings and structures over 50 years old within the project area do not appear to be eligible for inclusion in the City of Elk Grove register of historic resources.

Additionally, PMC requested a sacred lands search and a list of Native American contacts from the Native American Heritage Commission (NAHC) and conducted a search of the University of California Museum of Paleontology (UCMP) collections database. The sacred lands search completed by the NAHC on December 7, 2007, did not identify any Native American cultural resources either within or near project boundaries. PMC contacted all groups and/or individuals on the list provided by the NAHC. The search of the UCMP paleontological database did not identify any paleontological resources within project boundaries, but did identify paleontological resources in the City of Elk Grove primarily associated with the geologic formation known as the Riverbank Formation.

PROJECT IMPACTS AND MITIGATION MEASURES

Undiscovered Prehistoric Resources, Historic Resources, and Human Remains

Impact 4.9.1 Implementation of actions under the Sheldon/99 GPA and Rezone project could result in the potential destruction or damage of cultural resources (i.e., prehistoric sites, historic sites, historic buildings/structures, and isolated artifacts) and human remains. This would be a **potentially significant** impact.

Archaeological and historical investigations for the project are adequate to identify cultural resources that would likely occur in the area. These investigations did not identify any significant cultural resources or human remains within project boundaries. Regardless, there are known cultural resources in the City of Elk Grove associated with Native American and Euroamerican use and occupation of the area, and there is a possibility of the unanticipated discovery of cultural resources and/or human remains during implementation of actions under the project. Therefore, the project could impact significant cultural resources and/or human remains. This impact is considered **potentially significant**.

Mitigation Measures

MM 4.9.1a If cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts) are discovered during grading or construction activities on the project site, work shall be halted immediately within 50 feet of the discovery, the City Planning Department shall be notified, and a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology and/or history shall be retained to determine the significance of the discovery.

4.9 CULTURAL AND PALEONTOLOGICAL RESOURCES

The City shall consider mitigation recommendations presented by a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology and/or history for any unanticipated discoveries. The City and project applicant shall consult and agree upon implementation of a measure or measures that the City deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of cultural resources.

Timing/Implementation: As a condition of project approval and implemented during ground-disturbing activities.

Enforcement/Monitoring: City of Elk Grove Development Services, Planning.

MM 4.9.1b

If, during the course of implementing actions under the Sheldon/99 GPA and Rezone project, human remains are discovered, all work shall be halted immediately within 50 feet of the discovery, the City Planning Department shall be notified, and the County Coroner must be notified according to Section 5097.98 of the State PRC and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: As a condition of project approval and implemented during ground-disturbing activities.

Enforcement/Monitoring: City of Elk Grove Development Services, Planning.

Mitigation measures **MM 4.9.1a** and **4.9.1b** address the unanticipated discovery of cultural resources and human remains. These measures require all construction and/or grading work to be halted upon discovery of cultural resources or human remains and ensure that discovered resources would be protected through consultation with appropriate professionals that would provide further mitigation. Implementation of these mitigation measures would reduce impacts to undiscovered cultural resources and human remains to a **less than significant** level.

Undiscovered Paleontological Resources

Impact 4.9.2 Implementation of actions under the Sheldon/99 GPA and Rezone project could result in the potential destruction or damage of paleontological resources (i.e., fossils and fossil formations). This would be a **potentially significant** impact.

A search of the University of California, Berkeley Museum of Paleontology collections database did not identify any paleontological resources within project boundaries, but did identify paleontological resources within the City of Elk Grove. The City is sensitive for paleontological resources, and there is a possibility of the unanticipated discovery of paleontological resources during ground-disturbing activities associated with implementation of the project. Therefore, implementation of the project could impact significant paleontological resources. This impact is considered **potentially significant**.

Mitigation Measures

MM 4.9.2 If any paleontological resources (fossils) are discovered during grading or construction activities on the project site, work shall be halted immediately within 50 feet of the discovery, and the City Planning Department shall be immediately notified. At that time, the City will coordinate any necessary investigation of the discovery with a qualified paleontologist.

The City shall consider the mitigation recommendations of the qualified paleontologist for any unanticipated discoveries of paleontological resources. The City and project applicant shall consult and agree upon implementation of a measure or measures that the City deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of paleontological resources.

Timing/Implementation: As a condition of project approval and implemented during ground-disturbing activities.

Enforcement/Monitoring: City of Elk Grove Development Services, Planning.

Mitigation measure **MM 4.9.2** addresses the unanticipated discovery of paleontological resources by requiring a qualified paleontologist to investigate and provide mitigation for the protection of any paleontological resources discovered during construction activities. Implementation of mitigation measure **MM 4.9.2** would reduce impacts to paleontological resources to a **less than significant** level.

4.9.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting associated with the Sheldon/99 GPA and Rezone project includes proposed, planned, reasonably foreseeable, and approved projects within the City of Elk Grove and Sacramento County. Future developments and planned land uses would contribute to potential conflicts with cultural and paleontological resources, including archaeological resources associated with Native American activities and historic resources associated with Euroamerican settlement, gold mining, agriculture, and economic development. Future developments could conflict with these resources through inadvertent destruction or removal resulting from project grading, excavation, and/or construction activities. Similarly, the proposed project could impact undiscovered paleontological resources that may be associated with the Riverbank Formation.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Prehistoric Resources, Historic Resources, and Human Remains

Impact 4.9.3 Implementation of actions under the Sheldon/99 GPA and Rezone project could result to the cumulative disturbance of cultural resources (i.e., prehistoric sites, historic sites, historic buildings/structures, and isolated artifacts and features) and human remains. This would be a **cumulatively considerable** impact.

4.9 CULTURAL AND PALEONTOLOGICAL RESOURCES

There are no known significant cultural resources within Sheldon/99 GPA and Rezone project boundaries. However, implementation of actions under the project could uncover previously unknown cultural resources and/or human remains, and the potential loss or degradation of these resources might contribute to the cumulative loss of cultural resources in the City of Elk Grove and Sacramento County. This contribution could be considerable when combined with other past, present, and foreseeable development in the City and Sacramento County.

Mitigation Measures

Mitigation measures **MM 4.9.1a** and **4.9.1b** address the inadvertent discovery of previously unknown prehistoric resources, historic resources, and human remains. Implementation of these mitigation measures would reduce the proposed project's contribution to cumulative impacts to prehistoric resources, historic resources, and human remains to a **less than cumulatively considerable** level.

Paleontological Resources

Impact 4.9.4 Implementation of actions under the Sheldon/99 GPA and Rezone project could result in the disturbance of paleontological resources (i.e., fossils and fossil formations). This would be a **cumulatively considerable** impact.

There are no known paleontological resources within Sheldon/99 GPA and Rezone project boundaries, but the City of Elk Grove is sensitive for paleontological resources. Implementation of actions under the project could uncover previously unknown paleontological resources that might contribute to the cumulative loss of paleontological resources in the City of Elk Grove and Sacramento County. This loss of paleontologic resources could be considerable, when combined with other past, present, and foreseeable development in the City and Sacramento County.

Mitigation Measures

Mitigation measure **MM 4.9.2** addresses the inadvertent discovery of previously unknown paleontological resources and would reduce the proposed project's contribution to paleontological resources to a **less than cumulatively considerable** level.

REFERENCES

- Beardsley, R.K. 1954. *Temporal and Areal Relationships in Central California*. University of California Archaeological Survey Reports 24, 25. Berkeley, California.
- Beck, Warren and Ynez D. Haase. 1974. *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.
- Blackburn, T.C. and K. Anderson. 1993. *Before the Wilderness*. Ballena Press, Menlo Park, California.
- City of Elk Grove. August, 2003. *City of Elk Grove General Plan Draft Environmental Impact Report*. Elk Grove, California. Note: Reference in text as (City of Elk Grove, 2003).
- Davis, W. J. 1890. *Illustrated History of Sacramento County*. The Lewis Publishing Company. Chicago, IL.
- Heizer, R.F. 1949. The Early Horizon. In *The Archaeology of Central California, I*. University of California Anthropological Records 12(1). Berkeley, California.
1974. *The Destruction of the California Indians*. Peregrine Publishers, Salt Lake City, Utah.
- Hoover, M., H. Rensch, E. Rensch, and W. Abeloe. 1966. *Historic Spots in California*. Third Edition. Stanford University Press. Stanford, CA.
- Johnson, Jerald J. 1967. *The Archaeology of the Camanche Reservoir Locality, California*. Sacramento Archaeological Society Papers No. 6. Sacramento, California.
1970. Archaeological Investigations at the Applegate Site (4-Ama-56). *University of California, Center for Archaeological Research at Davis, Publications 2:65-144*.
- Kroeber, A.V. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C. Reprinted in 1976 by Dover Publications, Inc., New York, New York.
1936. Culture Element Distributions: III, Area and Climax. *University of California Publications in American Archaeology and Ethnology 37(3): 101-116*, Berkeley, California.
- Levy, R. 1978. Eastern Miwok. In *California*, edited by R.F. Heizer, pp. 398-413. Handbook of North American Indians, Vol. 8, W.C. Sturtevant, general editor. Smithsonian Institute, Washington, D.C.
- Lillard, J.B., R.F. Heizer, and F. Fenenga. 1939. *An Introduction to the Archaeology of Central California*. Sacramento Junior College, Department of Anthropology Bulletin 2. Sacramento, California.
- McGowan, J. A. 1961. *History of the Sacramento Valley, Volumes I and II*. Lewis Historical Publishing Company. New York, NY.
- Moratto, M.J. 1984. *California Archaeology*. Academic Press, New York, New York.

4.9 CULTURAL AND PALEONTOLOGICAL RESOURCES

- PMC. 2004a. *Historic Properties Survey Report for the Sheldon Road/SR 99 Interchange Improvement Project*. Report on file at the North Central Information Center.
- PMC. 2004b. *Archaeological Survey Report for the Sheldon Road/SR 99 Interchange Improvement Project*. Report on file at the North Central Information Center.
- Ragir, S.R. 1972. *The Early Horizon in Central California Prehistory*. Contributions of the University of California Archaeological Research Facility 15, Berkeley, California.
- Reed, G. W. 1923. *History of Sacramento County, California with Biographical Sketches*. Historic Record Company. Los Angeles, CA.
- Thompson and West. 1880. *History of Sacramento County, California with Illustrations Descriptive of its Scenery*. Thompson and West, Publishers. Oakland, CA.
- University of California Museum of Paleontology. 2008. <http://ucmpdb.berkeley.edu/>. Accessed February 2008.