Technical Background Report in Support of the Cultural Resource Element: City of Hesperia General Plan Update.

Apple Valley South, Baldy Mesa, Cajon, Hesperia, Lake Arrowhead and *Silverwood Lake, California,*
USGS 7.5-minute Topographic Quadrangle Maps
Study Area: City of Hesperia and Sphere of Influence - 75,538.094 Acres

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LIST OF ACRONYMS

MBA	Michael Brandman Associates
HGPA	Hesperia General Plan Area
SOI	Sphere of Influence
CEQA	California Environmental Quality Act
AIC	Archaeological Information Center
SBCM	San Bernardino County Museum
USGS	United States Geological Survey
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
CHRIS	California Historic Resource Information Center
SHPO	State Office of Historic Preservation
ARMR	Archaeological Resource Management Report
CRHR	California Register of Historic Resources
HSC	Health and Safety Code
NAHC	Native American Heritage Commission
CHL	California Historic Landmarks
HRI	Historic Resources Inventory
RPLI	Regional Paleontological Locality Inventory
NALMA	North American Land Mammal Age
DPR	Department of Parks and Recreation

MANAGEMENT SUMMARY

The purpose of this report is to provide background information in support of an update to the Cultural Resource Element of the City of Hesperia, California General Plan. In this study, Michael Brandman Associates (MBA) identifies all known cultural resources situated within the Hesperia General Plan Area (HGPA), which includes the City of Hesperia and its Sphere of Influence (SOI). MBA summarized what is currently known about archaeological and historic resources in the HGPA, reviewed current law associated with the California Environmental Quality Act (CEQA) process, and developed cultural resource conservation measures that are appropriate to a General Plan Update. Current CEQA guidelines place the protection of paleontological (fossil) resources within the Cultural Resource Element. For this reason, MBA has summarized what is currently known of the paleontological resources within the HGPA, and has developed similarly appropriate paleontological resource conservation measures.

MBA staff archaeologist Eric J. Kowlaski conducted a cultural resource records search from August 9 to August 16, 2006 at the Archaeological Information Center (AIC) at the San Bernardino County Museum (SBCM) in Redlands, California. This research effort indicated that approximately 70 percent of the acreage within the City limits and its SOI has never been surveyed by an archaeologist or architectural historian. City history shows that approximately 40 (forty) percent of the City, including the original township, was subdivided in the 1950's. Much of this area was subsequently developed with single family residences over the last 50 years. A paleontological records search was requested on August 29, 2006. Eric Scott of the San Bernardino County Museum (SBCM) responded on September 22, 2006. Sensitivity maps associated with cultural and paleontological resources were created out of the data received.

The map and records review for the presence of cultural resources within the HGPA indicates that additional cultural resources may be detected in nearly every part of the HGPA except in those parcels that have been impacted by modern development. Historic cultural resources more than 45 years of age are more likely to be found within the downtown core and adjacent to roads that were built before 1960. Buried prehistoric cultural resources will more likely be found in areas of the City that were not plowed or disked by agricultural farming.

It is possible that predictions can be made about where archaeological sites might be located in lieu of actual survey data based on previous research and general knowledge of the factors that influence preservation of cultural resource sites. However, given current CEQA Guidelines, the existence or lack thereof of archaeological or historical sites in the project area is typically confirmed through field research. Delineation of cultural resource sensitivity does have value for future project planning

because this gives city planners and developers information on what is located or likely on or near a particular project area in advance.

Once a development project is defined for City Planning staff, the City and/or the project proponent should perform a cultural resource "planning review" search at the Archaeological Information Center (AIC) of the San Bernardino County Museum. City planning review procedural conditions are as follows: for all projects over 5 (five) acres in size and in those portions of the City that exhibit "Low" cultural resource sensitivity, an AIC planning review must take place. If upon receipt of the AIC planning review response the AIC determines that further cultural resources research is needed, then the City must require the additional cultural resource effort as recommended. In areas of the City that exhibit Medium or High cultural resource sensitivity, a planning review search with the AIC is recommended for all development projects that exceed 1 acre in size. The City may choose to exempt a project from further cultural resource review in terms of specific categories related to project size, knowledge of previous development, or other factors. In this instance, it is recommended that the City exempt a project more than 1 acre in size within the Medium and High sensitivity areas only after performing the planning review search through the AIC, and only if the AIC responds with a no-survey recommendation.

Similarly, certain portions of the HGPA exhibit soil or rock strata that have proven reserves of fossils. Other areas exhibit types of bedrock in which fossils would not normally exist. The majority of the sediments contained within the HGPA are assigned as either medium or high sensitivity; a low sensitivity can be assigned to late Holocene sediments. The portions assigned low sensitivity may overlie older sediments at depth, and may produce fossil resources. Thus, even the low sensitivity areas may have potential to be fossil bearing at depth. For this reason, it is imperative that impacts to fossil resources be evaluated on a parcel-by-parcel basis, through location specific map and records searches, as well as field evaluation when warranted. Parcels that have been previously graded or exempted from review need not be examined for fossil resources.

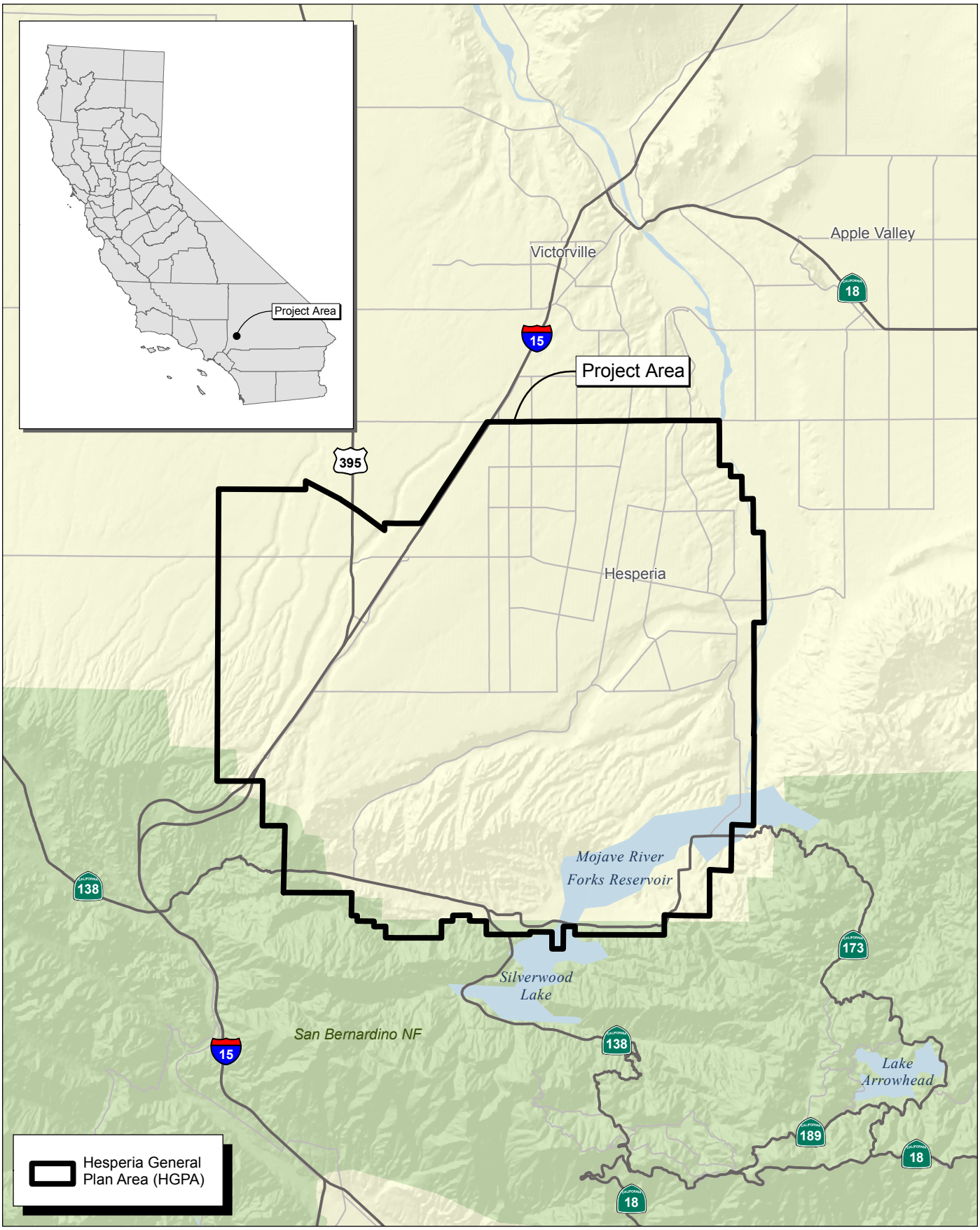
SECTION 1: INTRODUCTION

In this study, we identify all known cultural and paleontological resources located within the Hesperia General Plan Area (HGPA), which includes the City of Hesperia and its SOI. The purpose of this report is to:

- Identify all previously recorded cultural resources situated within the HGPA,
- Briefly synthesize what is currently known about archaeological and historical resources within the HGPA,
- Develop a cultural resource sensitivity map,
- Synthesize what is currently known about paleontological resources within the HGPA, and
- Develop a paleontological sensitivity map.

Current cultural resource and paleontological compliance procedure with reference to the CEQA Guidelines are discussed below. The object of this endeavor is to provide City Planners information on the potential impacts to cultural and paleontological resources, and to predict where cultural and/or paleontological resources are likely to occur. This document will provide planners with the ability to assess impacts and make informed decisions on future development.

Situated to the north of the Cajon Pass, the HGPA is located north of the San Bernardino Mountains and east of Interstate 15 (I-15) (Exhibit 1). The HGPA is found on portions of the *Apple Valley South, Baldy Mesa, Cajon, Hesperia, Lake Arrowhead* and *Silverwood Lake, California,* United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Exhibit 2). Exhibit 3 shows the outline of the HGPA project area atop a modern aerial photograph. One of the key topographic elements is the existence of the north-flowing Mojave River. The Mojave was a permanent stream until very recently, and prehistoric Native Americans made the banks of the River and smaller tributaries their home for millennia. Many Native American sites have been destroyed since development began, but numerous sites still exist, are buried and hidden from view. Local tribes consider the Mojave a significant tribal historical and cultural resource area.



Source: Census 2000 Data, The CaSIL, MBA GIS 2009, City of Hesperia 2009.

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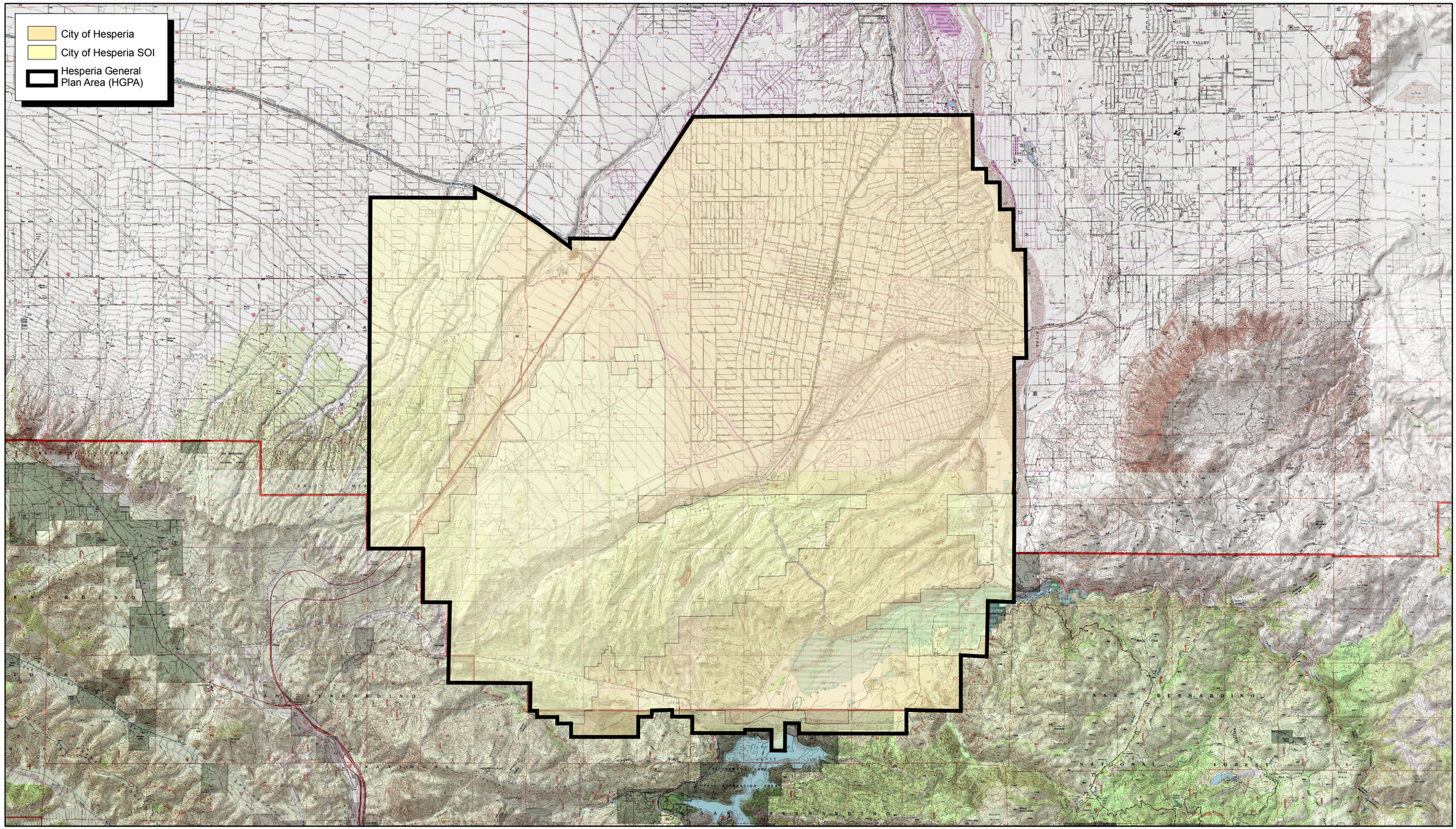
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

23660023 • 09/2009 | 1_regional.mxd



Source: USGS Baldy Mesa, Hesperia, Apple Valley South, Hesperia, Cajon, Silverwood Lake, Lake Arrowhead, Phelan, Telegraph Park, Fifteenmile Valley, and Butler Peak 7.5' DRG. City of Hesperia (2009).

NORTH

9,000 4,500 0 9,000 Feet

Michael Brandman Associates

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Exhibit 2
Project Location USGS Map

City of Hesperia
City of Hesperia SOI
Hesperia General Plan Area (HGPA)

Source: NAIP for San Bernardino County (2005) & City of Hesperia (2009).

NORTH

9,000 4,500 0 9,000
Feet

Michael Brandman Associates

23660023 • 09/2009 | 3_local_aerial.mxd

Exhibit 3
Local Vicinity Aerial Map

HOGLE-IRELAND, INC. - CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY

SECTION 2: OVERVIEW OF ARCHAEOLOGICAL AND PALEONTOLOGICAL COMPLIANCE IN CALIFORNIA

Federal, state, and local government agencies have developed laws and regulations designed to protect significant cultural resources that may be affected by projects regulated, funded, or undertaken by an agency or jurisdiction. Federal and state laws that govern the preservation of historic and archaeological resources of national, state, regional, and local significance include the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). A "cultural resource" is a generic term that is applied to historic buildings, archaeological sites, and other objects that convey history.

2.1 - The National Historic Preservation Act and the Section 106 Process

Through regulations associated with the NHPA, an impact to a cultural resource would be considered significant if government action will affect a resource listed in or eligible for listing in the National Register of Historic Places (NRHP or National Register). The NHPA codifies a list of cultural resources found to be *significant* within the context of national history, as determined by a technical process of evaluation. Resources that have not yet been placed on the National Register, and are yet to be evaluated, are afforded protection under the Act until shown to be not significant.

Section 106 of the NHPA and it's implementing regulations (36 CFR Part 800) note that for a cultural resource to be determined eligible for listing in the National Register, the resource must meet specific criteria associated with historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the National Register are applied within an analysis when there is some question as to the significance of a cultural resource. The criteria for evaluation is defined as the quality of significance in American history, architecture, archeology, engineering, and culture. This quality must be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Criterion D is usually reserved for archaeological resources. Eligible cultural resources must meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

The Section 106 evaluation process does not apply to projects undertaken under City environmental compliance jurisdiction, however, should the undertaking require funding, permits or other administrative actions issued or overseen by a federal agency, analysis of potential impacts to cultural resources following the Section 106 process will likely be necessary. The Section 106 process typically excludes cultural resources created less than 50 years ago (i.e.: 1960) unless the resource is considered highly significant from the local perspective. Finally, the Section 106 process allows Local concerns to be voiced and the Section 106 process must consider aspects of Local significance before a significance judgment is rendered.

2.2 - The CEQA Process and State Regulation

Cultural resource preservation is considered one of the environmental protections covered by CEQA, a State law similar to the federal NEPA. Public Resources Code (PRC) Section 21084.1 requires that a lead agency make two determinations regarding cultural resources:

Determination #1) Whether a project will impact a resource that falls within the definition of a 'historic resource', and;

Determination #2) Whether any such impact will cause a substantial adverse change to the significance of the resource.

In order to complete Determination #1 for any one project's area of potential effect (APE), it is necessary for the lead agency to determine if there are any such resources in the APE. This determination cannot be completed by reviewing the existing records of historical or paleontological resources kept at a local museum or the local California Historic Resource Information Center (CHRIS) center because not all areas have been assessed and erosional changes through time can expose resources that may have been obscured during past survey efforts. For the purposes of the cultural resource element, the staff of the State Office of Historic Preservation (SHPO) recommends that an archaeological field inspection, also known as a Phase 1 Cultural Resource Survey (Phase 1 survey), must be conducted on all discretionary projects in order to discover if any historic resources are present, or could potentially be uncovered during development. SHPO also recommends that all written technical reports describing cultural resource fieldwork follow the Archaeological Resource

Management Report (ARMR) research and reporting format unless a Lead Agency has developed their own format.

Laws associated with paleontological resource protection are considered a subset of the cultural resource section in CEQA. Currently, paleontological resource significance determination methods are not distinctly codified for projects located on private land. It is common for lead agencies, the County of San Bernardino being an example, to require paleontological surveys on property when the property is known to exhibit surface exposures of a rock type that carries extensive deposits of fossils. Protection of potentially significant paleontological resources can be undertaken by requesting a paleontological records search from a local museum and allowing the museum expert to determine the next course of action. In many cases, surveys will not be required and the paleontological records search recommendations associated with construction monitoring will mitigate for impacts.

PRC Section 21083.2 stipulates that only impacts to 'unique' cultural resources need be addressed during the environmental review and project planning process. Therefore, before a decision is made to issue a Negative Declaration, Categorical Exemption, or require an EIR, cultural resources in the project area must already have been identified and evaluated for significance. A 'significant' resource is one that is; 1) already listed in the California Register of Historic Resources (CRHR) or; 2) a cultural resource included in a local register and presumed historically significant or; 3) a cultural resource deemed significant based on PRC Section 5024.1 or Health and Safety Code (HSC) 7050.5 or; 4) a cultural resource that may not qualify under the previous three categories but a local agency chooses to consider "historical".

To determine what is a 'unique' or 'significant' historical resource, CEQA relies on the guidelines associated with the creation of the CRHR (CCR Section 15064.5a). The resource may be listed in the CRHR if it meets any of the following criteria:

- [The resource] is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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
- Has yielded, or may be likely to yield, information important in prehistory or history.

Most archaeological sites will be determined significant under Criterion D as long as the evidence shows they are well preserved. Older buildings may be determined significant under Criterion A, B

or C above as long as they are relatively intact and have not been modified to the point where their historic theme as expressed by their architectural elements is compromised. There is a de facto minimum age limit of 45 years for unique or significant cultural resources, as expressed by the staff of the State Office of Historic Preservation (SHPO). For Federal compliance projects using the Section 106 process, the minimum age limit is 50 years.

As long as a cultural resource site can be avoided during construction, no further cultural resource work need take place. If disturbance to a cultural resource site cannot be avoided, it becomes necessary to determine whether the resource is 'significant' or not. Significance evaluations can be quite technical and knowledgeable experts should make them. It is possible that surface observations made during the Phase 1 survey will serve to determine if the resource is intact to warrant further work. If project planning shows that the cultural resource will be impacted, a Phase II Significance Assessment shall be required. SHPO has created an approved ARMR research and reporting format for Phase II assessment reports.

If the results of the Phase II assessment determine the cultural resource is 'significant', CEQA laws are designed to preserve the information regarding the resource. Preservation can be accomplished by avoiding the site (the preferred alternative) or conducting additional archaeological or historical analysis and collecting all data that would otherwise be lost. The additional work is known as a Phase III data recovery program, which is an option of last resort (CCR Section 15126.4c). Again, SHPO has created a recommended outline in the ARMR research and reporting format for all Phase III program studies.

CEQA makes no mention of archaeological or paleontological monitoring. PRC Section 21082 and CCR Section 15064.5f do however require that a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. Those provisions should include an immediate evaluation of the find by a qualified archaeologist. Monitoring is therefore an appropriate way to mitigate for potential impacts to potentially significant buried cultural and paleontological resources and is used for two basic situations:

1) When there is no observable cultural or paleontological material within a project area, but background information suggests the presence such resources are buried near the project area, monitoring should be conducted. Monitoring should be conducted by a professionally qualified specialist and/or his/her representative as a precaution, in case soils in the project area exhibit components associated with a nearby resource, and

2) For a project where a known resource site was or is located, monitoring is recommended after data recovery or site capping has been completed.

Not every class of project brought to a Lead Agency will have the potential to impact cultural resources. Many of these projects can be categorically excluded following CEQA Guidelines (see Sections 15300 through 15322). When previous technical studies of an individual project area have shown that there will be little to no chance there will be an adverse change to the significance of an historic resource, or because certain environmental conditions at the project site exist, mandated cultural resource surveys can be avoided. These areas can be delineated in advance.

For the purpose of this study, project areas of "low sensitivity" are; 1) project areas determined through an AIC planning review to require no additional field research; 2) small infill projects located in highly developed areas of the City; 3) land that has been graded at a depth where any cultural resources would have been clearly removed; and 4) places where certain types of exposed rock strata cannot exhibit sensitive paleontological resources.

2.3 - "Cultural Resources" and Significance

2.3.1 - Archaeological or Prehistoric Resources

Archaeological resources are those that are associated with prehistoric cultural sites (such as villages, camps, burials, etc), prehistoric isolates (projectile points, potsherds, etc) and the remnants of historical cultural sites that lack substantive building remnants (termed "historic archaeological sites"), such as old building foundations, roads and trails. Many Agencies in the State consider prehistoric sites significant regardless of their constitution or condition. If an Agency has not made this determination in advance, technical analysis of the find must be undertaken on an individual basis.

It is not the case that all archaeological or historic site are "significant historic resources" under the law. Following CEQA and Section 106 regulation, the Agency must be able to decide whether cultural resources detected in the field qualify as a significant. If upon technical review the resource does not qualify for the CR or the NRHP, it is not considered a significant historic resource under the law and cannot be offered protection unless the local Agency (in this case the City of Hesperia) decides to offer protection. Under CEQA Guidelines, the City of Hesperia can create a list of cultural resources that may not qualify for either the CR or the NRHP, but could qualify as a significant historic resource under a local historic preservation ordinance.

2.3.2 - Historical Resources

Historical resources are those that are associated with buildings, structures, objects, or districts. According to CR and NRHP guidelines, historical resources are defined as the following:

Building

A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn. Examples of this resource type would include:

- Houses
- Barns
- Stables
- Sheds
- Garages
- Courthouses
- City halls
- Social halls
- Commercial buildings
- Libraries
- Mills
- Factories
- Stationary mobile homes
- Train depots
- Hotels
- Theaters
- Schools
- Stores
- Churches

Structure

The term "structure" is used to distinguish buildings from those functional constructions made usually for purposes other than creating human shelter. Examples of this resource type would include:

- Bridges
- Tunnels
- Gold dredges
- Fire towers
- Canals
- Turbines
- Dams
- Power plants
- Corncribs
- Silos
- Roadways
- Shot towers
- Windmills
- Grain elevators
- Kilns
- Mounds
- Cairns
- Palisade fortifications
- Earthworks
- Railroad grades
- Systems of roadways and paths
- Boats and ships
- Railroad locomotives and cars
- Telescopes
- Carousels
- Bandstands
- Gazebos
- Aircraft

Object

The term "historic object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simple. Although it may be, by nature or design, movable, the object is associated with a specific setting or environment. Examples of this resource type would include:

- Sculpture
- Monuments
- Boundary markers
- Statuary
- Fountains

District

A historic district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. Examples of this resource type would include:

- College campuses
- Central business districts
- Residential neighborhoods
- Commercial areas
- Large forts
- Industrial complexes
- Civic centers
- Rural villages
- Complex canals or irrigation systems
- Groups of habitations and associated activity areas
- Large ranches/estates/ plantations
- Transportation networks
- Large landscaped parks

2.4 - Impacts to Cultural Resources Deemed Important to Native Americans

CEQA does not specifically address the concerns of Native Americans and makes no provision for access to technical cultural resource data. However, in recent years pressure has been building on state Lead Agencies to allow Native American tribal organizations a greater voice with regard to impacts or potential impacts to Native Americans sites. CEQA does indicate, in areas where human remains are likely, that the Lead Agency shall work with appropriate Native Americans as identified by the Native American Heritage Commission (NAHC), as provided in PRC 5097.98 and CCR Section 15064.5d. In actuality, there is no way of predicting when and where human remains will be encountered.

CEQA Guidelines Section 15064.5d requires a lead agency to work with Native Americans identified by the NAHC if the Initial Study identifies the presence or likely presence of Native American human remains within a project area. CEQA provides for agreements with Native Americans, identified by the NAHC, to assure appropriate and dignified treatment of Native American human remains and any associated grave goods. If the City requires a Phase 1 survey, Phase II assessment, or a Phase III data recovery report, the qualified archaeologist should follow the recommended ARMR research and reporting guidelines. Contact with Native Americans is a key element of the ARMR format.

2.4.1 - Senate Bill 18 Legislation

The following overview is provided to assist the City in meeting its responsibilities for compliance with Tribal Consultation legislation, which is required when a project results in the adoption of a General Plan Amendment or when Open Space is officially designated1.

As of March 1, 2005, California Government Codes 65092; 65351; 65352; 65352.3; 65352.4; 65352.5 and 65560, formerly known as Senate Bill (SB) 18, require Lead Agencies to consult with California Native American tribes prior to the adoption or any amendment to a General Plan (GC 65352.3), or if land that is proposed to be designated as Open Space contains a cultural place (GC 65562.5). The intent of this legislation is to provide all tribes, whether federally recognized or not, an opportunity to consult with local governments for the purpose of preserving and protecting tribal cultural places.

Local governments must notify the appropriate tribes of the opportunity to conduct consultations to preserve or mitigate impacts to cultural places located on land within the local government's jurisdiction that is affected by the plan adoption or amendment. The tribal contacts for this list are maintained by the NAHC, and are distinct from the Most Likely Descendent (MLD) list. It is suggested that local governments send a written notice to the tribe by certified mail with return receipt requested. The tribes have 90 days from the date they receive notification to request consultation. In addition, prior to adoption or amendment of a general or specific plan, local government must refer the proposed action to tribes on the NAHC list that have traditional lands located within the city or county's jurisdiction. Notice must be sent regardless of prior consultation. The referral must allow a 45-day comment period.

In brief, notices from the lead agency to a Native American tribe(s) should include:

- A clear statement of purpose;
- A description of the proposed general or specific plan, the reason for the proposal, and the specific geographic areas affected;
- Detailed maps to accompany the description;
- Deadline date for the tribes to respond;
- Government representative(s) contact information; and
- Contact information for project the proponent/applicant, if applicable.

The basic schedule for this process is:

- 30 days - time the NAHC has to provide tribal contact information to the local government; this is recommended not mandatory.

1 http://www.opr.ca.gov/programs/training/SB_18_Overview.ppt.

- 90 days - time a tribe has to respond indicating whether they want to consult. Note: tribes can agree to a shorter timeframe. In addition, consultation does not begin until/unless requested by the tribe within 90 days of receiving notice of the opportunity to consult.
- 45 days - time the local government has to propose action, such as adoption or amendment to a General Plan or Specific Plan, or to agencies, including the tribes. Referral is required even if there has been prior consultation. This referral opens the 45-day comment period.
- 10 days - time the local government has to provide tribes of a notice of public hearing.

The City shall undertake an SB18 consultation before the EIR associated with the City's General Plan Update is adopted, following the guidelines noted above.

SECTION 3: CULTURAL SETTING

3.1 - Historic and Prehistoric Background

This section provides a brief overview of the prehistory and history of the HGPA. A more detailed description can be found in ethnographic studies, mission records and major published sources including Kroeber (1925), Wallace (1955), Warren (1968), Heizer (1978), Moratto (1984), and Chartkoff and Chartkoff (1984). Fagan (2003), Moratto and Chartkoff and Chartkoff provide recent overviews of California archaeology in general and review the history of the desert regions in southern California. The most accepted regional chronology for the coastal and central interior of southern California is derived from Wallace's four-part *Horizon* format, which was later updated and revised by Warren. Presently, regional archaeologists generally follow Wallace's southern California format but the loosely established times for each period subunit are often challenged. The documented stages are as follows:

- Desert Culture Period (12000 to 10000 B.C.)
- Western Hunting Culture or Lake Mohave Period (~9000 to 5000 B.C.)
- Pinto Period (5000 to 2500 B.C.)
- Protohistoric (2500 B.C. to A.D. 1769)

3.1.1 - Desert Culture Period (12000 to 10000 B.C.)

Comparatively, little is known of Paleo-Indian peoples in the California archaeological record, although highly documented archaeological village sites in the Southwest have revealed associated bones of now extinct large mammals, as well as Clovis and Folsom tool traditions (Fagan 2000). However, this period is noted for an increase in drier weather, consequently most of the known California Late Paleo-Indian/early archaic sites are located near extinct desert valley lakes, rock shelters and on the Channel Islands located off the coast of California (Chartkoff and Chartkoff 1984; Forbes 1989). These consist of occupation sites, butchering stations and burials. This period ends with a marked extinction of large game native to North America and a distinct change in prehistoric tool kits used to prepare plant-based foods. Small projectile points, choppers, flat scrapers, drills, and digging sticks are also common (Forbes 1989).

3.1.2 - Western Hunting Culture or Lake Mohave Period (~9000 to 5000 B.C.)

It is thought the hunting of large mammals lessened as a resource for due to drier weather conditions. The West and Southwest area shows an increased reliance on using small game, such as squirrels and rabbits and wild plants to sustain the small tribal bands (Jennings 1989; Oswalt 1988). This period is also marked by the absence of food grinding stone implements. However, the period ends when stone

grinding implements become increasingly more prevalent as indicated in the archaeological record (Forbes 1989; Jennings 1989; Oswalt 1988).

In the early part of this period, large lakes formed in much of the now-dry eastern California desert areas. The large playa (flat-floored bottom of an undrained desert basin) known as Rosamond Dry Lake formed and, filled with water due to the wetter climate, and lasted for several thousand years. Numerous flaked lithic (stone tool) sites are known on the periphery of the lake.

3.1.3 - Pinto Period (~5000 to 2500 B.C.)

This period highlights a combination of both Desert Culture and Western Hunting Cultures, where an increase in grinding tools appears in the archaeological record. Such tools suggest an increased level of reliance on wild plants and small animals (Forbes 1989; Jennings 1989; Oswalt 1988). The Pinto spear-point tool tradition is the hallmark of this period. This traditional tool is characterized by small coarsely chipped points, which tend to be triangular and sometimes are found with parallel sides. These points may have tipped the atlatl, a spear-throwing device. A slight variation in tool type appears towards the end of this period, which is represented by Gypsum and Elko points. Its contracting stem typifies a Gypsum point, whereas Elko points are corner notched (Jennings 1989). It is thought that the playa lakes in the eastern Antelope Valley dried up at the end of this period.

3.1.4 - Protohistoric (~2500 B.C. to A.D. 1769)

In the southwestern Great Basin, this period is characterized as having cooler and wetter conditions than that previously experienced, an environment similar to that of today. Sites appear in previously unoccupied areas of California. The number of sites in some regions, especially near ephemeral lakes, seems to have risen dramatically. In the Owens Valley, permanent village sites were utilized, along with the addition of upland dry-environment sites. These changes reflect a phenomenon found throughout the western United States where an increase in population and changes in tool kits and living arrangements resulted in more specialized uses of materials and landscapes. Diagnostic artifacts associated with this period consist of Elko and Gypsum projectile points.

3.1.5 - Indigenous Native American Presence: The Serrano

According to Bean and Smith (1978), the project area lies along the northern edge of a region that may have been utilized by the Serrano tribes, with the southern edge by the Vanyume tribes. The Vanyume was a little known group of people living along the Mojave River in the Victorville region who spoke a language similar to the Serrano.

Adjacent to the eastern San Bernardino Mountains, the Spanish decimated the indigenous groups of people. This took place over many years, but culminated with the building of an outpost in Redlands in 1819. Some Serrano survived for many years due to the ruggedness of the terrain and their dispersed population in the far eastern portions of the San Bernardino Mountains. Kroeber (1925) and Bean and Smith (1978) form the primary historical sources for this group.

The Serrano spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, which includes the Shoshonean groups of the Great Basin. The total Serrano population at first contact was roughly 2,000 people. Their range is generally thought to have been located in and east of the Cajon Pass area of the San Bernardino Mountains, north of Yucaipa, west of Twenty-nine Palms and south of Victorville. The range of this group was restricted by reliable water sources.

The first modern social analyses of Serrano culture took place in the early part of the 20th century (Strong 1929), but by that time acculturation and disease had adversely impacted these peoples. The population studied at that time was a remnant of their cultural form prior to contact with the Spanish Missionaries. Nonetheless, the Serrano are viewed as clan and moiety-oriented or local lineage oriented group tied to traditional territories or use-areas. Typically, a "village" consisted of a collection of families centered about a ceremonial house, with individual families inhabiting willow-framed huts with *tule* thatching. According to Bean and Smith (1978), Colorado River tribes such as the Mojave and Chemehuevi were enemies of the Serrano, but not the Vayume. Considered hunter-gatherers, Serrano exhibited a sophisticated technology devoted to hunting small animals and gathering roots, tubers and seeds of various kinds. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations.

3.1.6 - Historic Review of Hesperia

The history of the Hesperia region is inexorably linked to travel and transportation routes. The Mojave Trail (CA-SBR-3033/H/ CHL-963 Mojave Road) runs along the entire eastern boundary of the project area, and then curves west following along the southern bank of the West Fork Mojave. Before Father Francisco Garces explored the area, prehistoric native groups used the route for centuries (Shackley et al 1987). In 1776, Garces was in search of an easier and centrally located overland route between the Los Angeles basin and Spanish towns in central New Mexico, and he probably followed various trails used by native trader's centuries before. Garces also acted as a guide to Juan Bautista de Anza and his group, who passed through the area in an attempt to establish quarters at the Mission San Gabriel. According to Father Garces journal, this group camped at the headwaters of the Mojave River, in an area thought to be approximately 1.5 miles southeast of Hesperia (McGinnis 2006).

In the early 1830's white traders established the route through to Los Angeles by crossing at Green River, Utah, allowing American access to the Four Corner states (Arizona, Colorado, New Mexico and Utah) skirting the difficult Colorado Plateau. Known as the Old Spanish Trail, the route paralleled the Mojave River and passed through the entire western portion of the project area. The trail eventually crosses the Oro Grande Wash and then runs to the Cajon Pass. The Mormon Trail, the Spanish Trail, also known as the Santa Fe and Salt Lake Trail (CA-SBR-4272H), and the Canal Lane Historic Road (CA-SBR-4179H) are all part of the same general route. In 1842, General John Fremont and Kit Carson utilized the Mormon Trail to lead an army exploration party. In a journal belonging to General Fremont, a camp is described near the headwaters of the Mojave River (McGinnis 2006). This camp was situated near the southeastern portion of the project area boundary. By 1845, approximately 300 to 500 people used the Mormon Trail or portions of the trail each year, and the number continued to increase (McGinnis 2006).

Once Desert Indian groups had been either forcibly removed or decimated by the 1830s, a slow conquest of desert California commenced. Roads were required for travel between mining areas and population centers in the 1850s. Mormon populations successfully utilized the trails in their effort to establish a colony at San Bernardino. In 1847, the Atchison, Topeka, and Santa Fe Railroad (AT&SF) ran tracks through the Hesperia region, which at the time, was a small town located between the Antelope Valley and the Mojave River. The first wooden structure was erected in the town in 1857. It consisted of a stable, bunk beds, a water trough, and a general store. The town was not officially named Hesperia until the completion a rail depot in 1885 (McGinnis 2006).

In 1885, Joseph Widney acquired the township of Hesperia and formed the Hesperia Land and Water Company. Shortly after, the Old Townsite of Hesperia was laid out and water rights were procured from the County of San Bernardino. Between 1870 and 1882, various local ranchers engaged in the production of grapes. Some of the grapes were dried and shipped as raisins, while others were pressed into wine and shipped around California and as far as the east coast. In 1890, a shipping business was created to move juniper wood from Hesperia to Los Angeles. The junipers were utilized to fire bakery kilns in the city. The business prospered until oil replaced juniper wood for fuel in the early 1900s (McGinnis 2006).

Throughout the early 20th century, Hesperia's local businesses catered to travelers on Route 66. Hesperia was the final stop before the Cajon Pass, and its location along this area of Route 66 became a prosperous area for businesses. In 1924, the route was moved to the west of Hesperia, and businesses suffered as a result. Hesperia was officially incorporated as a City in 1988. Presently, it is situated along Interstate 15, a heavily traveled route that brings various travelers into town benefiting the local economy.

SECTION 4: RESEARCH RESULTS

4.1 - Cultural Resource Findings

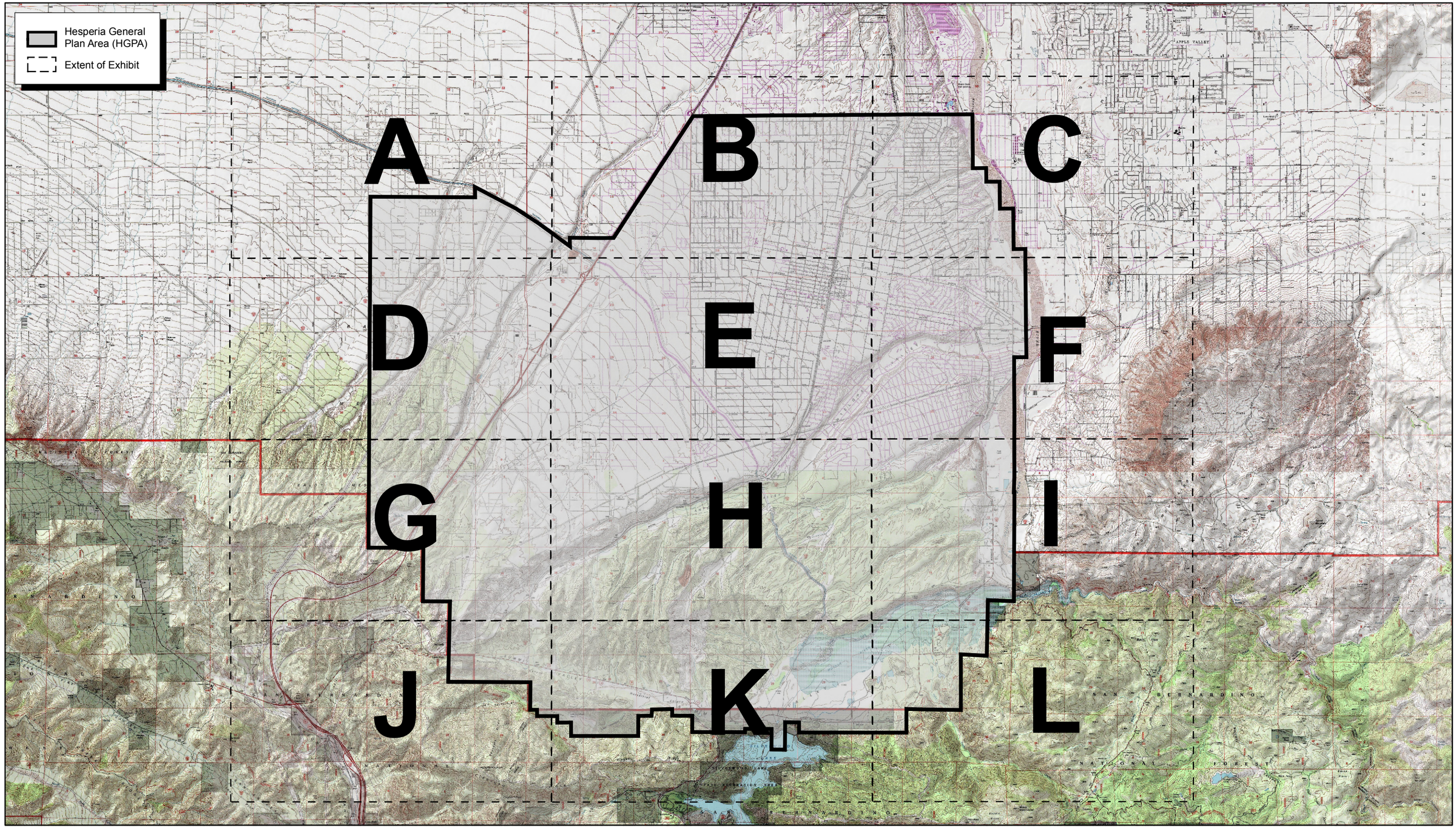
On August 9 to 16, 2006, MBA archaeologist Eric J. Kowalski performed a records search at the Archaeological Information Center (AIC) at the San Bernardino County Museum (SBCM). To identify historic properties, Mr. Kowlaski examined the current inventories of the National Register of Historic Properties (NRHP), the CRHR, the California Historic Landmarks (CHL) list, and the California Points of Historic Interest (CPHI) list. He also reviewed the California State Historic Resources Inventory (HRI) for San Bernardino County and the City of Hesperia to determine the existence of previously documented local historical resources. In addition, archival maps were examined to evaluate previously plotted historic resources in the area.

The records search area included all land located inside the HGPA (Exhibit 4), which covers about 75,538 acres. Exhibits 4A through 4L show the specific locations of the HGPA area with reference to a scaled topographic map. Files at the AIC are set up to note the locations of each recorded resource on a topographic map at the scale indicated. According to AIC files, the number of cultural resources located within the HGPA includes:

- 151 prehistoric sites, including 1 CPHI-listed site
- 95 historic archaeological sites, including 4 NRHP, 1 CPHI and 1 CHL-listed site
- 13 dual component sites, sites with both prehistoric and historic components, of which 1 is a CHL-listed site
- 60 prehistoric isolated finds
- 11 historic isolated finds
- 11 prehistoric pending cultural resources
- 8 historic pending cultural resources

4.1.1 - Types of Resources

Prehistoric and historic cultural resources can vary from area to area. For the purposes of this study, prehistoric and historic cultural resources are defined as three or more items, such as lithics, stone tools, glass, cans, etc., that are not from a single source or from material found within a 10 square meter area. Historic items must be more than 45 years old or have the potential to be more than 45 years old. This definition assumes that items found in an area with diverse materials represent more than a single activity at a location. Sites could also be loci if they presumably represent repeated discrete activity, such as a milling station, hearth, or isolated structure.



Source: USGS Baldy Mesa, Hesperia, Apple Valley South, Hesperia, Cajon, Silverwood Lake, Lake Arrowhead, Phelan, Telegraph Park, Fifteenmile Valley, and Butler Peak 7.5' DRG. City of Hesperia (2009).

NORTH

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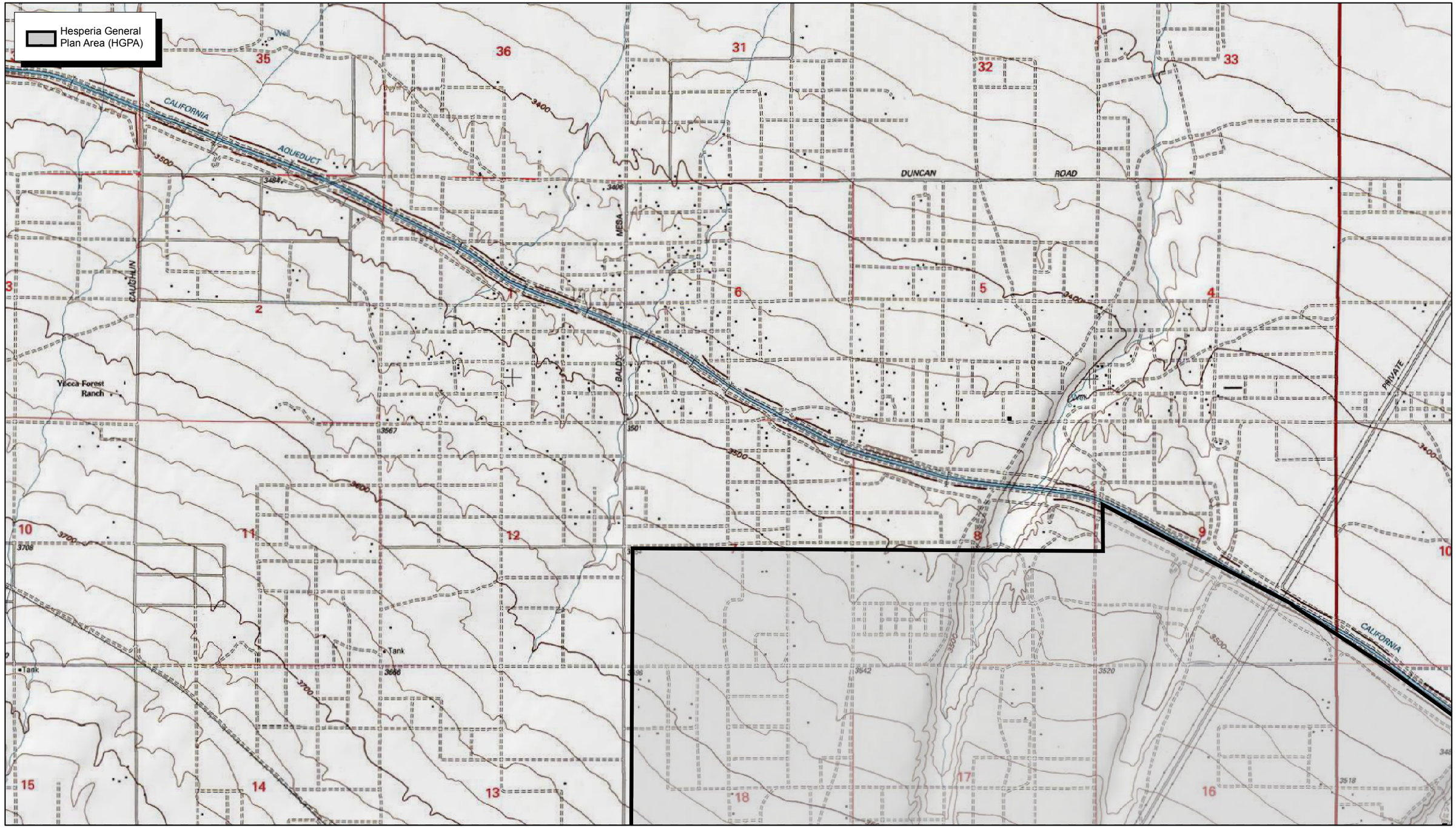
Michael Brandman Associates

23660023 • 09/2009 | 4_CR_search_radius_key_map.mxd

Exhibit 4
Cultural Resource Search Radius Key Map

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa 7.5' DRG. City of Hesperia (2009).

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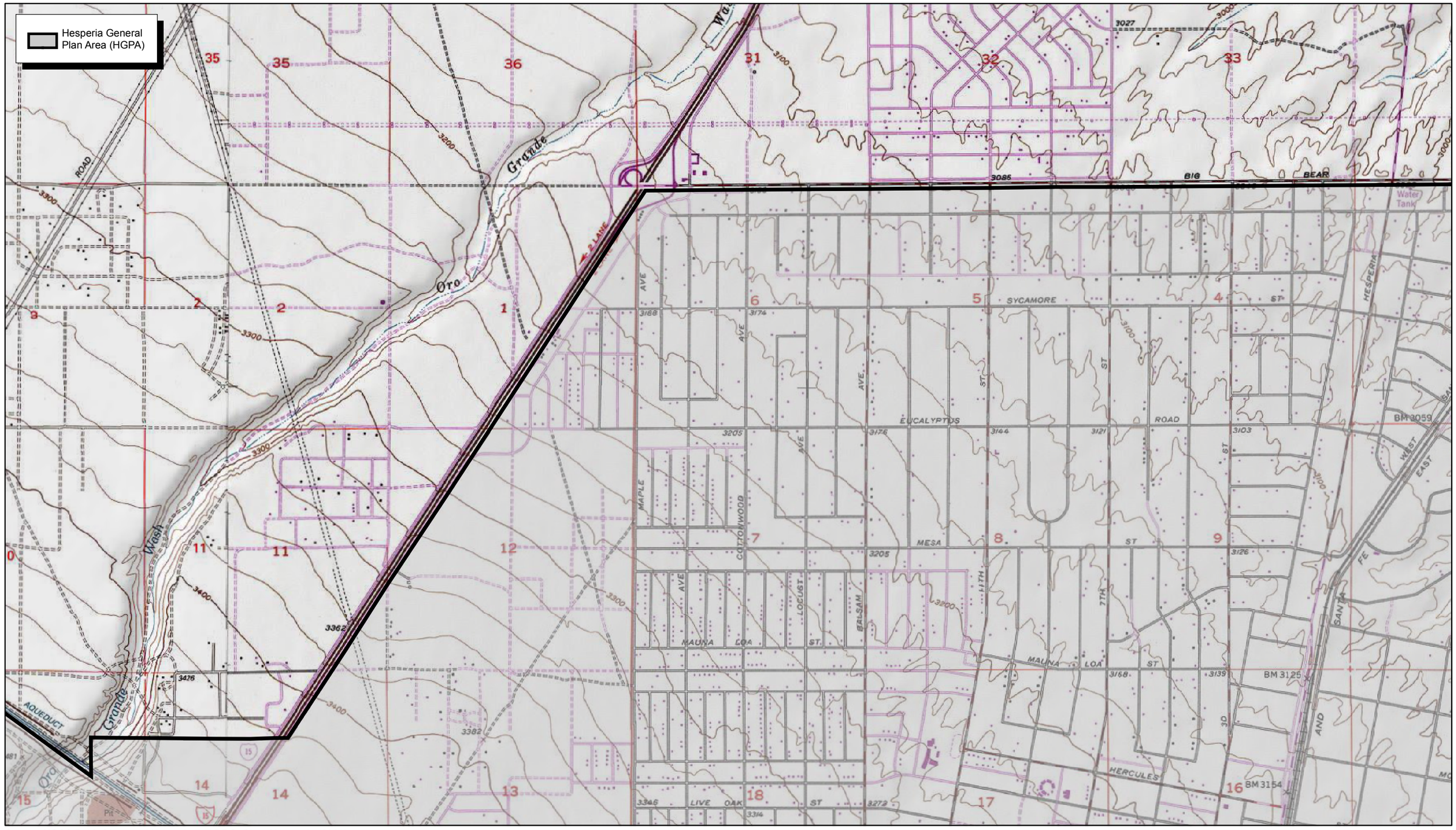
Michael Brandman Associates

23660023 • 09/2009 | 4a_CR_search_radius_maps.mxd

Exhibit 4a
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa and Hesperia 7.5' DRG, City of Hesperia (2009).

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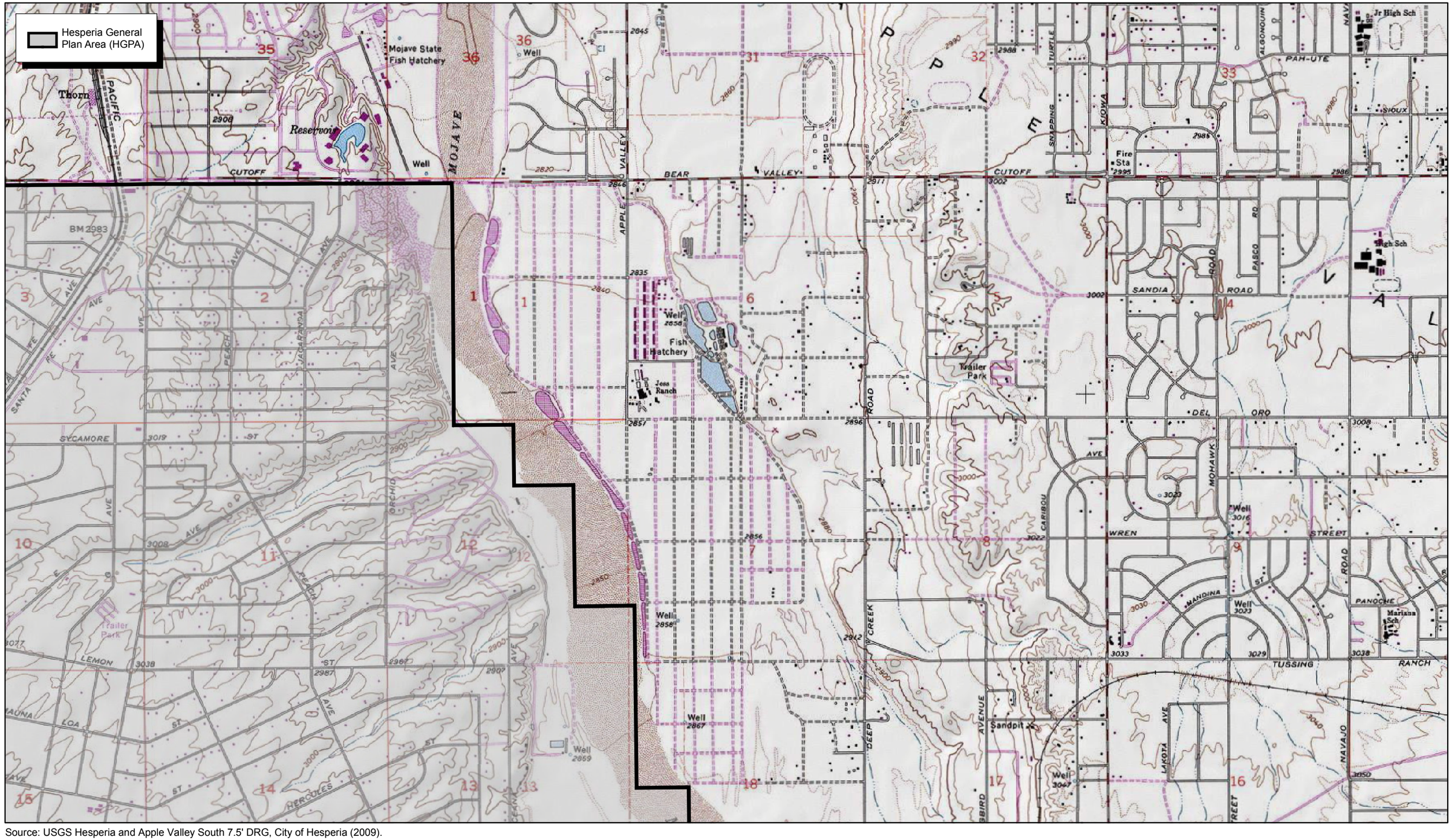
Michael Brandman Associates

23660023 • 09/2009 | 4b_CR_search_radius_maps.mxd

Exhibit 4b
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Hesperia and Apple Valley South 7.5' DRG, City of Hesperia (2009).

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Michael Brandman Associates

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Exhibit 4c
Cultural Resource Search Radius Maps

Source: USGS Baldy Mesa 7.5' DRG, City of Hesperia (2009).

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Michael Brandman Associates

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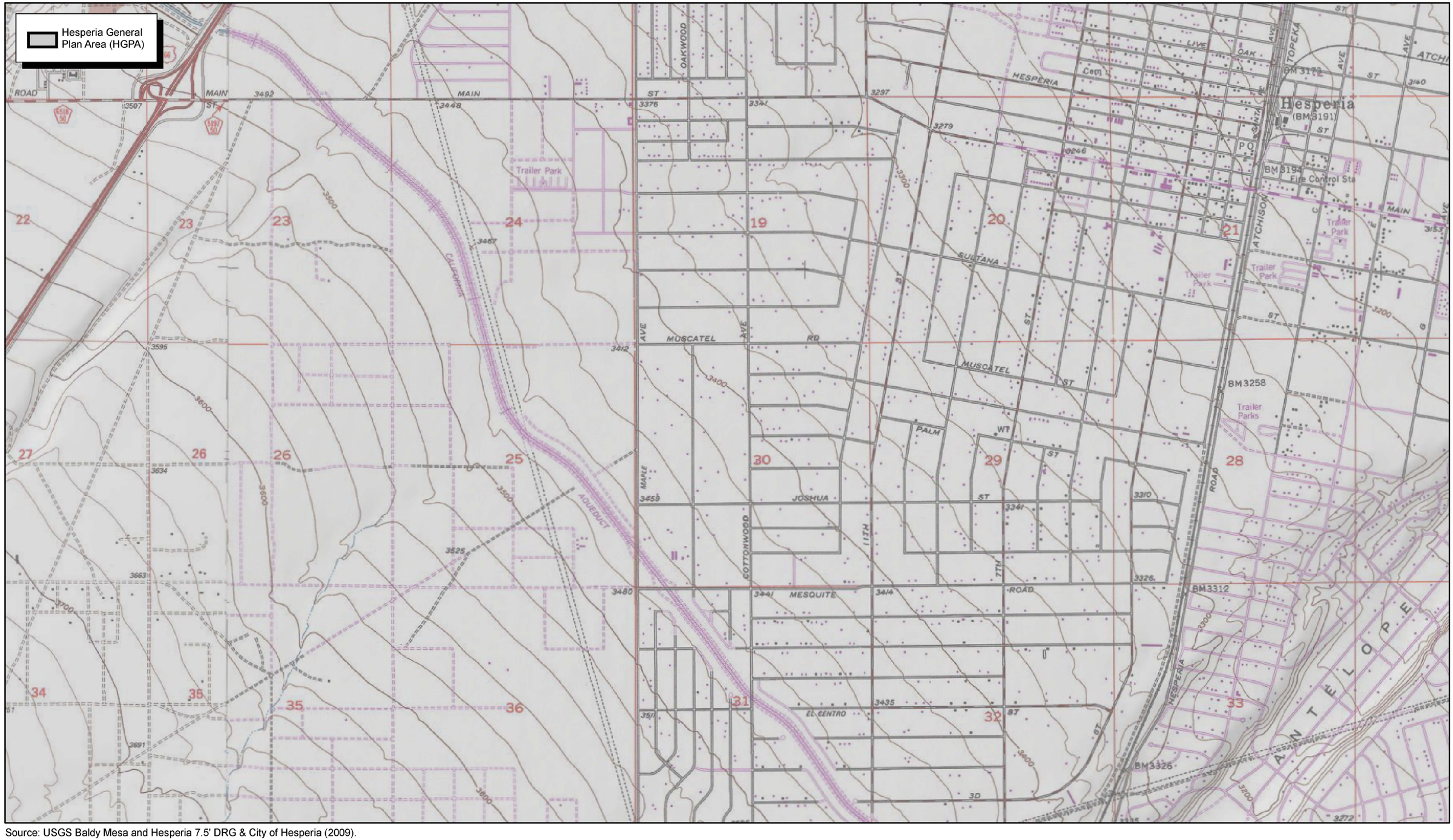
Exhibit 4d
Cultural Resource Search Radius Maps



Source: USGS Baldy Mesa and Hesperia 7.5' DRG & City of Hesperia (2009).

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Michael Brandman Associates

23660023 • 09/2009 | 4e_CR_search_radius_maps.mxd

Exhibit 4e
Cultural Resource Search Radius Maps

Hesperia General Plan Area (HGPA)

Source: USGS Hesperia and Apple Valley South 7.5' DRG & City of Hesperia (2009).

Michael Brandman Associates

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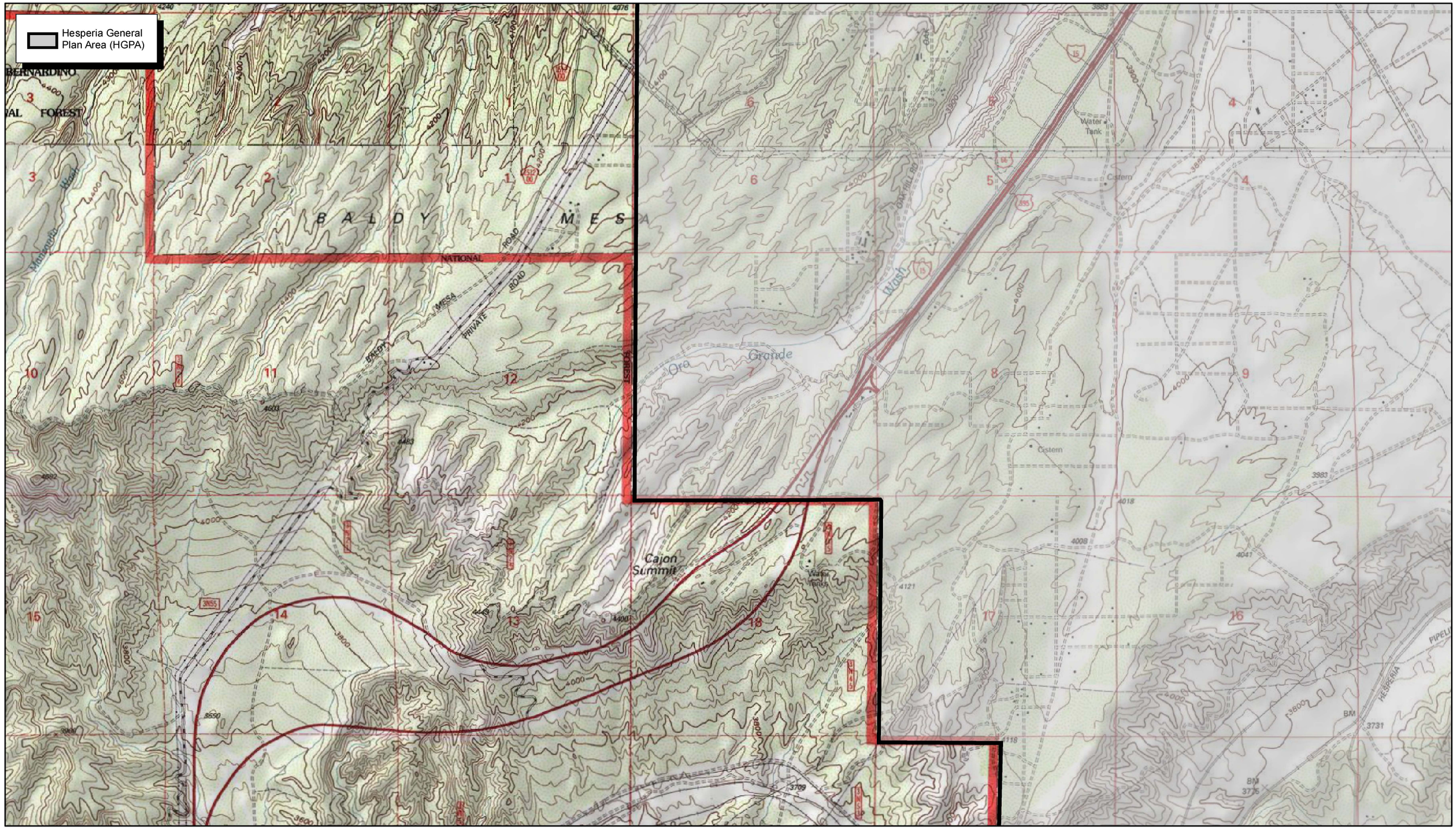
Exhibit 4f
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa and Cajon 7.5' DRG & City of Hesperia (2009).

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Michael Brandman Associates

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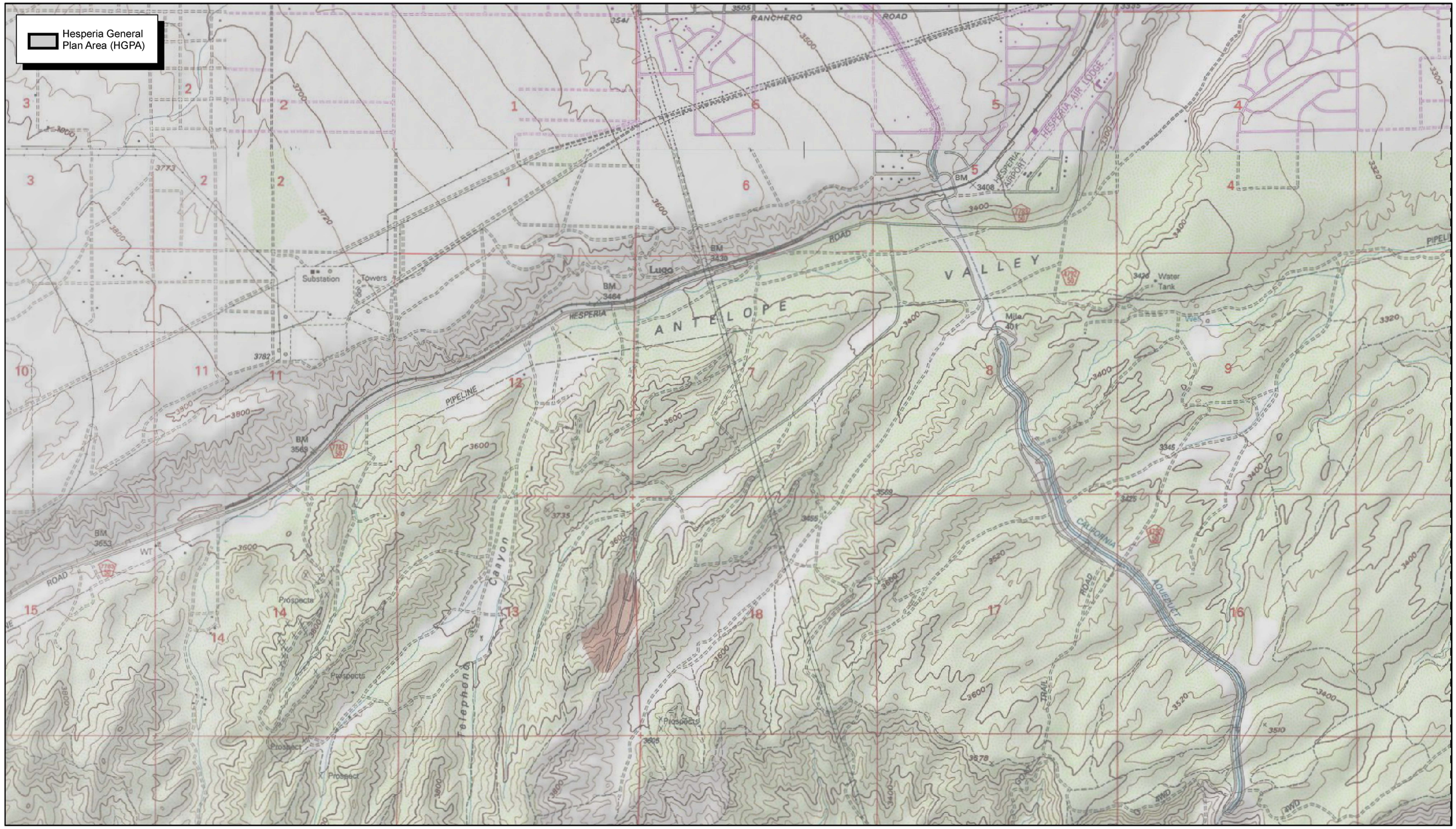
Exhibit 4g
Cultural Resource Search Radius Maps



Source: USGS Baldy Mesa, Cajon and Silverwood Lake 7.5' DRG & City of Hesperia (2009).

Michael Brandman Associates

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Exhibit 4h
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY

Hesperia General Plan Area (HGPA)

Source: USGS Hesperia, Apple Valley South, Lake Arrowhead, and Silverwood Lake 7.5' DRG, & City of Hesperia (2009).

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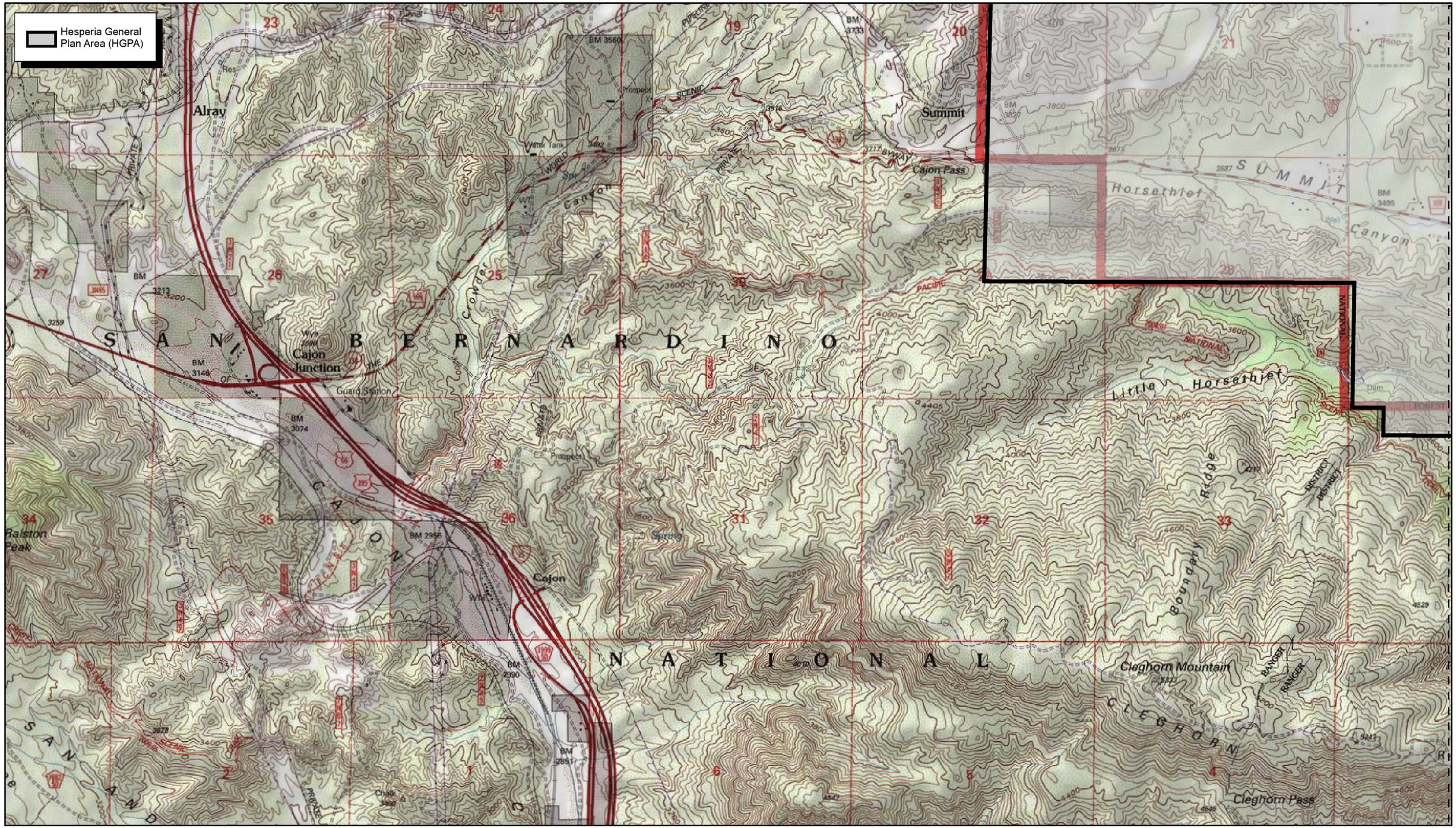
Michael Brandman Associates

23660023 • 09/2009 | 4i_CR_search_radius_maps.mxd

Exhibit 4i
Cultural Resource Search Radius Maps



Source: USGS Cajon 7.5' DRG & City of Hesperia (2009).

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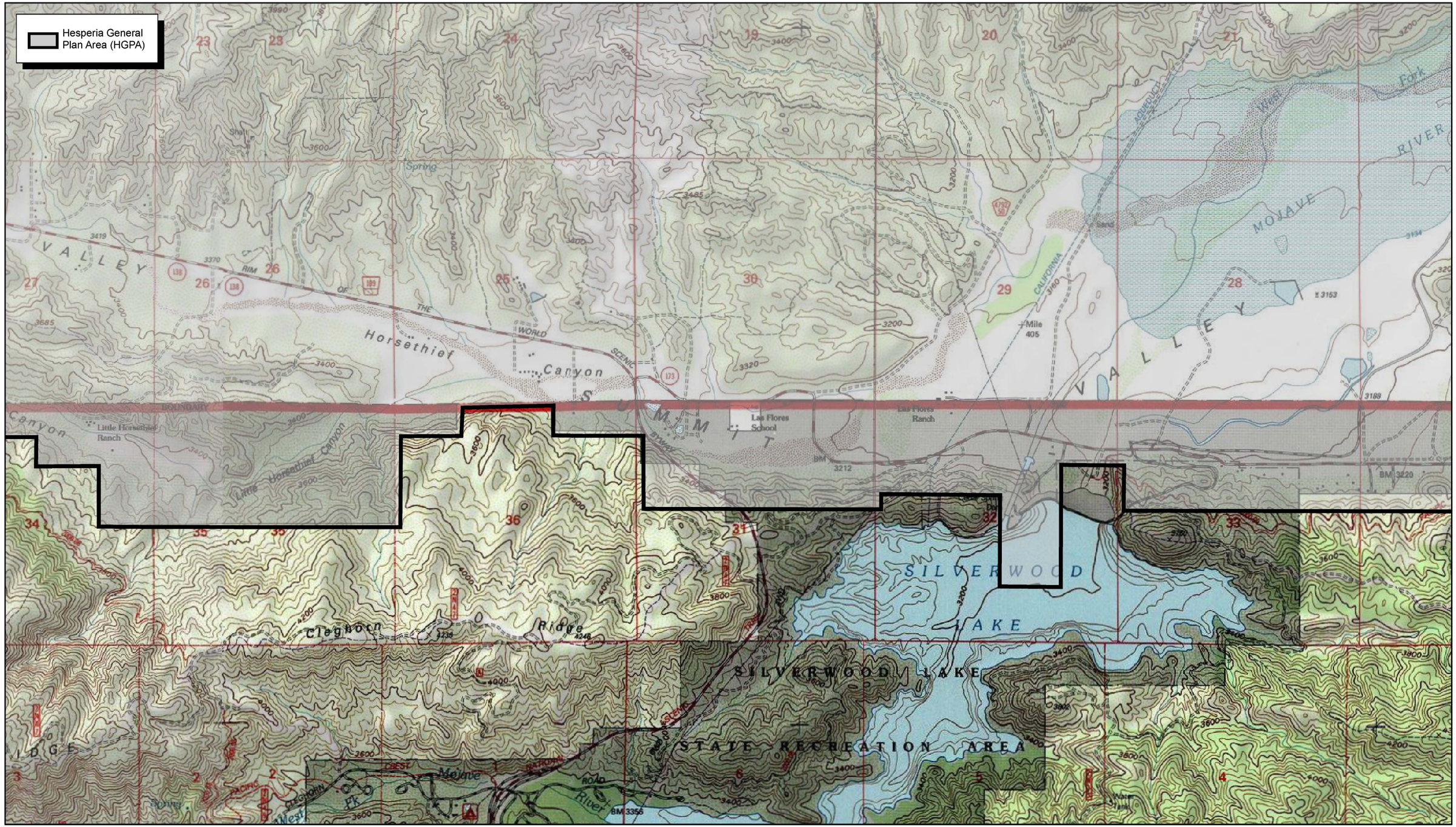
Michael Brandman Associates

23660023 • 09/2009 | 4j_CR_search_radius_maps.mxd

Exhibit 4j
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Cajon and Silverwood Lake 7.5' DRG & City of Hesperia (2009).

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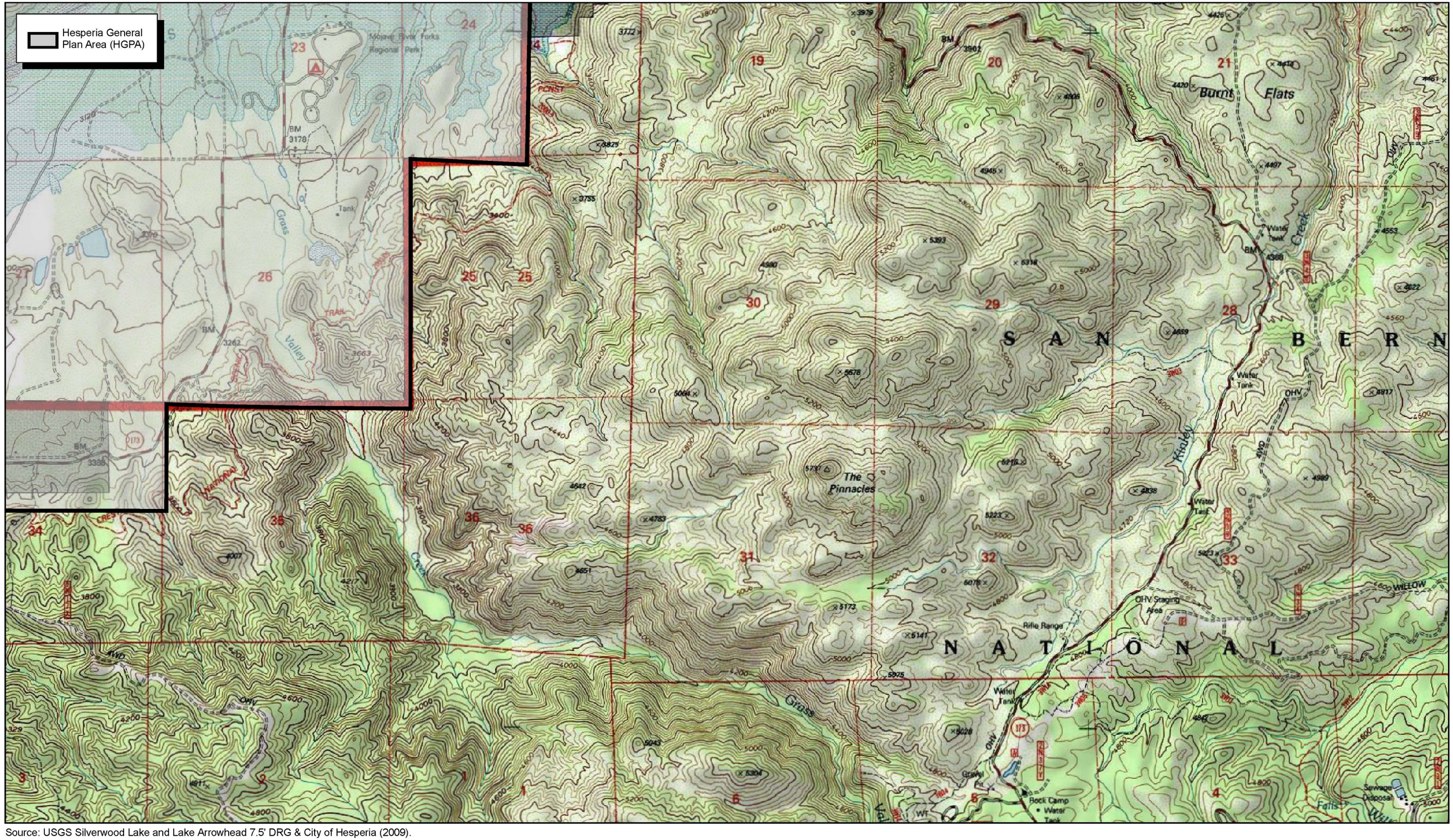
Michael Brandman Associates

23660023 • 09/2009 | 4k_CR_search_radius_maps.mxd

Exhibit 4k
Cultural Resource Search Radius Maps



Source: USGS Silverwood Lake and Lake Arrowhead 7.5' DRG & City of Hesperia (2009).

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Michael Brandman Associates

23660023 • 09/2009 | 4I_CR_search_radius_maps.mxd

Exhibit 4I
Cultural Resource Search Radius Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY

Prehistoric Archaeological Sites

Most of the prehistoric sites in the HGPA consist of lithic scatters of various size and material types, as well as quarrying sites. However, there are also several sizable village or habitation sites, several bedrock-milling sites, and a single recorded human burial. A "lithic scatter" consists of remnants of a stone tool production process, and can represent very early stages to very late stages in the production process as well as representative of areas where existing stone tools are modified, sharpened or repaired. Observable artifacts can include various sizes and shapes of stone flakes or chips, which can vary in color depending on material type, such as quartz, quartzite, chalcedony or obsidian.

Lithic scatters differ from "lithic quarry" sites. A lithic quarry is a location where raw stone material used for the production of tools and other artifacts is quarried. The tools and artifacts found therein typically exhibit a high proportion of the early stage represented in the stone tool production process. Lithic quarry sites in the HGPA exhibit a raw material resource, which is generally a quartzite material, as well as tested cobbles or stones that have been chipped to evaluate their fracture patterns and quality. Flakes are usually found in these quarry locations, but are generally larger (primary and secondary flakes) and contain the exterior of the stone (cortex). These flakes or stone chips represent the early phases of stone tool production, before the stone is further refined to create a tool.

Village and habitation sites represent a discrete area where groups of prehistoric peoples lived. These sites may represent seasonal habitats, which are short-term use areas inhabited based on seasonal needs, such as the availability of water or food. These sites may be reused several times, based on a seasonal rotation. Several sites within the HGPA exhibited soil depressions, or house-pits that have been interpreted to imply habitation areas.

Bedrock milling sites consist of an exposed rock outcrop, generally a weathered granitic material that exhibit evidence of milling activity. Milling activity is observable due to the presence of milling slicks, or smoothed surfaces, as well as various forms of mortars cut into the outcrop. These sites generally represent processing activities, where food or pigments can be ground for various other uses.

Historic Archaeological Sites

The majority of the historic resources in the HGPA consist of historic transportation routes, or roads and railways of various widths and lengths. Several important routes include:

- The Mojave Trail/Road
- The Mormon Trail
- The National Old Trails Highway

- The Spanish Trail

Additional historic sites exhibit the remnants of historic buildings and/or ranch complexes, such as foundations. These historic resources consist of buildings or linear features more than 45 years of age. Many of the known historic sites have undergone the minimum level of recordation, which consists of a site form (also known as a DPR523 form set) on file at the AIC. However, of the four historic properties listed on the San Bernardino County Historic Property Data File, three appear to lie within the HGPA yet have no associated DPR523 site form on file. It must be noted that SHPO recommends that any cultural resource at least 45 years old be considered a potentially significant property. At the Federal level (Section 106), the age threshold is 50 years.

Isolates

Isolates are materials found that represent a single artifact, or multiple artifacts of a single material representing a broken flake or tool, bottle, etc. Historic isolates could include a single fencepost, bottle, brick, can etc, isolated barbed wire, or other items that indicate sporadic use of an area more than 45 years old.

"Pending" Sites

In addition to Sites and Isolated finds, "pending" resources are listed in San Bernardino County, a classification that is not offered in neighboring counties. These pending resources consist of incomplete site records or personal testimonials pertaining to the location or type of a cultural resource. Many of these resources were recorded before 1950, and lack important explanations about type or location. In addition, various pending resources are noted due to historic personal correspondence or interviews completed during cultural resource surveys. These resources remain pending until further evaluation by qualified archaeologists is performed during a Phase I survey.

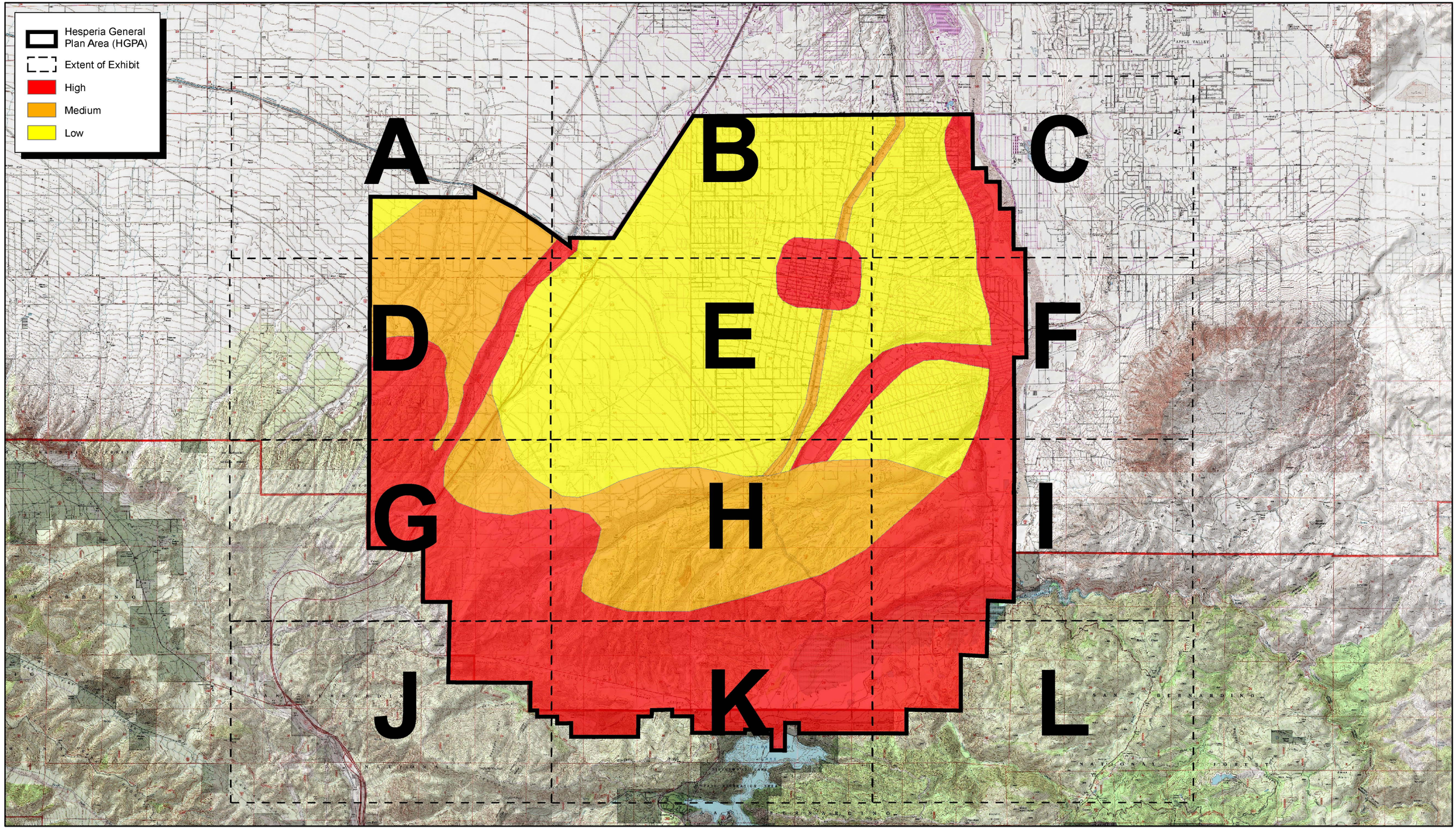
4.1.2 - Determination of Cultural Resource Sensitivity

The Exhibit 5 map set consists of cultural resource sensitivity maps that define areas of the HGPA that might hold more cultural resource sites than other areas. "Sensitivity" has been divided into low, medium and high designations and the gradation was developed based on recorded site information. Areas deemed "Low" in the HGPA generally exhibit 0 to 1 recorded sites per 160 acres exhibited by modern development. "Medium" areas of sensitivity in the HGPA generally exhibit 2 to 9 sites per 160 acres and are focused along important historic road alignments. Areas of "High" sensitivity generally exhibit 10 or more sites per 160 acres, and are located near permanent water sources. However, one of the highly sensitive areas is focused in the downtown core, near the AT&SF railway to allow for the consideration of various historic structures or structures more than 45 years old.

In addition to utilizing the number of previously known cultural resources of 160 acres, sensitivity zones were also developed utilizing knowledge about landforms and water resources. Water is required to sustain life, and certain kinds of resources, such as habitats must be located within reasonable walking distance to a water source. Therefore, areas near the Mojave River and Silverwood Lake area are assigned a high sensitivity zone. Areas that exhibit exposed veins of quartz or quartzite, such as found in the higher elevations northeast of Silverwood Lake, are assigned High sensitivity due to the need for raw materials used to create stone tools.

Because Hesperia probably contains numerous structures of uncertain, significance that are 45 years old, the City center was assigned High sensitivity because many unrecorded historic structures are located therein. The lack of previously recorded historic resources in this area is misleading, as few surveys have been conducted that would record such resources. This can be illustrated by Exhibit 6, which outlines the general locations of sizable surveys in the HGPA. It can be noted that few surveys have been conducted in or near the City center.

Areas assigned Medium sensitivity is generally placed along historic road alignments, due to the possibility of finding historic sites or isolates in the vicinity. The Medium sensitivity areas are shown in Exhibit 7.



Source: USGS Baldy Mesa, Hesperia, Apple Valley South, Hesperia, Cajon, Silverwood Lake, Lake Arrowhead, Phelan, Telegraph Park, Fifteenmile Valley, and Butler Peak 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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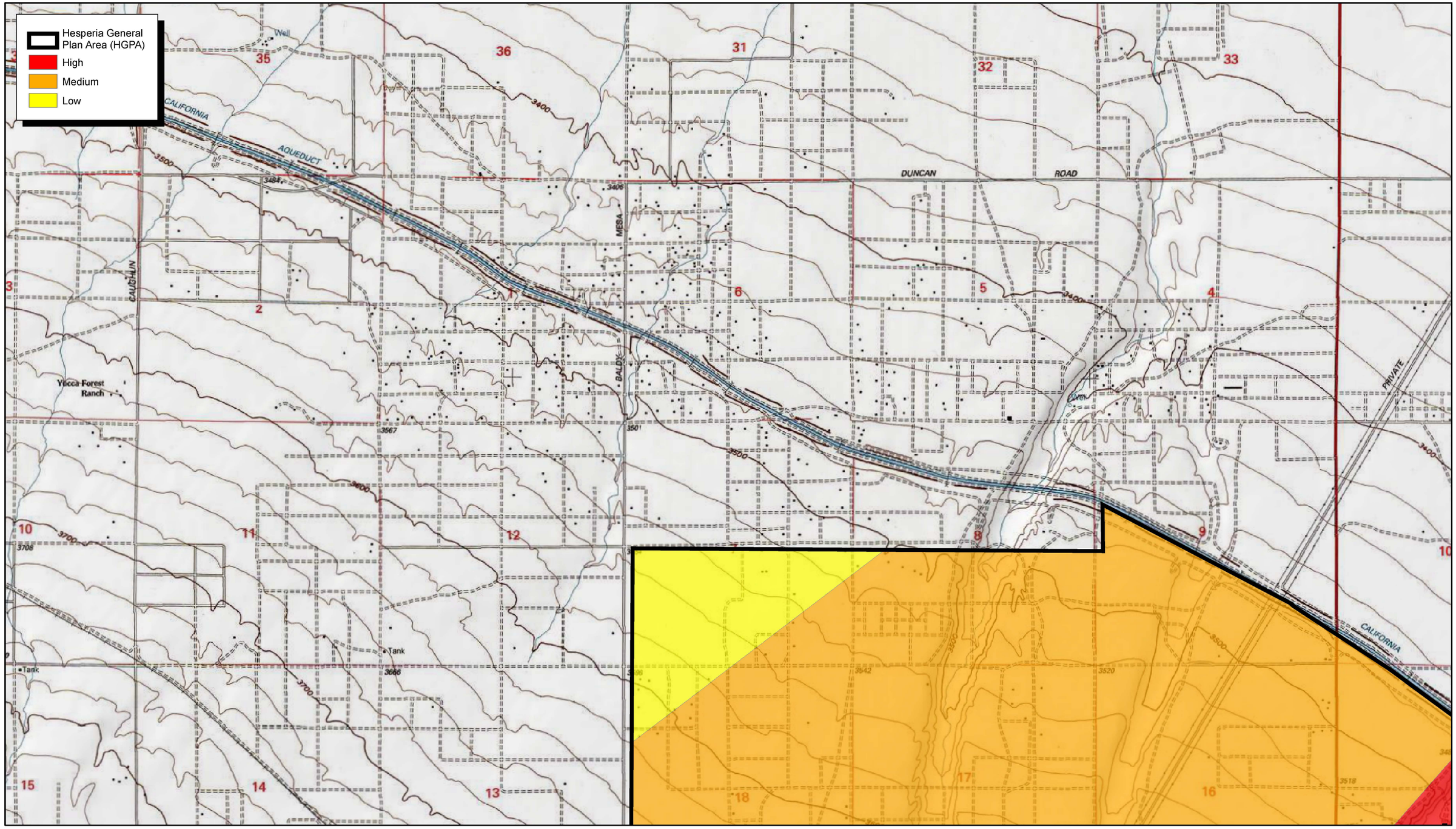
Michael Brandman Associates

23660023 • 09/2009 | 5_CR_sensitivity_key_map.mxd

Exhibit 5
Cultural Resource Sensitivity Key Map

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

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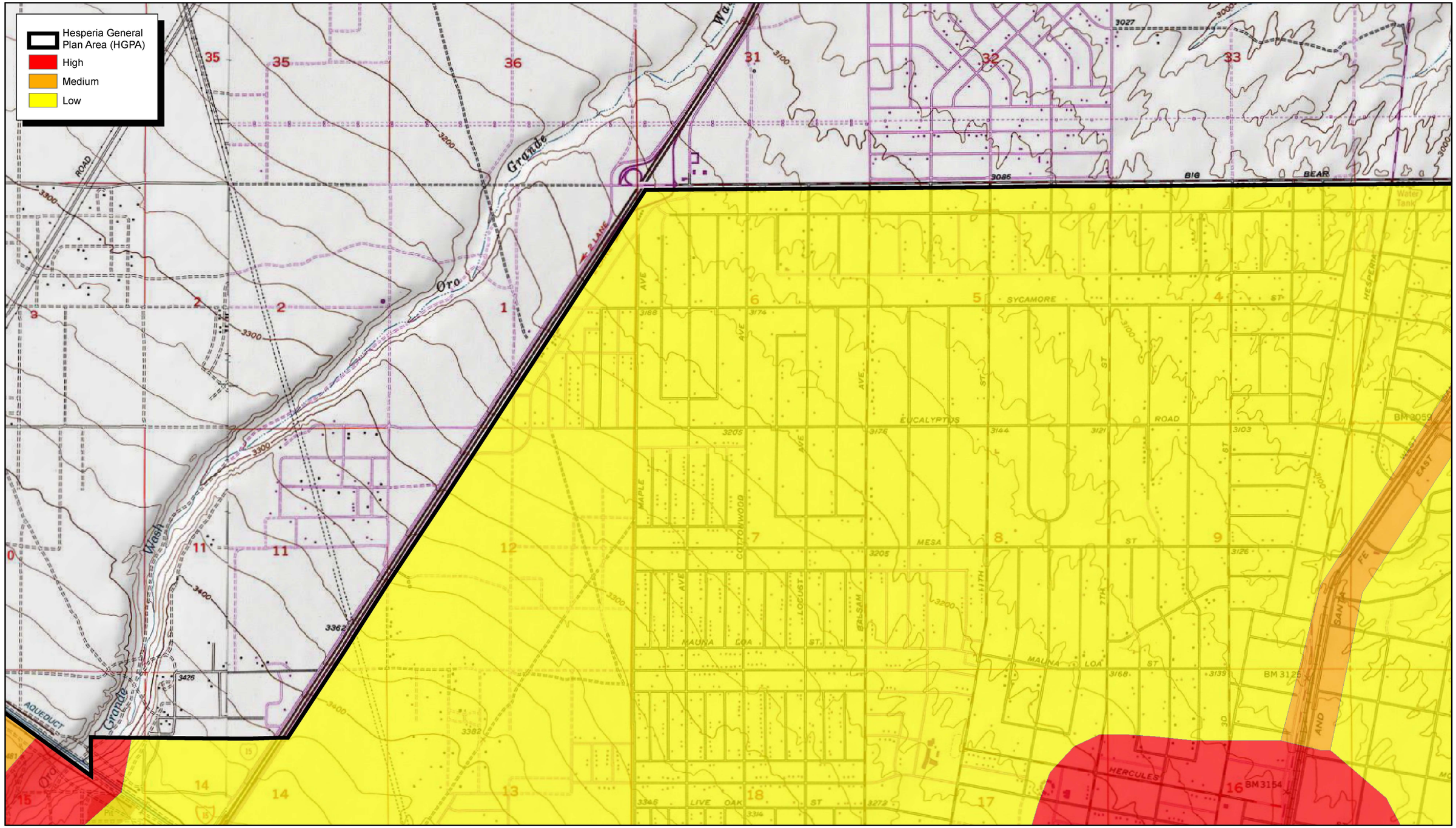
Michael Brandman Associates

23660023 • 09/2009 | 5a_CR_sensitivity_maps.mxd

Exhibit 5a
Cultural Resource Sensitivity Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa and Hesperia 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

Michael Brandman Associates

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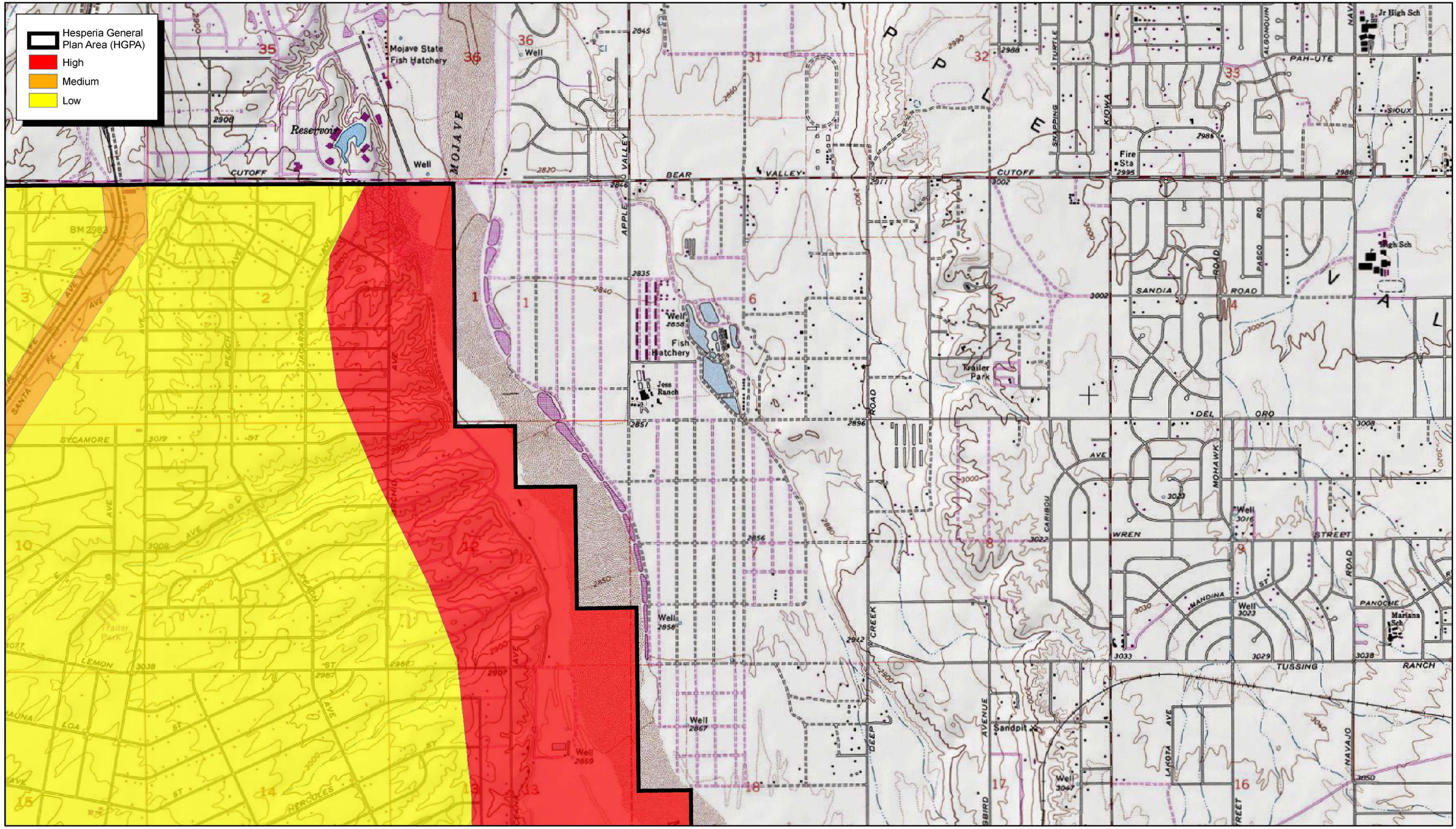
23660023 • 09/2009 | 5b_CR_sensitivity_maps.mxd

Exhibit 5b
Cultural Resource Sensitivity Maps



Source: USGS Hesperia and Apple Valley South 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

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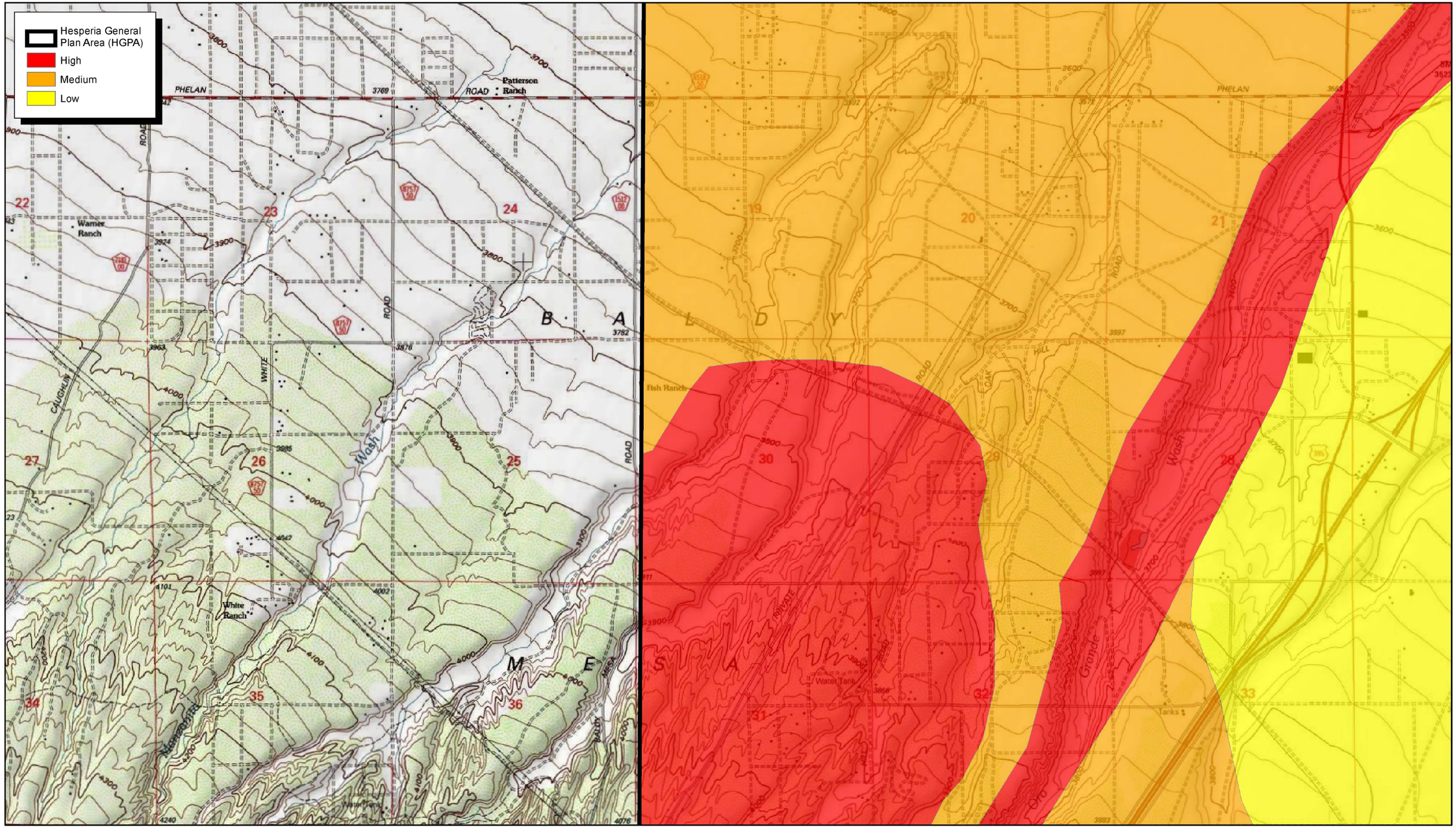
Michael Brandman Associates

23660023 • 09/2009 | 5c_CR_sensitivity_maps.mxd

Exhibit 5c
Cultural Resource Sensitivity Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

Michael Brandman Associates

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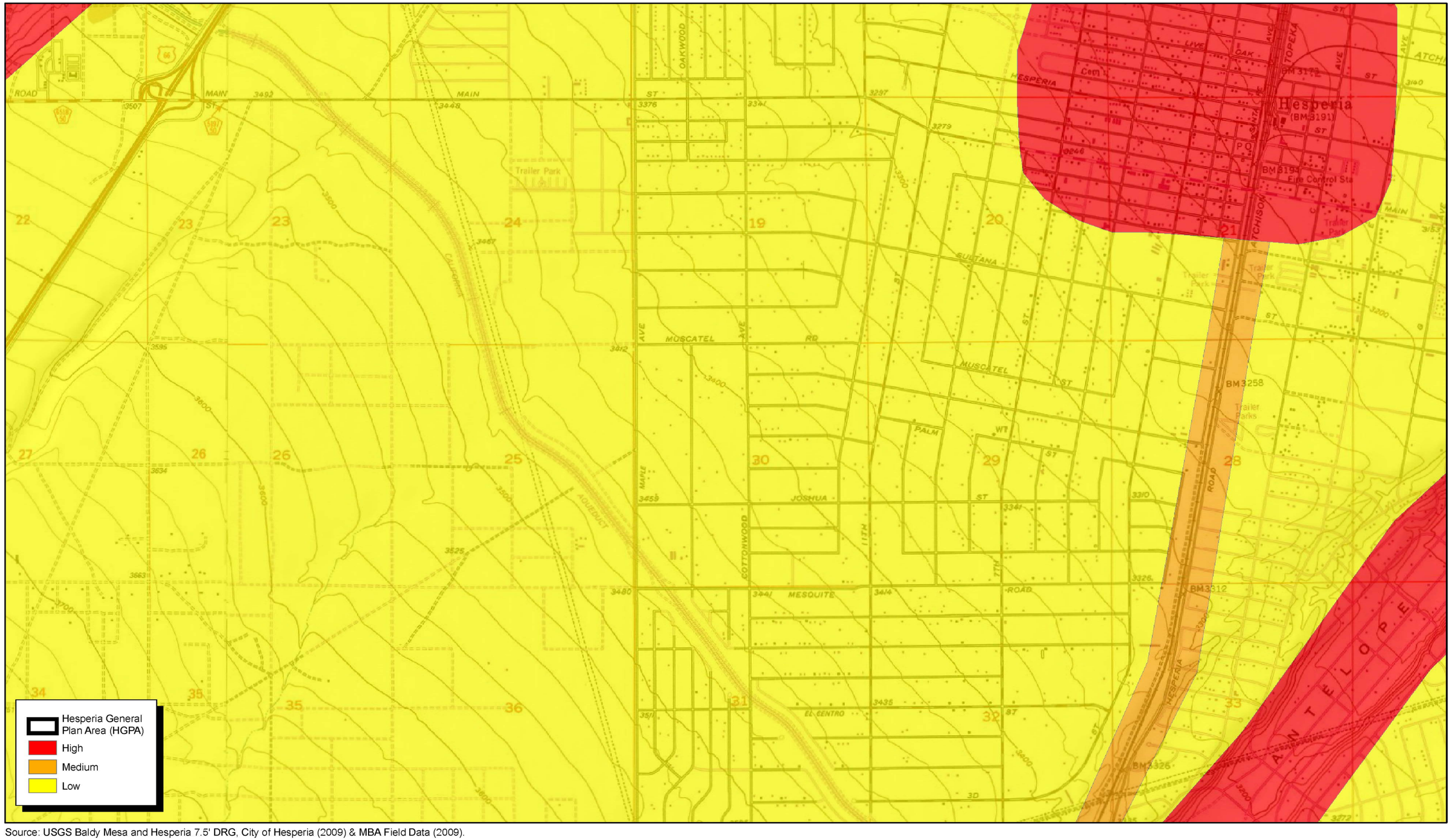
23660023 • 09/2009 | 5d_CR_sensitivity_maps.mxd

Exhibit 5d
Cultural Resource Sensitivity Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa and Hesperia 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

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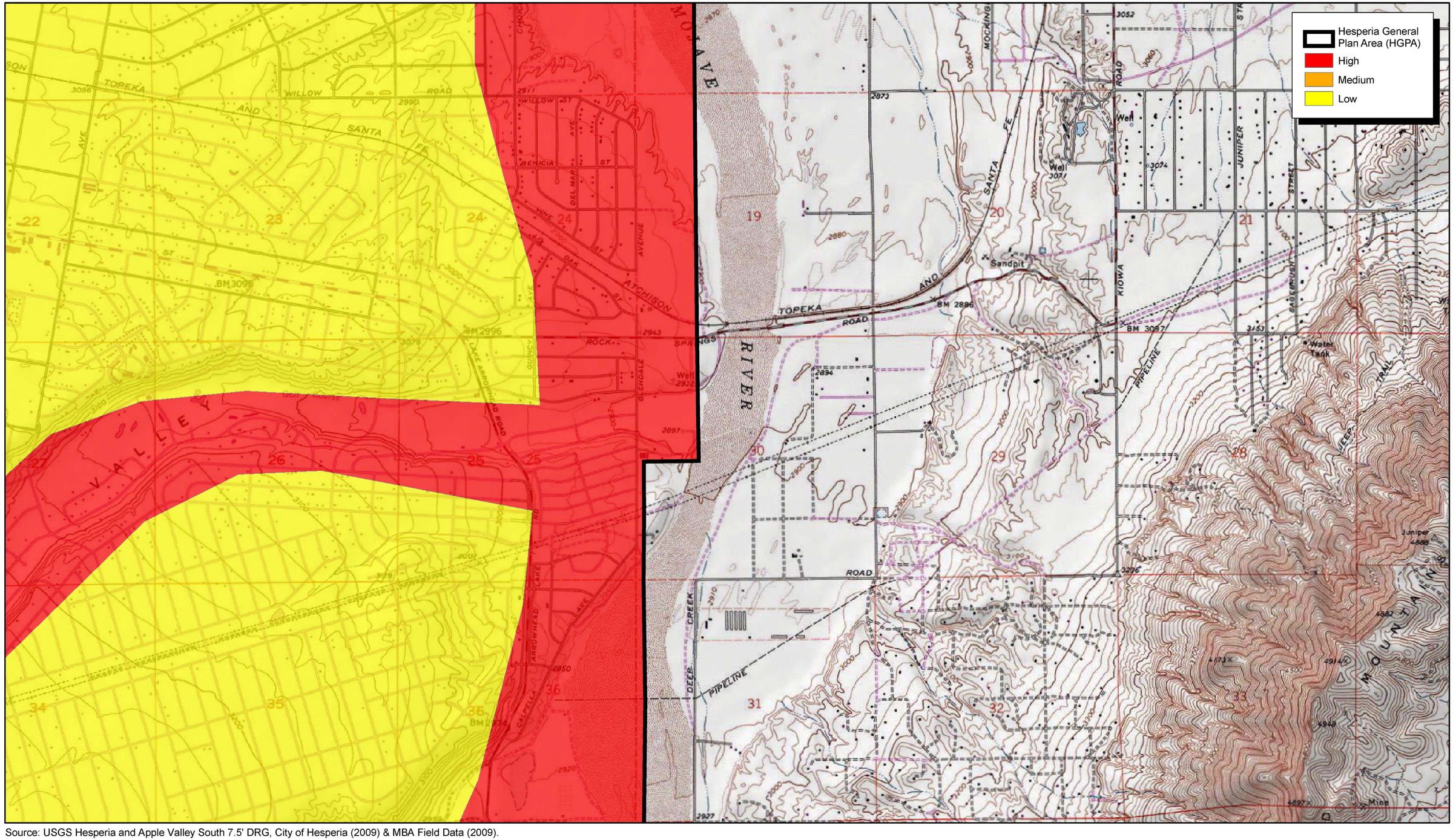
Michael Brandman Associates

23660023 • 09/2009 | 5e_CR_sensitivity_maps.mxd

Exhibit 5e
Cultural Resource Sensitivity Maps



Source: USGS Hesperia and Apple Valley South 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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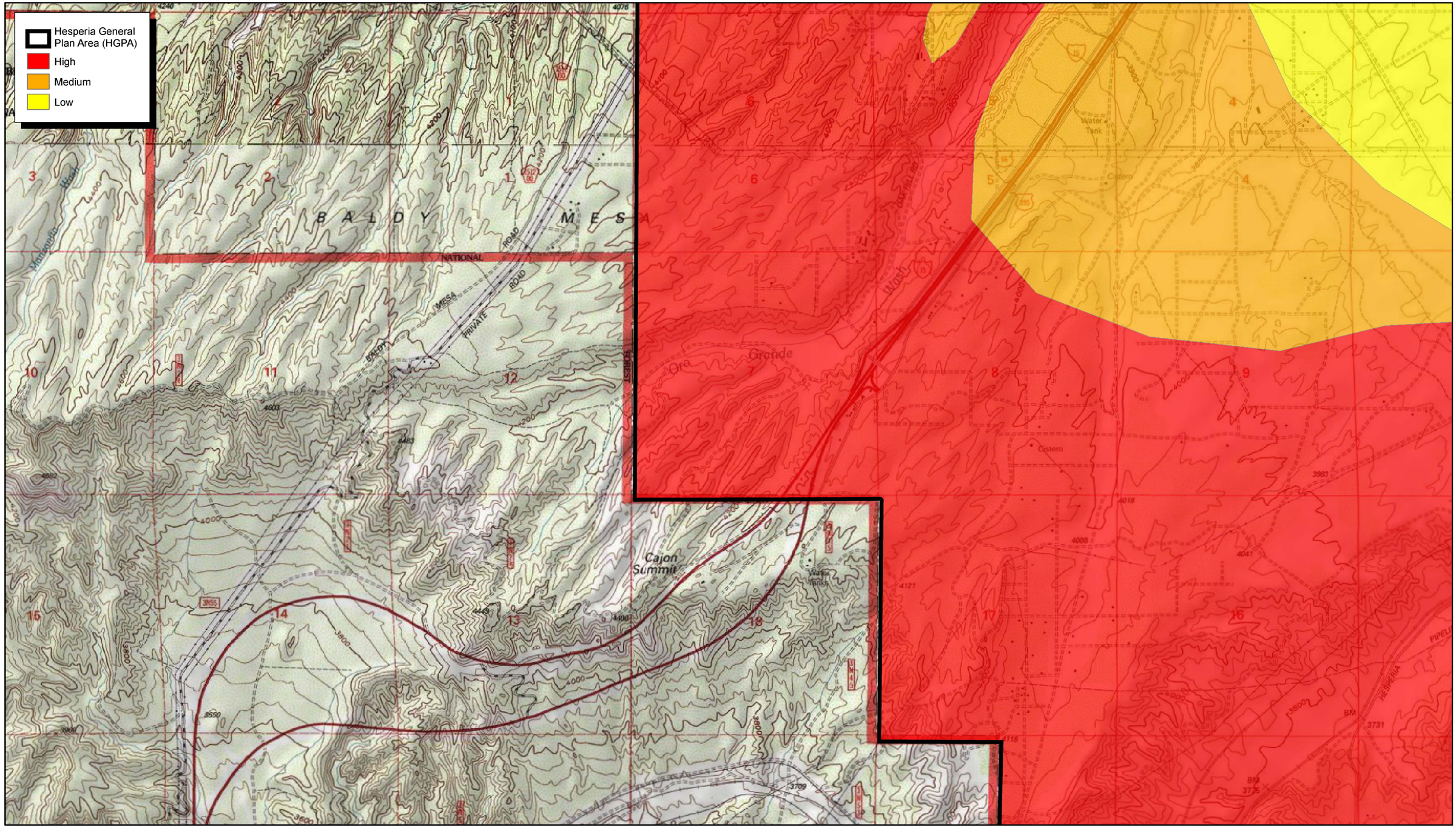
Michael Brandman Associates

23660023 • 09/2009 | 5f_CR_sensitivity_maps.mxd

Exhibit 5f
Cultural Resource Sensitivity Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa and Cajon 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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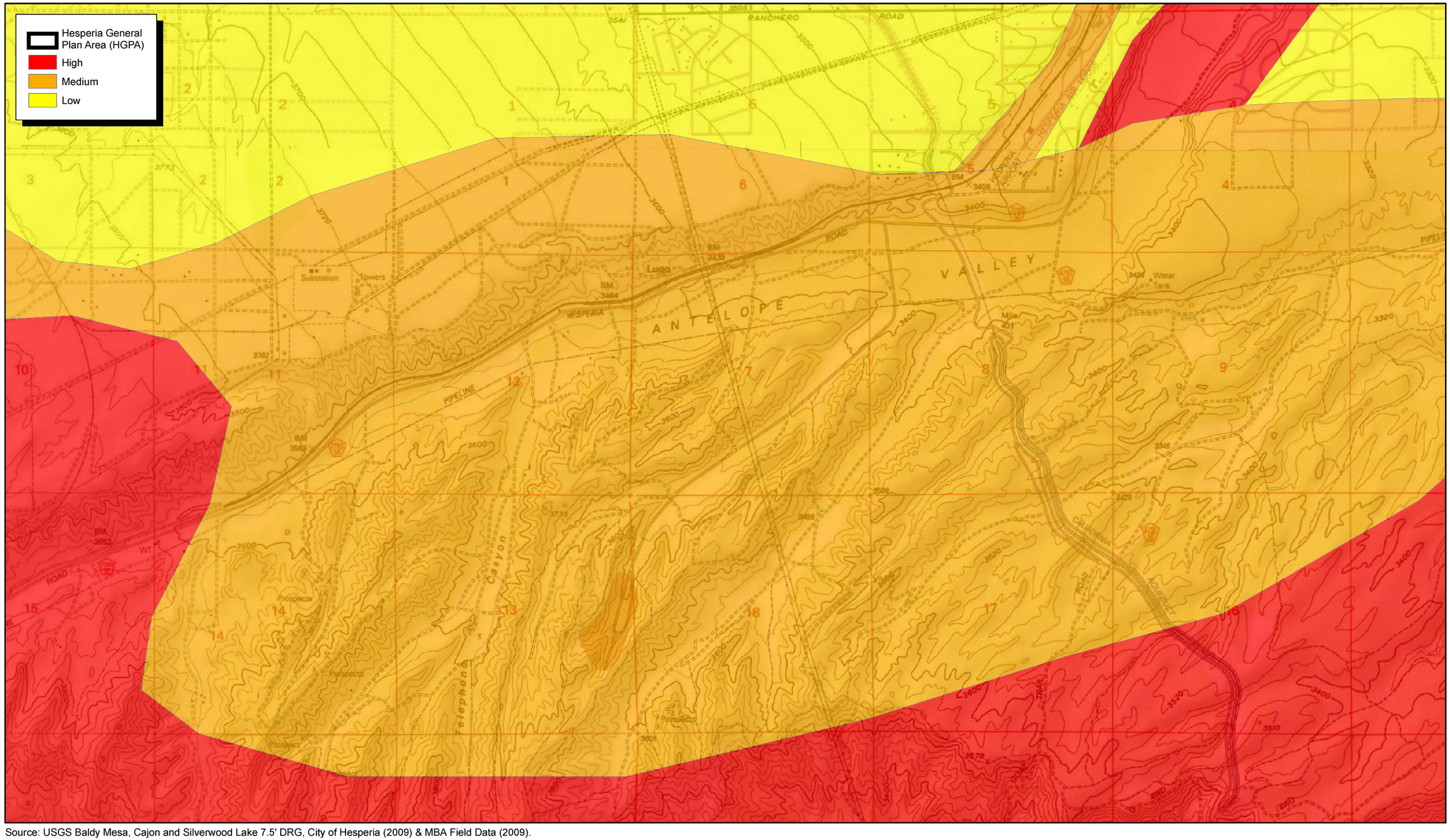
Michael Brandman Associates

23660023 • 09/2009 | 5g_CR_sensitivity_maps.mxd

Exhibit 5g
Cultural Resource Sensitivity Maps

HOGLE-IRELAND, INC. • CITY OF HESPERIA GENERAL PLAN UPDATE
CULTURAL AND PALEONTOLOGICAL RESOURCES SUMMARY



Source: USGS Baldy Mesa, Cajon and Silverwood Lake 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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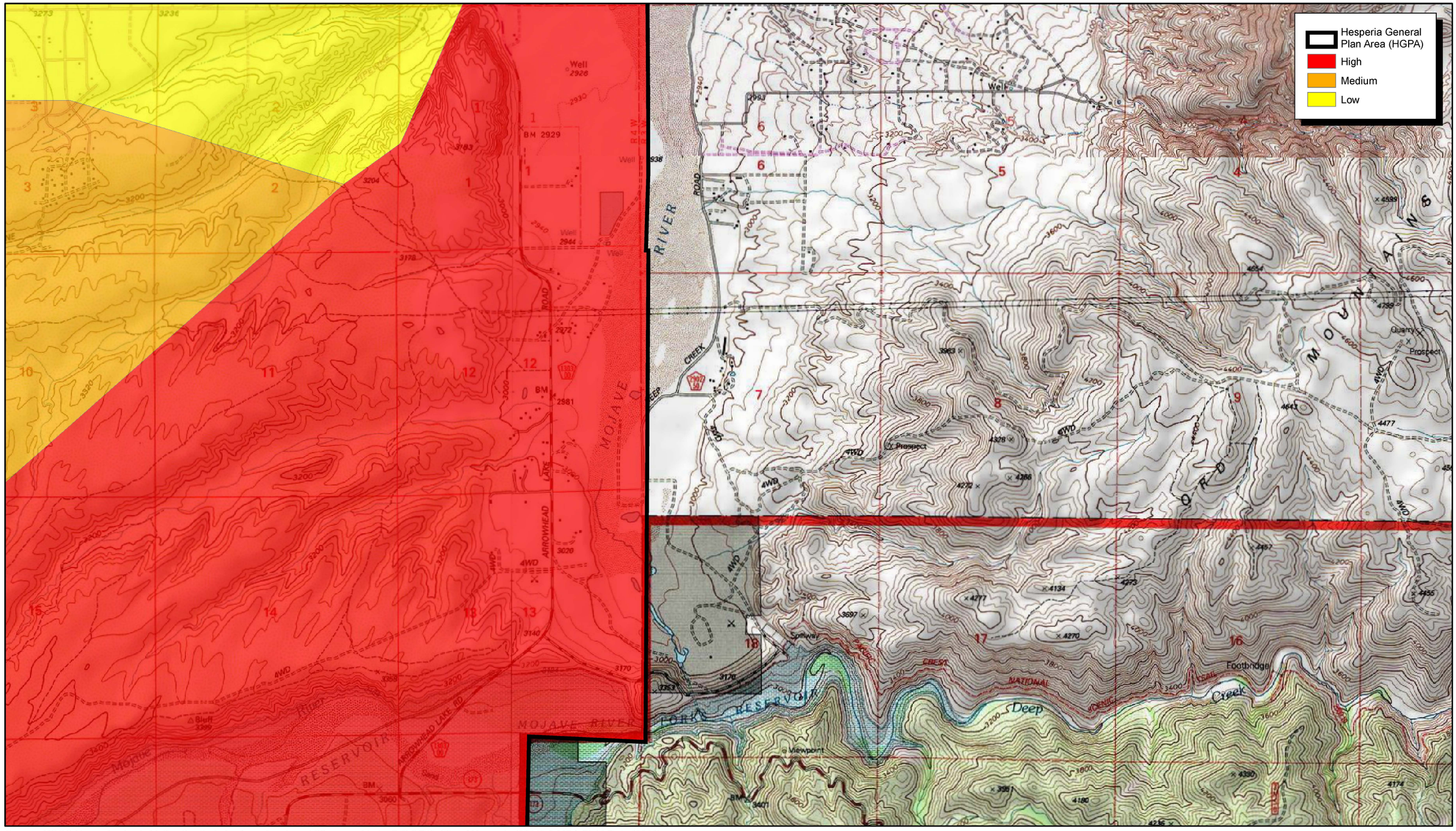
Michael Brandman Associates

23660023 • 09/2009 | 5h_CR_sensitivity_maps.mxd

Exhibit 5h
Cultural Resource Sensitivity Maps



Source: USGS Hesperia, Apple Valley South, Lake Arrowhead, and Silverwood Lake 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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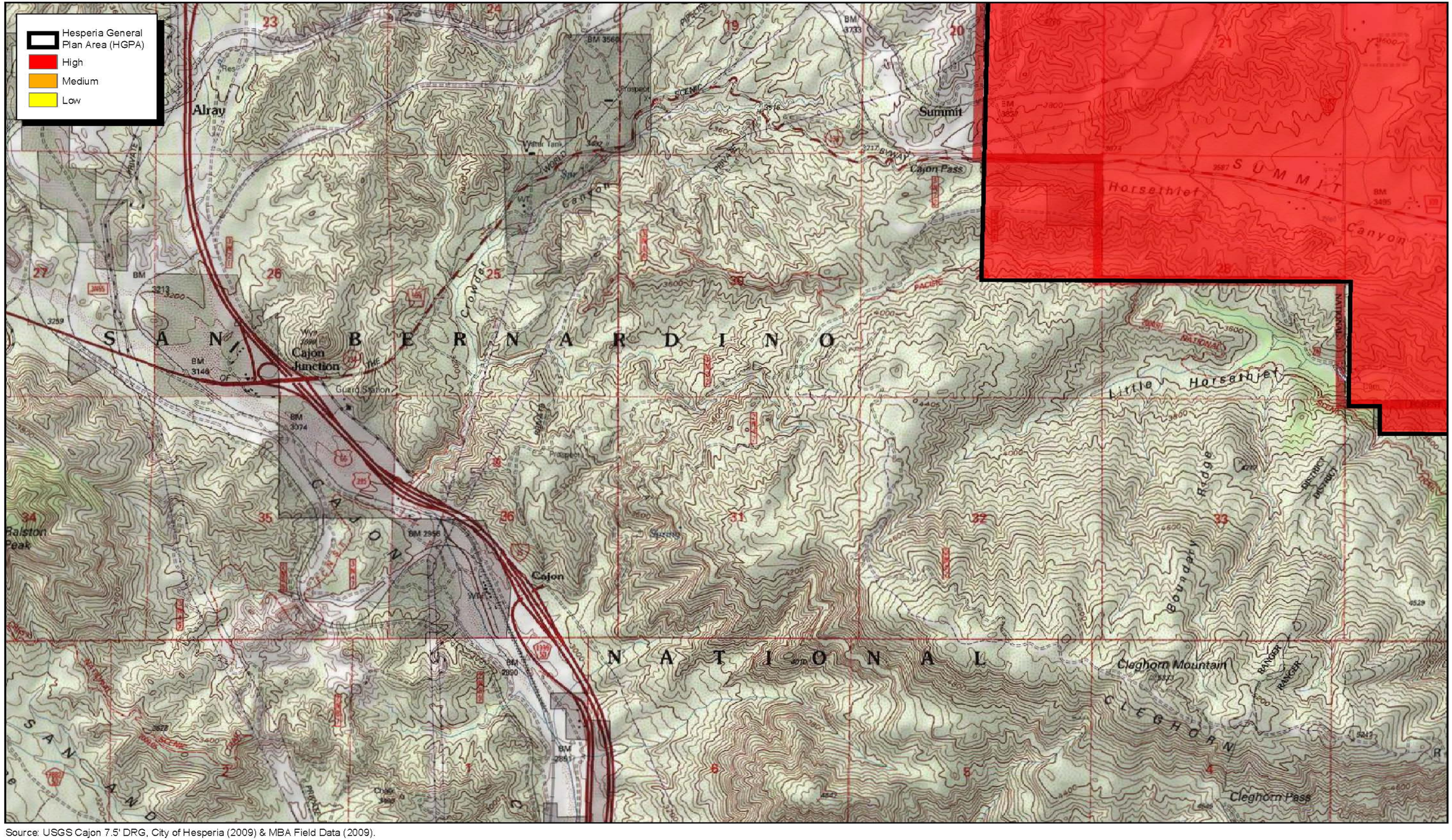
Michael Brandman Associates

23660023 • 09/2009 | 5i_CR_sensitivity_maps.mxd

Exhibit 5i
Cultural Resource Sensitivity Maps



Source: USGS Cajon 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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Michael Brandman Associates

23660023 • 09/2009 | 5j_CR_sensitivity_maps.mxd

Exhibit 5j
Cultural Resource Sensitivity Maps

Hesperia General Plan Area (HGPA)
High
Medium
Low

Source: USGS Cajon and Silverwood Lake 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

Michael Brandman Associates

NORTH

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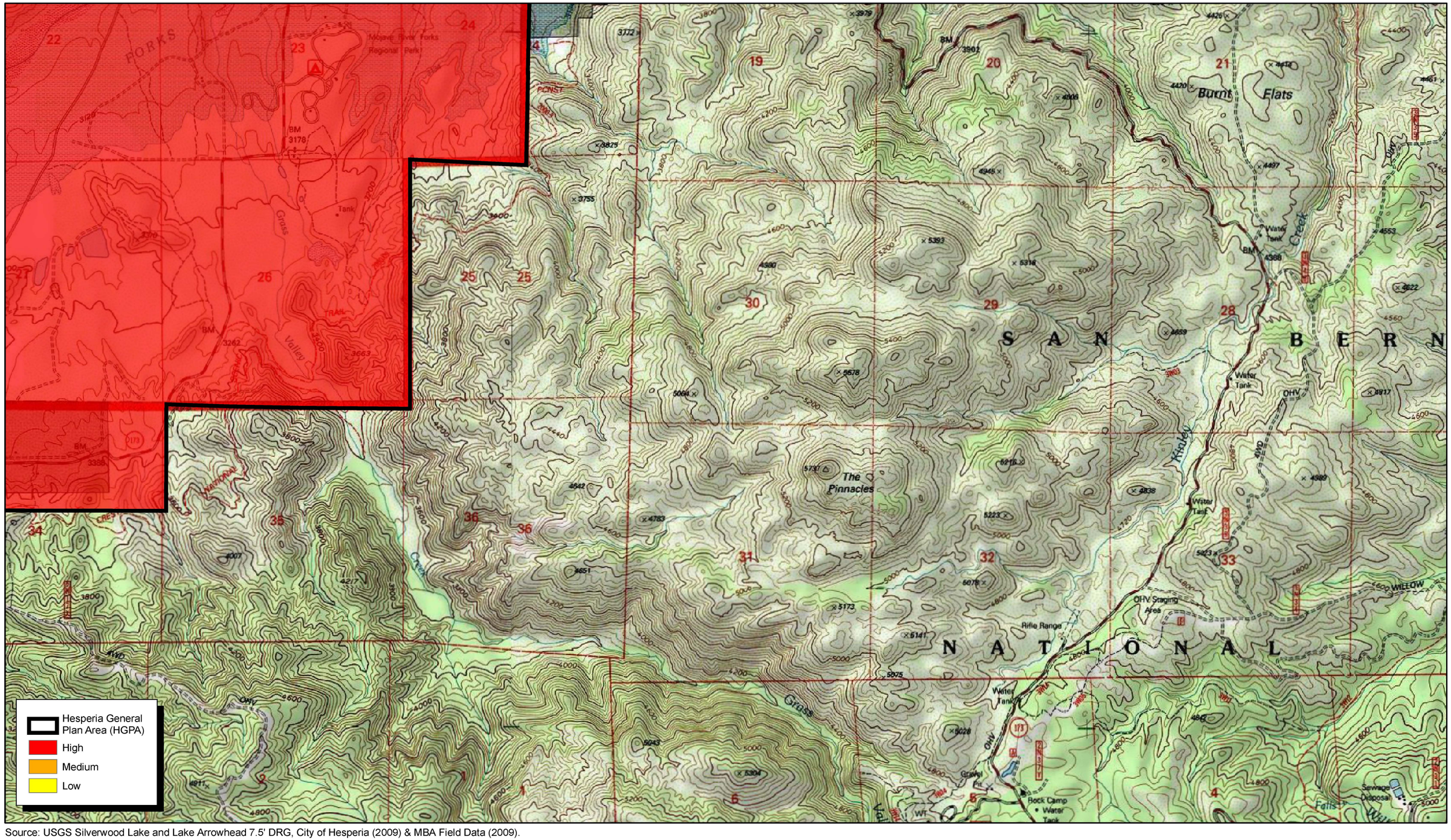
23660023 • 09/2009 | 5k_CR_sensitivity_maps.mxd

Exhibit 5k
Cultural Resource Sensitivity Maps



Source: USGS Silverwood Lake and Lake Arrowhead 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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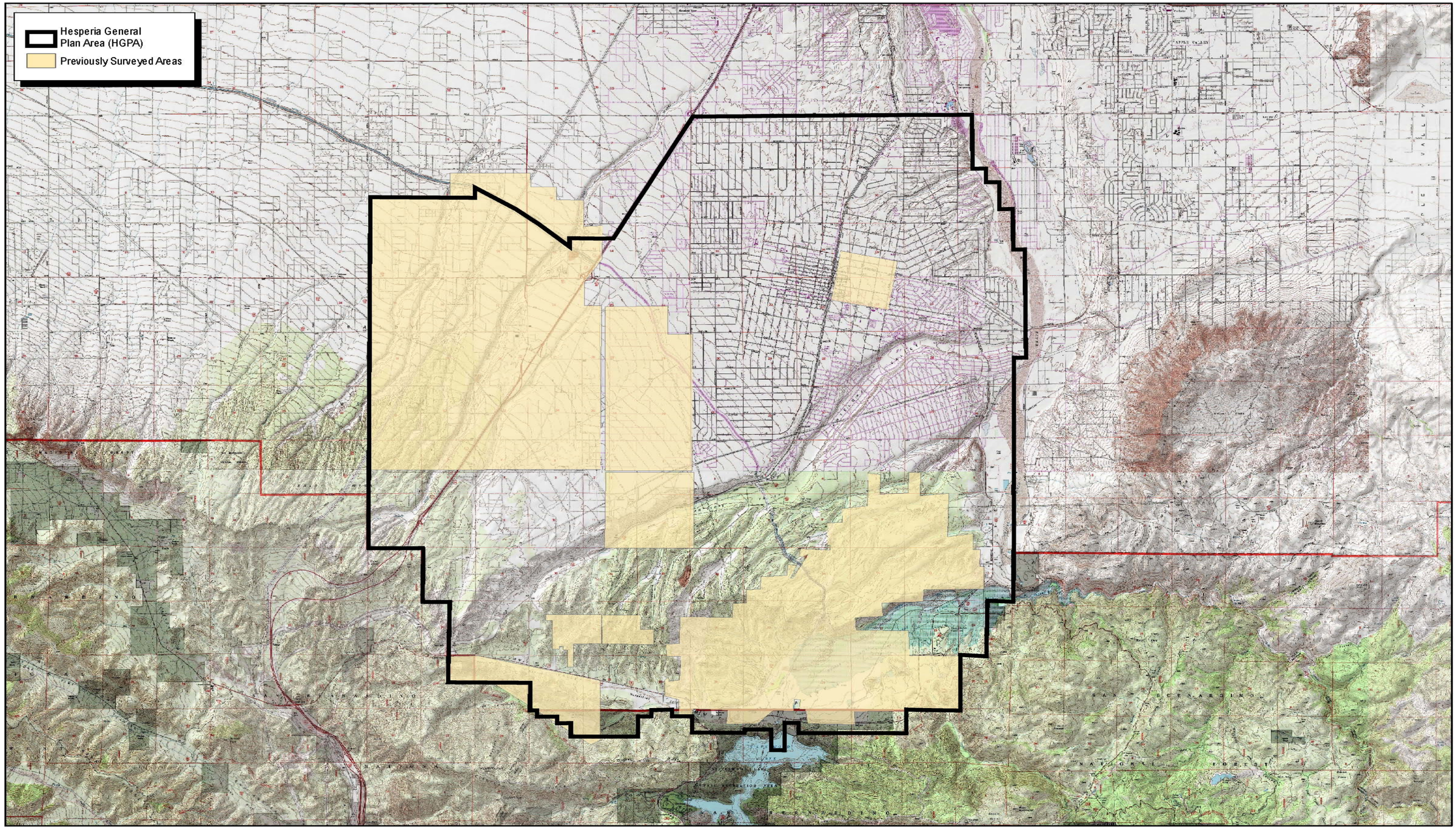
Michael Brandman Associates

23660023 • 09/2009 | 5I_CR_sensitivity_maps.mxd

Exhibit 5I
Cultural Resource Sensitivity Maps



Source: USGS Baldy Mesa, Hesperia, Apple Valley South, Hesperia, Cajon, Silverwood Lake, Lake Arrowhead, Phelan, Telegraph Park, Fifteenmile Valley, and Butler Peak 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

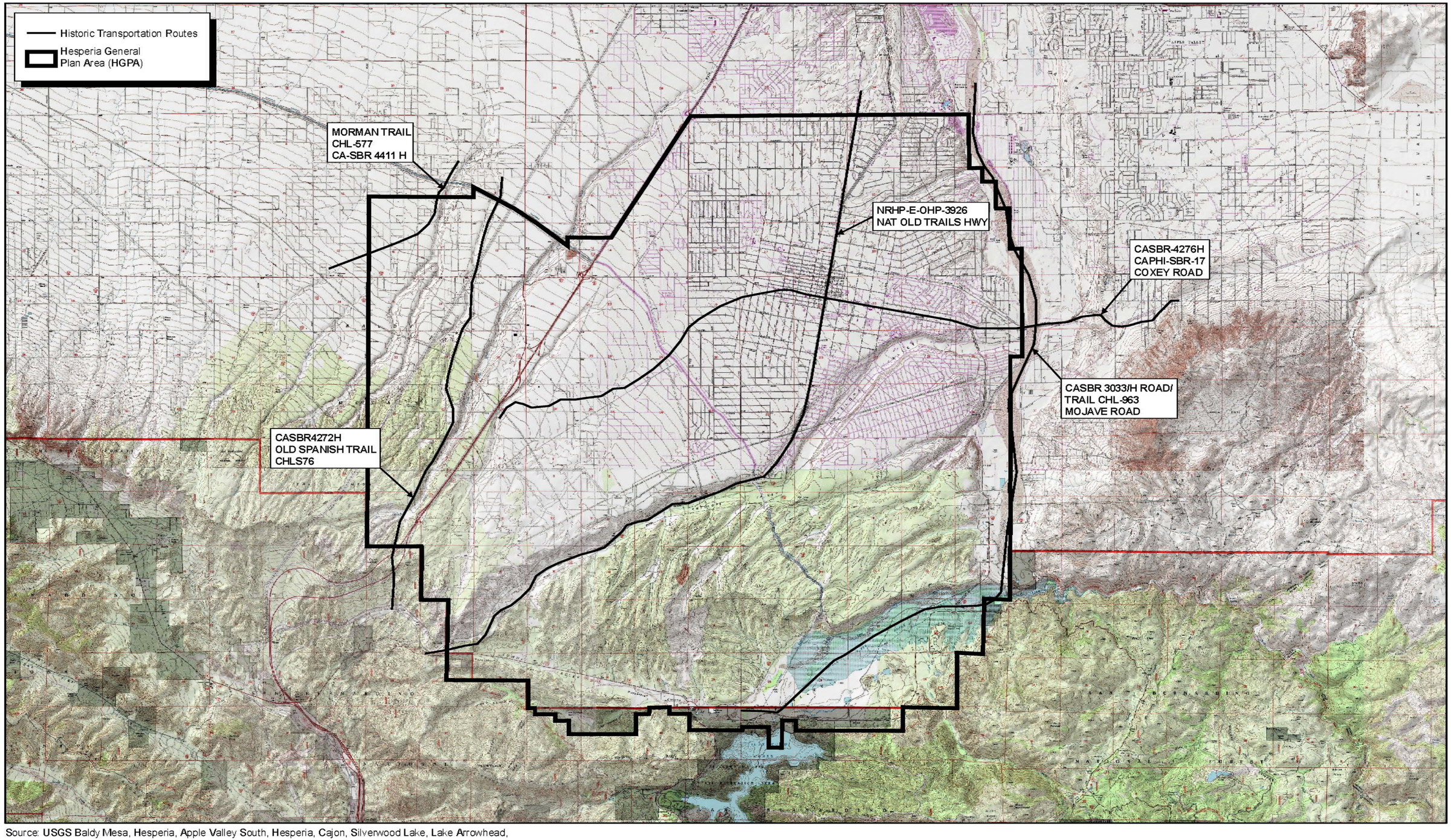
NORTH

9,000 4,500 0 9,000 Feet

Michael Brandman Associates

23660023 • 09/2009 | 6_previously_surveyed_portions.mxd

Exhibit 6
Previously Surveyed Portions of the Project Area



Source: USGS Baldy Mesa, Hesperia, Apple Valley South, Hesperia, Cajon, Silverwood Lake, Lake Arrowhead, Phelan, Telegraph Park, Fifteenmile Valley, and Butler Peak 7.5' DRG, City of Hesperia (2009) & MBA Field Data (2009).

NORTH

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Feet

Michael Brandman Associates

23660023 • 09/2009 | 7_historic_trans_routes.mxd

Exhibit 7
Historic Transportation Routes

4.2 - Paleontological Resource Findings

The paleontological records search was requested on August 29, 2006 and was received on September 22, 2006 from Eric Scott of the SBCM in Redlands (Scott 2006). Exhibit 8 shows the locations of paleontologically sensitive formations within the HGPA. These locations are derived from a 2006 geological map downloaded from the USGS Western Earth Processes Team website[2] (Morton and Miller 2006) and the review of the HGPA by Scott (2006).

The map review showed that the HGPA encompasses a wide variety of geological formations of differing ages and fossil sensitivities, including:

- Qaf: Artificial Fill. Holocene. Low sensitivity.
- Qf: Very Young Alluvial Fan Deposits. Holocene. Low sensitivity.
- Qw: Very Young Wash deposits. Holocene. Low sensitivity.
- Qc: Very Young Colluvium. Holocene. Low sensitivity.
- Qyf: Young Alluvial Fan Deposits. Holocene-Pleistocene. Low sensitivity.
- Qyw: Young Wash Deposits. Late Pleistocene. Low sensitivity.
- Qof: Old Alluvial Fan Deposits. Middle Pleistocene. High sensitivity depending on the lithology of the deposit.
- Qvof: Very Old Alluvial Fan Deposits. Middle Pleistocene. High sensitivity.
- Qsh. Shoemaker Gravel. Early Pleistocene. High sensitivity.
- Qh: Harold Formation. Early Pleistocene. High sensitivity.
- Tpp: Phelan Peak deposits. Pliocene. High sensitivity.
- Tcr: Crowder Formation. Miocene. High sensitivity.
- Kkc: Monzogranite of Kinley Creek. Cretaceous. Low sensitivity.
- Mzsl: Mixed granitic rocks of Silverwood Lake. Triassic-Cretaceous. Low sensitivity.

Morton and Miller (2006) plotted very old alluvium fan associated with the ancestral Mojave River on the preliminary geological map of the San Bernardino Quadrangle, which was published after the review by Scott had occurred. This is the Qvof unit noted above. The Holocene alluvial deposits (Qaf, Qf, Qw and QC) are fills deposited during the youngest time frame in geological history. Typically associated with recent flooding and resultant alluvial deposition, they have little to no potential for fossil resources because not enough time has passed that would allow fossils to form. In addition, most of these fills are coarse and coarse sedimentation tends to break up materials that could actually be fossilized over long periods of time.

[2] http://geomaps.wr.usgs.gov/socal/maps/san_bernardino/index.html

Scott's (2006) search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM indicates that there are no previously known paleontological resource localities in the HGPA, or within several miles in any direction. However, it is known that several hundred paleontological resource localities have been identified in surface and subsurface exposures of the Miocene-era Crowder Formation (Tcr) in the Cajon Pass region. This area is located to the southwest of the HGPA, and produced important fossil information about evolutionary trends among species during the Hemingfordian, Barstovian, and Clarendonian periods of the North American Land Mammal Age (NALMA). Several dozen other fossil localities have been recorded directly to the north of the HGPA, in sediments derived from the ancestral Mojave River (Qvof). Fossils from these localities include:

- Extinct mammoth (*Mammuthus*)
- Extinct horse (*Equus*)
- Extinct llama (*Hemiauchenia*)
- Extinct large camel (*Camelops*)
- Jackrabbit (*Lepus*)
- Cottontail rabbit (*Sylvilagus*)
- Pocket gopher (*Thomomys*)
- Kangaroo rat (*Dipodomys*)
- Pocket mouse (*Perognathus*)
- Fox (*Vulpes*)
- Desert horned "toad" (*Phrynosoma*)
- Rattlesnake (*Crotalus*)
- Possibly a new species of extinct deer mouse (*Peromyscus*)

According to geologic maps (Exhibit 8), much of the central portion of the HGPA is situated on Holocene sediments, which are assigned Low sensitivity. The Crowder Formation, The Harold Formation, the Phelan Peak deposits, and the various types of Old Alluvium associated with the ancestral Mojave River are all assigned high paleontological sensitivity.

Exhibit 8 reveals that regions of Low paleontological sensitivity likely overlie High sensitivity deposits. The underlying Very Old Alluvial Fan deposits are covered with a veneer of Holocene alluvium, which could be exposed at depth when construction-related earthmoving takes place. These areas have been assigned Medium sensitivity.

Hesperia General Plan Area (HGPA)

Sensitivity Ratings

- High
- Medium
- Low

Source: "Preliminary Geological Map of the San Bernardino 30' X 60' Quadrangle, California," Douglas M. Morton and Fred K. Miller (2003), City of Hesperia (2009) & MBA GIS (2009).

NORTH

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Michael Brandman Associates

23660023 • 09/2009 | 8_paleo_sensitivity_map.mxd

Exhibit 8
Paleontological Resource Sensitivity Map

SECTION 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 - Cultural Resources and the Planning Process

Because of the fragile nature of most cultural resources, human-made (cultural) objects tend to lose their importance as a significant historic resource without some type of intervention, such as capping an exposed archaeological site with dirt or reconstruction of a historic building utilizing original methods and materials. During archaeological surveys, prehistoric archaeological sites can only be detected in those places where the deposition of post-abandonment alluvial sediments is low, erosion is low, and vegetation is reduced to the point where resources can actually be observed.

There is a distinct lack of prehistoric sites in the City limits of Hesperia since approximately 40 (forty) percent of the City, including the original township, was subdivided in the 1950's. This area was subsequently developed with single family residences over the last 50 years. CEQA-required surveys were not conducted until the mid-1980s and substantial resources were not identified until recently. Thus, few prehistoric archaeological sites are located in the most developed portions of land located on the Hesperia, California USGS 7.5 minute topographic quadrangle map.

Most farmed plots were placed near the original town sites. Expansion of farming (and ranching) was driven by local market demands for goods, and the availability of land for homesteading. When the area was surveyed in 1885 and landscapes divided up into definable parcels, roads were typically placed along the lines that defined margins of sections, quarter sections of land, and near the railway in Hesperia. It is possible that historic farmhouses and outbuildings were built along these first streets as a matter of convenience for the early farmers and ranchers. Thus, it is possible to find potentially historic resources in the downtown core that are seemingly out of place by modern land-use standards.

For these reasons, it is difficult to predict when prehistoric or historic archaeological sites will be impacted by development. The areas indicated as sensitive in the Exhibit 5 set are considered sensitive only because sites have been found there and it is possible that additional sites will be found in these areas. Yet prehistoric sites can be found subsurface with little sign that the site exists at the modern ground surface. The AIC can perform a "planning review" records search for the City as part of their museum tasks. If the AIC determines that a cultural resource field survey is not needed in the "Low" sensitivity areas, no additional cultural resource research should be required.

Compliance archaeologists and architectural historians follow a set of systematic procedures when private, state, and federal landholders are required to submit cultural resource compliance documents

in the event there is an action proposed to take place on a land parcel. This process is part of the standard, lawful procedure for evaluating cultural resource sensitivity for a potential developmental project. If the City finds that a project is **not** exempt from CEQA, the following steps should be undertaken:

First - A cultural resource planning review search must be conducted at the Archaeological Information Center (AIC) at the San Bernardino County Museum.

Second - If the AIC planning review search determines that a survey of the project area is needed, a Phase I Cultural Resource Survey following the ARMR reporting format must be conducted by a qualified cultural resource specialist. If cultural resources are detected within the project area and have not been recorded previously, SHPO recommends that such resources be recorded on State-approved Department of Parks and Recreation (DPR) 523 form sets when resources are discovered. The form set should be included as an Appendix in the report.

Third - If the planned action will impact a potentially historic resource, SHPO recommends that the resource be evaluated for "significance" following the Phase II assessment reporting format. If the resource is a historic site, the significance evaluation will involve such actions as the collection of background historical data and interviews. If the resource is prehistoric, a field test of the site will be required.

Fourth - If the Phase II assessment report determines that the site is "significant", avoidance of the site is the first choice as recommended by CEQA Guidelines. If the site cannot be avoided, a Phase III study is required. This step removes the cultural data that would otherwise be lost by construction of the planned project and a qualified cultural resource specialist will complete a written protocol. Thus, archaeologists and architectural historians can fulfill the requirements dictated by law and save historical information that would otherwise be lost.

If following evaluation, the cultural resource is considered "insignificant", or if cultural resources are not detected during the Phase I survey, the cultural resource specialist, based on the probability additional or unknown resources may be uncovered during project grading, may recommend monitoring. Determinations of probability are based upon known resources and/or the types of landforms or natural resources in the vicinity. Known resources include previously recorded resources on-file at the AIC, as well as any structures depicted on historical topographic maps or historic aerial photographs.

Table 1 provides a set of recommended Cultural Resource mitigation measures that should be applied as a test to each developmental project that could possibly undergo CEQA-related review. Adoption of these measures will allow the City to effectively comply with cultural resource-related CEQA Guidelines and avoid legal challenges that are often expensive and time-consuming.

If a project area is located in an area of "Low" sensitivity and has been determined exempt from consideration because of size, previous development, AIC recommendation or other considerations, the City need not have a field survey performed following Mitigation Measure CR-1. In parts of the City that exhibit "Low" cultural resource sensitivity, the City should make certain that a AIC planning review records search is undertaken for projects that are one acre in size or more. In parts of the City that have been determined to have "Medium or "High" sensitivity, the City should make certain that a planning review through the AIC has been undertaken before a field survey takes place. Under certain conditions, a cultural resources field survey may not be required following Mitigation Measure CR-2. In those areas of the City that exhibits "High" cultural resource sensitivity, CR-3 states that cultural resource monitoring should occur unless the project area has been graded previously.

Table 1: Cultural Resource Mitigation Measures

Mitigation No.	Suggested Mitigation Measures
CR-1	Areas of the City have been determined to exhibit "Low" cultural resource sensitivity in this report. Prior to exempting a project in Low sensitivity areas from further cultural resource fieldwork, the AIC should perform a planning review of the project area and report the results of the review to the City. If in addition the particular project is located in a region deemed "Low" and exhibits the following three qualities, no further cultural resource research is necessary: 1) The AIC determines that a field survey is not necessary or, 2) The project area has been mass graded for modern construction purposes in the recent past or, 3) The project area is less than one acre in size.
CR-2	In those areas of the City that exhibit "Medium" or "High" cultural resource sensitivity, a qualified archaeologist must undertake a Phase 1 cultural resource survey of the project area as part of the CEQA environmental compliance process if and only if the AIC determines through its planning review that this must occur. The survey must be conducted following the SHPO-recommended ARMR research and reporting format. A cultural resource survey in the Medium and High sensitive areas need not take place if the AIC planning review shows that: 1) The project area has been surveyed by a qualified professional in the last ten years with negative results., 2) The property has been mass graded for modern construction purposes in the recent past

CR-3	In those areas of the City that exhibit "High" cultural resource sensitivity, a qualified archaeologist must monitor all construction-related earthmoving associated with the project unless the project area has been graded previously.

5.1.1 - Accidental Discovery of Human Remains

There is always the small possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains. Should this occur, HSC Section 7050.5 dictates that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA Guidelines and PRC Section 5097.98. For these reasons, the following mitigation measure should apply to all developmental projects in the HGPA:

Once project-related earthmoving begins, and in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the San Bernardino County Coroner is contacted to determine if the remains are (either historic or) prehistoric and that no investigation of the cause of death is required. If the coroner determines the remains to be Native American, then the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons, it believes to be the most likely descendant of the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or
2. Where the following conditions occur, the landowner or his authorized representative shall re-bury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the property in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
   - The descendant identified fails to make a recommendation; or
   - The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

5.1.2 - Accidental Discovery of Cultural Resources

It is always possible that ground-disturbing activities during construction will uncover previously unknown, buried cultural resources without a monitor present. In the event that buried cultural resources are discovered during construction, operations shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archeologist shall make recommendations to the lead agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Cultural resources could consist of, but are not limited to, stone artifacts, bone, wood, shell, or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the HGPA should be recorded on appropriate DPR forms and evaluated for significance in terms of CEQA criteria.

If the resources are determined to be unique historic resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the lead agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the lead agency approves the measures to protect these resources. Any archaeological artifacts recovered because of mitigation shall be donated to a qualified scientific institution approved by the lead agency where they would be afforded long-term preservation to allow future scientific study.

5.2 - Paleontological Resources and the Planning Process

Based upon the geologic or rock units and the types present in the HGPA and the type of fossils recovered from these and similar rock units in the general vicinity, levels of sensitivity were developed and serve as a guide for the planning process. Project-specific paleontological sensitivity should be determined with site-specific review, as recommendations will differ depending on the presence or absence of exposed fossiferous sediments, depositional lithology and depth of the proposed developmental project. Table 2 below provides a set of recommended paleontological mitigation measures that should be applied as a test to each developmental project that could possibly undergo CEQA-related scrutiny.

Table 2: Paleontological Resource Mitigation Measures

Mitigation No.	Suggested Mitigation Measures
PR-1	Should the City determine that a particular project is exempt from the CEQA process following CEQA Guidelines Section 15300-15322, no paleontological-associated research on the project shall be required.
PR-2	Areas of the City have been determined to exhibit "Low" paleontological resource sensitivity in this report. If the particular project is located in a region deemed Low and exhibits the following qualities, no further paleontological research is necessary: 1) The property has been surveyed by a qualified professional in the last five years, or, 2) The property has been mass graded for modern construction purposes in the recent past or, 3) The property is less than one acre in size.
PR-3	In those areas of the City that exhibit "Medium" paleontological resource sensitivity, a qualified paleontologist as part of the planning process must undertake a formal record search of the project at a local museum. A paleontological records search need not take place if City Planning determines that that: 1) The property has been previously evaluated by a qualified paleontological professional, or, 2) The property has been mass graded for modern construction purposes in the recent past. A qualified paleontologist should monitor areas exhibiting Medium resource sensitivity during construction-related earthmoving if and only if the records search shows that there is some potential for impacts to paleontological resources at the specific site.
PR-4	In those areas of the City that exhibit "High" paleontological resource sensitivity, a qualified paleontologist must undertake a records search and a field survey of the project area. A survey in the High sensitivity areas need not take place if research shows that: 1) The property has been previously evaluated by a qualified paleontological professional, or, 2) The property has been mass graded for modern construction purposes in the recent past. A qualified paleontologist should monitor areas exhibiting High resource sensitivity during construction-related earthmoving in all cases.

SECTION 6: NATIVE AMERICAN COMMENTARY

MBA staff undertook a sacred Lands search for this project then sent letters to local Native American Tribes for comment. On August 29, 2006, MBA sent a letter to the NAHC in an effort to determine whether any sacred sites are listed on Sacred Lands file for this portion of the City. The request was used for fact-finding only. The response from the NAHC was received on September 25, 2006. Letters to each of the four listed tribal contacts were sent on September 25, 2006. No responses have been received for this inquiry. The Sacred Lands search is meant to supply additional information to the background section of the study and is not an SB18 consultation.

An SB18 consultation shall be undertaken in concert with development of the EIR for the General Plan Amendment. California Government Codes 65092; 65351; 65352; 65352.3; 65352.4; 65352.5 and 65560 (aka SB18 Burton) require that city and county governments consult with Native American tribes before General Plan Amendments are adopted or amended, or if Open Space is delineated. Since this study is concerned with the Update of a General Plan, the City of Hesperia must initiate consultation with Native American tribal members listed with and provided by the Native American Heritage Commission (NAHC). The results of the SB18 consultation shall be discussed in the EIR.

SECTION 7: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: March 19, 2010 Signed: 

Michael H. Dice, RPA
Michael Brandman Associates
Irvine, CA

SECTION 8: REFERENCES

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Appendix A:
Personnel Qualifications

CORPORATE RESUME

Michael H. Dice, MA, RPA

Senior Cultural Resource Specialist/Project Manager

Overview

- 30+ years experience
- Master's degree, Anthropology – Arizona State University, Tempe. 1993
- Bachelor's degree, Anthropology – Washington State University, Pullman. 1986
- Registered Professional Archaeologist (RPA 2000)
- Registered Archaeologist in Orange County and Riverside County

Michael H. Dice, MA, Senior Cultural Resource Specialist and Project Manager, has more than 30 years experience performing record searches, archaeological surveys, archaeological site testing projects, and data collection projects on private and public lands in the Southwestern United States. He has authored or co-authored more than 150 Cultural Resources Inventory Reports required for CEQA and/or NEPA level documents including several manuscripts for the National Park Service. Michael has extensive experience with California Native American Tribes, having provided direct consultation and coordination with the Agua Caliente Band, Gabrielino Band, Juaneno Band, Morongo Band, and Pechanga Band.

Related Experience

Schools

Chaffey High School #9, Fontana, CA. Prepared a Cultural Resource Survey Report and Paleontological Records Review for the Chaffey School District #9 High School Project located west of San Sevane and north of Walnut Avenue, Fontana, San Bernardino County. Cultural survey report for planned school development in the City of Fontana.

Chaffey East Avenue Project, Rancho Cucamonga, CA. Performed a Phase I Cultural Resources Assessment and Paleontological Records Review Chaffey School District Project East Avenue and 210 Freeway Rancho Cucamonga, San Bernardino County. Cultural survey report for planned development in the City of Rancho Cucamonga. School District prior to sale to a developer

Bloomington High School Facilities Upgrade, Bloomington, CA. Phase 1 Cultural Resource Survey, Positive Results: Bloomington High School Facilities Upgrade, San Bernardino County. Cultural survey report, Phase 2 Historic Site Evaluations for a planned development in the County of San Bernardino.

Transportation

Pechanga Parkway Project, City of Temecula. Served as Senior Project Archaeologists to perform an archaeological (CEQA) survey of the Pechanga Parkway Project, located in Riverside County, California. The CEQA portion of the work took place in 2002 and resulted in a Phase 1 survey report, developed a mitigation-monitoring plan, coordinated with a Native American tribe, and reporting the results. Subsequently, MBA was retained by the City to assist in the performance of Caltrans-FHWA cultural resource documentation for widening of this same roadway, which is currently on going. MBA delivered a Caltrans-compliant APE map to the City, and the City has asked Caltrans to approve the APE. We anticipate writing an ASR/HPSR in late 2005. We anticipate that a buried prehistoric site may be impacted as a result of the planned-for construction, and a Phase 2 test of that site (pictured, at right) will likely be required following Caltrans guidelines. Monitoring will be required during construction.

Santa Ana Art Wall Project (Santa Ana, CA), OCTA Tracks/Santa Ana Depot at Santiago Street. Served as

Senior Project Archaeologist to perform an ASR/HRER/HPSR package for the City of Santa Ana for its Caltrans District 12 submission. Construction of the Art Wall was funded by, in part, by the Federal Highway Administration (FHWA). The project was not considered an undertaking exempt from federal cultural resource compliance as governed by Caltrans-FHWA Programmatic Agreement (PA) associated with Section 106 of the National Historic Preservation Act (36 CFR §800). The APE was established in consultation with Cheryl Sinopoli of District 12. Once the APE had been approved by Rail HQ, several unrecorded historic properties were evaluated. Work progressed with Caltrans staff guidance in a reasonable and responsive fashion. Our historic architectural specialist and co-author, Christeen Taniguchi, is now an employee of Galvin and Associates. The project allowed interaction between MBA, Caltrans and SHPO, with successful results.

Community Impact Assessment and Cultural Resource Survey for the Westside Parkway Project, West Bakersfield, Kern County. Performed cultural survey report for planned development in Bakersfield.

Section 106 HPSR Technical Analysis for the City of Santa Ana Art Wall Project, City of Santa Ana. Section 106 Evaluation of Project Areas in the City of Santa Ana per Caltrans. Includes Section 106 evaluation of specific properties.

Cultural Resource Survey for the Patricia Lane Park Project, near 6th and Patricia Lane, **City of Santa Ana.** Performed Section 106 Evaluation of Project Areas in the City of Santa Ana per Caltrans.

State Route 18 and Paine Road Intersection Improvement Project, City of Big Bear. Section 106 Evaluation of Project Areas in the City of Big Bear per Caltrans.

Cultural Resources Assessment for the Proposed West Beltway/Westside Parkway Interchange Project, Bakersfield, Kern County. Cultural survey report for planned development in Bakersfield.

El Centro-Dogwood Street Bridge Widening Project, El Centro, Imperial County. Cultural survey report for planned development in the City of El Centro.

Phase I Cultural Resources Survey Report for the Pepper Street Specific Plan. City of Rialto, San Bernardino County. Cultural survey report for a planned development in the City of Rialto.

Nation Park Service

Project Archaeologist/Database Manager for the emergency Chapin-5 Fire Rehabilitation Project, Mesa Verde National Park, Colorado. Began as Field Crew Chief (GS-7) and finished with the Park as a GS-9 Database Manager. Created an ACCESS 6.0 database for the recordation or re-recordation of more than 500 archaeological sites within the rehabilitation area.

Telecommunication

NEPA Compliance/Telecommunication Facilities. Serving as Project Scientist for a variety of telecommunication providers throughout California in complying with the National Environmental Policy Act (NEPA) for the implementation of cellular communication facilities. This project includes the preparation of NEPA compliance documents in accordance with the Federal Communication Commissions regulations pertaining to telecommunication facilities, biological surveys, including focused, sensitive species surveys and wetland delineations and permitting, cultural resource records searches and Phase I surveys, including architectural/historical evaluations and construction monitoring, and arborist surveys.

Water

Corona Recycled Water Project. Project Manager to conduct a project-level Section 106/CEQA analysis for the

Corona Recycled Water Project through Bauer Environmental. The project consists of the construction of a series of recycled water treatment plants, pumping stations, main-line recycled water rights-of-way and secondary rights-of-way under City streets. The entire City of Corona footprint was evaluated for potential impacts to cultural resources. The results showed that the majority of the City held "low" sensitivity for cultural resources, about 1/4 of the City had "medium" sensitivity, while those areas near the Corona Historic District held "high" sensitivity. Although no direct impacts to known sites would occur during construction, we recommended that cultural resource monitoring take place in those areas of the City exhibiting moderate and high sensitivity.

Victor Valley Recycled Water Project. Project Manager to perform a program-level Section 106/CEQA analysis for the Victor Valley Recycled Water Project through Bauer Environmental. Our project consisted of the analysis of a series of alternative recycled water facility locations and main-line pipeline routes in the County of San Bernardino, the City of Victorville, the City of Hesperia, and the City of Apple Valley. The VVRW project will eventually exhibit four recycled water treatment plants, several pumping stations, numerous main-line recycled water pipelines and numerous secondary pipelines. Four project footprints were evaluated for potential impacts to cultural resources. The results showed that the majority of the project area held "low" sensitivity for cultural resources, there was a minor amount of "medium" sensitivity, while those areas near the Mojave River held "high" sensitivity. We recommended that cultural resource testing take place along the Mojave River if those alternatives are chosen. Specific mitigation-monitoring recommendations will be recommended once the project reaches the "project-level" of analysis.

Realignment of the Friant-Kern Canal, In the City of Bakersfield. Proposed Mitigated Negative Declaration, and finding of no significant impact, With the Draft Initial Study and Environmental Assessment. Cultural evaluation for Initial study.

Cultural Resource Survey Letter Report, Negative Results, for the Corona Water Project located on a portion of APN#116-050-002, Eagle Road, City of Corona. Cultural survey report for new recycled water project in the City of Corona.

Mining

Final Phase I Cultural Resources Survey Report for the Palm Desert Rock Project, Riverside County. Cultural survey report for planned mining development in the County of Riverside.

Final Phase I Cultural Resources Survey Report for the Coachella Aggregates Expansion Project, Riverside County. Cultural survey report for planned mining development in the County of Riverside.

Utilities

Cultural Resource Records Search Results and Sensitivity Evaluation for the Palm Springs and Desert Hot Springs Master Drainage Plan Project. Cultural evaluation report for planned utility construction in the Coachella Valley.

Cultural Resource Survey, City of Huntington Beach Planning Department Environmental Assessment, Warner Sewer Lift Station. Cultural survey report for new sewer outflow line in the City of Huntington Beach.

Cultural Resource Survey, O'Neill Park Sewer Conversion Project, Community of Trabuco Canyon, Orange County. Cultural survey report for new City Park sewer line in the County of Orange

Phase 1 Survey Report for the Navajo Sewer Pipeline Project located in the Town of Apple Valley. Cultural survey report and Phase 2 testing for new sewer line in the Town of Apple Valley.

Archaeological Resources Assessment of the City of Corona Recycled Water Project, located in the City of Corona, County of Riverside. Cultural survey report for new recycled water project in the City of Corona, Section 106/CEQA project.

NEPA-Level Cultural Assessment and Paleontological Records Check Associated With The Victor Valley Subregional Facilities Project, County of San Bernardino. Cultural survey report for new recycled water project in the Cities of Victorville, Hesperia, Section 106/CEQA project.

Mark Technologies Corporation Alta Mesa Pumped Storage Hydroelectric Project. A Class III Intensive Field Survey On Federal And Private Properties Located Within Sections 3,4,5,9, and 10, T3S - R3E, Cabazon-White Water Area, County of Riverside, California." L&L Environmental, JBG-01-172. On file, L&L.

Cultural Monitoring Services at the Navajo Road Sewer Project, Town of Apple Valley. Cultural resource monitoring for new sewer line in the Town of Apple Valley.

Archaeological and paleontological resources assessment of the San Clemente storm drain project, West Avenida Palazada, San Clemente. Cultural survey report for planned development in the City of Orange.

Recreation & Community Complexes

Draft Environmental Impact Report, Bakersfield State Vehicular Recreation Area (SVRA), Kern County. Cultural survey report for planned State Park north of Bakersfield, in Kern

Cultural Resource Assessment – CDBG-Funded City of Corona Projects. Section 106 Evaluation of Project Areas in the City of Corona. Includes Section 106 evaluation of specific properties.

Planned Development

Cultural Resource Survey for Environmental Impact Report. Rancho Cucamonga Tentative Tract Map Number 16072. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Phase 1 Cultural Survey and Evaluation, Rancho El Rivino Specific Plan, City of Rialto, San Bernardino County. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Final EIR Serra Bella Specific Plan SP 04-001 Annexation and TTM 32023. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Cultural Resource Survey Negative Results, John Laing Homes Tentative Tract #30953, Washington Avenue, Murrieta. Cultural survey report for planned development in the City of Murrieta.

Cultural Resource Survey and Paleontological Assessment Report for John Laing Homes' Englesma Property located at 8011 Kimball Road, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural and Paleontological Assessment, John Laing Homes, Burns Ranch. Cultural survey report for planned development in the County of Riverside.

Archaeological and Paleontological Resource Evaluation of Tract #31386 (APN#134-100-032 and –033) near Schleismann and Hamner Roads,County of Riverside. Cultural survey report for planned development in the County of Riverside.

Paleontological Archaeological Monitoring for Kona Road – Tract 31330 located in County of Riverside. Cultural survey report for planned development in the County of Riverside.

Phase 1 Cultural Resource Survey,Negative Results, for the Loma Linda Golf Range Project on 15 Acres on Barton Road, City of Loma Linda, San Bernardino County. Cultural survey report for planned development in the City of Loma Linda.

Phase I Cultural Resources Assessment With Paleontological Resources Review Mission Lakes Project, Desert Hot Springs, Riverside County. Cultural survey report for planned development in the County of Riverside.

CEQA-level Phase 2 Historical Analysis for the 42310 "B" Street Property for the Ivy House Project, Murrieta. Cultural testing report for planned development in the City of Murrieta.

Archaeological Monitoring for the Van Daele Tentative tract #29962 Project, located at APN # 467-170-049, #467-170-050, and #467-170-051, Washington Avenue, County of Riverside. Cultural survey report and monitoring for planned development in the County of Riverside.

Phase 2 Archaeological and Historical Assessment of Cultural Resources within "The trails at mission park" a single-family residential development located in the city of loma Linda county of San Bernardino. Cultural testing report for planned development in the City of Loma Linda.

Archaeological resources project summary Runkle Canyon Specific Plan, City of Simi Valley. Cultural evaluation for planned development in the City of Simi Valley.

Consultation Letter for Archaeological and Paleontological Resources, Sunrise Senior Living Project, 2226 Euclid Avenue, Fullerton. Cultural survey report for a planned development in the City of Fullerton.

Archaeological resources assessment of the mission glen project, eastern section a 41+/- acre site located in the city of Loma Linda county of San Bernardino. Cultural survey report for planned development in the City of Loma Linda.

Final Environmental Impact Report College Park Project, City of Upland. Cultural survey report for planned development in the City of Upland.

Phase 1 Cultural Resource Survey for the Distinguished Homes Project Footprint APN# #1055-511-01 and 1055-511-01, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural Resource and Paleontological Assessment for the McBride RV Storage Property at Kimball and Euclid Avenues, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural Resource Survey, Positive Results, for the KUO Development Project, Tentative Tract #32787, City of Riverside, Riverside County. Cultural survey report for planned development in the County of Riverside.

143-Acre, TTM 33028 and 33029 (Kunny Ranch Property), City of Riverside, Riverside County. Cultural survey report for planned development in the City of Riverside.

Cultural Resource Survey and Architecture Evaluation of Site CA-SBR-6706/H within the Project Footprint of the Lytle Creek North Tentative Tract Map (Map #15900), County of San Bernardino. Cultural testing report for planned development in the County of San Bernardino.

Phase 1 Cultural Resource Survey, Negative Results Tentative Tract #33419 (APN#331-080-006, -007, -009, -011, -012, -024, -025, -027, -028), Sun City Area, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Cultural Resource Assessment at APN #329-030-007, -008, -018, -019, -020, -021, -022, approximately 10 acres near Trumble Road and SR74, County of Riverside, for Classic Pacific. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Survey for the Victorville Acres Project, Tentative Tract 16847, City of Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Phase I Cultural Resources Survey Report, Tentative Tract Map #34014, 7080 and 7090 Cleveland Avenue, Norco Area, Riverside County. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Assessment and Paleontological Records Review Tract No. 16905 Project Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Phase I Cultural Resources Assessment and Paleontological Records Review Tract No. 16496 Project Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Phase 1 Cultural Resource Survey With Sensitivity Statements on the Paleontology of the Project Area Rancho Diamante Specific Plan Project Footprint, excluding Tract 31807 and Tract 31808 City of Hemet, Riverside County. Cultural survey report for planned development in the City of Hemet.

Phase 1 Cultural Resource Survey and Phase 2 Archaeological Testing Evaluation of Hillinger Project Resources Located within Section 25 and 32 of T.3S R.4E, City of Palm Springs. Cultural survey report for planned development in the City of Pam Springs.

Cultural Resource Survey for Environmental Impact Report. Rancho Cucamonga Tentative Tract Map Number 16072. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Phase 1 Cultural Survey and Evaluation, Rancho El Rivino Specific Plan, City of Rialto, San Bernardino County. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Final EIR Serra Bella Specific Plan SP 04-001 Annexation and TTM 32023. Cultural survey report and historical testing for planned development in Rancho Cucamonga.

Cultural Resource Survey Negative Results, John Laing Homes Tentative Tract #30953, Washington Avenue, Murrieta. Cultural survey report for planned development in the City of Murrieta.

Cultural Resource Survey and Paleontological Assessment Report for John Laing Homes' Englesma Property located at 8011 Kimball Road, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural and Paleontological Assessment, John Laing Homes, Burns Ranch. Cultural survey report for planned development in the County of Riverside.

Phase 1 Cultural Resource Survey,Negative Results, for the Loma Linda Golf Range Project on 15 Acres on Barton Road, City of Loma Linda, San Bernardino County. Cultural survey report for planned development in the City of Loma Linda.

Phase I Cultural Resources Assessment With Paleontological Resources Review Mission Lakes Project, Desert Hot Springs, Riverside County. Cultural survey report for planned development in the County of Riverside.

Final Environmental Impact Report College Park Project, City of Upland. Cultural survey report for planned development in the City of Upland.

Phase 1 Cultural Resource Survey for the Distinguished Homes Project Footprint APN# #1055-511-01 and 1055-511-01, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural Resource and Paleontological Assessment for the McBride RV Storage Property at Kimball and Euclid Avenues, City of Chino. Cultural survey report for planned development in the City of Chino.

Cultural Resource Survey, Positive Results, for the KUO Development Project, Tentative Tract #32787, City of Riverside, Riverside County. Cultural survey report for planned development in the County of Riverside.

143-Acre, TTM 33028 and 33029 (Kunny Ranch Property), City of Riverside, Riverside County. Cultural survey report for planned development in the City of Riverside.

Cultural Resource Survey and Architecture Evaluation of Site CA-SBR-6706/H within the Project Footprint of the Lytle Creek North Tentative Tract Map (Map #15900), County of San Bernardino. Cultural testing report for planned development in the County of San Bernardino.

Phase 1 Cultural Resource Survey, Negative Results Tentative Tract #33419 (APN#331-080-006, -007, -009, -011, -012, -024, -025, -027, -028), Sun City Area, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Cultural Resource Assessment at APN #329-030-007, -008, -018, -019, -020, -021, -022, approximately 10 acres near Trumble Road and SR74, County of Riverside, for Classic Pacific. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Survey for the Victorville Acres Project, Tentative Tract 16847, City of Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Phase I Cultural Resources Survey Report, Tentative Tract Map #34014, 7080 and 7090 Cleveland Avenue, Norco Area, Riverside County. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Assessment and Paleontological Records Review Tract No. 16905 Project Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Phase I Cultural Resources Assessment and Paleontological Records Review Tract No. 16496 Project Victorville, San Bernardino County. Cultural survey report for planned development in the City of Victorville.

Cultural Resource Records Search Results and Sensitivity Evaluation for the Palm Springs and Desert Hot Springs Master Drainage Plan Project. Cultural evaluation report for planned utility construction in the Coachella Valley.

Phase 1 Cultural Resource Survey With Sensitivity Statements on the Paleontology of the Project Area Rancho Diamante Specific Plan Project Footprint, excluding Tract 31807 and Tract 31808 City of Hemet, Riverside County. Cultural survey report for planned development in the City of Hemet.

Phase 1 Cultural Resource Survey and Phase 2 Archaeological Testing Evaluation of Hillinger Project Resources Located within Section 25 and 32 of T.3S R.4E, City of Palm Springs. Cultural survey report for planned development in the City of Pam Springs.

125 acre Survey Residential Development – Fontana, Centex Homes Monarch Hills Project, San Bernardino County. Cultural survey report for planned development in Fontana.

Environmental Impact Report City of Bakersfield, Sky 19 Development/Zone Change No. 05-1063. Cultural survey report for planned development in Bakersfield.

Initial Study and Mitigated Negative Declaration for Tentative Tract no. 17147, City of Chino. Cultural survey report for planned development in the City of Chino.

Final Environmental Impact Report and Response to Comments on the Draft Environmental Impact Report for Tentative Tract 16361, City of Redlands. Cultural resource peer review for planned development in the City of Redlands.

49.2-Acre Tract 32787 (Kuo Property), City of Riverside, Riverside County. Cultural survey report for planned development in the County of Riverside.

CEQA-level Archaeological Survey and Paleontological Records Search for 13 acres in the City of Rancho Cucamonga, John Laing Homes Inland Division. Cultural survey report for planned development in Rancho Cucamonga.

Archaeological and Paleontological Resource Evaluation of APN #467-240-014, located near Winchester and Jean Nicholas Roads,County of Riverside, John Laing Homes Inland Division. Cultural survey report for planned development in the County of Riverside.

John Laing Homes Development of Tract 32171, the Kona II Project, Winchester and Jean Nicholas Roads, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Cultural Resources: Springbrook Estates Specific Plan no. 330 Final EIR No. 448 and Response to Comments. Cultural survey report for planned development in the County of Riverside.

Phase 1 Cultural Resource Survey of the Ranch Country View Estates Project, near Cable Creek and Interstate 215, County of San Bernardino. Cultural survey report for planned development in the County of San Bernardino.

Phase 1 Cultural Resource Survey of a 65-Acre Property at Tentative Tract #16574 (Foxfire Ranch), located near Cobalt and Dos Palmas Roads, Section 26 of T.5N R.5W, City of Victorville, Including Parcel #3094-131-02. Cultural survey report for planned development in the City of Victorville.

Archaeological resources assessment of the Bollingridge estates project (1740 Bollingridge Drive) a 5.4 acre site located in the city of Orange. Cultural survey report for planned development in the City of Orange.

Cultural Resource Survey Report, Positive Results, Tentative Tract #30915 (APN#429-020-021, -028 and 429-160-002), County of Riverside. Cultural survey report for planned development in the County of Riverside.

Archaeological Testing Evaluation of the Woodcrest Project (APN# 245-300-001), A Proposed Subdivision located near Chicago and Iris Avenues,

County of Riverside. Cultural survey and testing report for planned development in the County of Riverside.

An Archaeological and Paleontological Resource Evaluation of Tentative Tract #16445, Located South of Riverside Avenue/Sierra Avenue, City of Fontana. Cultural survey and testing report for planned development in the City of Fontana.

Phase 1 Cultural Resources Assessment And Paleontological Records Search: The Patterson Tract Project, City Of Riverside. Cultural survey report for planned development in the City of Riverside.

Final Phase 1 Cultural Resource Survey, Negative Results, APN#455-120-008 and -009: 41.68 Acres on Devonshire Avenue, City of Hemet, Riverside County. Cultural survey report for planned development in the City of Hemet.

Phase I Cultural Resources Assessment and Paleontological Records Review: Rosamond 39 Property, Tentative Tract Map 6932, Rosamond, Unincorporated Kern County. Cultural survey report for planned development in the County of Kern.

An Archaeological and Paleontological Resource Evaluation of the The Menifee Town Center Project near Scott and Haleblian Roads, County of Riverside. Cultural survey and evaluation report for planned development in the County of Riverside.

An Archaeological and Paleontological Resource Evaluation of APN #168-132-05-0000 near San Bernardino and Wabash Avenues, City of Redlands, County of San Bernardino. Cultural survey report for planned development in the City of Redlands.

Phase I Cultural Resource Survey Palm Ranch Dairy Project Unincorporated Kern County. Cultural survey report for planned development in the County of Kern

Cultural Resource Excavation and Monitoring at the Mission Lane Project, Tract #16323, City of Loma Linda. Cultural survey report, Phase 3 Excavation and Monitoring for a planned development in the City of Loma Linda.

Phase 1 Cultural Resource Survey and Historic Site Significance Evaluations for the Sunset Crossroads Specific Plan Project, South Banning Area, County of Riverside. Cultural survey report, Phase 2 Historic Site Evaluations for a planned development in the County of Riverside.

Phase 2 Testing and Phase 3 Data Recovery: Cultural Resources at CA-RIV-7032, Tentative Tract Map #32266, City of Murrieta. Phase 2 Testing, Phase 3 Excavation and Monitoring for a planned development in the City of Murrieta

Phase I Cultural Resources Survey Report for the 554-Acre Armada Property, Cabazon Area, Unincorporated Riverside County. Cultural survey report, Phase 2 Historic Site Evaluations for a planned development in the County of Riverside

Cultural Resource Survey Report and Paleontological Records Review for the West Haven Specific Plan Project, Subarea 6 (West of Haven) and Subarea 12 (West of Haven), City of Ontario, San Bernardino County. Cultural survey report for planned development in the City of Ontario.

Phase 1 Cultural Resource Survey, Positive Results, Heritage Oaks Specific Plan: APN#407-030-002 and -003, City of Calimesa, Riverside County. Cultural survey report for planned development in the City of Calimesa.

Phase I Cultural Resources Assessment With Paleontological Records Review: Zone Change 05-05, El Centro, Imperial County. Cultural survey for a planned development in the City of El Centro.

Phase 1 Cultural Resource Survey Negative Results: The Seven Fortune Project (APN#667-230-005), County of Riverside. Cultural survey for a planned development in the County of Riverside.

Cultural Resource Survey and Phase 2 Testing at the 280-Acre Bozick Project: APN #603-122-005; #603-130-003, -004, -009; #603-150-004, -005, -007, -008, -009, -010, -011, -012; City of Coachella. Cultural survey and Phase 2 testing report for a planned development in the City of Coachella

Phase I Cultural Resources Survey Report, 108-Acre Desert Moon Project, TTM 30200, Community of Thousand Palms, Riverside County. Cultural survey for a planned development in the County of Riverside

Phase I Cultural Resources Survey Report for the Jeffredo Property, APN#763-070-006. City of Coachella, Riverside County. Cultural survey report for a planned development in the City of Coachella

Phase 1 Cultural Resource Survey, Negative Results, Tract 31805: APN#933-130-027 and -031, #933-140-016, Riverside County. Cultural survey for a planned development in the County of Riverside

Phase I Cultural Resources Assessment and Paleontological Records Review, Zone Change 05-02, El Centro, Imperial County. Cultural survey for a planned development in the City of El Centro.

Phase 1 Cultural Resource Survey of a 246-Acre Parcel Set near Sawmill Canyon Road, City of Big Bear, APN #0311-211-46-0000 and 2350-011-01-0000, County of San Bernardino. Cultural survey for a planned development in the City of Big Bear.

Phase I Cultural Resources Survey Report for the DeGroot Property, 44.23 Acres near Ramona and Merrill Avenues, City of Chino Hills. Cultural survey for a planned development in the City of Chino Hills

Phase I Cultural Resources Survey Report for the Stockdale-Rubidoux Project (APN#178-150-001, -002), Belltown Area, County of Riverside. Cultural survey for a planned development in the County of Riverside.

Phase I Cultural Resources Assessment, with a Paleontological records review, Finton Associates Project, Fox Farm and McAllister Roads, Big Bear Lake, San Bernardino County. Cultural survey for a planned development in the County of San Bernardino.

Cultural Resource Review of the Morger Property in Riverside County. Cultural survey report for a planned development in the County of Riverside.

Phase 1 Cultural Resource Survey of the Egg Ranch Project Footprint, Section 29 and 30 of T.2S R.1W, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Assessment, Phase II Cultural Resources Testing, and Paleontological Records Review Tentative Tract Map No. 34838 Moreno Valley, Riverside County. Cultural survey and testing report for planned development in the City of Moreno Valley.

Cultural Resource Survey and Paleontological Records Review for the Sherman Avenue Project located North of the Intersection of Sherman Avenue and D Street, Corona, Riverside County. Cultural survey report for planned development in the City of Corona.

Phase 1 Cultural Resource Survey of APN #0292-052-01, -03, -04, -06, -08, -10, -11, -12, -16 near Nevada Street/Almond Avenue, Section 13 of T.1N R.6W, County of San Bernardino. Cultural survey report for planned development in the County of San Bernardino.

Phase 1 Cultural Resource Survey at the Loring Ranch Project: Tentative Tract #31503, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Phase 2 Testing and Phase 3 Excavations of Cultural Resources at the Loring Ranch Project: Tentative Tract #31503, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Phase 1 Cultural Resource Survey Negative Results: The Granite Equities Project (APN #0284-16-031-0000 and #0284-16-030-0000). City of Loma Linda. Cultural survey report for planned development in the City of Loma Linda.

Phase I Cultural Resources Survey Report for the Tentative Tract Map 33869: 49.95 Acres Near Rider and Day Streets, County of Riverside. Cultural survey report for planned development in the County of Riverside.

Phase I Cultural Resources Assessment, Phase II Archaeological Test and Paleontological Records Review Menifee Farms Project, Menifee Valley, Riverside County. Cultural survey report and Phase 2 Testing for a planned development in the County of Riverside.

Phase 1 Cultural Resource Survey, Negative Results, Tract 31805: APN#933-130-027 and -031, #933-140-016, Riverside County. Cultural survey report for a planned development in the County of Riverside.

Testing of CA-SBR-11567H within the Empire Redevelopment Project in the City of Fontana, San Bernardino County. Section 106 Evaluation of Project Areas in the City of Fontana. Includes Section 106 evaluation of specific properties.

Phase 1 Cultural Resource Survey, Negative Results, at the Eagle Point Project, APN#664-190-004, -036, -037 and -038, City of Desert Hot Springs. Cultural survey report for a planned development in the City of Desert Hot Springs.

EIR for Iron Hills Residential Project. Review of cultural resource documents and EIR mitigation measures for City of Colton.

Cultural Resource Survey and Phase 2 Testing at the Bianco-80 Project: APN#753-140-022 and #753-140-023, City of La Quinta. Cultural survey and Phase 2 testing report for a planned development in the City of La Quinta.

Phase 1 Cultural Resource Survey and Phase 2 Testing Results: The Vacek Project (APN#667-230-004), County of Riverside. Cultural survey and Phase 2 testing report for a planned development in the County of Riverside

CEQA-level Cultural Resource Assessment at the Fritz Property, Etiwanda Area, City of Rancho Cucamonga. Cultural survey report for planned development in the City of Rancho Cucamonga.

CEQA-level Phase III Data Collection (Excavation) of CA-ORA-556 in the Santiago Hills II Project County of Orange. Excavation of site CA-RIV-556 in the City or Orange.

Retail

Phase 1 Cultural Resource Survey: The Yucca Valley Home Depot Retail Center (APN#0601-201-31, -32 and -37), Town of Yucca Valley. Cultural survey for a planned development in the Town of Yucca Valley

Airport

Cultural Resource Records Search and Site Visit Results for the Proposed Ontario Airport TIS Transmitter Site, located near Parking Lot D and F of the Ontario International Airport, Ontario, San Bernardino County. Cultural survey for a planned transmitter within the Ontario International Airport.Section 106 Study for Airport

Professional Affiliations

- Member, California Historical Society
- Member, National Trust for Historic Preservation
- Member, Registry of Professional Archaeologists

Appendix B:
Cultural Resource Compliance Documents

B-1: Sacred Lands Search

Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

August 29, 2006

Native American Heritage Commission
915 Capitol Mall, Suite 364
Sacramento, CA 95814-4801

Via email: NAHC@pacbell.net

Subject: **Request for a Sacred Lands Records Search for the Hesperia General Plan located on portions of six topographic quadrangles, City of Hesperia, County of San Bernardino, California. (USGS *Hesperia, Silverwood Lake, Lake Arrowhead, Cajon, Baldy Mesa and Apple Valley South, CA*. quads)**

To Whom It May Concern:

Michael Brandman Associates (MBA) would like to determine whether any listed sacred sites are located within or near a General Planning project found on portions of six topographic quadrangles in the Hesperia area.

The project area is located in San Bernardino County, and is found on the USGS *Hesperia, Silverwood Lake, Lake Arrowhead, Cajon, Baldy Mesa and Apple Valley South*, CA. 7.5' topographic quadrangles.

Please notify us of any sacred Native American sites that may be included in this undertaking. A full description of this General Plan project can be found in our report, which is forthcoming.

This records search does not preclude SB 18 consultation that will be conducted by the City of Hesperia, and potentially supported by MBA.

Sincerely,

Jennifer M. Sanka M.A., Staff Archaeologist
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA. 92602

S:\JenSanka\2366.0023.0 Hesperia GP\Appendices\2366.0023.0_NAHC request letter.doc

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

September 25, 2006

Ms. Jennifer M. Sanka, M.A., Staff Archaeologist
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602

Sent by FAX to: 714-508-4110
Number of pages: 2

Re: Cultural Resource Identification Study/Sacred Lands File Search for Proposed Hesperia General Plan; San Bernardino County, California

Dear Ms. Sanka:

The Native American Heritage Commission was able to perform a record search of its Sacred Lands File (SLF) for the affected project area. The SLF failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the Sacred Lands File does not guarantee the absence of cultural resources in any project area.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed is the name of the nearest tribes that may have knowledge of cultural resources in the project area. A list of Native American contacts is attached to assist you. The Commission makes no recommendation of a single individual or group over another. It is advisable to contact the person listed; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area.

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 15064.5(f) and Section 15097.98 and Health & Safety Code Section 7050.6 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton, Program Analyst

Attachment: Native American Contact List

Native American Contacts
San Bernardino County
September 25, 2006, 2006

San Manuel Band of Mission Indians
Henry Duro, Chairperson
26569 Community Center Dr. Serrano
Highland , CA 92346
dmarquez@sanmanu
(909) 864-8933

(909) 864-3370 Fax

Morongo Band of Mission Indians
Britt W. Wilson, Cultural Resources Coordinator
245 N. Murray Street, Suite C Cahuilla
Banning , CA 92220 Serrano
britt_wilson@morongo.org
(951) 849-8807
(951) 755-5206
(951) 922-8146 Fax

San Manuel Band of Mission Indians
Bernadette Brierty, GIS Coordinator/Cultural Resource
26569 Community Center Dr. Serrano
Highland , CA 92346
bbrierty@sanmanuel-
(909) 864-8933 EXT
-2203
(909) 862-5152 Fax

Serrano Band of Indians
Goldie Walker
6588 Valeria Drive Serrano
Highland , CA 92346

(909) 862-9883

This list is current only as of the date of this document. .

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Hesperia General Plan Project located in the City of Hesperia; San Bernardino County, California, for which a Sacred Lands File search was requested.

Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

September 25, 2006

Name
Address

Subject: **Native American Consultation Letter for an Archaeological Project: Hesperia General Plan, City of Hesperia and Sphere of Influence, San Bernardino County**

Dear Cultural Resource Coordinator Brierty:

Michael Brandman Associates is currently preparing sensitivity recommendations for cultural and paleontological resources for the City of Hesperia. The City of Hesperia and its Sphere of Influence are located on portions of **USGS *Hesperia, Silverwood Lake, Lake Arrowhead, Cajon, Baldy Mesa and Apple Valley South*, CA. 7.5' topographic quadrangles.**

THE PROJECT

Section 106 of the National Historic Preservation Act of 1966 (NHPA) and CEQA require the City to consider the effect this project may have on historic properties. The definition of "historic properties" includes, in some cases, properties of traditional religious and cultural significance to an Indian tribe. To determine whether any historic properties may be affected by the project, MBA has reviewed background information and consulting with entities such as the NAHC. We understand that you may have knowledge about the area in which the project is located. Because public involvement is a key ingredient in successful Section 106 consultation, we are soliciting your input as part of this process.

Please review this letter and indicate whether you have any information concerning any historic properties that may be affected by the project, as indicated below.

____ No, I am not aware of any Native American resources or sacred sites located at or near the project area.

____ Yes, I am aware of Native American resources or sacred sites located at or near the project.

Describe: (Use additional sheets of paper, if necessary.)

OUR REPORT

Please indicate whether you would like a copy of the Final Cultural Resource Report(s) sent to you for your review:

____ No, I do not need to have a copy of the report shipped to me for review

____ Yes, I am in need of a copy of the report shipped to me for review.

I am contacting you to determine if you have any concerns regarding this project. Your response would be greatly appreciated. If we do not receive a response from you within 15 calendar days, we will assume this site is not located within any Native American religious or sensitive sites. Please feel free to contact me at 714.508.4100 ext 165 if you have any questions or information. Address and mail your response or any correspondence to my attention at the address below.

Sincerely,

Jennifer M. Sanka, Staff Archaeologist
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA. 92602

Enclosures: USGS Topo Map

JS:ji
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B-2: Paleontological Records Search

Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

August 29, 2006

Eric Scott
San Bernardino County Museum,
Paleontologic Resource Assessment Program
2024 Orange Tree Lane
Redlands, CA 92374

Via Fax: 909-307-0539

Subject: **Request for a Paleontological Resources Records Search for the Hesperia General Plan located on portions of six topographic quadrangles, City of Hesperia, County of San Bernardino, California. (USGS *Hesperia, Silverwood Lake, Lake Arrowhead, Cajon, Baldy Mesa and Apple Valley South, CA.* quads)**

Mr. Scott:

I am in need of a paleontological records search on a general planning project located on portions of six USGS 7.5' topographic quadrangles: *Hesperia, Silverwood Lake, Lake Arrowhead, Cajon, Baldy Mesa and Apple Valley South, CA.*

Once the results have been determined, please fax the results to our office 714.508.4110 and mail MBA a hard copy. If you have any more questions or need to speak with me, please feel free to call me at 714.508.4100 ext 165. Thank you for your time and effort.

Sincerely,

Jennifer M. Sanka M.A.
Staff Archaeologist
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA. 92602

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SAN BERNARDINO COUNTY MUSEUM
2024 Orange Tree Lane • Redlands, California USA 92374-4560
(909) 307-2669 • Fax (909) 307-0539 • www.sbcountymuseum.org

COUNTY OF SAN BERNARDINO
PUBLIC AND SUPPORT
SERVICES GROUP

ROBERT L. McKERNAN
Director

22 September 2006

Michael Brandman Associates
attn: Jennifer M. Sanka, Staff Archaeologist
220 Commerce, Suite #200
Irvine, CA 92602

re: PALEONTOLOGY LITERATURE / RECORDS REVIEW, HESPERIA GENERAL PLAN, CITY OF HESPERIA, SAN BERNARDINO COUNTY, CALIFORNIA

Dear Ms. Sanka,

The Division of Geological Sciences of the San Bernardino County Museum (SBCM) has completed a literature review and records search for the above-named study area encompassing the City of Hesperia, San Bernardino County, California. Specifically, the property is located on portions of the Apple Valley South, California (1956 edition, photorevised 1980), the Baldy Mesa, California (1956 edition, photorevised 1988), the Cajon, California (1956 edition, photorevised 1968 and 1973), the Hesperia, California (1956 edition, photorevised 1988), the Lake Arrowhead, California (1971 edition, photorevised 1980), and the Silverwood Lake, California (1956 edition, photorevised 1988) 7.5' United States Geological Survey topographic quadrangle maps.

Previous geologic mapping (Bowen, 1954; Noble, 1954; Bortugno and Spittler, 1986; Cox and Tinsley, 1999; Sibbett, 1999; Cox and Hillhouse, 2000; Cox and others, 2003; Morton and Miller, 2003) indicates that the Hesperia General Plan study area encompasses a wide variety of geologic formations of differing ages. These formations include, listed from oldest to youngest: the Crowder Formation [= unit Tcr; this and subsequent formation abbreviations from Morton and Miller [2003)]; the Harold Formation (= Qh); the Shoemaker Gravel (= Qsh); Pleistocene fan alluvium of the Victorville Fan (= Qvof, Qof), Pleistocene sediments of the ancestral Mojave River, Holocene sediments of the Victorville Fan (= Qyf), Holocene and recent active wash sediments (= Qyw, Qw), and latest Holocene disturbed ground (= Qdg). [Note: Pleistocene sediments of the ancestral Mojave River were not mapped by Morton and Miller (2003)]. Of these, the Crowder Formation, the Harold Formation, and Pleistocene alluvium of the ancestral Mojave River all have high potential to contain significant nonrenewable paleontologic resources. These formations are assigned high paleontologic sensitivity. The Shoemaker Gravel does not exhibit a lithology conducive to the preservation of fossil resources, and no time-diagnostic fossils are known from these sediments. However, mapping of this formation in this region (Morton and Miller, 2003) does not always discriminate the Shoemaker Gravel from the Harold Formation, a formation that does have paleontologic sensitivity. For this reason, exposures of the Shoemaker Gravel are here assigned undetermined paleontologic sensitivity.

Pleistocene sediments of the Victorville Fan also lack a lithology suggesting that fossils are present, and have not yielded any time-diagnostic fossil remains. These fan deposits are therefore assigned low paleontologic sensitivity. Holocene and recent sediments in the study area are too young to have potential to contain significant fossil resources, and so these units are assigned low paleontologic sensitivity. However, these sediments may overlie older fossil-bearing formations present in the subsurface, and so excavation at depth through these Holocene and recent sediments may impact significant paleontologic resources.

The Crowder Formation (Dibblee, 1967) consists of a series of lenticular beds of conglomerate and conglomeratic sandstone in a matrix of coarse-grained calcareous sandstone with fine-grained interbedded reddish-brown paleosols (Woodburne and Golz, 1972). Based upon paleontologic evidence and magnetostratigraphy (Weldon, 1984, 1985), deposition of the Crowder Formation began approximately 17 million years BP, in the middle Miocene Epoch [= the late Hemingfordian NALMA], and terminated roughly 9.5 million years BP in the later Miocene Epoch (= the middle Clarendonian NALMA).

Exposures of the Crowder Formation have yielded an abundant and diverse terrestrial vertebrate fauna. The RPLI at the SBCM contains records of numerous discrete paleontologic resource localities. Systematic sampling of paleosols in the Crowder Formation has yielded fossil vertebrates from every horizon sampled. The coarser-grained facies of the Crowder Formation, comprised of arkosic sands and silts, has also yielded fossil vertebrates. The Crowder Formation is scientifically significant because it contains fossil vertebrate faunas that span portions of the Hemingfordian, Barstovian and Clarendonian NALMAs. Study of these fossil faunas allows evolutionary trends among the species unique to these faunas to be deciphered.

Continental sediments of the Cajon and Crowder Formations were deposited in separate basins in the middle Miocene Epoch; juxtaposition of these sediments due to fault activity occurred subsequently (Weldon, 1984, 1985; Meisling and Weldon, 1986a,b). These formations contain rich vertebrate faunas including relatively abundant and extremely significant small mammal remains (Wagner and Reynolds, 1983). Recovery of rodent fossils from paleosols in the Crowder Formation, for example, led to a reevaluation of the late Cenozoic Era tectonic evolution of the Transverse Ranges (Weldon, 1984, 1985; Reynolds, 1985). Clast lithology and paleocurrent studies in sediments from these formations show that the source of the sediments was from the northeast in the present-day Victorville area of the Mojave Desert (Foster, 1980).

Pleistocene sediments present at the surface and in the subsurface in the flat-lying areas of the Hesperia General Plan study area were laid down by two separate depositional regimes: the Victorville Fan and the ancestral Mojave River (Cox and Tinsley, 1999; Sibbett, 1999; Cox and Hillhouse, 2000). Previous paleontologic investigations (Jefferson, 1989; Reynolds, 1989; Scott and others, 1997) have repeatedly demonstrated the high paleontologic sensitivity of the ancient Mojave River sediments in Victorville to the north. The following is a composite list of taxa recovered from Pleistocene older alluvial sediments in Victorville (Reynolds, 1989; Scott and others, 1997):

Sorex sp.	shrew
Paramylodon harlani	extinct giant ground sloth
Lepus sp.	jack rabbit
Sylvilagus sp.	cotton tail
cf. *Ammospermophilus leucurus*	possible antelope ground squirrel
Spermophilus townsendi	ground squirrel
Thomomys sp.	pocket gopher
Perognathus sp.	pocket mouse
Dipodomys sp.	kangaroo rat
Neotoma sp. cf. *N. lepida*	possible desert wood rat
Sigmodon medius or *minor*	extinct cotton rat
Microtus sp.	meadow vole
Arctodus sp. cf. *A. simus*	extinct short-faced bear
Mammuthus meridionalis	extinct southern mammoth
Equus sp. cf. *E. scotti*	possible Scott's horse
cf. *Titanotylopus* sp.	extinct long-limbed giant camel
Hemiauchenia sp.	extinct llama
Camelops sp.	extinct camel

Most of the vertebrate fossils recovered from the Victorville and Hesperia regions of the Mojave Desert were initially presumed to derive from "distal equivalents" of the Victorville Fan (Jefferson, 1989; Reynolds, 1989). However, recent studies of sediments in the Victorville and Hesperia regions (Cox and Tinsley, 1999; Sibbett, 1999; Cox and Hillhouse, 2000; Cox and others, 2003) have determined that two distinct sedimentary lithologies are present in this region: sediments of the Victorville Fan and alluvium deposited by the Pleistocene Mojave River. Research conducted by the SBCM in the Victorville area has determined that fossils from the region appear to be derived primarily from exposures of the Mojave River sediments rather than from the Victorville Fan. Exposures of the Victorville Fan may therefore be less fossiliferous than previously reported, save in those areas where the nature of the sediments of the Fan suggests an environment conducive to the preservation of fossil remains.

For this review, I conducted a search of the Regional Paleontologic Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no previously known paleontologic resource localities are recorded by the SBCM from the study area, nor from within several miles in any direction. However, several hundred paleontologic resource localities have been identified from surface and subsurface rocks of the Crowder Formation in the nearby Cajon Pass region, immediately southwest of the study area; the proximity of these sites demonstrates the high paleontologic potential of the Crowder Formation in this area. Additionally, several dozen localities are recorded immediately to the north of the Hesperia General Plan study area; these more northerly localities were identified from sediments mapped (Cox and Tinsley, 1999; Cox and Hillhouse, 2000; Cox and others, 2003) as derived from the ancestral Mojave River. Fossils recovered from these localities include specimens of *Mammuthus* (extinct mammoth), *Equus* (extinct horse), *Hemiauchenia* (extinct llama),

Camelops (extinct large camel), *Lepus* (jackrabbit), *Sylvilagus* (cottontail rabbit), *Thomomys* (pocket gopher), *Dipodomys* (kangaroo rat), *Perognathus* (pocket mouse), *Vulpes* (fox), *Phrynosoma* (desert horned "toad"), and *Crotalus* (rattlesnake). The presence of a possible new species of extinct *Peromyscus* (deer mouse) has also been suggested recently, based upon fossils recovered from Pleistocene older alluvium in the Victorville area.

Recommendations

The results of the literature review and the check of the RPLI at the SBCM demonstrate that excavation in sediments of the Crowder Formation, the Harold Formation, Pleistocene sediments deposited by the ancestral Mojave River, and possibly the Shoemaker Gravel would have high paleontologic sensitivity in that these formations are likely to contain significant nonrenewable fossil resources. In the event that excavation is conducted in any of these rock units, a qualified professional vertebrate paleontologist would need to be retained to develop a program to mitigate adverse impacts to paleontologic resources. This mitigation program would need to be consistent with the provisions of the California Environmental Quality Act (Scott and Springer, 2003), as well as with regulations implemented by the County of San Bernardino and with the proposed guidelines of the Society of Vertebrate Paleontology. This plan should include, but not be limited to:

1. Monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. Based upon the results of this review, areas of concern within the boundaries of the Hesperia General Plan would include any and all undisturbed surface and subsurface rocks of the Crowder Formation, the Harold Formation, and Pleistocene alluvium deposited by the ancestral Mojave River. The Shoemaker Gravel may also have paleontologic sensitivity. Pleistocene sediments of the Victorville Fan and Holocene and recent sediments in the study area have low paleontologic sensitivity. However, in some cases these sediments may overlie older fossil-bearing formations present in the subsurface; excavation at depth through these Holocene and recent sediments may therefore impact significant paleontologic resources.

   If required, monitors should be equipped to salvage fossils as they are unearthed, to avoid construction delays, and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.

2. Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts to the resources (Scott and others, 2004).

3. Identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage (e.g., SBCM). These procedures are also essential steps in effective paleontologic mitigation (Scott and others, 2004) and CEQA

compliance (Scott and Springer, 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not complete until such curation into an established museum repository has been fully completed and documented.

4. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, would signify completion of the program to mitigate impacts to paleontologic resources.

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Please do not hesitate to contact us with any additional questions you may have.

Sincerely,

Eric Scott, Curator of Paleontology
Division of Geological Sciences
San Bernardino County Museum