

APPENDIX C

**CHARLES M. SCHULZ SONOMA COUNTY AIRPORT
CULTURAL AND PALEONTOLOGICAL
RESOURCES MEMORANDUM**

MEMORANDUM

DATE: April 12, 2006

TO: Theresa Bravo

FROM: Andrew Pulcheon

SUBJECT: Sonoma County Airport Master Plan Environmental Baseline Data, Cultural and Paleontological Resources (LSA #MHN431)

INTRODUCTION

As requested, a cultural and paleontological resources sensitivity analysis was conducted for the Sonoma County Airport Master Plan Environmental Baseline Data Project (project), Santa Rosa, Sonoma County, California. The analysis was based on existing documentation; no field study was undertaken. This memo supplements a cultural and paleontological resources sensitivity analysis conducted for a portion of the project area in November 2005.

CULTURAL RESOURCES

This section describes the methods, results, and recommendations of the cultural resources sensitivity analysis. Information obtained through background research and consultation provided the basis for the sensitivity analysis.

Methods

Cultural resources background research consisted of a records search, literature review, and consultation.

Records Search. A records search (#05-882) was conducted on March 20, 2006, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of cultural resource records and reports for Sonoma County. NWIC base maps were reviewed to identify cultural resources in the project area and a 1/4-mile radius, and to identify previously-conducted cultural resource studies in or adjacent to the project area. Two cultural resources are in the project area; 13 cultural resource studies have been done of portions of the project area. Four cultural resources are within 1/4 mile, and 23 cultural resource studies are within this radius.

As part of the records search, LSA reviewed the following state of California inventories for cultural resources in and adjacent to the project area:

- California Inventory of Historic Resources (California Department of Parks and Recreation 1976);

- Five Views: An Ethnic Historic Site Survey for California (California Office of Historic Preservation 1988);
- California Historical Landmarks (California Office of Historic Preservation 1996);
- California Points of Historical Interest (California Office of Historic Preservation 1992); and
- Directory of Properties in the Historic Property Data File (California Office of Historic Preservation August 8, 2005). The directory includes the listings of the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

The project area contains no cultural resources listed in these inventories.

Literature Review. LSA reviewed various publications and maps for archaeological, historical, ethnographic, and environmental information about the project area and its vicinity. These maps and publications are

- Handbook of the Indians of California (Kroeber 1925);
- Pomo: An Introduction (McLendon and Oswalt 1978);
- Historic Spots in California (Hoover et al. 1990);
- California Place Names: The Origin and Etymology of Current Geographical Names (Gudde 1998);
- Sebastopol, Calif. 7.5-minute topographic quadrangle (USGS 1954);
- Healdsburg, Calif. 7.5-minute topographic quadrangle (USGS 1993);
- Plat of Township 8 North, Range 9 West (General Land Office 1864);
- The Map of the Natural Vegetation of California (Küchler 1977);
- Soil Survey of Sonoma County, California (Miller 1972); and
- Geologic Map of the San Francisco-San Jose Quadrangle (Wagner, Bortugno, and McJunkin 1990).

These publications and maps indicate that the project area once contained (during the historic period) several buildings and a portion of a road.

Consultation. On March 30, 2006, LSA sent a letter and a map to the Native American Heritage Commission (NAHC) in Sacramento requesting a review of the NAHC sacred lands file for any Native American cultural resources that might be affected by the proposed project. Debbie Pilas-Treadway, Environmental Specialist III at the NAHC, responded in a faxed letter dated April 6, 2006, that a review of the sacred lands file showed no known Native American cultural resources within or adjacent to the proposed project.

On March 30, 2006, LSA sent a letter and a map to the Sonoma County Historical Society (Society) requesting information or concerns regarding the proposed project. No response to LSA's letter has been received to date. On April 11, 2006, LSA sent an email to Ms. Simone Wilson, Society Newsletter editor, requesting the name of the appropriate contact at the Sonoma County Historical

Society. Ms. Wilson replied by email on April 11, 2006, that LSA should contact either Mr. Harry Lapham, Society Archivist, or Mr. Tony Hoskins, Society President.

On April 11, 2006, LSA placed a telephone call to Mr. Harry Lapham. An unidentified woman who answered the phone stated that Mr. Lapham would be away for an extended time and referred LSA to Mr. Hoskins. LSA left a voice-mail message for Mr. Hoskins requesting that he call LSA regarding this project.

Results

Analysis indicates that the project area contains known cultural resources, and has the possibility of containing unidentified cultural resources.

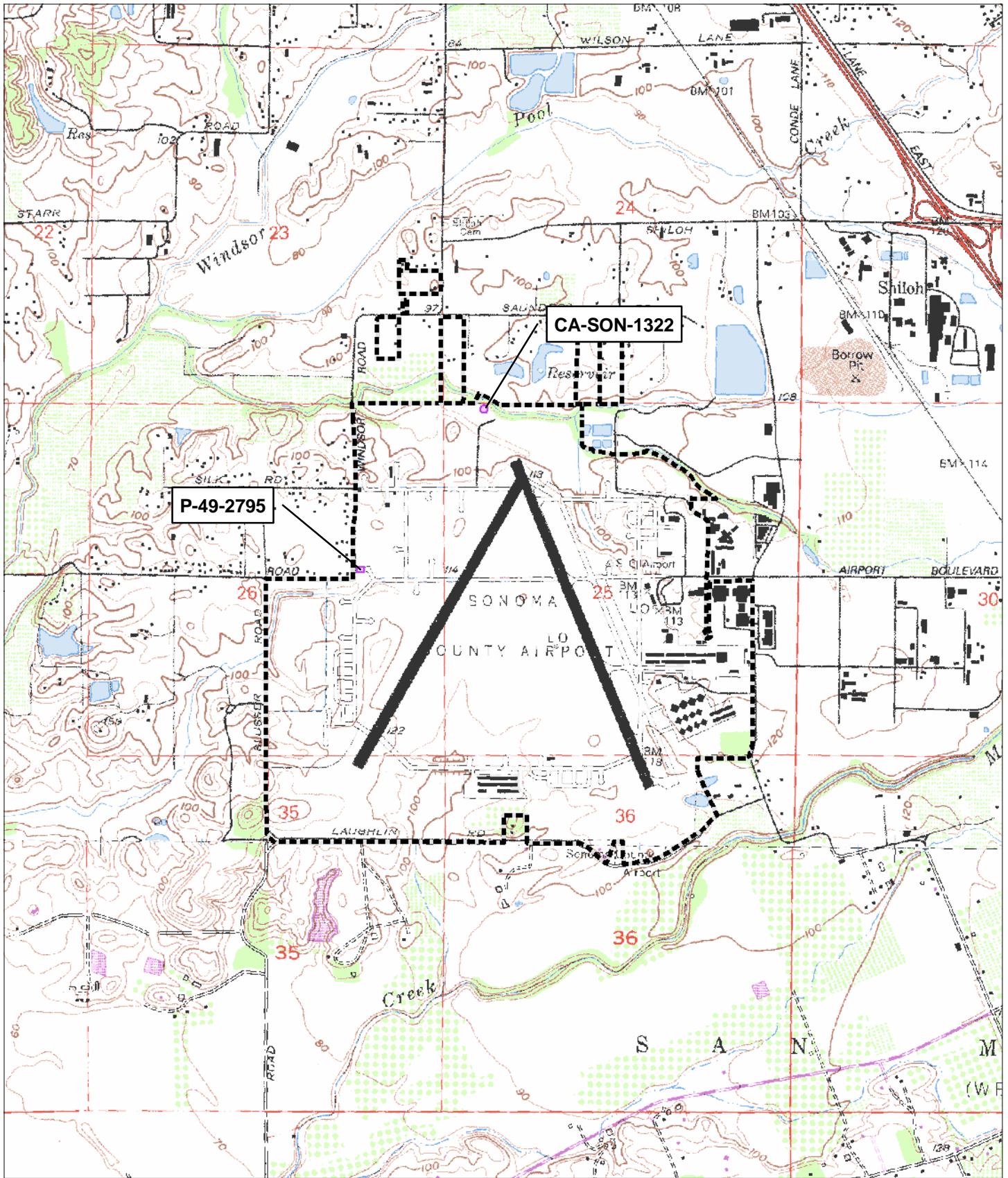
Background Research. The records search indicated that 13 cultural resources studies have been conducted in the project area: Beard (1996, 1999, 2003, 2005), Derr (1997), Gerike et al. (2000), Gerike and Gillies (2000), King (1978), Origer (1981, 1990, 1999), Pulcheon (2000), and Roop (1997). Twenty-three studies have been conducted within a 1/4 mile of the project area.

Two cultural resources, P-49-2795 and CA-SON-1322, are recorded in the project area (Figure 1). Four cultural resources are recorded with 1/4 mile of the project area. P-49-2795, recorded by Gillies and MacDonald in 2000, is the remains of a concrete building pad, a ditch, and a power pole, all constructed during WWII and associated with the operation of the Santa Rosa Army Airfield (current Sonoma County Airport). CA-SON-1322, recorded by Origer and Amaroli in 1981, is a prehistoric archaeological site consisting of a scatter of obsidian and chert debitage, and heat-affected rock.

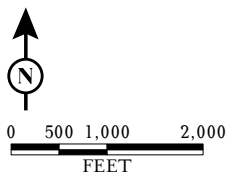
Historical maps at the NWIC (Bowers 1867; United States Army Corps of Engineers 1915) show numerous parcels and associated buildings in the project area. The General Land Office plat of Township 8 North, Ranch 9 West (1864) shows several fence lines and a portion of a road that connected to the "Windsor-Healdsburg Road" in the project area.

Archaeological Sensitivity. Although almost all of the project area has been archaeologically surveyed, there is the possibility of buried archaeological sites in the project area. This assessment is based on (1) the presence of a recorded prehistoric archaeological site in the project area; (2) the former presence of buildings in the project area; (3) the likelihood of additional prehistoric archaeological sites due to the project area's environmental characteristics; and (4) the potential that sites may be buried and remain unidentified due to alluvial deposition.

Jordan (1990) conducted an archaeological sensitivity study in the vicinity of the project area and found a very high possibility of prehistoric cultural resources on the terraces adjacent to the Laguna de Santa Rosa and its tributaries (Jordan 1990:10). Another study, conducted for the Santa Rosa Wastewater Project, concluded that central Sonoma County, including the portion containing the project area, is highly likely to contain buried archaeological deposits (Meyer 1995:9). Due to its proximity to Laguna de Santa Rosa tributaries and its location in central Sonoma County, the project area has the potential contain unidentified prehistoric archaeological deposits. Because historical maps indicate that 19th century buildings were once located in the project area, there is also the possibility of associated historical archaeological deposits underlying contemporary development.



LSA



 STUDY AREA

FIGURE 1

Sonoma County Airport
Master Plan

Cultural Resource Locations

General Recommendations

This study did not evaluate the proposed project for possible impacts to cultural resources. Only general recommendations can be made for identification, avoidance, or mitigation of such impacts. Environmental review should be undertaken to assess the proposed project's potential cultural resource impacts and tailor mitigation appropriate to the nature of the resources involved. However, general recommendations can be made to address construction related impacts.

Archaeological Deposits. Should they be present in the project area, unidentified archaeological deposits may contain information important in prehistory or history, and therefore may qualify for listing in the California Register of Historical Resources. Such eligibility would qualify the sites for consideration as historical resources under the California Environmental Quality Act (CEQA) (PRC §21084.1). CEQA requires that historical resources be taken into account during the CEQA planning process (CCR Title 14(3) § 15064.5).

If deposits of prehistoric or historical archaeological materials are discovered during project activities, all work within 25 feet of the discovery should be redirected until the archaeological monitor assesses the situation and provides recommendations. It is recommended that adverse effects to such deposits be avoided by project activities. If such deposits cannot be avoided, they should be evaluated for their eligibility for listing in the California Register of Historical Resources. If the resources are not eligible, avoidance is not necessary. If the resources are eligible, they will need to be avoided by adverse effects or such effects must be mitigated. Upon completion of the assessment, the archaeologist should prepare a report documenting the methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report should be submitted to the project proponent, the County of Sonoma, and the NWIC.

Built Environment. Prior to the start of construction, a qualified architectural historian or historian should determine if direct or indirect impacts to buildings, structures, objects, or districts eligible for the California Register would result from the proposed project. If such impacts may occur, the architectural historian or historian should recommend ways to avoid the impacts or, if avoidance is not feasible, should develop measures to reduce the severity of the impacts.

Encountering Human Remains. If human remains are encountered, work within 25 feet of the discovery should be redirected and the County Coroner notified immediately. At the same time, an archaeologist should be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Upon completion of the assessment, a report should be prepared documenting the methods and results, and provide recommendations regarding the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report should be submitted to the County of Sonoma and the NWIC.

PALEONTOLOGICAL RESOURCES

This section describes the methods, results, and recommendations of the paleontological resources sensitivity analysis. Information obtained through background research provided the basis for the sensitivity analysis.

Methods

Paleontological resources background research consisted of a fossil locality search and an in-house literature review. The background research was done to (1) identify previous surveys of known paleontological sites in and near the project areas; and (2) identify the formations and types of fossils that may contain significant fossil resources within the project area.

Fossil Locality Search. An online fossil locality search was conducted by LSA paleontologist Benjamin Matzen on April 12, 2006, using the Berkeley Natural History Museum (BNHM) online database, specifically data from the University of California Museum of Paleontology (UCMP), Berkeley.

Literature Review. LSA reviewed paleontological and geological literature relevant to the project area and its vicinity. This literature was reviewed to (1) identify locations where paleontological resources are known to occur; and (2) identify the geological formations and paleontological resources that may occur in the project areas. See References Consulted for all literature reviewed.

Results

This study identified no paleontological resources within or adjacent to the project area. However, the geologic units underlying the project area are sensitive for paleontological resources.

Background Research. The project area lies on Pleistocene (2 million years [ma] – 10,000 years [ka] old) alluvial deposits (Helley et al. 1979; Huffman and Armstrong 1980; Wagner and Bortugno 1982; Weaver 1949; Blake et al. 2002), which are known to contain significant fossil resources in the region of the project area (Helley et al. 1979). Pleistocene vertebrate fossils include, but are not limited to horses, mastodons, mammoths, bison, camels, ground sloths, saber-toothed cats, canids, mustelids, rodents, reptiles, amphibians and birds (Savage 1951; Stirton 1951; Bell et al. 2004).

Paleontological Sensitivity. No recorded paleontological resources (fossils) were identified within or adjacent to the project area by this study. There is a possibility of encountering significant paleontological resources in the Pleistocene alluvial sediments that directly underlie the soils within the project areas.

Recommendations

To avoid adverse effects to paleontological resources, it is recommended that a qualified paleontologist monitor initial project ground-disturbing activities. Prior to ground disturbance, pre-field preparation by the paleontologist should take into account specific details of project construction plans, and information from available paleontological, geological, and geotechnical studies. Limited subsurface investigations may be appropriate for defining areas of paleontological sensitivity prior to ground disturbance. The paleontologist should monitor initial project ground disturbing activities at or below five feet from the original ground surface. The paleontologist can then determine if further monitoring, periodic site reviews, or no further monitoring is appropriate.

Paleontological monitors must be empowered to halt construction activities at the location of a discovery to review the possible paleontological material and to protect the resource while it is being evaluated. Monitoring should continue until, in the paleontologist's judgment, paleontological resources are not likely to be discovered.

If paleontological resources are discovered during project activities, all work within 25 feet of the discovery should be redirected until the paleontological monitor has assessed the situation and made recommendations regarding their treatment. It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources should be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated.

Upon project completion, a report should be prepared documenting the methods and results of the monitoring. The report should be submitted to the project proponent and the County of Sonoma.

Accidental Discovery. If paleontological resources are discovered during project activities and a paleontological monitor is not present, all work within 25 feet of the discovery should be redirected until a qualified paleontologist has assessed the situation and made recommendations regarding their treatment. Project personnel should not move or collect any paleontological resource.

It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources should be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated.

Upon completion of the paleontological assessment, a report should be prepared documenting the methods, results, and recommendations of the assessment. The report should be submitted to the project proponent and the County of Sonoma.

BIBLIOGRAPHY

Beard, Vicki R.

1996 *A Cultural Resources Study for the Airport Hangar Project, Sonoma County Airport, Sonoma County, California*. Tom Origer and Associates, Rohnert Park, California.

1999 *Preliminary Building Evaluations for the Airport Land Acquisition Program*. Tom Origer and Associates, Archaeology/Historical Research, Rohnert Park, California.

2003 *Assessments of Buildings at 1904 Sanders Road, Windsor (APN 164-170-002)*. Tom Origer and Associates, Rohnert Park, California.

2005 *A Cultural Resources Study for Planned Airport Security Fencing and Improvements Projects, Sonoma County, California*. Tom Origer and Associates, Rohnert Park, California.

Bell, C.J., E.L. Lundelius, Jr., A.D. Barnosky, R.W. Graham, E.H. Lindsay, D.R. Ruez, Jr., H.S. Semken, Jr., S.D. Webb, and R.J. Zakrzewski

2004 The Blancan, Irvingtonian, and Rancholabrean Mammal Ages. In *Late Cretaceous and Cenozoic Mammals of North America*, edited by M.O. Woodburne, pp. 232-314. Columbia University Press, New York.

Blake, Jr. M.C., R.W. Graymer, and R.E. Stamski

2002 *Geologic Map and Map Database of Western Sonoma, Northernmost Marin, and Southernmost Mendocino Counties, California*. United States Geological Survey Miscellaneous Field Studies Map MF-2402. Menlo Park, California.

Bowers, A.B.

1867 *Map of Sonoma County, California*. Second edition. A.B. Bowers, publisher, San Francisco, California.

California Department of Parks and Recreation

1976 *California Inventory of Historic Resources*. California Department of Parks and Recreation, Sacramento.

California Office of Historic Preservation

1988 *Five Views: An Ethnic Sites Survey for California*. California Department of Parks and Recreation, Sacramento.

1990 *California Historical Landmarks*. California Department of Parks and Recreation, Sacramento.

1992 *California Points of Historical Interest*. California Department of Parks and Recreation, Sacramento

2005 *Directory of Properties in the Historic Property Data File for Sonoma County*. California Department of Parks and Recreation, Sacramento, August 8, 2005.

Derr, Eleanor

1996 *Letter Report for the Sonoma CDF Air Attack Base*. Cultural Resources Unlimited, Rancho Cordova, California.

General Land Office

1864 *Plat of Township 8 North, Range 9 West, Mount Diablo Base Line and Meridian*. U.S. Department of the Interior, Washington, D.C.

Gerike, C.

2000 *Supplemental Cultural Resources Survey, Santa Rosa Geysers Recharge Project: Llano Road, Slusser-Mark West Station-Windsor Roads, Sausal Creek, BLM Slide and Auradou Revisions, Sonoma County California*. LSA Associates, Inc., Point Richmond, California.

Gillies, Sara

2000 *AHS2, Concrete Pad at the Sonoma County Airport, Santa Rosa Geysers Recharge Project, Southern Section, Sonoma County, California, LSA Project # SRS930 Task 14, OHP # EPA 000125A*. LSA Associates, Inc., Point Richmond, California.

Gillies, S. and C. MacDonald

2000 *Primary Record for P-49-002795*. LSA Associates, Inc., Point Richmond, California.

Gudde, Erwin G.

1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. University of California Press, Berkeley.

Helley, E.J, K.R. La Joie, W.E. Spangle, and M.L. Blair

1979 *Flatland Deposits of the San Francisco Bay Region - their geology and engineering properties, and their importance to comprehensive planning*. Geological Survey Professional Paper 943. U.S. Geological Survey and Department of Housing and Urban Development, Washington, D.C.

Hoover, Mildred B., Hero E. Rensch, Ethel G. Rensch, and William N. Abeloe,

1990 *Historic Spots in California*. Revised by Douglas E. Kyle. Stanford University Press, Stanford, California.

Huffman, M.E., and C.F. Armstrong

1980 *Geology for Planning in Sonoma County*. California Division of Mines and Geology Special Report 120. Sacramento, California.

Jordan, Leigh

1990 *Archaeological Archival Study for the City of Santa Rosa Waste Water Project Alternatives, Sonoma County, California*. Report #S-12123 on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

King, Ann G.

1978 *An Archaeological Investigation of a Portion of the Barber Property, North of Airport Boulevard, Sonoma County, California (County File 9186)*. The Anthropology Laboratory, Sonoma State University, Rohnert Park, California.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C. Reprinted 1976 by Dover Publications, New York.

Küchler, A. W.

1977 *The Map of the Natural Vegetation of California*. University of Kansas, Lawrence.

McLendon, Salley, and Robert Oswalt

1978 Pomo: An Introduction. In *California*, edited by Robert F. Heizer, pp.274-288. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Meyer, Jack

1995 *Preliminary Assessment of Subsurface Archaeological Potential for the Santa Rosa Wastewater Project, Sonoma and Marin Counties, California*. Anthropological Studies Center, Sonoma State University, Rohnert Park, California.

Miller, Vernon C.

1972 *Soil Survey of Sonoma County, California*. United States Department of Agriculture, Soil Conservation Service, in Cooperation with the University of California Agricultural Experiment Station. N.p.

Origer, Thomas M.

1981 *An Archaeological Study for the Airport/Larkfield/Wikiup Wastewater System, Sonoma County, California*. The Cultural Resources Facility, Sonoma State University, Rohnert Park, California.

1990 *An Archaeological Survey of the County Service Area #31 Wastewater Irrigation Pipeline Routes, South and Southwest of the Sonoma County Airport, Sonoma County, California*. Thomas M. Origer, Consulting Archaeologist, Cotati, California.

Origer, T. and P. Amaroli

1981 *Archaeological Site Record for CA-SON-1322*. The Anthropology Laboratory, Sonoma State University, Rohnert Park, California.

Pulcheon, Andrew

2000 *Portrait of the Forgotten Fields: Sonoma County and its Auxiliary Airfields of World War II*. Master's Thesis, Sonoma State University, Rohnert Park, California.

Roop, William

1997 *A Cultural Resources Evaluation of the Airport—Larkfield Wikiup Sanitation Zone Reclamation Facilities Project—Cultural Resource Surveys*. Archaeological Resource Service, Petaluma, California.

Savage, Donald

1951 *Late Cenozoic Vertebrates of the San Francisco Bay Region*. UC Publications Bulletin of the Department of Geological Sciences 28(10):215-314.

Stirton, R. A.

1951 Prehistoric Land Animals of the San Francisco Bay Region. In *Geology Guidebook of the San Francisco Bay Counties: History, Landscape, Geology, Fossils, Minerals, Industry, and Routes to Travel*, prepared by Olaf P. Jenkins, pp. 177-186. Bulletin 154. State of California Division of Mines, San Francisco.

Thompson, T.

1877 *New Historical Atlas of Sonoma County*. T. Thomson and Company, Oakland, California.

United States Army

1915 *Healdsburg Quadrangle*. 15-minute topographic quadrangle. Reprinted 1920. United States Army Corps of Engineers, Washington, D.C.

United States Geological Survey

1954 *Sebastopol, Calif.* 7.5-minute topographic quadrangle. Photorevised 1980. United States Geological Survey, Washington, D.C.

1993 *Healdsburg, Calif.* 7.5-minute topographic quadrangle. United States Geological Survey, Washington, D.C.

Wagner, D.L. and E.J. Bortugno

1982 *Geologic Map of the Santa Rosa Quadrangle, California*, 1:250,000. Department of Conservation Division of Mines and Geology Regional Map Series Map No. 2A (Geology). California Division of Mines and Geology, Sacramento.

Weaver, C.E.

1949 *Geology of the Coast Ranges Immediately North of the San Francisco Bay Region, California*. The Geological Society of America Memior 35.

MEMORANDUM

DATE: April 12, 2006

TO: Theresa Bravo

FROM: Andrew Pulcheon

SUBJECT: Sonoma County Airport Master Plan Environmental Baseline Data, Cultural and Paleontological Resources (LSA #MHN431)

INTRODUCTION

As requested, a cultural and paleontological resources sensitivity analysis was conducted for the Sonoma County Airport Master Plan Environmental Baseline Data Project (project), Santa Rosa, Sonoma County, California. The analysis was based on existing documentation; no field study was undertaken. This memo supplements a cultural and paleontological resources sensitivity analysis conducted for a portion of the project area in November 2005.

CULTURAL RESOURCES

This section describes the methods, results, and recommendations of the cultural resources sensitivity analysis. Information obtained through background research and consultation provided the basis for the sensitivity analysis.

Methods

Cultural resources background research consisted of a records search, literature review, and consultation.

Records Search. A records search (#05-882) was conducted on March 20, 2006, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of cultural resource records and reports for Sonoma County. NWIC base maps were reviewed to identify cultural resources in the project area and a 1/4-mile radius, and to identify previously-conducted cultural resource studies in or adjacent to the project area. Two cultural resources are in the project area; 13 cultural resource studies have been done of portions of the project area. Four cultural resources are within 1/4 mile, and 23 cultural resource studies are within this radius.

As part of the records search, LSA reviewed the following state of California inventories for cultural resources in and adjacent to the project area:

- California Inventory of Historic Resources (California Department of Parks and Recreation 1976);

- Five Views: An Ethnic Historic Site Survey for California (California Office of Historic Preservation 1988);
- California Historical Landmarks (California Office of Historic Preservation 1996);
- California Points of Historical Interest (California Office of Historic Preservation 1992); and
- Directory of Properties in the Historic Property Data File (California Office of Historic Preservation August 8, 2005). The directory includes the listings of the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

The project area contains no cultural resources listed in these inventories.

Literature Review. LSA reviewed various publications and maps for archaeological, historical, ethnographic, and environmental information about the project area and its vicinity. These maps and publications are

- Handbook of the Indians of California (Kroeber 1925);
- Pomo: An Introduction (McLendon and Oswalt 1978);
- Historic Spots in California (Hoover et al. 1990);
- California Place Names: The Origin and Etymology of Current Geographical Names (Gudde 1998);
- Sebastopol, Calif. 7.5-minute topographic quadrangle (USGS 1954);
- Healdsburg, Calif. 7.5-minute topographic quadrangle (USGS 1993);
- Plat of Township 8 North, Range 9 West (General Land Office 1864);
- The Map of the Natural Vegetation of California (Küchler 1977);
- Soil Survey of Sonoma County, California (Miller 1972); and
- Geologic Map of the San Francisco-San Jose Quadrangle (Wagner, Bortugno, and McJunkin 1990).

These publications and maps indicate that the project area once contained (during the historic period) several buildings and a portion of a road.

Consultation. On March 30, 2006, LSA sent a letter and a map to the Native American Heritage Commission (NAHC) in Sacramento requesting a review of the NAHC sacred lands file for any Native American cultural resources that might be affected by the proposed project. Debbie Pilas-Treadway, Environmental Specialist III at the NAHC, responded in a faxed letter dated April 6, 2006, that a review of the sacred lands file showed no known Native American cultural resources within or adjacent to the proposed project.

On March 30, 2006, LSA sent a letter and a map to the Sonoma County Historical Society (Society) requesting information or concerns regarding the proposed project. No response to LSA's letter has been received to date. On April 11, 2006, LSA sent an email to Ms. Simone Wilson, Society Newsletter editor, requesting the name of the appropriate contact at the Sonoma County Historical

Society. Ms. Wilson replied by email on April 11, 2006, that LSA should contact either Mr. Harry Lapham, Society Archivist, or Mr. Tony Hoskins, Society President.

On April 11, 2006, LSA placed a telephone call to Mr. Harry Lapham. An unidentified woman who answered the phone stated that Mr. Lapham would be away for an extended time and referred LSA to Mr. Hoskins. LSA left a voice-mail message for Mr. Hoskins requesting that he call LSA regarding this project.

Results

Analysis indicates that the project area contains known cultural resources, and has the possibility of containing unidentified cultural resources.

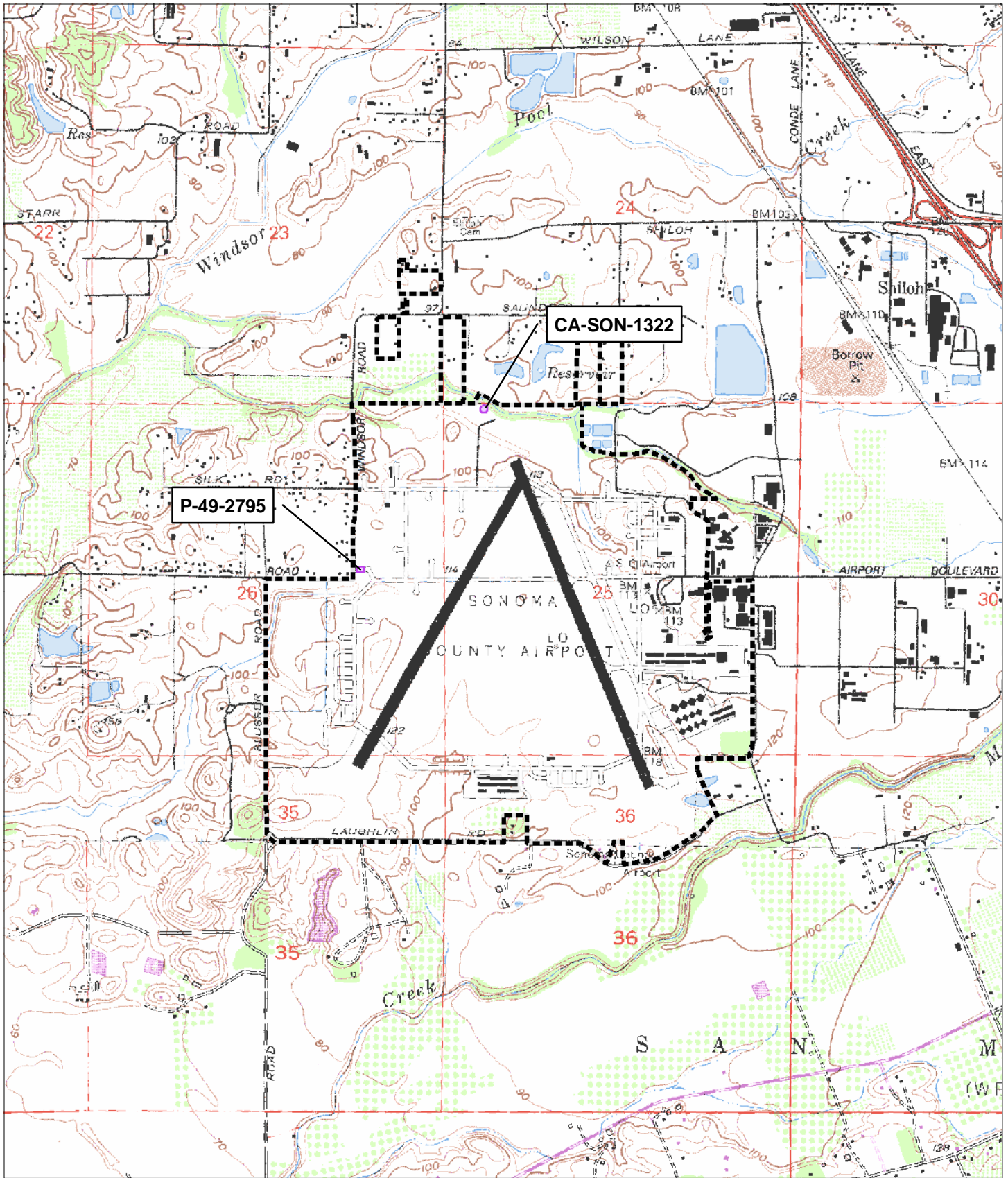
Background Research. The records search indicated that 13 cultural resources studies have been conducted in the project area: Beard (1996, 1999, 2003, 2005), Derr (1997), Gerike et al. (2000), Gerike and Gillies (2000), King (1978), Origer (1981, 1990, 1999), Pulcheon (2000), and Roop (1997). Twenty-three studies have been conducted within a 1/4 mile of the project area.

Two cultural resources, P-49-2795 and CA-SON-1322, are recorded in the project area (Figure 1). Four cultural resources are recorded with 1/4 mile of the project area. P-49-2795, recorded by Gillies and MacDonald in 2000, is the remains of a concrete building pad, a ditch, and a power pole, all constructed during WWII and associated with the operation of the Santa Rosa Army Airfield (current Sonoma County Airport). CA-SON-1322, recorded by Origer and Amaroli in 1981, is a prehistoric archaeological site consisting of a scatter of obsidian and chert debitage, and heat-affected rock.

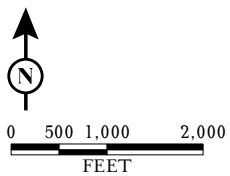
Historical maps at the NWIC (Bowers 1867; United States Army Corps of Engineers 1915) show numerous parcels and associated buildings in the project area. The General Land Office plat of Township 8 North, Ranch 9 West (1864) shows several fence lines and a portion of a road that connected to the "Windsor-Healdsburg Road" in the project area.

Archaeological Sensitivity. Although almost all of the project area has been archaeologically surveyed, there is the possibility of buried archaeological sites in the project area. This assessment is based on (1) the presence of a recorded prehistoric archaeological site in the project area; (2) the former presence of buildings in the project area; (3) the likelihood of additional prehistoric archaeological sites due to the project area's environmental characteristics; and (4) the potential that sites may be buried and remain unidentified due to alluvial deposition.

Jordan (1990) conducted an archaeological sensitivity study in the vicinity of the project area and found a very high possibility of prehistoric cultural resources on the terraces adjacent to the Laguna de Santa Rosa and its tributaries (Jordan 1990:10). Another study, conducted for the Santa Rosa Wastewater Project, concluded that central Sonoma County, including the portion containing the project area, is highly likely to contain buried archaeological deposits (Meyer 1995:9). Due to its proximity to Laguna de Santa Rosa tributaries and its location in central Sonoma County, the project area has the potential contain unidentified prehistoric archaeological deposits. Because historical maps indicate that 19th century buildings were once located in the project area, there is also the possibility of associated historical archaeological deposits underlying contemporary development.



LSA



 STUDY AREA

FIGURE 1

Sonoma County Airport
Master Plan

Cultural Resource Locations

General Recommendations

This study did not evaluate the proposed project for possible impacts to cultural resources. Only general recommendations can be made for identification, avoidance, or mitigation of such impacts. Environmental review should be undertaken to assess the proposed project's potential cultural resource impacts and tailor mitigation appropriate to the nature of the resources involved. However, general recommendations can be made to address construction related impacts.

Archaeological Deposits. Should they be present in the project area, unidentified archaeological deposits may contain information important in prehistory or history, and therefore may qualify for listing in the California Register of Historical Resources. Such eligibility would qualify the sites for consideration as historical resources under the California Environmental Quality Act (CEQA) (PRC §21084.1). CEQA requires that historical resources be taken into account during the CEQA planning process (CCR Title 14(3) § 15064.5).

If deposits of prehistoric or historical archaeological materials are discovered during project activities, all work within 25 feet of the discovery should be redirected until the archaeological monitor assesses the situation and provides recommendations. It is recommended that adverse effects to such deposits be avoided by project activities. If such deposits cannot be avoided, they should be evaluated for their eligibility for listing in the California Register of Historical Resources. If the resources are not eligible, avoidance is not necessary. If the resources are eligible, they will need to be avoided by adverse effects or such effects must be mitigated. Upon completion of the assessment, the archaeologist should prepare a report documenting the methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report should be submitted to the project proponent, the County of Sonoma, and the NWIC.

Built Environment. Prior to the start of construction, a qualified architectural historian or historian should determine if direct or indirect impacts to buildings, structures, objects, or districts eligible for the California Register would result from the proposed project. If such impacts may occur, the architectural historian or historian should recommend ways to avoid the impacts or, if avoidance is not feasible, should develop measures to reduce the severity of the impacts.

Encountering Human Remains. If human remains are encountered, work within 25 feet of the discovery should be redirected and the County Coroner notified immediately. At the same time, an archaeologist should be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Upon completion of the assessment, a report should be prepared documenting the methods and results, and provide recommendations regarding the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report should be submitted to the County of Sonoma and the NWIC.

PALEONTOLOGICAL RESOURCES

This section describes the methods, results, and recommendations of the paleontological resources sensitivity analysis. Information obtained through background research provided the basis for the sensitivity analysis.

Methods

Paleontological resources background research consisted of a fossil locality search and an in-house literature review. The background research was done to (1) identify previous surveys of known paleontological sites in and near the project areas; and (2) identify the formations and types of fossils that may contain significant fossil resources within the project area.

Fossil Locality Search. An online fossil locality search was conducted by LSA paleontologist Benjamin Matzen on April 12, 2006, using the Berkeley Natural History Museum (BNHM) online database, specifically data from the University of California Museum of Paleontology (UCMP), Berkeley.

Literature Review. LSA reviewed paleontological and geological literature relevant to the project area and its vicinity. This literature was reviewed to (1) identify locations where paleontological resources are known to occur; and (2) identify the geological formations and paleontological resources that may occur in the project areas. See References Consulted for all literature reviewed.

Results

This study identified no paleontological resources within or adjacent to the project area. However, the geologic units underlying the project area are sensitive for paleontological resources.

Background Research. The project area lies on Pleistocene (2 million years [ma] – 10,000 years [ka] old) alluvial deposits (Helley et al. 1979; Huffman and Armstrong 1980; Wagner and Bortugno 1982; Weaver 1949; Blake et al. 2002), which are known to contain significant fossil resources in the region of the project area (Helley et al. 1979). Pleistocene vertebrate fossils include, but are not limited to horses, mastodons, mammoths, bison, camels, ground sloths, saber-toothed cats, canids, mustelids, rodents, reptiles, amphibians and birds (Savage 1951; Stirton 1951; Bell et al. 2004).

Paleontological Sensitivity. No recorded paleontological resources (fossils) were identified within or adjacent to the project area by this study. There is a possibility of encountering significant paleontological resources in the Pleistocene alluvial sediments that directly underlie the soils within the project areas.

Recommendations

To avoid adverse effects to paleontological resources, it is recommended that a qualified paleontologist monitor initial project ground-disturbing activities. Prior to ground disturbance, pre-field preparation by the paleontologist should take into account specific details of project construction plans, and information from available paleontological, geological, and geotechnical studies. Limited subsurface investigations may be appropriate for defining areas of paleontological sensitivity prior to ground disturbance. The paleontologist should monitor initial project ground disturbing activities at or below five feet from the original ground surface. The paleontologist can then determine if further monitoring, periodic site reviews, or no further monitoring is appropriate.

Paleontological monitors must be empowered to halt construction activities at the location of a discovery to review the possible paleontological material and to protect the resource while it is being evaluated. Monitoring should continue until, in the paleontologist's judgment, paleontological resources are not likely to be discovered.

If paleontological resources are discovered during project activities, all work within 25 feet of the discovery should be redirected until the paleontological monitor has assessed the situation and made recommendations regarding their treatment. It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources should be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated.

Upon project completion, a report should be prepared documenting the methods and results of the monitoring. The report should be submitted to the project proponent and the County of Sonoma.

Accidental Discovery. If paleontological resources are discovered during project activities and a paleontological monitor is not present, all work within 25 feet of the discovery should be redirected until a qualified paleontologist has assessed the situation and made recommendations regarding their treatment. Project personnel should not move or collect any paleontological resource.

It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources should be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated.

Upon completion of the paleontological assessment, a report should be prepared documenting the methods, results, and recommendations of the assessment. The report should be submitted to the project proponent and the County of Sonoma.

BIBLIOGRAPHY

Beard, Vicki R.

1996 *A Cultural Resources Study for the Airport Hangar Project, Sonoma County Airport, Sonoma County, California*. Tom Origer and Associates, Rohnert Park, California.

1999 *Preliminary Building Evaluations for the Airport Land Acquisition Program*. Tom Origer and Associates, Archaeology/Historical Research, Rohnert Park, California.

2003 *Assessments of Buildings at 1904 Sanders Road, Windsor (APN 164-170-002)*. Tom Origer and Associates, Rohnert Park, California.

2005 *A Cultural Resources Study for Planned Airport Security Fencing and Improvements Projects, Sonoma County, California*. Tom Origer and Associates, Rohnert Park, California.

Bell, C.J., E.L. Lundelius, Jr., A.D. Barnosky, R.W. Graham, E.H. Lindsay, D.R. Ruez, Jr., H.S. Semken, Jr., S.D. Webb, and R.J. Zakrzewski

2004 The Blancan, Irvingtonian, and Rancholabrean Mammal Ages. In *Late Cretaceous and Cenozoic Mammals of North America*, edited by M.O. Woodburne, pp. 232-314. Columbia University Press, New York.

Blake, Jr. M.C., R.W. Graymer, and R.E. Stamski

2002 *Geologic Map and Map Database of Western Sonoma, Northernmost Marin, and Southernmost Mendocino Counties, California*. United States Geological Survey Miscellaneous Field Studies Map MF-2402. Menlo Park, California.

Bowers, A.B.

1867 *Map of Sonoma County, California*. Second edition. A.B. Bowers, publisher, San Francisco, California.

California Department of Parks and Recreation

1976 *California Inventory of Historic Resources*. California Department of Parks and Recreation, Sacramento.

California Office of Historic Preservation

1988 *Five Views: An Ethnic Sites Survey for California*. California Department of Parks and Recreation, Sacramento.

1990 *California Historical Landmarks*. California Department of Parks and Recreation, Sacramento.

1992 *California Points of Historical Interest*. California Department of Parks and Recreation, Sacramento

2005 *Directory of Properties in the Historic Property Data File for Sonoma County*. California Department of Parks and Recreation, Sacramento, August 8, 2005.

Derr, Eleanor

1996 *Letter Report for the Sonoma CDF Air Attack Base*. Cultural Resources Unlimited, Rancho Cordova, California.

General Land Office

1864 *Plat of Township 8 North, Range 9 West, Mount Diablo Base Line and Meridian*. U.S. Department of the Interior, Washington, D.C.

Gerike, C.

2000 *Supplemental Cultural Resources Survey, Santa Rosa Geysers Recharge Project: Llano Road, Slusser-Mark West Station-Windsor Roads, Sausal Creek, BLM Slide and Auradou Revisions, Sonoma County California*. LSA Associates, Inc., Point Richmond, California.

Gillies, Sara

2000 *AHS2, Concrete Pad at the Sonoma County Airport, Santa Rosa Geysers Recharge Project, Southern Section, Sonoma County, California, LSA Project # SRS930 Task 14, OHP # EPA 000125A*. LSA Associates, Inc., Point Richmond, California.

Gillies, S. and C. MacDonald

2000 *Primary Record for P-49-002795*. LSA Associates, Inc., Point Richmond, California.

Gudde, Erwin G.

1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. University of California Press, Berkeley.

Helley, E.J, K.R. La Joie, W.E. Spangle, and M.L. Blair

1979 *Flatland Deposits of the San Francisco Bay Region - their geology and engineering properties, and their importance to comprehensive planning*. Geological Survey Professional Paper 943. U.S. Geological Survey and Department of Housing and Urban Development, Washington, D.C.

Hoover, Mildred B., Hero E. Rensch, Ethel G. Rensch, and William N. Abeloe,

1990 *Historic Spots in California*. Revised by Douglas E. Kyle. Stanford University Press, Stanford, California.

Huffman, M.E., and C.F. Armstrong

1980 *Geology for Planning in Sonoma County*. California Division of Mines and Geology Special Report 120. Sacramento, California.

Jordan, Leigh

1990 *Archaeological Archival Study for the City of Santa Rosa Waste Water Project Alternatives, Sonoma County, California*. Report #S-12123 on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

King, Ann G.

- 1978 *An Archaeological Investigation of a Portion of the Barber Property, North of Airport Boulevard, Sonoma County, California (County File 9186)*. The Anthropology Laboratory, Sonoma State University, Rohnert Park, California.

Kroeber, Alfred L.

- 1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C. Reprinted 1976 by Dover Publications, New York.

Küchler, A. W.

- 1977 *The Map of the Natural Vegetation of California*. University of Kansas, Lawrence.

McLendon, Salley, and Robert Oswalt

- 1978 Pomo: An Introduction. In *California*, edited by Robert F. Heizer, pp.274-288. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Meyer, Jack

- 1995 *Preliminary Assessment of Subsurface Archaeological Potential for the Santa Rosa Wastewater Project, Sonoma and Marin Counties, California*. Anthropological Studies Center, Sonoma State University, Rohnert Park, California.

Miller, Vernon C.

- 1972 *Soil Survey of Sonoma County, California*. United States Department of Agriculture, Soil Conservation Service, in Cooperation with the University of California Agricultural Experiment Station. N.p.

Origer, Thomas M.

- 1981 *An Archaeological Study for the Airport/Larkfield/Wikiup Wastewater System, Sonoma County, California*. The Cultural Resources Facility, Sonoma State University, Rohnert Park, California.

- 1990 *An Archaeological Survey of the County Service Area #31 Wastewater Irrigation Pipeline Routes, South and Southwest of the Sonoma County Airport, Sonoma County, California*. Thomas M. Origer, Consulting Archaeologist, Cotati, California.

Origer, T. and P. Amaroli

- 1981 *Archaeological Site Record for CA-SON-1322*. The Anthropology Laboratory, Sonoma State University, Rohnert Park, California.

Pulcheon, Andrew

- 2000 *Portrait of the Forgotten Fields: Sonoma County and its Auxiliary Airfields of World War II*. Master's Thesis, Sonoma State University, Rohnert Park, California.

Roop, William

1997 *A Cultural Resources Evaluation of the Airport—Larkfield Wikiup Sanitation Zone Reclamation Facilities Project—Cultural Resource Surveys*. Archaeological Resource Service, Petaluma, California.

Savage, Donald

1951 *Late Cenozoic Vertebrates of the San Francisco Bay Region*. UC Publications Bulletin of the Department of Geological Sciences 28(10):215-314.

Stirton, R. A.

1951 Prehistoric Land Animals of the San Francisco Bay Region. In *Geology Guidebook of the San Francisco Bay Counties: History, Landscape, Geology, Fossils, Minerals, Industry, and Routes to Travel*, prepared by Olaf P. Jenkins, pp. 177-186. Bulletin 154. State of California Division of Mines, San Francisco.

Thompson, T.

1877 *New Historical Atlas of Sonoma County*. T. Thomson and Company, Oakland, California.

United States Army

1915 *Healdsburg Quadrangle*. 15-minute topographic quadrangle. Reprinted 1920. United States Army Corps of Engineers, Washington, D.C.

United States Geological Survey

1954 *Sebastopol, Calif.* 7.5-minute topographic quadrangle. Photorevised 1980. United States Geological Survey, Washington, D.C.

1993 *Healdsburg, Calif.* 7.5-minute topographic quadrangle. United States Geological Survey, Washington, D.C.

Wagner, D.L. and E.J. Bortugno

1982 *Geologic Map of the Santa Rosa Quadrangle, California*, 1:250,000. Department of Conservation Division of Mines and Geology Regional Map Series Map No. 2A (Geology). California Division of Mines and Geology, Sacramento.

Weaver, C.E.

1949 *Geology of the Coast Ranges Immediately North of the San Francisco Bay Region, California*. The Geological Society of America Memior 35.