

APPENDIX IV.D.2

**Archaeological Resource Inventory and Impact Assessment
Technical Report (December 2009)**

Archaeological Resource Inventory and Impact Assessment Technical Report

**Prepared in Support of Loyola Marymount University
Master Plan Project
Los Angeles, California**

John G. Douglass and Richard Ciolek-Torrello
With contributions by Ellen Chapman and Holly Warner

Submitted to
Impact Science, Inc.
234 E. Colorado Blvd., Ste. 205
Pasadena, CA 91101



Technical Report 07-38
Statistical Research, Inc.
P.O. Box 390
Redlands, CA 92373-0123

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Introduction

The Loyola Marymount University (LMU) Campus is located at 1 LMU Drive, in the Westchester community of west Los Angeles, California (Figure 1.1). It is bounded on the north by the edge of the Westchester Bluffs, to the west by Lincoln Boulevard, to the south by West 80th Street, and to the east by McConnell Avenue. Much of the Campus is already developed with buildings, parking facilities, athletic facilities, and open space (Figure 1.2).

Through LMU's Proposed Master Plan Project (Proposed Master Plan Project), LMU seeks to improve its facilities to accommodate the evolving needs of the University's academic, administrative, and student-support programs; to enhance the educational experience; and to improve facilities and programs for students, faculty, and staff. LMU offers the Proposed Master Plan Project to guide future Campus improvements over the next 20 years. The Proposed Master Plan Project does not propose to increase the area of the LMU Campus but, rather, proposes to upgrade, renovate, and replace a substantial portion of the existing Campus facilities.

Because this Proposed Master Plan Project has the potential to impact existing archaeological resources on Campus, Statistical Research, Inc. (SRI), was contracted to evaluate the potential impacts and to assess how to mitigate them. This archaeological resources technical report documents the findings of field investigations and research conducted for LMU to evaluate these potential impacts. Between May 2007 and January 2009, SRI conducted fieldwork and archival and archaeological records research, reviewed and synthesized previous research in the area, and wrote this technical report on our findings.

This technical report is divided into six sections. Following this brief introduction, SRI presents an executive summary in Section 2. In Section 3, SRI lists and explains the regulations applicable to archaeological resources in the Proposed Master Plan Project area. In Section 4, SRI presents and discusses the environmental and cultural background related to the area surrounding and including LMU. Section 5 details the previous archaeological investigations at LMU and in the surrounding area. SRI concludes this technical report in Section 6 with an evaluation of archaeological resources at LMU and presents recommended mitigation measures related to the Proposed Master Plan Project.



Figure 1.1. Vicinity of project area, southern California.

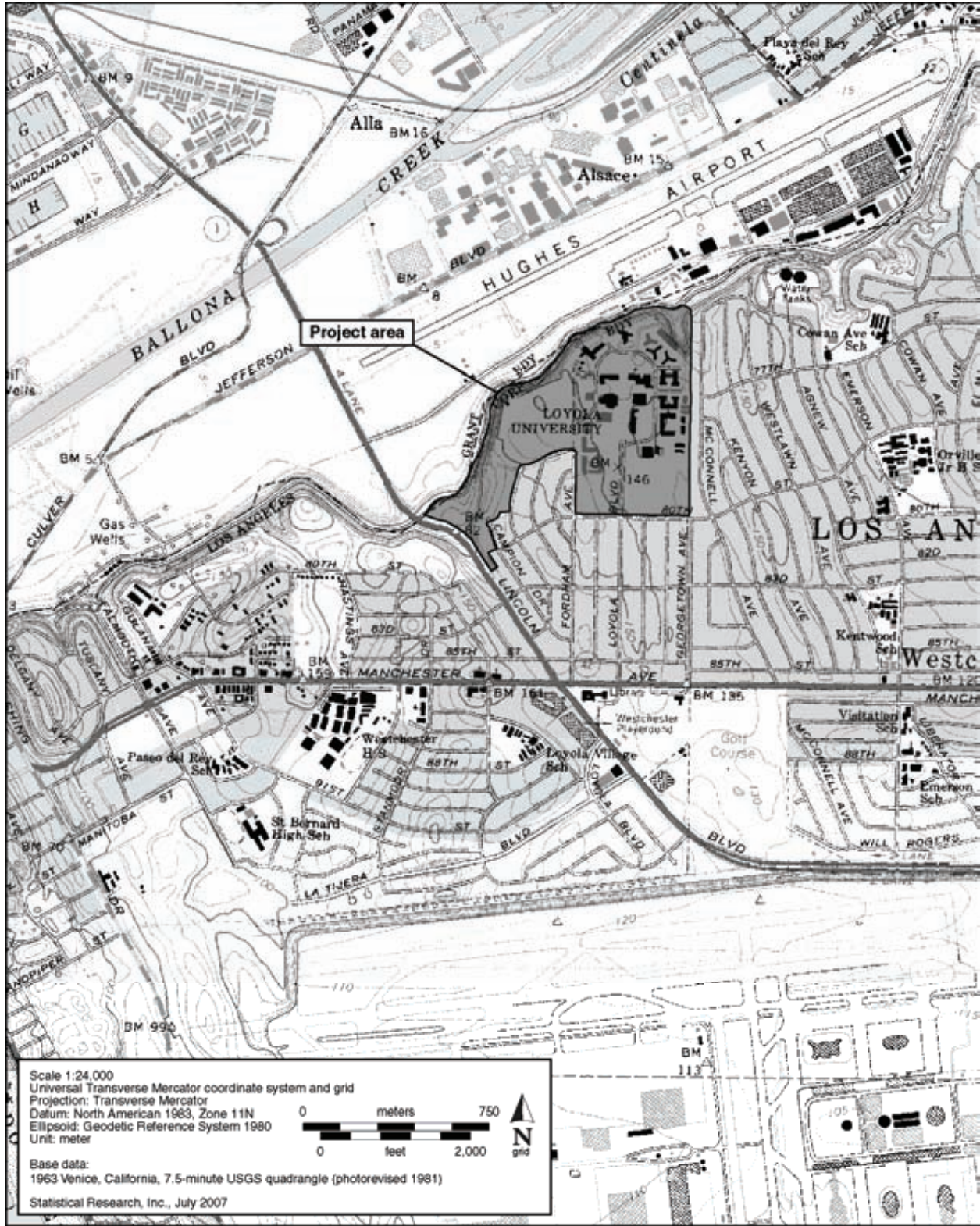


Figure 1.2. Location of project area, west Los Angeles.

Executive Summary

Introduction

LMU is a private, coeducational, Roman Catholic Jesuit University offering undergraduate and graduate degrees in the liberal arts, located in the Westchester community in west Los Angeles, California. Currently, the LMU overall Campus is divided into three Campuses: Burns, Leavey, and Hughes Campuses. LMU seeks to improve its facilities to accommodate the evolving needs of the University's academic, administrative, and student-support programs; to enhance the educational experience; and to improve facilities and programs for students, faculty, and staff. LMU presents the Proposed Master Plan Project to guide future Campus improvements over the next 20 years. The Proposed Master Plan Project does not propose to increase the area of the LMU Campus but, rather, proposes to upgrade, renovate, and replace a substantial portion of the existing Campus facilities. The Proposed Master Plan Project encompasses a wide range of goals, including those related to Campus design; academic, residential, and pedestrian circulation; vehicular circulation and parking; and recreational and open space. Overall, through the Proposed Master Plan Project, LMU seeks to improve its facilities to meet the educational needs and goals of the University by, in part, reconfiguring inadequate Campus recreational facilities and open-space amenities, roadways, parking facilities, and pedestrian-circulation accommodations and by implementing infrastructure upgrades as needed.

Because this Proposed Master Plan Project has the potential to impact existing archaeological resources on Campus, SRI was contracted to evaluate these potential impacts and assess potential mitigation. Section 3 of this technical report outlines the regulations applicable to archaeological resources in the Proposed Master Plan Project area. Because the precise siting and configuration of buildings and other facilities proposed by the Proposed Master Plan Project have not been finalized and will be determined based on evolving academic and administrative needs over the next 20 years, SRI undertook a comprehensive approach to both known and potential archaeological resources on Campus. This technical report documents the findings of field investigations and research conducted for LMU to evaluate these potential impacts. In support of the Proposed Master Plan Project, between May 2007 and January 2009, SRI conducted a number of tasks, including fieldwork and archival and archaeological-records research; reviewed and synthesized previous research in the area; and wrote this technical report on our findings. In support of this technical report, fieldwork consisted of a field survey of the Campus, conducted on foot. Because much of the Campus is developed and covered with formal landscaping, this field survey was not exhaustive but, rather, exploratory. Archival and archaeological record searches were done at the South Central Coastal Information Center, located in the Department of Anthropology at California State University, Fullerton. At this facility, an archaeological records search was conducted for a 1-mile radius surrounding LMU to identify all known archaeological resources. In addition, SRI searched its own archives for supplemental information that would be relevant to the technical report. SRI also sent a letter to the Native American Heritage Commission asking for information regarding sacred sites in and around the Proposed Master Plan Project, as well as requesting a list of Native American Tribes that may have additional information regarding the Proposed Master Plan Project area. This technical report synthesizes archaeological research and findings, undertaken to develop a broad understanding of the life-ways of the prehistoric inhabitants of the area.

Brief Description of Sections of the Technical Report

Section 1, previous to this section, introduces the technical report and offers broad information on the Project location, the Proposed Master Plan Project goals, a summary of the scope of work for this technical report, and a brief outline of subsequent sections of the technical report.

Section 3 details the regulatory setting for the technical report and clearly lists and explains the regulations applicable to archaeological resources in the Project area. Regulations discussed in detail include the National Historic Preservation Act, the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), the California Public Resources Codes, the California Code of Regulations, the California Environmental Quality Act (CEQA), the Health and Safety Code, California State Senate Bill 18 (Senate Bill 18), the Los Angeles Municipal Code (LAMC), and the City of Los Angeles Historic-Cultural Monument regulations.

Section 4 outlines the environmental and cultural setting for the Project area. Research in the surrounding area, referred to as the Ballona, details a complex interaction between an evolving coastal lagoon and Native American human inhabitants in the area over the past 8,000 years.

Section 5 offers a close look at previous archaeological investigations at both LMU and the surrounding Ballona Lagoon area. The area where LMU now stands began to be investigated by amateur archaeologists in the 1930s and has been studied by numerous archaeologists up to the present day.

Section 6, the final main section of the technical report, evaluates the archaeological resources at LMU, based on the Proposed Master Plan Project. It addresses potential impacts on archaeological resources, offers recommended mitigation measures, and presents information on whether residual impacts after mitigation are expected.

Summary of Findings

There are three known archaeological sites located within the boundaries of the LMU Campus: CA-LAN-61, CA-LAN-212, and CA-LAN-1018 (hereinafter, the prefix CA- will be omitted). Although the exact siting and configuration of the Proposed Master Plan Project buildings and facilities have not been finalized at this time, it is possible that implementation of the Proposed Master Plan Project would have a potentially significant impact on these known archaeological resources. In addition, recent archaeological research on the LMU Campus indicates it is likely that the actual archaeological site boundaries of LAN-61 and LAN-212 extend outside their recorded boundaries. During recent surveys of the Campus, certain areas of Campus were found to have dark, sandy soil that may represent archaeological site material. Intact archaeological material may be present in open areas of Campus as well as underneath standing buildings in areas having inadequate soil preparation prior to construction. For these reasons, development of the remainder of the LMU Campus has the potential to disturb, damage, or degrade archaeological resources or their settings. The Proposed Master Plan Project implementation across Campus in general, then, could have the potential to significantly impact archaeological resources. With the implementation of recommended mitigation measures outlined in Section 6 of this report, however, direct impacts would be reduced to a less-than-significant level after mitigation. The incidental loss associated with data recovery and curation of portions of archaeological resources from other archaeological sites associated with related projects in the Proposed Project area, however, may constitute a significant cumulative impact.

SECTION 3

Regulatory Setting

The Proposed Master Plan Project is designed to improve LMU facilities over a 20-year period in order to meet the educational needs and goals of the University. It is intended to facilitate the replacement of aging facilities, including on-Campus student housing, and would result in the total development of approximately 1 million square feet of net new academic, administrative, student residential, and indoor athletic facilities. Through this development, the Proposed Master Plan Project would reconfigure Campus athletic facilities, roadways, parking facilities, and pedestrian-circulation accommodations that have been determined to be substandard. As part of this work, some buildings would be demolished and replaced, and some existing open space on Campus would be reconfigured.

This technical report follows the provisions of the National Register and CEQA regarding cultural resources and local ordinances of the City of Los Angeles. These statutes, as well as the Public Resources Code, the Health and Safety Code, the California Code of Regulations, and the LAMC, were used as the basic guidelines for discussing regulations regarding historical resources. Below, SRI offers detailed information on each of these regulations and their applicability to archaeological resources.

National Historic Preservation Act

The National Historic Preservation Act, established in 1966, created the legislation for the creation of the National Register and the Advisory Council on Historic Preservation (Advisory Council). Section 106 of the National Historic Preservation Act (Code of Federal Regulations Title 36, Part 800) requires Federal agencies to take into account the effects of an undertaking on historical properties, defined as cultural resources included in or eligible for listing in the National Register.

The National Historic Preservation Act is the key to the evaluation of cultural resources within the United States Federal regulatory frameworks. The National Register, which the National Historic Preservation Act established, includes districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture. The National Historic Preservation Act also created the Advisory Council, appointed by the President, to advise the President and the Congress on matters related to historic preservation. The Advisory Council is authorized to secure information it may need from Federal agencies in order to carry out its responsibilities.

There have been several amendments to the National Historic Preservation Act. The 1980 amendments require that the Secretary of the Interior is directed to: (1) certify local historic preservation programs; (2) promulgate curation regulations, standards, and guidelines for the preservation of historic and archaeological properties; (3) develop an appeals process for nominations to the National Register; (4) develop a direct grants program for the preservation of National Register properties; and (5) develop a loan guarantee program to finance historic preservation projects. The structure of the Advisory Council was also revised to include local government and private participation. Federal agencies were also

directed to inventory their lands and nominate eligible properties for listing in the National Register (a reiteration of Executive Order 11593).

The 1992 amendments to the National Historic Preservation Act state that it shall be the policy of the Federal government to provide leadership in the administration of the national preservation program in partnership with states, Indian Tribes, Native Hawaiians, and local governments, to assist Indian Tribes and Native Hawaiian organizations to accelerate and expand their historic preservation programs and activities. This amendment also expanded the definition of an undertaking to mean a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including (1) those carried out by or on behalf of an agency; (2) those carried out with Federal financial assistance; (3) those requiring a Federal permit, license, or approval; and, finally, (4) those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.

Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings, licensed or executed by the agency, on historic properties listed or eligible for listing in the National Register and affords the Advisory Council a reasonable opportunity to comment on such undertakings. The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the lead agency and other parties with an interest in the effect of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess the effects of the undertaking, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. The Section 106 process includes the following five steps:

1. Identify and evaluate the National Register eligibility of historic properties;
2. Assess the effects of a proposed action on any historic property;
3. Consult with the State Historic Preservation Officer, interested parties, and when appropriate, the Advisory Council;
4. Treat impacts as necessary; and
5. Proceed with the action.

A final amendment to the National Historic Preservation Act, in 1999, affected the Section 106 process. The 1999 amendment, published by the Advisory Council, replaced the previous regulations in order to implement the 1992 amendments to the National Historic Preservation Act and improve and streamline the regulations in accordance with the Administration's reinventing government initiatives and public comment. The 1999 amendment modifies the process by which Federal agencies consider the effects of their undertakings on historic properties and provide the Advisory Council with a reasonable opportunity to comment with regard to such undertakings, as required by Section 106. The Advisory Council has sought to better balance the interests and concerns of various users of the Section 106 process, including Federal agencies, State Historic Preservation Officers, Tribal Historic Preservation Officers, Native Americans, Native Hawaiians, industry, and the public in general.

National Register of Historic Places

The Proposed Master Plan Project is subject to CEQA and may be subject to Section 106 of the National Historic Preservation Act, as well, if the project involves a Federal undertaking. The National Historic Preservation Act, as discussed above, requires Federal agencies to take into account the effects of an undertaking on historical properties, defined as cultural resources included in or eligible for listing in the National Register. Because CEQA also allows use of National Register–eligibility determinations for California Register eligibility, the National Register criteria and guidelines may be used for implementation of Section 106 of the NHPA (Code of Federal Regulations Title 36, Part 800) in order to make recommendations for significance evaluations under CEQA.

Title 36, Part 60, of the Code of Federal Regulations is a series of regulations that covers the National Register. Specifically, Title 36, Part 60.4, of the Code of Federal Regulations specifies the criteria applied to evaluating properties eligible for listing in the National Register. These criteria are worded to include a wide diversity of resources. They shall be used in evaluating properties for nomination for listing in the National Register and for evaluating National Register eligibility of properties. National Register eligibility for cultural resources, prior to a finding of effect, is determined according to the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is presented in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and 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 to our past; or
- (c) that embody the distinctive characteristics of a type, period, 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 distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history [Code of Federal Regulations Title 36, Part 60.4].

There is also a general stipulation that the property be at least 50 years old, although there are exceptions to that rule (see Title 36, Part 50.4, of the Federal Code of Regulations, Criteria Considerations a–q). The eligibility of a cultural resource for nomination to the National Register may be based on any of these four criteria together with its integrity. Historical-period properties are best evaluated and supported by historical research, whereas Criterion (d) is typically documented by archaeological investigation. Importantly, a property need not actually be listed in the National Register to be protected by the National Historic Preservation Act but must be considered eligible for listing. Archaeologists assess sites based on all four criteria, but prehistoric sites are primarily considered under Criterion d. If cultural resources do not meet the above criteria, they are not considered historical properties and are not further included in the Section 106 process.

Properties can be added to the National Register through the following processes:

1. Those Acts of Congress and Executive Orders which create historic areas of the National Park System administered by the National Park Service, all or portions of which may be determined to be of historic significance with the intent of Congress;
2. Properties declared by the Secretary of the Interior to be of national significance and designated as National Historic Landmarks;
3. Nominations prepared under approved State Historic Preservation Programs, submitted by the State Historic Preservation Officer and approved by the National Park Service;
4. Nominations from any person or local government (only if such property is located in the State with no approved State Historic Preservation Program) approved by the National Park Service; and
5. Nominations of Federal properties prepared by Federal agencies, submitted by the Federal Preservation Officer and approved by the National Park Service.

California Register of Historical Resources

The California Register is the authoritative guide to the State's significant archaeological and historical resources. It serves to identify, evaluate, register, and protect California's historical resources. For purposes of CEQA (see CEQA section below), a historical resource is any object, building, structure, site, area, place, record, or manuscript listed in or eligible for listing in the California Register (Public Resources Code §21084.1). A resource is considered eligible for listing in the California Register if it meets any of the following criteria, in that it:

- (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (2) is associated with the lives of persons important in our past;
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) has yielded, or may be likely to yield, information important in prehistory or history [CEQA Guidelines §15064.5(a)(3)].

Archaeologists assess sites based on all four criteria but usually focus on Criterion 4.

Applying the National Register– and California Register–Eligibility Criteria

Historical resources defined by the California Register criteria listed above (Public Resources Code §5024.1) are eligible for listing in the California Register and include resources determined eligible for listing in the National Register (California Code of Regulation Title §4851). Thus, the City of Los Angeles may apply the determinations of National Register eligibility to its findings of historical significance under CEQA. Cultural resources determined to be not eligible for listing in the National Register may still qualify as historical resources under CEQA, however, and thus, a separate finding that they are not historical resources must be made by the City of Los Angeles.

In addition to significance, resources must have integrity for a period of significance, the date or span of time within which significant events transpired or significant individuals made important contributions. Under National Register guidelines, a site or structure is required to be at least 50 years old. Under CEQA criteria, important archaeological resources are required to be at least 100 years old. However, the California Register provides that any site found eligible for listing in the National Register shall automatically be included within the California Register and subject to all protections thereof. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historical fabric that existed during the resource's period of significance. Simply put, resources must retain enough of their historical character or appearance to be recognizable as historical resources and to convey the reasons for their significance (California Code of Regulation Title 14 §4852).

The California Register automatically lists California Register Historic Landmarks from Number 0770 onward, as well as California points of historical interest that have been evaluated by the State Historic Preservation Office and have been recommended for inclusion to the State Historical Resources Commission.

California Public Resources Code and Associated Regulations

The Public Resources Code statutes create and define a number of important California agencies and infrastructure related to California historical resources, including the State Historic Preservation Office (Public Resources Code §5024.6), the State Historical Resources Commission (Public Resources Code §5020), and the Native American Heritage Commission (Public Resources Code §5097.9). As discussed above, Public Resources Code §5024.1 establishes the California Register and defines the process and criteria for eligibility for listing in the California Register.

Archaeological, paleontological, and historical sites are defined under Public Resources Code §5097, which also defines the duties of the Native American Heritage Commission. Public Resources Code §5097.96 states that the Native American Heritage Commission shall prepare an inventory of Native American sacred places. Public Resources Code §5097.98 gives the Native American Heritage Commission the authority to name a Most Likely Descendent once notified by a California county coroner that likely Native American human remains have been discovered. It is the policy of the State of California that Native American human remains and associated grave goods shall be repatriated (which means that they shall be reburied) (Public Resources Code §5097.991). In addition, the treatment of human remains is detailed in HSC §7050.5. Public Resources Code §5097.98(a) also details specific protocol for treatment of human remains. This protocol includes allowing the Most Likely Descendent, with the permission of the landowner, to inspect the site where human remains were identified; making both the inspection and corresponding recommendations for the treatment or disposal of the human

remains and any associated grave goods, with appropriate dignity, within 24 hours of notification by the Native American Heritage Commission; and allowing the scientific removal and nondestructive analysis of human remains and associated grave goods by the Most Likely Descendent. Public Resources Code §5097.98(b) also details the protocol if the Native American Heritage Commission is unable to identify a Most Likely Descendent, if the identified Most Likely Descendent fails to make recommendations, or if the landowner rejects the Most Likely Descendent recommendations and mediation provided for in Public Resources Code §5097.94(k) fails to provide measures acceptable to the landowner. In these cases, the landowner may reinter the human remains and associated grave goods on the property, with appropriate dignity, at a location where the remains shall not be subject to further disturbance.

Public Resources Code §21083.2, as part of CEQA, provides the protocol for determination of whether a project may have a significant effect on archaeological resources. If significant effect on archaeological resources is determined, Public Resources Code §21083.2 states that the lead agency shall require an environmental impact report (EIR) addressing the impacts and mitigation of the resources. As part of this process, CEQA recognizes that historical resources are part of the environment, and a project that “may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (Public Resources Code §210084.1). For purposes of CEQA, a historical resource is any object, building, structure, site, area, place, record, or manuscript listed in or eligible for listing in the California Register (Public Resources Code §21084.1).

Historical resources are presumed significant if they are listed in or eligible for listing in the California Register or National Register, have been officially designated on a local register, or have been found to be significant by the State Historic Preservation Officer, under Public Resources Code §5024.1(j). In addition, CEQA Guidelines specify that, for purposes of CEQA compliance, the term “historical resources” includes the following:

- (a) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources.
- (b) A resource included in a local register of historical resources, as defined in Public Resources Code §5021.1(k), or identified as significant in an historical resource survey meeting the requirements in Public Resources Code §5024.1(g) shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (c) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing in the California Register.
- (d) The fact that a resource is not listed, or determined to be eligible for listing, in the California Register, not included in a local register of historical resources (pursuant to Public Resources Code §5020.1[k]), or identified in an historical resources survey (meeting the criteria in Public Resources Code §5024.1[g]) does not preclude a lead agency from determining that the resource may be an historical resource, as defined in Public Resources Code §5020.1(j) or 5024.1 [California Code of Regulations Title 14 §15064.5(a)].

CEQA requires the lead agency to (1) consider whether the project shall have a significant effect on unique archaeological resources not eligible for listing in the California Register and (2) avoid unique archaeological resources when feasible or mitigate any effects to less-than-significant levels (Public Resources Code §21083.2). As used in CEQA, a unique archaeological resource is

an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- (2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- (3) is directly associated with a scientifically recognized important prehistoric event or person [Public Resources Code §21083.2(g)].

In addition to having significance, resources must have integrity for a period of significance, the date or span of time within which significant events transpired at a site or the period in which significant individuals made their important contributions to a site. Integrity is the ability of a property to convey its significance. The seven primary aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. Simply stated, resources must retain enough of their historical character or appearance to be recognizable as historical resources and to convey the reasons for their significance (California Code of Regulations Title 14 §4852).

If historical resources are found to be significant and unique, then the lead agency must determine whether the project may involve a substantial adverse change to the significance of a historical resource (California Code of Regulations Title 14 §15064.5). A substantial adverse change includes demolition, destruction, relocation, or alteration of a historical resource to the point where its significance is materially impaired (California Code of Regulations Title 14 §15064.5). Not only should the resource itself be addressed, but its overall setting should, as well, because it may contribute to (or diminish) its overall significance. CCR §15064.5 provides additional guidance regarding the significance of impacts to archaeological and historical resources. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered a historical resource. Generally, the resource shall be considered historically significant by the lead agency if it meets the criteria of the California Register. A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Substantial adverse change is defined by the statute as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource is materially impaired when a project demolishes or materially and adversely alters those characteristics of the resource that convey its historical significance and that justify its inclusion in the California Register (including those characteristics as determined by a lead agency for purposes of CEQA) or its inclusion in a local register pursuant to Public Resources Code §5020.1(k) or §5024.1(g).

This statute goes on to state that it is the responsibility of the lead agency to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historical resource and that such measures are enforceable through permit conditions, agreements, or other measures. If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of

the project on those resources shall not be considered to be a significant effect on the environment. Under CEQA, it shall be sufficient in these cases that both the resource and the effect on it are noted in the initial study or EIR, if one is prepared to address impacts on other resources, but the statute makes clear that they need not be addressed further in CEQA process.

This topic is continued in California Code of Regulations Title 14 §15126.4, which considers mitigation measures to minimize significant effects. Mitigation measures should be discussed and the basis for identifying specific measures should be identified and enforceable through permit conditions, agreements, or other legally binding instruments. California Code of Regulations Title 14 §15126.4(b)(3) stipulates that public agencies should, whenever feasible, seek to avoid damaging effects on any archaeological historical resource. California Code of Regulations Title 14 §15126.4(b)(3)(A) makes clear that preservation in place is the preferred manner of mitigating impacts to archaeological sites. By preserving the historical resource, the relationship between artifacts and archaeological context is preserved. This preservation also avoids conflicts among groups with religious or cultural values associated with the site. Preservation in place can be accomplished by, but not limited to, the following: (1) planning construction to avoid the archaeological sites, (2) incorporating the sites within parks or other green space, (3) covering the archaeological sites with chemically stable soil before capping the site with asphalt or similar materials, or (4) deeding the site into a permanent conservation easement (California Code of Regulations Title 14 §15126.4[b][3][B]).

If preservation in place is infeasible and data recovery through excavation is the only feasible mitigation, a data recovery plan which adequately recovers the scientifically consequential information from and about the historical resource shall be prepared and adopted prior to excavation (California Code of Regulations Title 14 §15126.4[b][3][C]). Human remains shall be treated in accordance with Health and Safety Code §7050.5. Finally, data recovery shall not be required for a historical resource if the lead agency determines that testing or other studies already completed have adequately recovered scientifically consequential information, provided that the determination is documented in the EIR and that the studies are deposited in the California Historical Resources Regional Information Center (California Code of Regulations Title 14 §15126.4[b][3][D]).

Health and Safety Codes

Related to Public Resources Code statutes regarding the treatment of Native American human remains, Health and Safety Code §7050.5 details the protocol for the removal of human remains, the identification of Native American human remains, and the notification of the Native American Heritage Commission within 24 hours.

California State Senate Bill 18

Senate Bill 18 requires cities and counties to contact, notify, and consult with California Native American Tribes about proposed local land-use planning decisions prior to amending or adopting a general plan or specific plan or designating land as open space. The purpose of this local and Tribal intergovernmental consultation is to protect, preserve, or mitigate impacts to Native American Cultural Places. For this purpose, the Native American Heritage Commission created a new list of Tribal consultants that is specific for Senate Bill 18. This list is made up of entities that are considered “Tribal Governments,”

which includes all Federally recognized Tribes and non-Federally recognized Tribes that meet minimum criteria set forth by the Native American Heritage Commission.

According to Senate Bill 18, Native American Cultural Places refers to the following:

1. Places, features, and objects including Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines on public property (see Public Resources Code §5097.9).
2. Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register pursuant to Public Resources Code §5024.1, including any historic or pre-historic remains, any burial ground, or any archaeological or historic site, any inscriptions made by Native Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site. (see Public Resources Code §5097.993).

Los Angeles Municipal Code

LAMC §12.20.3 allows the creation of Historic Preservation Overlay Zones related to the protection and preservation of historical resources. It is designed to enhance the use of structures, features, sites, and areas that are reminders of the city's history or that are unique and irreplaceable assets to the city and its neighbors. The ordinance only protects properties within designated Historic Preservation Overlay Zones. No Historic Preservation Overlay Zone has been identified for the Proposed Master Plan Project.

City of Los Angeles Historic-Cultural Monument

The Los Angeles City Council designates Historic-Cultural Monuments at the recommendation of the City of Los Angeles Cultural Heritage Commission. These designations recognize the historical or cultural significance of specific sites and the unique architectural value of specific structures, including sites which reflect or are associated with broad or specific national, State, or local history or people; include unique or representative examples of architectural styles or methods of construction; or are associated with a specific master builder, designer, or architect.

Environmental and Cultural Setting

Introduction

The Proposed Master Plan Project is located on the edge of the Westchester Bluffs, overlooking what was once an extensive estuary known as the Ballona Wetlands (see Figure 1.2). These wetlands were formed thousands of years ago in one of the many drowned river valleys dotting the length of the southern California Bight. The Ballona Wetlands are on the edge of Santa Monica Bay in west Los Angeles. Ballona and Centinela Creeks, which feed the wetlands, drain an approximately 110-square-mile area bounded on the south by the Westchester Bluffs and by Baldwin and Beverly Hills to the east and north. During much of prehistory, however, the Los Angeles River emptied into this valley along the course of Ballona Creek (Gumprecht 1999). Several hundred years ago, before it became choked with silt, the valley was a tidal marsh marked by narrow channels of fresh to brackish water meandering toward the sea. Before that, the marsh was the Ballona Lagoon, an expanse of shallow, open water. One can imagine this coastal lagoon fringed by dense stands of sedges and reeds and alive with the calls of shore and marsh birds.

The area surrounding the Ballona is now home to the modern communities of Marina del Rey, Westchester, Playa Vista, and Playa del Rey. During prehistoric times, many people were attracted to the area, and they established numerous settlements on the bluff tops overlooking the wetlands and along the banks of the two streams, Ballona and Centinela Creeks. Elevated areas or knolls along the edge of the Westchester Bluffs, overlooking the wetlands, made inviting places for people to camp and to process the food they collected from the marsh and lagoon and from vernal pools that dotted the bluffs. Spring-fed Centinela Creek flowed along the base of the bluffs, providing an ample source of fresh water for these camps. Fingers of sandy alluvium, which reached out from the base of the bluffs, were also important places for prehistoric settlement.

Environment

Environmental reconstruction of the ecosystem that encompassed the Ballona Wetlands has progressed significantly during SRI's nearly 20 years of research in the area. An extensive coring program has provided more than 300 continuous 7.6-cm (3-inch) cores in the area. These cores have been used for stratigraphic, chronometric, pollen, mollusk, foraminifera, siliceous-microfossil, and ostracode analyses. Global sea-level rise at the end of the Pleistocene, beginning approximately 18,000 years B.P., was the major factor in the formation of the Ballona. Initially, as the ice caps melted, the inundation of the pre-existing shoreline created an inlet at the edge of Santa Monica Bay. For 6,000 years, continued rises in sea level were offset by tectonic activity that raised the land, leading to a long period of relative stability of the shoreline. This stability continued until about 5,000 years B.P., when the rate of sea-level rise tapered off and other factors, such as the rate of sedimentation, became more significant in establishing the shoreline.

Peter Wigand (2005) has used pollen data to reconstruct the region's past climate. Wigand argued that there was also a dramatic increase in both annual temperature and precipitation between 8000 and 7000 B.P., an event that corresponds to the establishment of a rich marsh at the base of the bluffs. Drainage off the

bluffs also cut side canyons, depositing alluvial fans that created well-drained land surfaces at the edge of the marsh, such as the Lincoln Gap.

By 5000 B.P., sediments were starting to fill in around the fringes of the inlet, creating marshes that flanked a large lagoon (roughly 5 by 3 km). As sediment infilling continued, more-extensive marshes were created at the expense of the lagoon. By 4000 B.P., the lagoon had shrunk significantly, and a coastal plain probably began to form at the eastern end of the Ballona. By 1000 B.P., the Ballona Lagoon was confined to a small remnant of its former size, with the lagoon edge retreating from the Ballona Escarpment along all or most of its length. The lagoon at this time was probably quite shallow, and marshes may have formed along the landward side of the barrier.

Estuaries such as the one formed in the Ballona during most of its life span are among the most productive ecozones in the world (Ketchum 1983; Schreiber 1981). The mixture of open lagoon, tidal flats, saltwater and freshwater marshes, and freshwater streams provides a variety of distinct habitats within a restricted space. The availability of oceanic, riverine, and terrestrial plants and animals in proximity to one another have made the Ballona and other estuaries of the southern California Bight some of the most favored locales for human occupation since people arrived in North America. In the 1870s, the Ballona Lagoon was home to a dense population of fish and waterfowl and was renowned for its hunting and fishing.

A model of long-term predictability for lagoon environments has intriguing implications for understanding human adaptation to the Ballona over time. In fact, an estuary can be seen as stable only in the broadest sense. Within any given lagoon system, the forces of nature are in constant flux, affected daily by tides and seasonally by river runoff and weather. The dynamic qualities of a lagoon environment, however, also make it reliably productive of usable resources. Taking a larger-scale view, the Ballona can be viewed as a cohesive, relatively predictable ecological system encompassing bluff tops, terraces, and lagoon edges. All other factors being equal, one might expect resource predictability to be matched by a tendency toward sedentism rather than mobility in human populations. The effect of catastrophic environmental events, such as floods, severe droughts, earthquakes, or a shift in the course of the Los Angeles River might assume greater importance in determining the spatial distribution of human populations across the landscape against an inherently stable backdrop (Grenda et al. 1994). Nevertheless, sudden natural events would cause only temporary displacement of people or abandonment of parts of the area but would not be expected to result in a true hiatus of occupation of such a rich resource area.

Prehistory

Millingstone Period

Prehistory in the Ballona is generally divided into three broad periods: Millingstone, Intermediate, and Late (Douglass et al. 2005) (Figure 4.1). Based on radiocarbon dates, humans appeared in the Ballona beginning around 8000 B.P. This early occupation is called the Millingstone period (8500–3000 B.P.) and reflects the estuarine and bay-shore adaptation common to coastal California in the early Holocene (Breschini and Haversat 1991; Gallegos 1991). Midden deposits and features, mostly rock clusters representing cooking hearths or clean-outs, are sparse and lack diversity. Lithic tools also lack diversity, although stone-material use is much more diverse than in later times in the Ballona. These data run counter to current notions of the early development of sedentary settlement in the broader region (Erlandson and Colten 1991; Porcasi and Porcasi 2002) and suggest that a small and highly mobile foraging population occupied the Ballona on a short-term, seasonal basis.

Initially, the Millingstone occupation was restricted to the bluff tops near the Lincoln Gap, although even older sites may have been present in now-inundated areas offshore. After 6500 B.P., the Baldwin Hills and the alluvial fan at the base of the Lincoln Gap also were settled. These Millingstone period sites

reflect the diversity of subsistence strategies evident in other California coastal regions during this time. The earliest sites on the bluffs, LAN-64 (Douglass et al. 2005) and LAN-206 (Van Horn and White 1997a) (and possibly LAN-61? [Van Horn and Murray 1985]), evidence the specialized procurement strategy found at the Malaga Cove and Shobhan Paul sites, where shellfish and fish, and mostly sharks and rays from the lagoon, were the primary protein sources (Porcasi and Porcasi 2002).

Early Millingstone settlement on the bluff top and at the edge of the lagoon indicates a more generalized foraging strategy similar to San Dieguito settlements documented by Gallegos (1991) and Warren (1967) along the San Diego coast. At the lagoon edge, subsistence emphasized the exploitation of small terrestrial mammals, with a much lower use of fish and shellfish. Counterintuitively, bluff-top sites, more distant from the lagoon, evidence a greater emphasis on fish, especially sharks and rays from the lagoon. The relative abundance of scallops and oysters in most Millingstone collections from the Ballona is consistent with the relatively open lagoon conditions suggested by the environmental reconstruction for this time period.

By 5000 B.P., sea levels began to stabilize and Ballona Lagoon was created. Oysters found in cores suggest open estuarine conditions, which would have been conducive to human settlement. No radiocarbon assays collected in the Ballona date to the period between 6000 and 5000 B.P. Currently, SRI has no explanation for this hiatus.

By 4000 B.P., the sea level had stabilized. Subsequent changes to the Ballona were largely driven by sedimentation that continued to decrease the amount of open water and to expand marshy areas in the wetlands. At this time, occupation seems to have focused primarily on the alluvial fan and sand spits near the Lincoln Gap. These areas would have provided the best locations for exploiting the marsh and the lagoon. By the Intermediate period, settlement had increased in upstream locations of Centinela and Ballona Creeks and on the bluff tops. Several midden deposits, all of which are relatively sparse, date to this period. These middens are not significantly different from those of the Millingstone period, suggesting a continued pattern of small, residentially mobile foragers.

Intermediate Period

The majority of the sites that have been studied in the Ballona were occupied during the subsequent Intermediate period, which dates between approximately 3000 and 1000 B.P. All well-drained landforms in the wetlands and the knolls on the bluffs hosted residential sites at this time. LAN-61, an extensive site located on the LMU Campus, also was occupied at this time. Unlike Millingstone and early Intermediate period sites, later sites were relatively large and contained hundreds of features, including hearths, mortuary features, and houses. The faunal collections from these sites are diverse, reflecting a much-broader-spectrum collecting strategy that targeted terrestrial mammals and birds from the freshwater marsh and coastal prairies, as well as fish and shellfish. Differences between bluff-top and lagoon-edge sites persist, with sharks and rays from the lagoon emphasized in bluff-top sites and shellfish from the mudflats targeted at lagoon-edge sites. The emergence of Venus clam as the predominant shellfish in almost all collections is consistent with the expansion of mudflats at this time. Seasonality data are limited, but an abundance of migratory waterfowl in the avian faunal collections suggests a predominantly late-fall to early-spring occupation. The lithic collections indicate a logistically organized settlement. Together, these data suggest residential mobility in the Ballona was significantly reduced in the Intermediate period, but a fully sedentary occupation is still not indicated.

Two archaeological sites immediately to the west of the LMU Campus, LAN-63 and LAN-64, provide our best data on Intermediate period settlement. Analysis of the midden materials supports a highly diverse set of activities, strongly suggestive of more-permanent occupation. As important as the number and variety of features is their distribution. These sites overlook two large, natural depressions. The eastern depression was used as a community trash dump and was surrounded by hundreds of thermal features. On the western flank of this depression were three features consisting of large numbers of milling implements, many of which had been intentionally broken and smeared with ochre. Interspersed among the

milling stones was cremated human bone. Inhumations also were found in several locations throughout the community. Often, these burials were found in small clusters, suggesting the presence of burial grounds for specific social groups. The western depression, which held water for various lengths of time, was used primarily as a plant-resource procurement area, with processing taking place on the higher ground where hearths abound. In short, space at these West Bluffs sites was highly structured and segregated into communal refuse areas, resource-procurement and -processing areas, ritual space, and burial areas.

Van Horn (1987a, 1987b) argued earlier that these sites were created by periodic, short-term visits by one or two domestic units. For the occupation prior to 3000 B.P., SRI concurs. After this date, however, these settlements underwent a fundamental change, and multiple social groups lived there on an extended basis. More than 20 radiocarbon dates, primarily from features at LAN-63 and LAN-64, cluster in a 300-year period around 2000 B.P.

This occupation corresponds with a brief period of unusually high precipitation, documented by Wigand (2005), roughly between 2100 and 1900 B.P. Sites located on the bluff tops were ideally situated to procure resources from two distinct environments, the Ballona Wetlands to the north and the vernal pools of the coastal prairie to the south. Macrobotanical evidence from these sites suggests that their inhabitants took advantage of this ecotone, collecting seeds from plants growing around vernal pools and marsh plants from the lagoon. Because of the dramatic increase in rainfall during this brief period, resources in both the wetlands and the coastal prairie would have been at their peak, making the area especially attractive to settlement.

Late Period

The Late period, beginning about 1000 B.P., was a time of tremendous population growth along the southern California coast. There are more sites, and a greater variety of sites with greater internal differentiation, at this time than at any other in prehistory. Villages with complex site layouts and burial grounds with highly variable mortuary treatments appeared, suggesting the development of social differentiation. Settlement also changed fundamentally in the Ballona, but not in ways one might expect, at least initially. As the Ballona Lagoon became a sediment-choked estuary, all areas of the wetlands were abandoned except the lagoon edge. For a short time, the only occupied area of the Ballona was the sandy knoll on which the Admiralty site (LAN-47) was situated. Eventually, however, population was concentrated in one very large community, nested for 1.5 km along the base of the bluff, at two sites near the mouth of Centinela Creek, LAN-62 and LAN-211. At 2000 B.P., nearly every habitable location on the bluff tops and along Centinela Creek had hosted human activity. Less than a thousand years later, occupation was concentrated in one small area.

Wigand's (2005) climatic reconstruction provides a clue as to why settlement changed so drastically between 2000 and 1000 B.P. He has suggested that there was a return to drier conditions by 1000 B.P., with less annual precipitation and cyclical episodes of wet climate alternating with extreme drought. The Los Angeles River also may have shifted its course away from the Ballona. These drier, less-predictable conditions would have severely impacted vernal pools and reduced associated freshwater and terrestrial resources but would have left salt marshes relatively unaffected. With reduced freshwater inputs, salt marshes may have even expanded during this period. Deteriorating terrestrial conditions may be one of the reasons for the shift from dispersed villages at the ecotone between the Ballona Wetlands and the coastal prairie to aggregated settlement at the lagoon edge. As the coastal prairie dried up, people may have shifted to the more-reliable salt-marsh resources.

Preliminary findings from recent excavations at Late period lagoon-edge sites support this scenario. As the lagoon continued to fill with silt, there is evidence for increased use of salt marsh plants and, perhaps more important, shellfish, such as Pismo clam from sandy-beach habitats and abalone from more-distant rocky-shore habitats. Fishing, especially for bony fish from sandy-beach and offshore habitats, also experienced a resurgence. It was not until the protohistoric or early historical period, however, that

the residents of the Ballona appeared to experience the social and economic changes that characterized other areas of the southern California coast. It is only at this late date that SRI sees the first good evidence for the exploitation of sea mammals and pelagic fish.

Historical Period

Mission Period

Although Juan Rodriguez Cabrillo first explored southern California in 1542, it was not until 1769 that the Spanish presence was felt in the Los Angeles Basin. At that time, Portolá first made contact with the group of Indians that later came to be known as the Gabrielino. Portolá reported stopping at an Indian village called Yang'na on the Los Angeles River near present-day downtown Los Angeles before heading northwest into the San Fernando Valley; his route, however, did not cross the Ballona.

Mission San Gabriel was founded in 1771. The clerical leaders of the mission encouraged and then forced natives from the Los Angeles area to congregate at Mission San Gabriel, from which they acquired the name Gabrielino. The two published maps produced by the missionaries do not show any Gabrielino settlements in the Ballona area (Geiger 1971). The most-consistent documentary evidence available for the existence of a village, or *ranchería*, in the Ballona derives from mission records, most importantly baptismal records. Handwritten entries in the baptismal records at Mission San Gabriel between 1790 and 1815 and in the records from Mission San Fernando after 1788 list a village called Guaspet, or one of its named variants, as the place of origin for over 100 natives associated with the mission system (Stoll et al. 2008). The name Guaspet, or its variants, is a current theme in the Ballona region. It is used in various maps and other documents for the area during the historical period. The baptismal and marriage records also showed that many of the individuals from Guaspet had marriage relationships with other Gabrielino from the Channel Islands and the Santa Monica Bay area, supporting the evidence that Guaspet was located in the vicinity of the Ballona (King 1992; Stoll et al. 2008).

SRI recently completed intensive excavations at LAN-62 and LAN-211, located at the base of the bluffs below the LMU Campus (Van Galder et al. 2006; Vargas et al. 2005). Although extensive evidence of early historical-period occupation was found at both sites, including a burial area and a dense deposit of domestic refuse, no clear evidence of a historical-period village or *ranchería* was found at either site. Portions of both sites were destroyed, however, during the construction and use of the Howard Hughes Culver City plant, which could have removed evidence of possible living areas. Glass trade beads dating to the Mission period have also been discovered on the tops of the bluffs at LAN-61 (Van Horn and Murray 1985) and LAN-63 (Van Horn 1987a). Thus, there is clear evidence of Mission period occupation or use in the Ballona. The exact location of the village of Guaspet, however, is unclear.

Later Historical Periods

As the native Gabrielino were moved out of the west Los Angeles area by the missionaries, Spanish stock raisers moved in. By 1819, the Machado and Talamantes families were running cattle in the area of Ballona Creek (Adler 1969:2); the Zuñiga family had lost the grant and left the area by 1809 (Mason 2004; Stoll et al. 2008). Rancho La Ballona was granted to members of these two families in 1839. The rancho lasted until 1865, when Machado, by that time one of the wealthiest men in Los Angeles, died. The rancho was divided, and numerous heirs were granted small parcels, most of which were sold to Americans within a decade.

The Westchester Bluffs area had a slightly different history. In 1822, the area, including what was to become the LMU Campus, was granted to Antonio Ignacio Avila as part of the Rancho Sausal Redondo.

Avila's claim, however, was assaulted almost immediately and was not confirmed for over 50 years (Cowan 1977:96). The civil records resulting from these assaults to Avila's claim provide important insights into the presence of the Rancho of Guaspita. Apparently a Spanish derivative of the name for the Gabrielino settlement of Guaspet, Guaspita, it was revealed by testimony to the disputes over Avila's claim, referred to a corral or place for gathering cattle on the northern edge of the bluffs near the LMU Campus. Although litigation over the claim to Sausal Redondo continued for many years, and the rancho was surveyed many times, no description of Guaspita was found, and no mention of Indians or other residents was made (Stoll et al. 2008). Guaspita does not appear to have represented a settlement of any permanence; the name, however, lends further credence to the association of the Gabrielino place-name of Guaspet, or Guasna, and the Ballona region.

Commercial and industrial interest in the area began in the 1880s with speculative schemes and recreational use of the Ballona for hunting and fishing. These activities were followed by the founding of Venice just after the turn of the century. In the early twentieth century, the oil industry took an interest in the Ballona Wetlands and, by 1931, there were 325 wells in operation in the area (Altschul et al. 1991). Working alongside the oil wells were truck farmers, many of whom were Japanese.

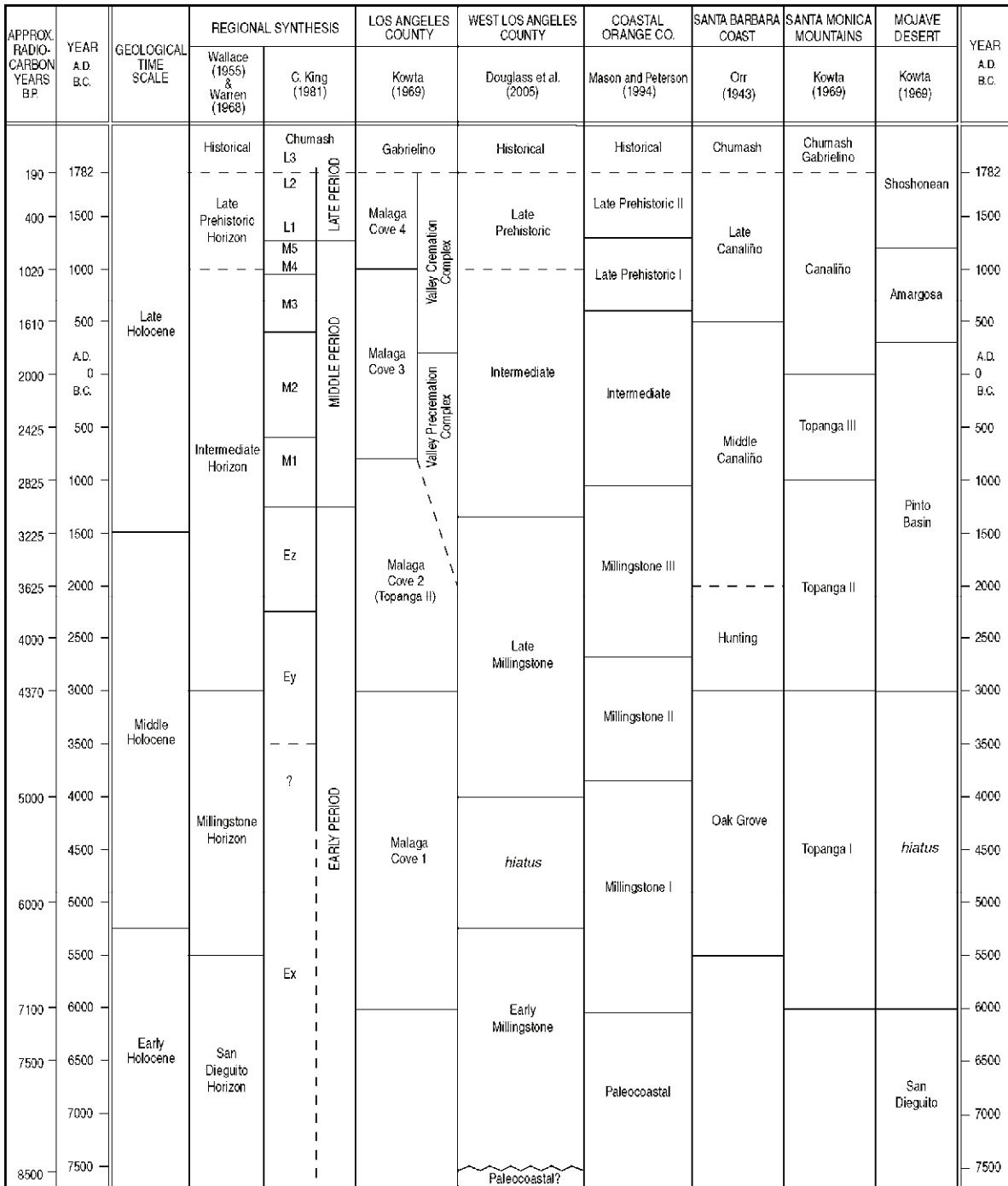


Figure 4.1. Chronology chart comparing cultural history for the Ballona region (Douglass et al. 2005, above) and reconstructions for other areas of southern California.

Previous Investigations: Loyola Marymount University and the Ballona Wetlands

SRI has established our research perspective by presenting an overview of the environmental, cultural and historical setting in the Ballona area in Section 4. In this section, SRI presents a summary of previous archaeological research in the Ballona, focusing on sites in and around LMU, as well as detail work done by SRI in support of the Proposed Master Plan Project. The discussion of sites farther afield than those on the LMU property is important so that LMU sites can be placed in their proper cultural contexts. Portions of this discussion also can be found in Altschul et al. (2003). As part of the research into archaeological sites on the property, a records search within a 1-mile radius was conducted at the South Central Coastal Information Center in June 2007, and the information is incorporated into this section of the report.

Early Archaeological Investigations in the Ballona

Until the latter half of the twentieth century, amateur collectors undertook archaeological work in the Ballona. F. M. Palmer (1906), a Redondo Beach dentist, was the first investigator to explore the numerous prehistoric sites in the region and write about his discoveries (Wallace 1984). In his “Report on Researches,” published after he excavated in the Redondo Beach area, Palmer (1906:24) noted “a number of lesser villages that were situated at points of vantage, for about seven miles, along the coast line of this part of the Southern California mainland.” From this, it appears that he might have been aware of sites in the Ballona.

Six years later, Nels Nelson (1912) made the first professional archaeological overview of sites in the Ballona during a brief visit to southern California. Funded by the American Museum of Natural History’s Department of Anthropology, Nelson undertook a survey of prehistoric “campsites” and “refuse heaps” from Topanga Canyon to the southern limits of San Diego Bay. Reaching the Ballona, he surveyed at the base of the Westchester Bluffs but did not go as far east as the Lincoln Gap. During this study, Nelson reported “Site No. 4” as “a refuse heap situated at the mouth of a small ravine opening north on Centinela Creek about 3 miles northeast of Port Ballona.” Port Ballona was located at the inlet of Ballona Lagoon, near the modern town of Playa del Rey. Nelson’s description of Site No. 4, limited as it is, appears to correspond with the recorded location of LAN-62. Nelson did not personally observe this site; rather, he based his report on the observations of a hunter living halfway between the archaeological site and Port Ballona. Nelson reported the presence of a large accumulation of material, including human skeletal remains and assorted artifacts. Nelson’s 1912 report is the first-known published reference to archaeological sites in the Ballona.

Although interest in “Early Man” sites brought scientists to the upper Ballona in the 1920s, this decade was relatively quiet for archaeology west of the Baldwin Hills. In 1931, Arthur Woodward, of the Natural History Museum of Los Angeles County, directed the Van Bergen–Los Angeles County Museum Expedition to explore sites in the Los Angeles area, including the famous Malaga Cove site (LAN-138) (Wallace 1984). Work in the field was done by Richard Van Valkenburgh, an astute archaeologist who was employed by Woodward at the museum between 1930 and 1935 under the sponsorship of the State

Emergency Relief Act. Van Valkenburgh also conducted ethnographic work for the museum during that time (King 1992:4). By the mid-1930s, the Natural History Museum's collections included a number of artifacts from at least three sites in the Playa del Rey–Ballona area, including mortars, manos, shell, projectile points, and worked stone (Woodward 1932).

For many years, and continuing through the 1930s, local doctor F. H. Racer of Lomita made collections from sites along the coast (Wallace 1984:1). He mounted many of the artifacts in his collection and housed them together with items from other parts of the world in a small “museum” behind his residence. He also maintained a catalog, describing the artifacts and the sites at which they were found. When Dr. Racer died in 1961, his collection passed to his daughter, who permitted only a single, 2-hour viewing of the material before putting the entire collection up for sale (Bates 1963:47). The subsequent fate of Racer's collection is unknown. An unpublished manuscript by Racer (1939) documented the sites he explored in what he called the Harbor District, which included the Ballona area. Racer glowingly described the richness of the Project area and bluff-top sites in the 1930s:

Several years ago a man from Inglewood trucking black earth for green houses uncovered a great number of whole or broken mortars, pestles, and other artifacts. These were given to his neighbors and scattered. On the top of the hill above this find was a settlement of several acres. Quantities of broken shells, arrow heads and knives, manos and burned stones. The owner of this field has found several mortars and others have found other artifacts. Several fragments of steatite [were found]. There are several camp grounds on top of the same bluff west of Loyola University. Several steatite vessels were found when the road department excavated a site just west of Loyola [Racer 1939:5].

The sites “just west of Loyola” have been identified as LAN-63 and LAN-64 but may also refer to sites close to or on the LMU Campus, such as LAN-61.

During this period, Malcolm Farmer began making notes on sites in the Ballona area. Farmer, a boy just 16 years old at the time, with his friend Eugene Robinson—who was loosely affiliated with the Southwest Museum—began a survey of sites in Playa del Rey, along the bluff tops, and in the Baldwin Hills area along Ballona Creek, looking for evidence of Early Man (Farmer 1934). Farmer talked with landowners and surveyed on foot those areas where he expected to find cultural remains. His notes were partially copied and later incorporated into the data used by Charles Rozaire to create the first official site records for the area (Farmer 1936; Rozaire and Belous 1950). During his surveys, Farmer identified LAN-61 and LAN-1018, both located on the bluff tops. Farmer did not believe that the latter was an archaeological site but, rather, a bed of fossil shells.

In keeping with the practice of the times, Farmer collected artifacts during his 1936 survey, which he turned over to the Southwest Museum for curation. Among the items recorded from the Baldwin Hills area are pestle and metate fragments, manos, soapstone and granitic bowl fragments, cog stones, flaked stone scrapers, smoothing stones coated with asphaltum, hammerstones, stone knives, and shell fragments. Tracings and sketches of some of these items are included with his notes. Unfortunately, collections made by others at this time were not so well documented.

In addition to Farmer's materials, the Southwest Museum houses several small collections of artifacts from the Ballona area. Very little information is associated with these finds, and the larger ground stone artifacts have been commingled with other unlabeled artifacts in a basement storage area at the museum known as the Stone Room. At some point during the 1930s or early 1940s, Mr. F. R. Johnson conducted an excavation of “a camp in the Baldwin Hills near Playa del Rey” and collected several stone artifacts that he donated to the museum in 1944 (Collection Card 948-G-110, Southwest Museum files).

William Deane was another avid collector who created a large collection from the Project area during the 1940s. His artifact collection was documented and photographed by Marlys Thiel (1953), who interviewed him at his Torrance home in 1953. Deane told her that, although the bulk of his collecting near the Hughes Aircraft plant was done in 1947, he had continued to add a few objects each year after that. He gave a rough provenience for the artifacts in his collection. Items from Site #6, “above Lincoln, near

Loyola University,” included cog stones, metates, mortars, and pestles. The current disposition of Deane’s collection is unknown.

The South Central Coastal Information Center lists several site numbers that may correspond with Deane’s Site #6, including LAN-54, LAN-57, LAN-59, LAN-60, LAN-61, LAN-65, and LAN-206. In May of 1953, Deane sent Thiel a letter in which he more precisely marked the site locations on a map. However, the map referred to is no longer in the report file, and the location of Site #6 is unknown; it may be related to LAN-1018 or LAN-212, in addition to the sites listed above. Information from Deane was used by Hal Eberhart at the University of California Los Angeles (UCLA) Archaeological Information Center in the 1950s to plot several of the sites he described. For some sites in the area, including LAN-212, Deane’s information provides the only locations available for the sites. Eberhart mapped LAN-212 in the northern area of the LMU Campus, including parts of the Sacred Heart Chapel and sunken gardens.

In a 1964 undergraduate paper, George Schofield described artifacts he and some associates collected in the 1960s (Schofield 1964). Although the locational information is somewhat contradictory, his collection appears to have been taken from several sites on top of the bluffs, possibly including LAN-61, LAN-63, LAN-64, LAN-65, LAN-206, and LAN-212. Artifacts found included manos, metates, projectile points, flaked stone tools (especially scrapers), tarring pebbles, worked shell, and some steatite objects. This collection remains in private hands.

In 1950, two graduate students at UCLA, Charles Rozaire and Russell Belous, visited the Ballona area to obtain information for a term paper on Ballona Creek archaeology. Rozaire and Belous formally recorded many archaeological sites in the Ballona. From the site forms they prepared as part of their projects, they showed their familiarity with work done by Malcolm Farmer and F. H. Racer as they attempted to relocate many of their sites. Rozaire and Belous produced the first site records for many sites in the region, including LAN-59, LAN-60, LAN-61, LAN-63, LAN-64, and LAN-65.

Archaeological Sites at Loyola Marymount University

There are three recorded archaeological sites on the LMU property: LAN-61, LAN-212, and LAN-1018 (Figure 5.1). Each is briefly described below and discussed in more detail in the subsequent section. Figures illustrating the exact location of these archaeological sites, as well as other location information related to archaeological materials, have been redacted. The exact locations of archaeological resources and sites are not subject to public disclosure, to prevent harm and unauthorized disturbance of the resources and sites, pursuant to Public Resources Code §5097.

LAN-61

LAN-61 was first identified by Malcolm Farmer in 1936 (known as Farmer Site #3) and also was documented later by Racer (1939). Rozaire and Belous formally recorded it in 1950, and site records were updated later by Reimers in 1963 and by McKinney and Baker in 1964. This site is located primarily within the Leavey Campus, although as discussed below, recent research suggests portions of the site may extend into the Burns Campus, as well (see Figure 5.1). This site has been described as a rich site, containing large numbers of artifacts on the surface after plowing. It had reportedly been “collected” by locals for many years. The site underwent formal evaluation and subsequent data recovery in the 1980s by David Van Horn and his firm, Archaeological Associates, in advance of planned construction by the Hughes Aircraft Company. Whereas there were artifacts and several radiocarbon dates recovered that suggested a component of the site dated to the Millingstone period, the majority of the evidence suggests an Intermediate period occupation. There also is some limited evidence of use of the site during the Mission period. There is a general lack of marine shell and large-mammal bone at the site which makes it

more difficult to date its occupation with radiocarbon-dating methods. Subsequent to data recovery, a portion of LAN-61 was controlled-graded as part of construction activities under the archaeological monitoring of Archaeological Associates.

LAN-212

Eberhard first recorded LAN-212 in 1953, based on information from William Deane. The site was described as a small (presumably) prehistoric site. The boundaries of the site are recorded at the South Central Coastal Information Center, but it is unclear how the boundaries were determined, because there is no map associated with the site record. The site location on the original site map is south of Sacred Heart Chapel, on the Burns Campus (see Figure 5.1). As discussed below, recent research indicates that the site likely extends outside of the recorded boundaries, along the north side of Sacred Heart Chapel. This site has not been updated at the South Central Coastal Information Center since it was originally recorded. This site, like LAN-61, generally lacks marine shell and large faunal bone, thus making it difficult to date using radiocarbon methods. A single portion of a projectile point, however, was recently recovered from the site and dates between 5000 and 1500 B.P. It is likely that this site dates to roughly the same time periods as LAN-61.

LAN-1018

Like LAN-61, this site was first documented by Malcolm Farmer in 1936 (known as Farmer Site #4) but was not formally recorded until 1979 by Pence. Pence described this site as a shell midden on a terrace containing historical-period artifacts. Located near where Hughes constructed a helipad, LAN-1018 was tested again in 1990 by Peak and Associates for AT&T (Peak and Associates 1990). Shovel testing at LAN-1018 revealed large quantities of shell associated with historical-period artifacts. Indications of disturbance, including plastic, a concrete pipeline, glass fragments, and asphalt, were recovered throughout most of the four shovel-test pits. A single artifact, consisting of a possible ovate pestle fragment, was recovered from one of the units. Peak and Associates concluded that the deposit was disturbed but recommended archaeological monitoring of the construction. It is possible that this site is not prehistoric in nature but rather a natural Pleistocene shell deposit (Malcolm Farmer, personal communication 2001), although the presence of prehistoric artifacts counters this idea.

Recent Archaeological Research (1979–2009)

Professional archaeologists returned to the area in 1979, conducting a series of quick surveys with negative results (Dillon 1982a, 1982b; Dillon et al. 1983; King and Singer 1983) and larger inventory and evaluation projects (Pence 1979). These were followed by projects headed by David M. Van Horn and his associates, which took place primarily in the 1980s in the areas above and below the bluff (Archaeological Associates 1988; Freeman 1991; Freeman et al. 1987; Van Horn 1984, 1987a, 1987b, 1990; Van Horn and Murray 1984, 1985; Van Horn and White 1983, 1997a, 1997b, 1997c). There have been a large number of surveys, testings, and data recovery projects in the area surrounding LMU over the past 20 years (Table 5.1).

On top of the bluff, Van Horn and his associates performed testing at LAN-1018 and testing and data recovery work at LAN-61 in advance of construction by the Hughes Aircraft Company and LMU (Figure 5.2). In 1983, he prepared a report for the Koll Company (Van Horn 1983a) describing the test excavations performed on the location of LAN-1018, northeast of the intersection between Lincoln Boulevard

and 80th Street. This site was originally recorded by Pence (1979) and had been known to amateur and professional archaeologists in the region for some time. However, during a 1982 survey by Van Horn, only a very small number of artifacts were found (Van Horn 1983a). Mechanical trenching by backhoe failed to expose any site deposits, and Van Horn concluded that the site had been destroyed by grading and discing (Van Horn 1983a). Dillon later excavated 23 backhoe trenches and confirmed that no archaeological material remained on the site (Dillon 1982b).

By contrast, Van Horn's testing and data recovery excavations at LAN-61 produced significant results (Van Horn and Murray 1985). During the testing phase, Van Horn and his colleagues used three different archaeological methods: (1) transit-controlled surface collection and mapping of the entire site; (2) auger sampling, collecting data from 145 8-inch auger holes; and (3) hand-excavation and analysis of 23 1-by-1-m test units. From these combined investigations, they recovered thousands of artifacts and described the site as consisting of fine, sandy loam overlying a compact and hard, sterile, reddish sand substrate with a significant amount of rodent disturbance. The total area of the LAN-61 deposit during testing was found to exceed 15,000 m² and was approximately 1 m in depth. They also identified three different loci (A, B, and C) at LAN-61 (see Figure 5.2).

Van Horn and his colleagues argued that, although these three loci appeared similar, LAN-61A and LAN-61B appeared to be of different ages, based on associated projectile-point styles. Stemmed projectile points also were found at other nearby sites, such as LAN-59, which also dated to approximately the same time period, but none had produced a single Canalino-style point. As stemmed points are an older variety than Canalino-style points, they argued that LAN-61A was slightly older than LAN-61B. The overall absence of typical Late period artifacts, such as shell beads or Desert Side-notched projectile points, at all three loci strongly suggested that the site was abandoned prior to A.D. 1000. Obsidian-hydration analysis was conducted at the UCLA Obsidian Hydration Laboratory on a sample of 21 obsidian flakes obtained from these excavations. Using a 220 years/micron index derived from work in nearby Malibu, the results indicated the obsidian was in use in 1429 B.P., or A.D. 554, which was consistent with the interpretations based on the projectile-point styles.

Based on these results, Van Horn recommended that data recovery be conducted at LAN-61. These excavations began in late 1984 by Archaeological Associates under the direction of Van Horn. Drawing on experience with mechanical excavations at the nearby LAN-59 in 1983, Van Horn used a combination of mechanical and manual methods to excavate samples of all three loci at LAN-61. Van Horn dubbed LAN-61A the Marymount Site and he referred to LAN-61B as the Loyola Site. His goal was to excavate 10 percent of the total site area (approximately 1,500 m²)—approximately 9 percent mechanically and 1 percent by hand. Nine units of varying sizes totaling 90 m² (57.4 m³) were excavated by hand at LAN-61A; 11 units, with a total area of 55 m² (40.7 m³), were excavated at LAN-61B. In addition, a total of 13 mechanical trenches were excavated at LAN-61 (7 trenches at LAN-61A, 5 at LAN-61B, and 1 at LAN-61C), totaling 1,362.52 m² in area and 952 m³ in volume. There were also several mechanical “wedges,” which are slanted areas cut by heavy equipment to get into and out of excavated mechanical trenches.

These data recovery excavations resulted in the identification of 32 features (13 at LAN-61A and 19 at LAN-61B) (Table 5.2). Feature types included hearths, artifact scatters, a burial, caches, earth ovens, and features of unknown use. Many of the features found were associated with subsistence and production activities at the site. As shown in Table 5.2, only a single burial (Feature 9 at LAN-61A) was described. In addition to formal features, however, there were four distinct “clusters” of human bone at LAN-61A (with a total of 191 human elements) and two distinct “clusters” of human bone at LAN-61B (with a total of 65 human elements) (see Figure 5.2). Although the authors suggested that there were two distinct clusters of human bone at LAN-61B, both were located in Trench B only 0.3 m apart from one another. In both clusters, nearly all the bone consisted of unburned human cranial fragments. It is quite possible that these two clusters actually represent a single burial. The four clusters at LAN-61A were found in Trenches G, H, J, and L as well as Wedges H and K. Unlike LAN-61B where almost all the human bone was unburned, at LAN-61B nearly all human bone was burned. It is likely that the bone clusters from LAN-61B represent individual cremations, which should be considered individual features, although they were not reported as such.

The single reported burial feature, Feature 9, is of interest in part because it is similar to a mortuary feature found at nearby LAN-63 (Feature 587) (Douglass et al. 2005), which dates to roughly the same period as LAN-61. Feature 9 consisted of a concentration of burned objects and a peripheral scatter of artifacts, cobbles, and human bone. The entire feature measured approximately 2.9 by 2.0 m. Artifacts consisted of a compact, oval-shaped pile of ground stone and cobble fragments, all exhibiting fire alteration. Fragments of some ground stone (including a metate and bowl) could be partially refitted, indicating that whole artifacts were broken and tossed into a fire. A similar feature found at LAN-63, although much larger and more diverse than Feature 9, was hypothesized to have functioned in a manner similar to features associated with the historical-period mourning ceremony documented for the Cahuilla, Serrano, Gabrielino, Luiseño, and other southern California Tribes (see also Hull et al. 2006).

Subsistence analyses at LAN-61 suggested that, whereas fish and birds in the lagoon were sought for food, shellfish played a relatively small role in the subsistence practices of the site's occupants. This is in stark contrast to nearby LAN-63, where shellfish played a large role in the prehistoric diet. Shellfish remains were very sparse throughout LAN-61. Fish remains suggest that the site's inhabitants focused on marine life gathered from near-shore and shallow-lagoon habitats. The complete absence of artifacts made from marine shell is notable. The focus on near-shore and lagoon resources and the absence of artifacts made from shell is typical of prehistoric sites in the Ballona. It appears that more-distant habitats were exploited only in the Mission period, when large numbers of shell artifacts also were used (Van Galder et al. 2007). The abundance of ground stone and terrestrial faunal remains suggested that plants and animals from the nearby coastal prairie contributed an important portion of the diet. Deer and rabbit were prominent in the terrestrial faunal collection.

Everyday activities on the site, beyond subsistence, included the manufacture of tar-lined baskets (based upon the presence of hundreds of tarring pebbles and clumps of asphaltum) and numerous bone-point tips. Van Horn and Murray (1985) argued that, based on the lack of site structure and the undeveloped midden, LAN-61 was occupied on a short-term, intermittent basis during the fall and winter months but not year-round. The presence of steatite artifacts, such as bowls and *comales* (flat cooking vessels), found in all portions of the site suggested that trade with Catalina Island was important to the residents of the site.

A total of 10 radiocarbon and 19 obsidian-hydration samples were collected and analyzed as part of the data recovery investigations. Generally, the corrected (but uncalibrated) radiocarbon dates for LAN-61 ranged from 580 ± 60 B.P. to 4710 ± 80 B.P., with the majority dating to the Intermediate period (3000–1000 B.P.). The obsidian-hydration dates fell within a range of 2000–900 B.P., with the majority in the 1400–1300 B.P. date range. Generally, the obsidian-hydration results indicated an occupation approximately 1,000 years later than the radiocarbon dates. It is not clear if this discrepancy is because the radiocarbon dates were not calibrated or because of an error in the hydration index used for the obsidian dates. Obviously, this is an important issue for future research at the site.

It is important to note that, whereas most of the data focused on by Van Horn and colleagues points primarily to an Intermediate period occupation for LAN-61, there is some evidence of a Mission period (A.D. 1771–1832) component to the site. A total of 10 glass trade beads (1 red and black, the others clear in color) were recovered from three different trenches (Trenches F, G, and I) at the Marymount site (Van Horn and Murray 1985:147–148). Van Horn and Murray (1985:147–148) have stated that the red-and-black bead was consistent with Meighan's Type 105, whereas the clear beads were likely Meighan's Type 177. Perhaps because of Van Horn and Murray's focus on the Intermediate and Late periods, rather than later occupations, these glass trade beads were not brought up again in the report, including their later discussions of the chronology and dating of different portions of the site.

At the end of Van Horn and Murray's (1985) report, they argued that their sample from the site was representative and offered important information on the prehistoric inhabitants and activities at LAN-61. They noted that it was possible that other important finds might be identified during grading of the property. Consequently, they recommended that grading operations for development at LAN-61 be monitored by a qualified archaeologist who could distinguish redundant material from new finds meriting further investigation.

Subsequent to the data recovery work in the 1980s and the controlled-grading portions of LAN-61 in the 1990s, a Tongva Memorial was created on the Leavey Campus, just west of the O'Malley Residence Hall on the bluff side of LMU Drive. This memorial was created, in part, as a tribute to the Gabrielino/Tongva, the Native Americans who lived in the Los Angeles Basin for thousands of years prior to the arrival of Europeans. This tribute includes the memorialization of LAN-61, portions of which were located where the Leavey Campus is now located. The memorial consists of a paved flagstone inner circle and centerpiece surrounded by benches and native plantings. A small ethnobotanic garden accompanies the memorial. The memorial's inner circle and centerpiece were designed by Mathew Dorame, a member of the Gabrielino/Tongva community. There are no plans for the Tongva Memorial to be disturbed by the Proposed Master Plan Project.

Additional archaeological research has been done at LAN-61 subsequent to Van Horn's work. In June 2007, SRI was contracted by LMU to conduct archaeological testing and data recovery on a northeast portion of LAN-61, in preparation for construction of a portion of the William H. Hannon Library. Between June 2007 and August 2008, SRI conducted testing, data recovery, and mechanical stripping of the area within and surrounding the former location of the West Hall and West Hall Annex buildings, located east of the planned William H. Hannon Library. Mechanical stripping involves the use of a flat-bladed excavator or similar heavy equipment, under the oversight of an archaeologist, to remove in a controlled manner the archaeological deposit, in preparation for and prior to construction. Data recovery work included excavation of two 1-by-1-m hand-excavation units on the south side of LMU Drive, immediately south of the former location of West Hall and West Hall Annex buildings. During testing and data recovery, SRI excavated a total of three backhoe trenches, 15 1-by-1-m excavation units (with a total volume of approximately 17 m³), and two 40-by-40-cm control units. The entire area around West Hall and West Hall Annex buildings, on the north side of LMU Drive, was subsequently mechanically stripped to ensure as much information related to the prehistoric inhabitants of this portion of LAN-61 was collected. During hand-excavation and subsequent mechanical stripping, a total of three prehistoric features, all designated as rock clusters, were identified and recorded. These rock clusters—discrete clusters of modified and unmodified cobbles made by prehistoric peoples—lacked obvious indications of thermal alteration of the surrounding soil matrix but may have been related to the use of fire. These finds generally appear repetitive to previous discoveries by Van Horn and Murray (1985). The portion of LAN-61 south of LMU Drive was left intact after data recovery and is currently an open-space area with concrete walkways and new plantings. Generally, the area to the north of LMU Drive had a higher artifact density than the area excavated to the south, indicating perhaps that the area to the south was more peripheral to the main portion of the site. A single radiocarbon date from the main excavation group was similar to the majority of radiocarbon dates collected by Van Horn and Murray (1985), confirming that a primary occupation of the site dates to the Intermediate period (3000–1000 B.P.). Interestingly, macrobotanical analysis of seeds indicates that the upper reaches of the site contain burned domesticated wheat alongside burned native seeds; this may indicate independent evidence for a Mission period component to the site. In addition to data recovery excavation, archaeological and paleontological monitoring occurred as necessary in the areas related to the construction of the William H. Hannon Library.

Excavation and subsequent monitoring occurred at LAN-212 during the summer of 2008. A portion of this area is currently an open-space area with a path, benches, and new plantings. After testing across the area revealed that intact site material was present, data recovery consisted of four 1-by-1-m excavation units (with a total volume of approximately 4 m³) and a single 40-by-40-cm control unit. Less excavation was conducted here compared to LAN-61 because there were minimal impacts to the archaeological site during construction of a path, benches, and new plantings as part of the open-space area. This open space preserves the archaeological site intact. While there was little in the way of shell and bone present, the flaked stone density was the highest, compared to the two portions excavated at LAN-61. The lack of shell and large faunal bone did not allow radiocarbon dating to be conducted, but a portion of a projectile point was found during excavating, tentatively dating the site to between 5000 and 1500 B.P. (this time range corresponds to the Millingstone and Intermediate periods). It is likely that,

overall, LAN-212 dates to roughly the same time period as LAN-61. Analysis of the collected remains from both LAN-61 and LAN-212 is ongoing, and a full report of this work is in preparation.

In addition to archaeological excavation and subsequent analysis and report writing at LAN-61 and LAN-212, archaeological investigations were conducted in four areas of the Burns Campus in 2007 and 2008. This archaeological work was conducted prior to planned construction to identify any archaeological deposits which may have been present. In three cases, mechanical trenching and screening of a representative sample of soil from trenches excavated with a backhoe produced negative findings; that is, no archaeological deposits were present. In the fourth instance, several unrelated prehistoric artifacts were identified during initial trenching and subsequent hand-excavation. The soils in this area did not appear to be created by human activity, and no prehistoric midden deposit was identified. Construction in this fourth area has not yet begun.

Archaeological Research Interests at LMU

In conclusion, then, based in part on research presented in Section 4 and this current report section, two events emerge as central to research in the Ballona area. The first occurred between around 3000 and 1000 B.P., a time defined as the Intermediate period. It is at this time that people first established semipermanent settlements in the Ballona (Douglass et al. 2005). Using a gradualist approach, SRI originally suspected that the Intermediate period was characterized by an open lagoon and a settlement pattern restricted to the bluff tops. SRI envisaged that population grew in step with the increasing diversity and density of wetland resources. Problems emerged with this conception; the lagoon formed earlier, and the Intermediate period population influx was sudden and widespread, encompassing the banks of Centinela Creek as well as the bluff tops, around 2000 B.P. Furthermore, the faunal collections found on the bluffs and along the creek are quite distinct but counterintuitive to their environmental locations. Wigand's (2005) climatic reconstruction has revealed that this sudden, widespread occupation coincided with a period of time in which climatic conditions were at the most optimal in prehistory. At this time, the freshwater marsh in the Ballona and the vernal pools and grasslands of the surrounding coastal prairie were probably more productive than at any other time in the prehistoric occupation of the region.

The second event relates to the abandonment of the bluff tops and upper creek edge around 1000 B.P., when the wetlands were mature and remained attractive to humans. At first glance, this abandonment, then, does not seem to have an environmental cause. Wigand (2005), however, pointed out that the optimal climatic conditions associated with the peak occupation of the bluff tops came to an end in about 1500 B.P.

In the case of the LMU property, one likely can test these trends and create appropriate research questions focused on three main topics: environmental reconstruction, chronology, and subsistence and site function. Beyond the two central events discussed above, these three main topics have been focal points of research across time and space in the Ballona. By addressing them, one can better understand the context and setting of these sites in a regional research context.

Environmental Reconstruction

A series of questions regarding the environment can be addressed with data from sites located at LMU, especially during the period of site occupation.

1. What were the climatic conditions and local environment during the time of occupation?
2. What was the relationship between occupation of the sites on the LMU property and the evolution of the Ballona lagoon?

3. Were there vernal pools on the bluff tops?
4. What types of plants were available and did this change through time?

These questions can be addressed with the evaluation of existing environmental data as well as data collected from excavations at sites. Pollen and macrobotanical analysis from work done at other bluff-top sites, such as LAN-63 and LAN-64, indicated poor pollen preservation. It is likely that soil and macrobotanical studies will best be able to address these questions, as pollen preservation will likely be poor.

Chronology

Previous investigations by Van Horn on the LMU Campus, based on uncalibrated and corrected radiocarbon dates and obsidian-hydration dates, suggest that LAN-61 was primarily occupied during the Intermediate period (3000–1000 B.P.). Nothing is currently known about occupation at LAN-212 or LAN-1018.

- 1. What are the occupation episodes for sites on the LMU property, and how do they relate to other sites in the Ballona area? Are there clear earlier components than have been previously identified?**

Did Van Horn and his colleagues excavate to the base of deposits at LAN-61 and identify all components of the site? Two rounds of data recovery work at LAN-64, on the bluff top immediately to the west of LMU, only revealed evidence of an Intermediate period occupation. During controlled grading of the site, however, a much earlier component of the site, consisting of small shell dumps, was identified, which dated to between 7000 and 8200 B.P. Earlier components of sites, especially when they are discrete, are difficult to identify without large-scale stripping.

- 2. Was the proposed Project area occupied at the same time as the adjacent parcel that was previously investigated?**

Radiocarbon dates should be obtained from shell recovered from midden deposits and from features, if found, to assess the age of deposits in the proposed Project area. Dates should also be obtained from macrobotanical specimens, if recovered, as a comparison for the shell dates. Obsidian hydration analysis should also be done, if possible, to compare to previous work by Van Horn and Murray (1985).

- 3. Is there evidence of a Mission period occupation in the proposed Project area?**

At adjacent LAN-63, Van Horn identified several glass trade beads that dated to the Mission period. Van Horn and Murray (1985:147–148) identified 10 glass trade beads at LAN-61. Recent excavations by SRI at several sites at the base of the bluffs, directly below LMU, have uncovered substantial evidence of a Mission period component. These excavations substantiate historical documentary evidence suggesting the presence of a historical-period Gabrielino settlement and early-nineteenth-century ranching activities in the area. Glass trade beads and certain types of traditional shell beads have proven to be important indicators of the Mission period occupation in the Ballona. In addition, analysis of macrobotanical remains has identified specific seed assemblages in Mission period assemblages that may help in the identification of this occupation component. These data, combined with radiocarbon determinations, shall be sought to address this question.

Subsistence and Site Function

It has been suggested that many of the sites in the Ballona functioned as resource-procurement and -processing sites and temporary residential camps for one or two domestic groups that returned to the Ballona on a seasonal basis (Van Horn 1987a). Other sites may have functioned as semipermanent residential sites used by larger groups or even permanent villages. Grenda and Altschul (1994) have proposed a perspective that incorporates all these types of sites into a dynamic, interdependent settlement system. The long-term success of the local settlement system was made possible by the flexibility of populations and a social hierarchy that allowed for controls over land and resource use. In this model, all sites do not fit into one mold; there should be a range of sites of various sizes occupied for various time spans, extending from weeks to years.

If correct, it follows that the occupation of sites on LMU property, depending on the time period, should be highly variable, if multiple occupations are identified. Some may represent more- or less-permanent occupation (indicated by permanent facilities and year-round residence), whereas others may reflect the exploitation of specific resources or the types of use that require stays of only short durations.

1. Were the occupants of sites on the LMU property primarily devoted to resource procurement and processing?

This site function is expressed by evidence of a restricted set of activities, largely focused on the extraction and processing of nearby estuarine and prairie resources. Lithic, faunal, and botanical data should reflect simple procurement and processing of local resources, perhaps reflecting only a particular season of availability. Features should be restricted to processing facilities, such as hearths and small roasting pits, and only isolated burials should be present.

2. Were sites on the LMU property more-permanent residential sites or villages?

The entire range of cultural activities, including those of a ritual nature, is expected at more-permanently occupied sites. A broader range of resource use, including resources from the surrounding prairie and coastal areas, would be expected to sustain a permanent settlement in the area. Lithic, faunal, and botanical data should reflect this broader-sustaining area. Tool manufacture and refurbishing activities should be reflected by lithic debitage and raw materials. The presence of ceremonial and ritual activity should be represented by the presence of beads, pendants, effigies, and other ritual items. Large hearths or roasting pits should be present, perhaps in particular portions of a site. There should be evidence of regional exchange, as demonstrated by the presence of nonlocal lithics, shell beads, and plant and animal remains.

3. What was the nature of subsistence at sites on the LMU Campus?

Van Horn's work at LAN-61 (Van Horn and Murray 1985) stated that much of the subsistence at the site was related to deer, rabbit, and milled seeds and grains, as well as a focus on lagoonal fish. At nearby LAN-63, recent work by SRI came to very different conclusions from those of Van Horn and colleagues on the identification of various fish and their habitats. Will the results of any additional work be similar to or different from the previous work? In addition, nothing is known regarding subsistence at other sites on the property.

SRI Work Conducted for the Proposed Master Plan Project (2007–2009)

Work conducted for the Proposed Master Plan Project included a records search within a 1-mile radius conducted at the South Central Coastal Information Center in June 2007, and the information has

been incorporated into this section of the report. In addition, a field survey was conducted at LMU in June 2007. Because of extensive ground cover and buildings, this field survey was not exhaustive but, rather, exploratory. Several areas of the Campus, including areas adjacent to LAN-61 and LAN-212, contained dark, sandy soil which may represent site material. These areas included portions surrounding and to the east of the former West Hall building complex, north of Sacred Heart Chapel, along the edge of the bluff and in the southeast corner of Sunken Garden. Archaeological monitoring and data recovery in the northern portion of LAN-61 in 2007 and 2008 has allowed SRI to extend the recorded site boundaries to the east. Given the terrain in the area of LAN-212 along the edge of the bluff, as well as dark, sandy soil exposed on the surface, it was thought during the field survey that the site boundary of LAN-212 extends to the north, along the edge of the bluff, behind Sacred Heart Chapel (see Figure 5.3). Subsequent fieldwork and monitoring in this area in 2008 confirmed the site-boundary extension along the edge of the bluff. Other areas of Campus may also contain archaeological material, including in the open areas of Campus and underneath standing buildings. In urban areas, it is common to find that there is intact archaeological site material directly under the slabs of older buildings that did not have substantial soil preparation prior to construction. As a result, older buildings on Campus may be capping, and thus protecting, intact archaeological deposits. Finally, in addition to these tasks, SRI sent a letter to the Native American Heritage Commission (Appendix A) requesting a review of their Sacred Lands File for areas within and adjacent to the Proposed Master Plan Project area as well as the Native American Heritage Commission's recommendations for Native American Tribes, groups, and individuals that may have additional information regarding the Proposed Master Plan Project site. In response, the Native American Heritage Commission review of their Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate Project area (Appendix B). The Native American Heritage Commission also supplied a list of the nearest Tribes that may have knowledge of cultural resources in the area of the Proposed Master Plan Project.

**The exact locations of archaeological resources and sites are not subject to public disclosure to prevent harm and unauthorized disturbance of the resources and sites, pursuant to Section 5097 of the California Public Resources Code.
Therefore, this figure has been excluded.**

Figure 5.1. Map of Loyola Marymount University Campus, with locations of previously recorded archaeological sites.

The exact locations of archaeological resources and sites are not subject to public disclosure to prevent harm and unauthorized disturbance of the resources and sites, pursuant to Section 5097 of the California Public Resources Code. Therefore, this figure has been excluded.

Figure 5.2. Map of Loyola Marymount University Campus, with locations of previous archaeological investigations by Van Horn (1985) at CA-LAN-61, including location of human remains.

The exact locations of archaeological resources and sites are not subject to public disclosure to prevent harm and unauthorized disturbance of the resources and sites, pursuant to Section 5097 of the California Public Resources Code. Therefore, this figure has been excluded.

Figure 5.3. Map of Loyola Marymount University Campus, with locations of previously recorded archaeological sites and current SRI interpretation of site boundaries.

Table 5.1. Archaeological Work Performed within a 1-Mile Radius of Loyola Marymount University, by Report, through March 2008

Report	Project Type	Site Recorded, Tested, or Excavated
National Park Service (n.d.)	Historic American Engineering Record (HAER)	twelve historic buildings located on the Howard Hughes Aircraft site
Farmer (1936)	Survey	LAN-59, 61, 62/H, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, and 74
Racer (1939)	Survey	LAN-57, 60, 88, 91, 94, 96, 97, 98, 99, 100, 101, 103, 104, 105, 106, 107, 276, and 285
Peck (1947a, 1947b)	Survey	LAN-62/H
Rozaire and Belous (1950)	Survey	LAN-53, 55, 56, 57, 58, 59, 60, 61, 62/H, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 171, and 172
Thiel (1953)	photo documentation	LAN-54/H, 59, 60, 61, 62/H, 63, 64, 65, 67, 206, and 211/H
Schofield (1964)	collection description	one or more of the following: LAN-61, 63, 64, 62, 1018
Bucknam (1974)	Compilation	too numerous to list
Romani (1977)	Survey	none
Desautels (1979)	Survey	none
Hector (1979)	Survey	none
Pence (1979)	Testing	LAN-54/H, 59, 60, 61, 62/H, 63, 64, 65, 193, 203, 204, 206, 211/H, 212, 213, 216, and 1018
Rechtman (1981)	Survey	LAN-61
Dillon (1982a)	Testing	LAN-61, 62, and 1018
Dillon (1982b)	Survey	none
Dillon (1982c)	Survey	none
Aycock (1983)	Survey	LAN-63 and 64
Aycock (1983)	Testing	LAN-63 and 64
Brown and Murray (1983)	Survey	none
Dillon et al. (1983)	Testing	LAN-62/H
Van Horn (1983a)	Testing	LAN-61 and 1018
Van Horn (1983b)	Survey	none
Robinson (1984)	Testing	LAN-213 and 216 (negative results)
Van Horn (1984)	Excavation	LAN-61 and 62/H
Van Horn (1984); Van Horn and Murray (1984)	Excavation	LAN-59
Van Horn and Murray (1985)	Excavation	LAN-61A and B
McAuley (1986)	Survey	none
Van Horn (1986)	survey and auger testing	LAN-63, 64, and 206
Myra L. Frank & Associates (1987)	building survey	none

continued on next page

Report	Project Type	Site Recorded, Tested, or Excavated
Nevenschwander (1989)	Survey	LAN-1018 and 1698
Padon (1989)	Survey	none
Peak and Associates (1989)	Survey	LAN-1018 and 1698
Peak and Associates (1990)	Testing	LAN-1018 and 1698
Altschul et al. (1991)	Survey	LAN-54, 60, 62/H, 193, 211/H, and 2769
Altschul et al. (1992)	Excavation	LAN-47
Grenda et al. (1994)	Excavation	LAN-60
Raschke (1995)	Survey	LAN-202, 214, 691, and 1118
Altschul (1997, 1999); Altschul et al. (2000); Douglass et al. (2005); Salls (1987); Van Horn (1987a, 1987b)	Excavation	LAN-63, 64, and 206A
Van Horn and White (1997c)	Excavation	LAN-206
Altschul et al. (1998)	Testing	LAN-2676/H
Historic Resources Group (1998)	treatment plan	evaluation of several historic buildings located on the Howard Hughes Aircraft site
Iverson (1998)	Survey	none
Planning Consultants Research (1998)	Environmental Impact Report (EIR)	LAN-63, 64, 206
Altschul et al. (1999)	Testing	LAN-60, 193, and 2768
Verity (1999)	Compilation	none
Duke (2000)	Survey	none
Kane (2000)	building survey	LAN-63 and 1018 and SR-11
Duke (2001)	Survey	none
Mason (2001)	Survey	none
Vargas and Altschul (2001)	Testing	LAN-54/H
Wallock (2001a, 2001b)	Survey	none
Duke (2002)	Survey	none
Hale (2002)	Survey	none
Keller and Altschul (2002); Vargas and Altschul (2001)	Excavation	LAN-54/H
Altschul et al. (2003)	Testing	LAN-62/H
Altschul et al. (2003)	Testing	LAN-211/H
Altschul et al. (2003); Vargas et al. (2005)	Excavation	LAN-62/H
Van Galder et al. (2006)	Excavation	LAN-211/H
Statistical Research (report in progress)	Testing	LAN-61

Report	Project Type	Site Recorded, Tested, or Excavated
Statistical Research (report in progress)	Excavation	LAN-61
Statistical Research (report in progress)	Testing	LAN-212
Statistical Research (report in progress)	Excavation	LAN-212
Statistical Research (report in progress)	Excavation	LAN-54, 62, 193, 211, and 2768

Note: Based in part on a records search conducted at the South Central Coastal Information Center, June 2007.

Table 5.2. Features Identified by Archaeological Associates in 1984 at LAN-61 during Data recovery Work

Feature Number, by Locus	Feature Type	Size (cm)
Locus A		
1	Hearth	35 × 35
2	Hearth	100 × 70
3	Hearth	120 × 80
4	Hearth	90 × 70
5	hearth and activity scatter	183 × 110
6	Hearth	60 × 60
7	stone cluster and abalone	150 × 70
8	Hearth	60 × 35
9	cremation burial	290 × 20
10	Scatter	20 × 10
11	Scatter	Unknown
12	cache and scatter	23 × 13
13	Unknown	Unknown
Locus B		
1	Hearth	25 × 25
2	Scatter	20 × 17
3	earth oven	60 × 54 × 20
4	earth oven	60 × 56 × 15
5	Unknown	60 × 60 × 16
6	hearth and scatter	62 × 30
7	hearth	40 × 34
8	cache	Unknown
9	hearth	70 × 40
10	hearth	120 × 45
11	scatter	100 × 70
12	hearth	38 × 36
13	hearth	27 × 27
14	earth oven	130 × 100 × 13
15	earth oven	Unknown
16	earth oven and cache	Unknown
17	cache	50 × 60
18	earth oven	Unknown
19	cache	Unknown

Note: From Van Horn and Murray 1985.

Evaluation of Potential Impacts on Archaeological Resources at Loyola Marymount University

Introduction

This section is divided into the following subsections: significance thresholds for the determination of impacts; impact analysis; mitigation measures to reduce impacts to a less-than-significant level; cumulative impacts; and residual impacts after mitigation implementation.

Determination of Significance and Significance Thresholds

Various laws apply to the evaluation and treatment of cultural resources. CEQA requires the City of Los Angeles to evaluate resources by determining whether they meet several sets of specified criteria. These evaluations then influence the analysis of potential impacts to the resources and the mitigation that may be required to ameliorate any such impacts.

The Proposed Master Plan Project EIR requires consideration of the effects of the proposed Project on cultural resources under CEQA. CEQA directs the lead agency to determine whether the proposed development Project shall have a significant effect on the environment. According to CEQA Guidelines (14CCR §15064.5[b]), only those resources determined to be “historical resources,” that is, generally eligible for listing in the California Register, are considered subject to potential significant adverse impacts. CEQA statute recognizes that historical resources are part of the environment and that a project “that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (Public Resources Code §21084.1). A “substantial adverse change” is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired” (14CCR §15604.5[b][1]). The significance of a historical resource is materially impaired when a project affects “those physical characteristics of a historical resource that convey its historical significance” (14CCR §15604.5[b][2][a]).

In addition, the *L.A. CEQA Threshold Guide* states that a project would normally have a significant impact on archaeological resources if it could disturb, damage, or degrade an archaeological resource or its setting that is found to be important under the criteria of CEQA because it

- is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;
- can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;
- has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;

- is at least 100-years-old and possesses substantial stratigraphic integrity; or
- involves important research questions that historical research has shown can be answered only with archaeological methods.

Here, it should be noted, as outlined in Section 5, that although CEQA standards for important archaeological resources are those which are at least 100 years old, the California Register provides that any site found eligible for nomination for listing in the National Register shall automatically be included in the California Register and subject to corresponding protections. The National Register requires that a site or structure be at least 50 years old.

With the above as the standard for evaluating the significance threshold for impacts on archaeological resources within the Proposed Master Plan Project area, project impacts are evaluated, and mitigation measures are recommended, below.

Project Impacts

The Proposed Master Plan Project would have a potentially significant impact on archaeological resources if:

1. The proposed Project would disturb, damage, or degrade an archaeological resource or setting that is associated with an event or person of recognized importance in California or American prehistory or of recognized importance in prehistory.
2. The proposed Project would disturb, damage, or degrade an archaeological resource or setting that can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological questions.
3. The proposed Project would disturb, damage, or degrade an archaeological resource or setting that has a special or particular quality, such as the oldest, best, largest, or last-surviving example of its kin.
4. The proposed Project would disturb, damage, or degrade an archaeological resource or setting that is at least 100 years old (or, if found eligible for inclusion in the National Register, 50 years old) and possesses substantial stratigraphic integrity.
5. The proposed Project would disturb, damage, or degrade an archaeological resource or setting that involves important research questions that historical research has shown can be answered only through archaeological methods.

Potential Proposed Master Plan Project impacts to archaeological resources on the LMU Campus are discussed below.

LAN-61

As outlined in Section 5, LAN-61 is recorded as a large, prehistoric archaeological site primarily located within the Leavey Campus. Previous research on this site by Van Horn and Murray (1985) indicated that this was a multicomponent site containing complex archaeological features, human burials and isolated

human remains, and substantial stratigraphic integrity. Recent research indicates that the site is larger than previously thought, extending further north and east. Portions of this tentative extended site boundary extend into the Burns Campus. Much of this archaeological site underwent data recovery and subsequent controlled grading as part of the development of the Leavey Campus. However, while the majority of the site is likely no longer intact, recent archaeological work by SRI indicates that portions of the site are still present. Recent radiocarbon dating of the site concurs with previous data collected by Van Horn and Murray (1985), suggesting that the primary occupation of the site occurred during the Intermediate period (3000–1000 B.P.). This site is important, as it is one of the last remaining prehistoric archaeological sites on the Westchester bluff tops and can offer scientific information useful for the reconstruction of prehistoric lifeways in the Ballona and Westchester areas, including chronological information on when sites were occupied. In addition, artifacts and/or features that may be present may have importance to Native Americans and archaeologists; therefore, LAN-61 is an important archaeological site. The Tongva Memorial, located within the recorded site boundaries of LAN-61, is planned not to be disturbed by the Proposed Master Plan Project.

The Proposed Master Plan Project implementation has the potential to disturb, damage, or degrade archaeological resources or their settings in and around LAN-61 that could address scientifically consequential and reasonable archaeological questions, as defined in the thresholds above. As a result, the Proposed Master Plan Project implementation could have a potentially significant impact on archaeological resources or their settings. Implementation of the mitigation measures presented below, however, would reduce the impacts to a less-than-significant level.

LAN-212

As outlined in Section 5, little is currently known about LAN-212. Originally recorded by Deane (an amateur archaeologist) in the 1950s, this site's record at the South Central Coastal Information Center has not been updated since it was created. Original site boundaries indicate the site is immediately to the south of Sacred Heart Chapel, on the Burns Campus. Recent research by SRI suggests that the site boundary extends further than previously recorded, extending to the north along the edge of the bluff, to the north of Sacred Heart Chapel. While no radiocarbon dating was able to be conducted as part of SRI's recent data recovery work, the presence of a partial projectile point suggests this site was occupied between 5000 and 1500 B.P. As with LAN-61, this site is important, in part because it is one of the last remaining prehistoric archaeological sites on the Westchester bluff tops and can offer scientific information useful for the reconstruction of prehistoric lifeways in the Ballona and Westchester areas, including chronological information on when sites were occupied. In addition, artifacts and/or features that may be present may have importance to Native Americans and archaeologists. Because so little is known about this prehistoric site, radiocarbon dating of samples from the midden could offer important information regarding when this site was occupied in relation to other sites in the region.

The Proposed Master Plan Project implementation has the potential to disturb, damage, or degrade archaeological resources or their settings in and around LAN-212 that could address scientifically consequential and reasonable archaeological questions, as defined in the thresholds above. As a result, the Proposed Master Plan Project implementation could have a potentially significant impact on archaeological resources or their settings. Implementation of the mitigation measures presented below, however, would reduce the impacts to a less-than-significant level.

LAN-1018

As previously discussed in Section 5, this site may have been heavily disturbed. This site was first documented by Malcolm Farmer in 1936 (Farmer Site #4) but was not formally recorded until 1979 by Pence. Although there are site boundaries recorded for this site at the South Central Coastal Information Center,

the apparent disturbance to the site over the years makes the exact boundaries of the site difficult to discern at this time. Various testing by previous archaeologists has identified prehistoric, historical-period, and modern artifacts at this location. Recent testing in 1990 at this site revealed large quantities of shell associated with historical-period artifacts, as well as assorted modern refuse. A single prehistoric artifact was recovered during this testing. Generally, this site is thought to be disturbed but may contain important scientific information. In addition, artifacts and/or features that may be present may have importance to Native Americans and archaeologists. If intact portions of the site are found, radiocarbon dating of the midden could offer important information on when this site was occupied.

The Proposed Master Plan Project implementation has the potential to disturb, damage, or degrade archaeological resources or their settings in and around LAN-1018 that could address scientifically consequential and reasonable archaeological questions, as defined in the thresholds above. As a result, the Proposed Master Plan Project implementation could have a potentially significant impact on archaeological resources or their settings. Implementation of the mitigation measures presented below, however, would reduce the impacts to a less-than-significant level.

Areas Outside of Archaeological Site Boundaries

As discussed in Section 5, the potential exists for the presence of archaeological deposits outside of the known site boundaries for LAN-61, LAN-212, and LAN-1018. Recent research by SRI has tentatively extended the site boundaries of LAN-61 and LAN-212, based either on field surveys or testing. Additionally, during a recent field survey of the Campus, which was designed to be preliminary, certain areas of Campus were found to have dark, sandy soil that may represent archaeological site material. Intact archaeological material may be present on the surface or under a layer of soil (also called fill) in open areas of Campus and areas underneath standing buildings. For example, in urban areas, it is not unusual to find that there is intact archaeological material directly underneath the slabs of older buildings that did not have substantial soil preparation prior to construction. In these cases, the buildings and fill may be capping, and thus protecting, historical resources. Although the oldest buildings on Campus are more likely to cap archaeological deposits, such capping is a possibility all over Campus, depending on construction techniques historically used.

For these reasons, the Proposed Master Plan Project implementation has the potential to disturb, damage, or degrade archaeological resources or their settings in and around the remainder of the LMU Campus that could address scientifically consequential and reasonable archaeological questions, as defined in the thresholds above. As a result, the Proposed Master Plan Project implementation could have a potentially significant impact on archaeological resources or their settings. Implementation of the mitigation measures presented below, however, would reduce the impacts to a less-than-significant level.

Recommendations to Mitigate Potential Impacts to Historical Resources

As discussed above, because the specific siting and configuration of buildings and facilities under the Proposed Master Plan Project is not known at this time and because archaeological resources by their nature are located below ground and generally unknown until their discovery during earthwork activities, it is unclear if archaeological resources will be encountered or can be avoided. However, as the designs and specific Proposed Master Plan Project components are finalized and these components are implemented, avoidance of soil areas with a higher likelihood of containing archaeological resources to facilitate preservation in place shall be a preferred manner to the development of Campus. If avoidance is not

possible, the recommended mitigation measures presented below are designed to reduce impacts to a less than significant level.

Recommendations to mitigate potential direct and indirect impacts to historical resources are presented below, organized by archaeological site and the Campus at large.

1. Prior to starting ground-disturbing activities such as construction work on Campus, LMU shall retain a project archaeologist that meets the Secretary of the Interior's guidelines and is listed in the Register of Professional Archaeologists. In addition, a Native American member of the Gabrielino/Tongva Tribal community shall be retained under contract as a monitor.
2. Before beginning the planned ground-disturbing activities (such as material grading and excavation activities), LMU shall consult with the archaeologist to determine if any potential exists as a result of the planned ground-disturbing activities for disturbance or damage to archaeological resources. The project archaeologist shall conduct a preliminary archaeological evaluation (which may include sub-surface evaluation) to determine if there are archaeological resources present. If none are determined to be present within the area of planned ground-disturbing activity, then the archaeologist shall determine there is no potential for disturbance or damage to archaeological resources and the area may be cleared for construction work without the need for further archaeological work.
3. If the archaeologist determines there is potential for damage to archaeological resources due to planned ground-disturbing activities, all ground-disturbing activities shall be monitored by the project archaeologist and a Native American member of the Gabrielino/Tongva Tribal community and mitigation for any potential adverse effects to archaeological resources from construction, as identified in Mitigation Measures 5–11 (below), shall be conducted.
4. If based on a preliminary archaeological evaluation the archaeologist determines there are no archaeological resources present, but archaeological resources are encountered, work shall halt and LMU shall consult again with the archaeologist to determine if any potential exists as a result of the planned ground-disturbing activities for disturbance or damage to archaeological resources (see Mitigation Measure 2 above).
5. If archaeological discoveries are identified during monitoring of ground-disturbing activity, the archaeologist may order the temporary diversion of work outside a 200-foot radius around the discovery until the archaeologist has evaluated the nature and significance of the find.
6. If potential human remains are encountered during ground-disturbing activities, all work shall halt, and the Los Angeles County Coroner's Office shall be notified, as prescribed in Public Resources Code §5097.98 and Health and Safety Code §7050.5. If the Coroner determines that the remains are of Native American origin, the Coroner shall proceed as directed in §15064.5(e) of the CEQA Guidelines. LMU shall follow all guidelines outlined in Public Resources Code §5097.98 and §5097.94(k).
7. If significant archaeological resources are encountered, a data recovery plan to mitigate potential adverse effects of construction to a less than significant level shall be developed and implemented. This data recovery plan shall include methods for hand-excavation, analysis, and report writing and also shall provide procedures for the curation of any collected material at a facility meeting professional standards.
8. After the archaeologist determines that potential impacts to archaeological resources have been mitigated, where necessary, work may resume in the area where the archaeological resources were encountered.

9. Any artifacts uncovered shall be recorded and removed for storage at a location to be determined by the archaeologist.
10. If archaeological resources are encountered outside of presently recorded site boundaries of CA-LAN-61, CA-LAN-212, and CA-LAN-1018, the site shall be recorded in accordance with requirements of the State Office of Historic Preservation (i.e., using Department of Parks and Recreation [DPR] 523 forms) and evaluated.
11. Draft reports on archaeological findings shall be prepared by the project archaeologist for submission to the City of Los Angeles for review. Final versions of these reports shall be submitted to the City of Los Angeles, LMU, and the South Central Coastal Information Center at California State University, Fullerton. The report shall outline the data recovery plan in place for mitigation and shall describe the history of the project area, research questions, the field and laboratory methods and results, and how these findings coincide with both the project research questions and the broader context of archaeology in the region. Collected material and project paperwork shall be curated at a facility meeting professional standards.

Cumulative Impacts

Development of the Proposed Project, in combination with the related projects identified in the Proposed Project EIR could contribute to the cumulative loss of archaeological resources within the region, city, and the state as a whole. Related projects in the area, including West Bluffs, Playa Vista, and MDR Towers, have been or will be developed in areas where unique archaeological resources are located. In some cases, projects will impact only a portion of the archaeological sites (Playa Vista) whereas others will remove the entire recorded site for development (West Bluffs and MDR Towers). Related projects are required to be evaluated prior to construction activities. Depending on the outcome of these evaluations, there could be possible effects on archaeological resources.

Under CEQA, the related projects can mitigate adverse effects on the archaeological resources (including potential disturbance, damage, or degradation) through a variety of mitigation measures, including monitoring, data recovery, report writing and curation of project materials. The mitigation measures recommended in this report would reduce the impacts of the Proposed Master Plan Project on archaeological resources to a less than significant level. At the same time, however, the cumulative total of all related development of the Proposed Project creates the potential for cumulative impacts to archaeological resources. Although each project must develop adequate mitigation measures to substantially lessen or avoid impacts on an individual basis, the incidental loss of portions of numerous archaeological resources in the Proposed Project study area may constitute a significant cumulative impact.

Residual Impacts after Mitigation

With implementation of the mitigation measures recommended above, potential direct adverse impacts to archaeological resources will be mitigated and reduced to a less-than-significant level.

APPENDIX A



STATISTICAL RESEARCH, Inc.

ARCHAEOLOGY • ANTHROPOLOGY • HISTORY • HISTORIC ARCHITECTURE

June 19, 2008

Mr. David Singleton
Program Analyst
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Subject: Native American Consultation for the Loyola Marymount University Master Plan,
Los Angeles, California

Dear Mr. Singleton:

Statistical Research, Inc. (SRI) is conducting a cultural resources study for the Loyola Marymount University Master Plan project located near the intersection of Lincoln Boulevard and LMU Drive, in Los Angeles, California (Attachments A and B). This project is located in the city of Los Angeles. This project involves the future development of portions of campus. This area is located on the USGS 7.5-minute Venice quadrangle, but the map has not been sectioned. Therefore, we have offered here area and location maps.

The study will be completed following the provisions of the California Environmental Quality Act (CEQA) regarding cultural resources. We are seeking Native American involvement to ensure that Native American sacred sites are considered during the cultural resources review of the proposed project under CEQA. An archaeological record search has been completed at the South Central Coastal Information Center, California State University, Fullerton, as well as a pedestrian survey of the property. There are three recorded archaeological sites on the campus: CA-LAN-61, CA-LAN-212, and CA-LAN-1018.

We request a review of your Sacred Lands File for areas within and adjacent to the project site, as well as your recommendations for Native American tribes, groups, and individuals we should consult. Thank you very much for your assistance. I look forward to hearing from you at your earliest convenience. If you would like further information, please contact me at (520) 721-4309 or contact me via email at jdouglass@srircm.com. If you can email me a letter of response, this would be preferred; otherwise, please note that the fax number to use for your response is (520) 298-7044.

Sincerely,

John G. Douglass, Ph.D., RPA
Principal Investigator and Research Director

Enclosure: Attachments A and B

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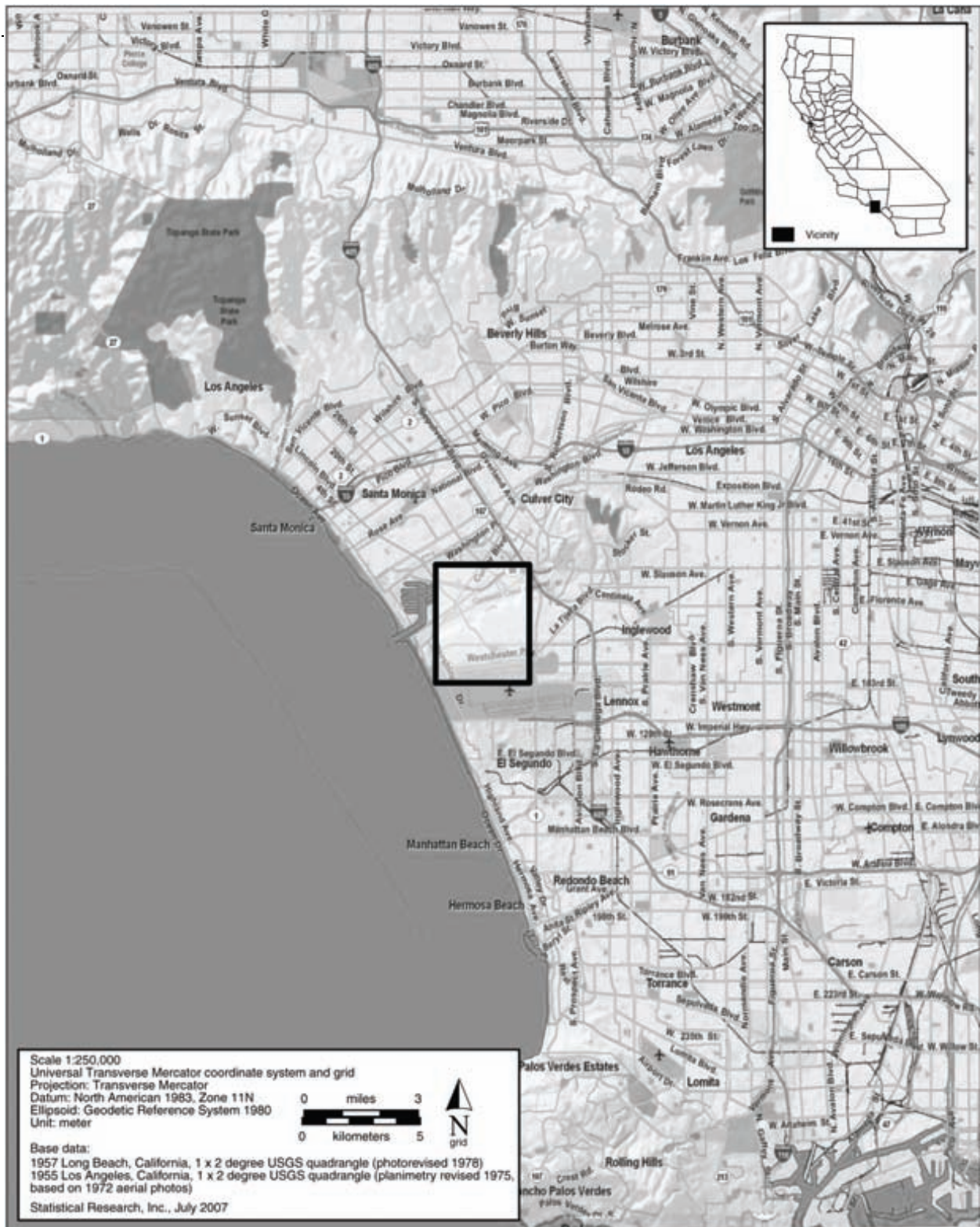
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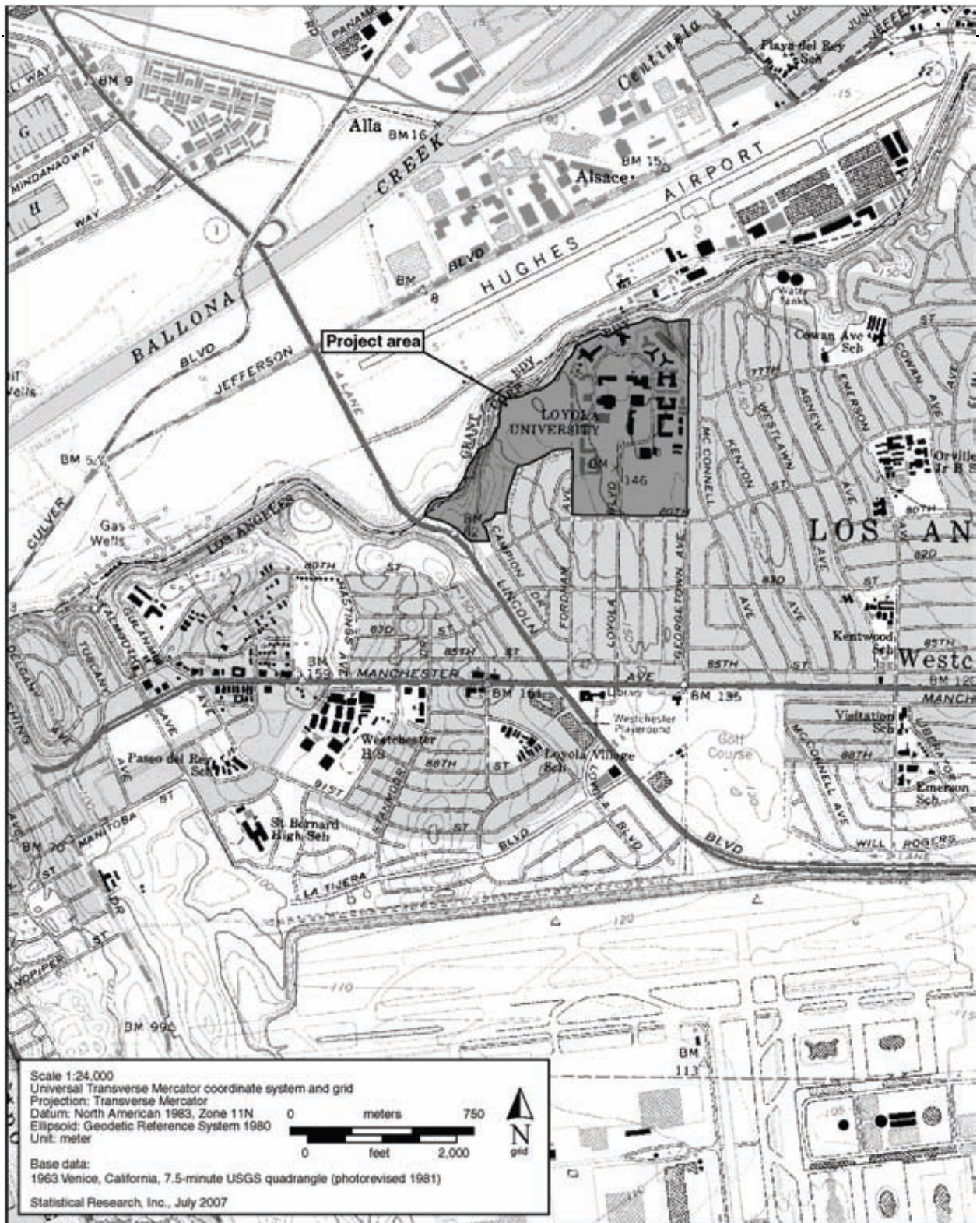
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Attachment A. Vicinity of project area, southern California.



Attachment B. Location of project area, west Los Angeles, California.

APPENDIX B

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 384
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net



June 20, 2008

John G. Douglass, Ph.D., RPA
Principal Investigator and Research Director
STATISTICAL RESEARCH, INC.
6099 E. Speedway Blvd.
Tucson, AZ 85751-1865

Sent by Fax: 520-298-7044
Number of Pages: 2

Re: Proposed: Loyola Marymount University Master Plan, Los Angeles County.

Dear Dr. Douglass:

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 'area of potential effect (APE).'

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the nearest tribes that may have knowledge of cultural resources in the project area. A List of Native American contacts are 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 (APE).

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 5097.98 and Health & Safety Code Section 7050.5 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,

A handwritten signature in black ink that reads "Dave Singleton".

Dave Singleton
Program Analyst

Attachment: Native American Contact List

REFERENCES CITED

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Archaeological Associates

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