ARCHAEOLOGICAL TEST PLAN FOR 2677 BROOKMEAD LANE

CITY OF SAN DIEGO

PTS No. 630967

Prepared for:

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Archaeological Information Page

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And:	James Alcorn, Architect 9736 Claiborne Square La Jolla, California 92037
Submitted by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
Assessor's Parcel Number:	342-072-06
USGS Quadrangle:	Township 15 South, Range 4 West of the *Del Mar*, *California* Quadrangle
Study Area:	1.28 acre
Key Words:	Archaeological Test Plan; prehistoric; City of San Diego; USGS *Del Mar* Quadrangle (7.5 minute); archaeological review; Temp-1.

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1.0 MANAGEMENT SUMMARY/ABSTRACT

Brian F. Smith and Associates, Inc. (BFSA) has been retained to provide archaeological consulting services for the 2677 Brookmead Lane Project (PTS No. 630967) located in the La Jolla Community of the city of San Diego, California (Figures 1.0–1 through 1.0–3). The project is identified as Assessor's Parcel Number (APN) 342-072-06. The applicant plans to construct a new single-family residence and attached garage on a 1.28-acre vacant lot. As such, the City of San Diego required an archaeological survey to address potential impacts to cultural resources.

Preliminary background research for the property was conducted to evaluate the project's potential to contain cultural resources, which included an archaeological record search conducted at the South Coastal Information Center (SCIC) at San Diego State University (SDSU) and archival research which did not identify any resources previously recorded within the project parcel. However, the records search and the background research indicates that the project parcel is located in an area of moderate to high sensitivity for cultural resources. An archaeological survey of the property, conducted on June 28, 2019, identified material associated with the prehistoric habitation of the area was identified (Temp-1).

In anticipation of the City of San Diego's review of the proposed project development, as part of the California Environmental Quality Act (CEQA) process to evaluate potential impacts to cultural resources, this test plan was prepared to establish the protocol to be followed to conduct the significance evaluation of Site Temp-1. The identified cultural resource within the project must be evaluated for significance in order to assess potential impacts. In compliance with City guideline requirements, BFSA has proposed the following Archaeological Test Plan (ATP) for review by the City to determine the adequacy of the proposed scope of work needed to provide a satisfactory evaluation of the resource. The ATP will provide descriptions of the cultural resources within the project, the level of field investigations needed to establish a foundation to evaluate the significance of Temp-1, and the process to be followed to assess the potential impacts to the site from the development of the property.

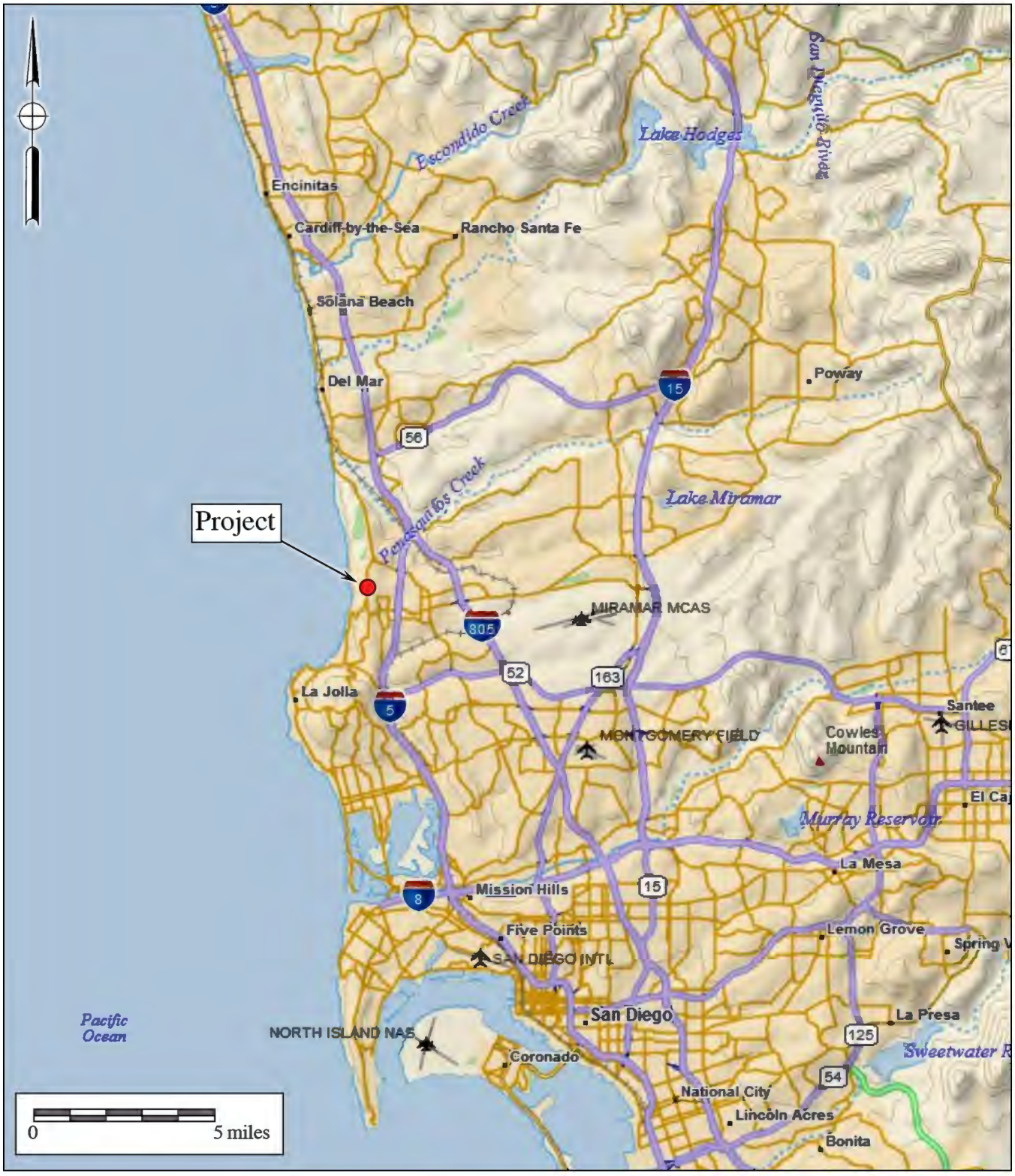

Figure 1.0–1

General Location Map

The 2677 Brookmead Lane Project

DeLorme (1:250,000)

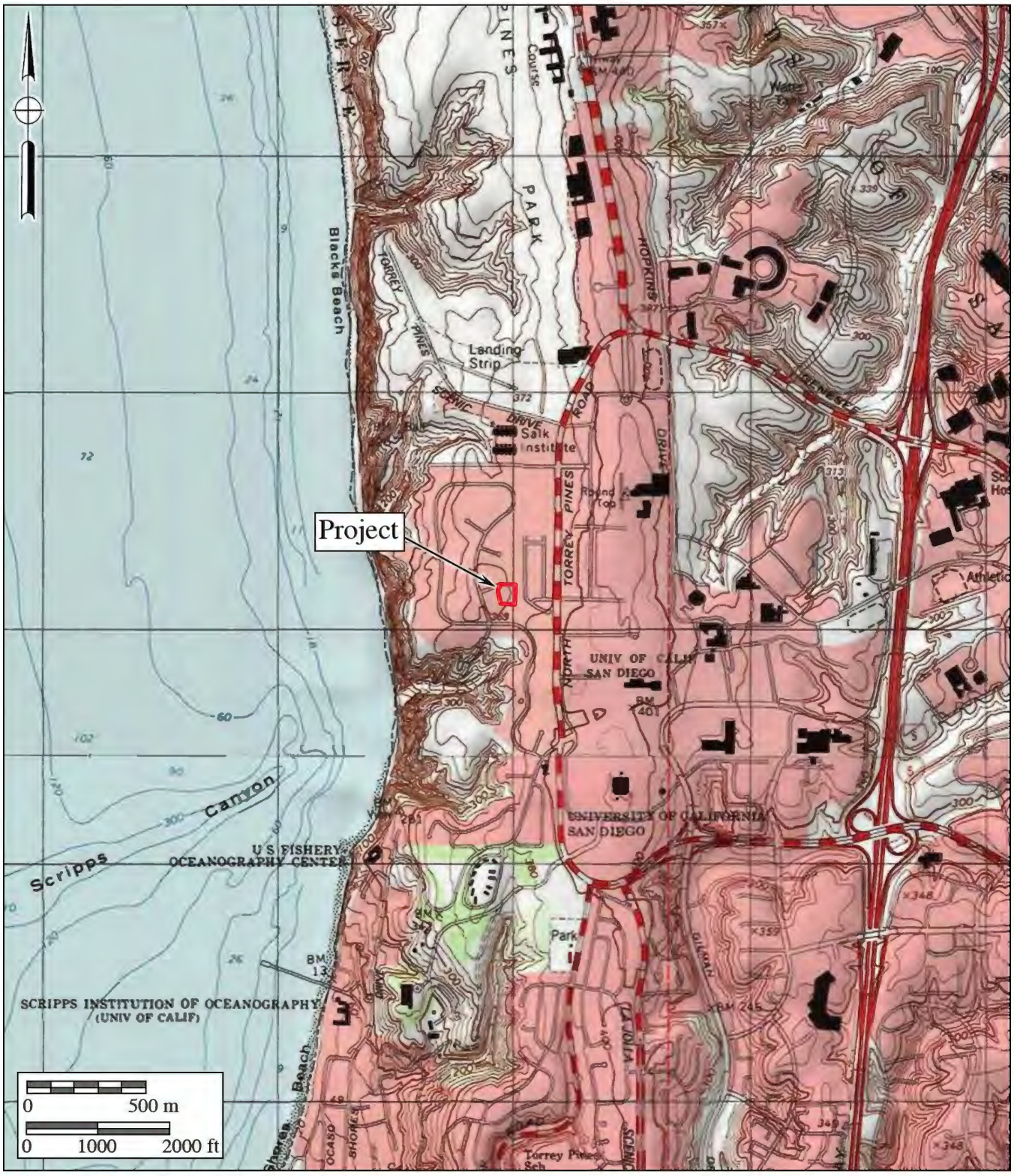

Figure 1.0–2

Project Location Map

The 2677 Brookmead Lane Project

USGS *Del Mar, Del Mar OE West, La Jolla* and *La Jolla OE West* Quadrangles (7.5-minute series)

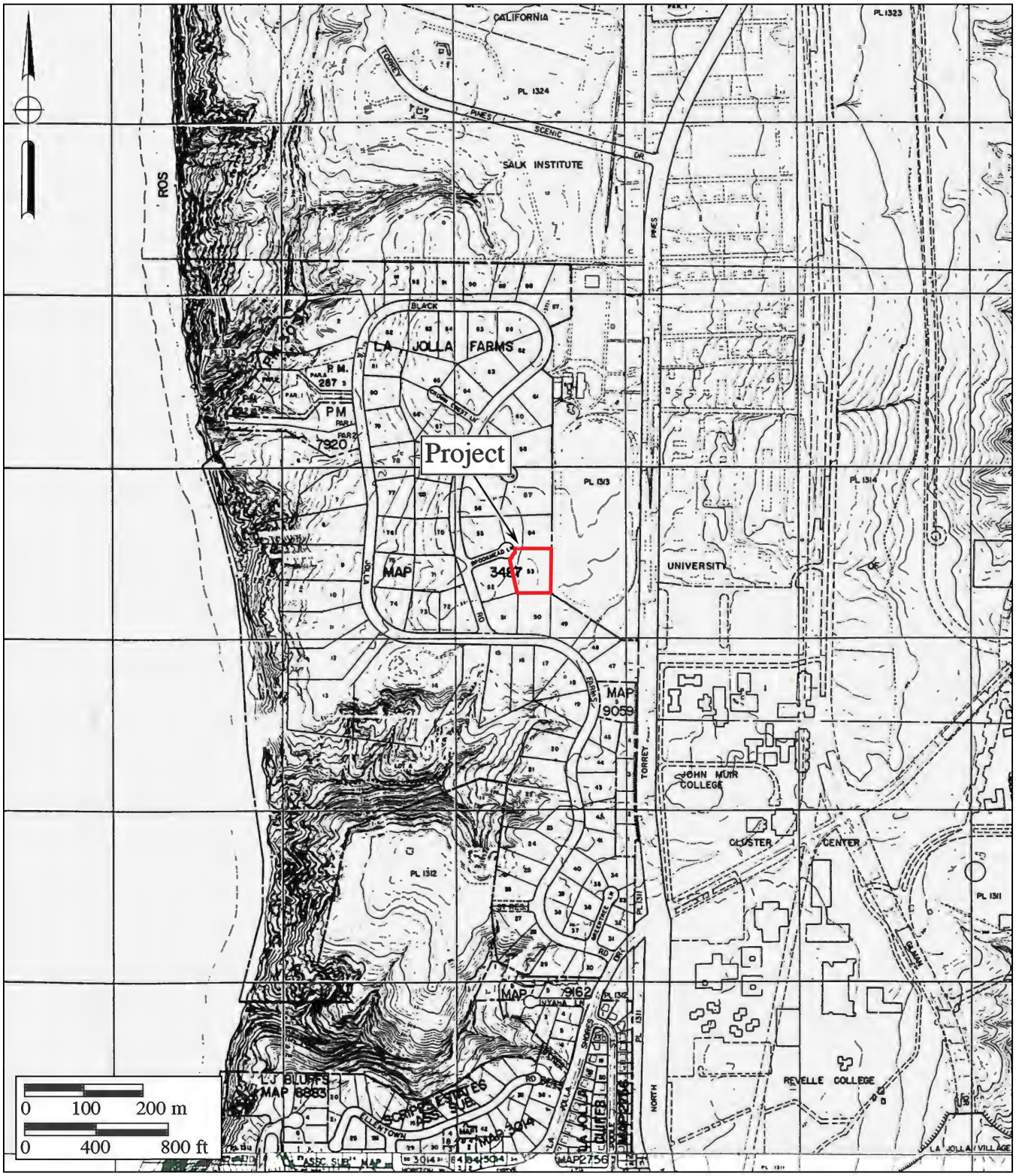

Figure 1.0–3

Project Location Map

The 2677 Brookmead Lane Project

Shown on The City of San Diego 1" to 800' Scale Engineering Map

2.0 INTRODUCTION

The ATP for the 2677 Brookmead Lane Project has been prepared to conform to Section 21083.2 of the California Public Resources Code, the California Environmental Quality Act (CEQA), and the City's Historical Resources Guidelines. The applicant plans to construct a new single-family residence and attached garage on a 1.28-acre vacant lot. A review of readily available aerial photographs indicates a residence was constructed within the property sometime between 1953 and 1964. It appears the residence was removed between 2005 and 2009. As such, the property currently is characterized as a previously graded vacant lot containing an intact driveway and various non-native trees (Plate 2.0–1).

Plate 2.0–1: Aerial view of the project.

Preliminary background research for the property was conducted to evaluate the project's potential to contain cultural resources, which included an archaeological record search of data obtained from the South Coastal Information Center (SCIC) at San Diego State University (SDSU) to locate any previously recorded archaeological sites. Based on the records search results, no resources have previously been recorded within the subject property. However, six resources (five prehistoric and one multi-component) are recorded within a quarter-mile of the project. The closest resources include prehistoric sites W-12, SDI-201, SDI-209, and SDI-4669, all of which are recorded between 500 and 1,000 feet west and southwest of the subject property. Site W-12 was recorded by Malcom Rogers in 1929 as an extensive midden deposit with hearth features and human burials to a maximum depth of six feet covering a large area of Torrey Pines Mesa. Subsequently, archaeological studies for CEQA compliance after 1970 gradually identified smaller, discrete archaeological sites within the broad area recorded by Rogers. References in this document will list sites with both "SDI" numbers with the "W-12" addition to convey the overlapping of site boundaries.

Site SDI-201/W-12 was originally recorded by Treganza with no descriptive information other than "On mesa top north of small canyon" and a map. BFSA investigated SDI-201/W-12 in 2000 and 2001 through the implementation of significance testing and monitoring programs. It was discovered that SDI-201/W-12 was a highly disturbed prehistoric deposit located within imported fill. The fill dirt most likely originated from the housing lots on the south end of La Jolla Farms Road. The site labeled SDI-209/W-12 within the SCIC records is adjacent to SDI-201/W-12; however, the site record for the resource is for a site located miles from the current project along Agua Hedionda. Therefore, it is likely that the resource, as mapped by the SCIC, is a mislabeled extension of SDI-201/W-12.

Site SDI-4669/W-12 (also known as the "Chancellor's House"), most of which is mapped south of La Jolla Farms Road, is recorded as an important Native American habitation site. The resource represents multi-component occupation (Early Archaic La Jolla Complex and Late Prehistoric Kumeyaay) beginning approximately 8,500 years before the present (YBP) (Christenson 1998). Archaeological materials have been identified immediately west of the current project parcel during excavations for the Reiss Residence Project (Smith 2000). In addition, human remains and prehistoric materials have been identified immediately south and west of the current project area. The site has been the subject of numerous archaeological investigations over the years. Areas of SDI-4669/W-12 that have been identified as retaining significant deposits are generally situated on the ocean side of La Jolla Farms Road, near the bluffs.

The records search also identified 53 previous studies within one-mile of the subject property. Seven of the previously conducted studies are mapped overlapping portions of the project parcel (Hanna 1980; Gallegos et al. 1989; ERC 1989; Pierson 2002; Smith and Greene 2006; Underwood and Zepeda 2007; Mattingly 2007). However, all of the studies mapped by the SCIC overlapping the current project are either associated with large general overviews or mis-mapped studies of adjacent parcels. As such, none of them included a formal survey of the current subject property, nor directly address resources within the current project parcel.

An archaeological survey of the property was conducted on June 28, 2019 to search for any previously unrecorded resources within the subject property. Senior Field Archaeologist Clarence Hoff conducted the survey accompanied by Kumeyaay Native American representative Kacy Brown of Red Tail Environmental. During the archaeological survey of the property, material associated with the prehistoric habitation of the area was identified (Temp-1). Site Temp-1 consists of a small (7 x 7 meters) scatter of *Pecten* and *Chione* marine shell fragments along with a weathered marine mammal (likely pinniped) bone fragment. The site was identified within the northwest quarter of the parcel approximately 15 meters south of the existing driveway.

Due to the discovery of a prehistoric Native American site on the property, City guidelines in support of CEQA require that the resource be evaluated for significance. The determination of CEQA significance is important to the evaluation of potential impacts to cultural resources. Prior to significance testing, City guidelines require the preparation and review of a plan to present the testing rationale and protocols for field investigations.

This ATP will satisfy the requirements of the City related to development projects in the La Jolla community. As the background research indicates, the project parcel is located in an area of moderate to high sensitivity for cultural resources. Further, as indicated by the archaeological survey, the parcel currently contains a scatter of prehistoric material that must be documented, tested, and evaluated accordingly. Therefore, a testing program will be incorporated into the project to evaluate the potential for significant cultural resources within the project and to assess potential impacts. This ATP will discuss the tasks to be completed to search for any significant subsurface archaeological deposits within the project boundaries. Testing will include shovel test pit (STP) excavations to search for cultural deposits. In the event that the STPs reveal cultural

deposits, additional investigations will be conducted using test unit excavations. The results of the testing program will be presented to the City in the cultural resources survey and testing report. The goal of this program will be to determine if significant cultural resources will be impacted by the planned construction.

3.0 SETTING

The project setting includes both the physical and biological contexts of the proposed project, as well as the cultural setting of prehistoric and historic human activities in the general area. Provided below is a discussion of both the environmental and cultural settings of the study area, the relationship between the two, and the relevance of that relationship to the project.

3.1 Natural Setting

The project is located in the La Jolla Community Plan Area in the city of San Diego. The project encompasses a 1.28-acre parcel of gently sloping land that is situated on the coastal plain just east of the marine-cut terrace which overlooks the Pacific Ocean. Elevations at the property range from approximately 380 to 390 feet above mean sea level (AMSL) with the higher elevations found in the northwest corner. The property currently is characterized as a previously cleared vacant lot containing an intact driveway and various non-native trees.

3.1.1 Geology and Hydrology

San Diego County lies in the Peninsular Ranges Geologic Province of southern California. The mountainous zone, which extends from northwest to southeast through the county, ranges to a maximum height of 6,533 feet AMSL (Beauchamp 1986). Foothills and valleys, which comprise the cismontane region, extend west from the mountains. This region typically receives more rainfall than the mesas and less than the mountainous region. Between the foothills and the coast lies the coastal mesa region, which is cut by several large drainages originating in the mountains and foothills. The coast is characterized by large bays and lagoons, major rivers that empty into the sea, and mesas that terminate at the ocean in the form of bluffs (Beauchamp 1986). Geologically, the subject property is located on terrace sediments of the lower Pleistocene Lindavista Formation, which overlies the middle Eocene (approximately 47 to 48 million year old) Scripps Formation in the coastal La Jolla Shores area of San Diego (Kennedy and Wirths 2014).

3.1.2 Soils

The subject property falls within the Marina-Chesterton soil association that is described as "somewhat excessively drained to moderately well-drained loamy coarse sands and fine sandy loams that have a subsoil of sandy clay over a hardpan; 2 to 15 percent slopes" (Bowman 1973 et al. 1973). More specifically, the soils present within the project boundaries are mapped as Chesterton fine sandy loam, 2 to 5 percent slopes (CfB) (SoilWeb 2019).

3.1.3 Biology

Currently the project parcel contains non-native vegetation mainly consisting of tamarind, bamboo, palm, loquat, and eucalyptus trees. The prehistoric biological community was characterized by a variety of soft, low, aromatic, drought-deciduous shrubs, such as California

sagebrush, flat-top buckwheat, bush sunflower, and sages, with scattered evergreen shrubs including lemonadeberry, laurel sumac, coyote bush, and toyon. Plants in the understory included native needlegrass, mariposa lily, golden yarrow, everlasting flowers, deerweed, rattlesnake weed, soap plant, San Diego barrel cactus, ashy spike moss, San Diego goldenstar, and blue dicks (Beauchamp 1986; Sawyer 1995).

Many different terrestrial and aquatic animals live in these habitat types. Terrestrial animals include mule deer, black-tailed hare, cottontail rabbit, California ground squirrel, Botta's pocket gopher, deer mouse, woodrat, bat, coyote, gray fox, striped skunk, raccoon, bobcat, mountain lion, California quail, pied-billed grebe, cormorant, great blue heron, mallard, and a variety of reptiles and amphibians. A number of different pelagic fish, such as perch and marine mollusks, including scallops, oysters, and clams, would have been available in Mission Bay and the associated mudflats.

The natural setting of the project area during prehistoric occupation offered a rich nutritional resource base. Fresh water was likely obtainable on a year-round basis from the pond and springs located at the foot of Ardath Canyon. The La Jolla area provided a rich environment capable of supporting a moderately dense prehistoric population of hunter/gatherers such as the La Jolla cultural horizon and the more recent Kumeyaay (Smith and Moriarty 1983, 1985a; Smith and Pierson 1996). Such population densities likely required considerable foraging along the shoreline and in the surrounding drainages and mesas to sustain seasonal occupations. This would have included the area currently under study as well as the adjacent mesas and shoreline. The institutional records searches substantiate the presence of prehistoric foraging sites in the vicinity of the project and in several seasonal residential sites including the Spindrift Site (SDI-39) which is located approximately 1.5 miles south of the current project area.

3.2 Cultural Setting

The area of western San Diego County has a rich and extensive record of both prehistoric and historic human activity. The cultures that have been identified in the general vicinity of the project area include the Paleo Indian manifestation of the San Dieguito Complex, the Archaic Stage and Early Milling Stone horizons represented by the La Jolla Complex, and the Late Prehistoric Kumeyaay Native Americans. Following the Hispanic intrusion into the region (1769), the Presidio of San Diego, the Mission San Diego de Alcalá, and the Pueblo of San Diego were established. The project area was possibly used in conjunction with the agricultural activities of the mission until the period of mission secularization. The pastoral activities of the Mexican Period (1822 to 1846) likely included use of the areas near the project for grazing purposes. Farming also blossomed and gradually replaced cattle ranching in many of the coastal areas. A brief discussion of the prehistoric and historic cultural elements documented for the project area is provided below.

3.2.1 Paleoenvironment

Because of the close relationship between prehistoric settlement and subsistence patterns

and the environment, it is necessary to understand the setting in which these systems operated. At the end of the final period of glaciation, approximately 11,000 to 10,000 YBP, the sea level was considerably lower than it is now; the coastline at that time would have been two to two and a half miles west of its present location (Smith and Moriarty 1985a, 1985b). At approximately 7,000 YBP, the sea level rose rapidly, filling in many coastal canyons that had been dry during the glacial period. The period between 7,000 and 4,000 YBP was characterized by conditions that were drier and warmer than they were previously, followed by a cooler, moister environment similar to the present-day climate (Robbins-Wade 1990). Changes in sea level and coastal topography are often manifested in archaeological sites through the types of shellfish that were utilized by prehistoric groups. Different species of shellfish prefer certain types of environments and dated sites that contain shellfish remains reflect the setting that was exploited by the prehistoric occupants.

Unfortunately, pollen studies have not been conducted for this area of San Diego; however, studies in other areas of southern California, such as Santa Barbara, indicate that the coastal plains supported a pine forest between approximately 12,000 and 8,000 YBP (Robbins-Wade 1990). After 8,000 YBP, this environment was replaced by more open habitats, which supported oak and non-arboreal communities. The coastal sage scrub and chaparral environments of today appear to have become dominant after 2,200 YBP (Robbins-Wade 1990).

3.2.2 Prehistory

In general, the prehistoric record of San Diego County has been documented in many reports and studies, several of which represent the earliest scientific works concerning the recognition and interpretation of the archaeological manifestations present in this region. Geographer Malcolm Rogers initiated the recordation of sites in the area in the 1920s and 1930s, using his field notes to construct the first cultural sequences based upon artifact assemblages and stratigraphy (Rogers 1966). Subsequent scholars expanded the information gathered by Rogers and offered more academic interpretations of the prehistoric record. Moriarty (1966, 1967, 1969), Warren (1964, 1966), and True (1958, 1966) all produced seminal works that critically defined the various prehistoric cultural phenomena present in this region (Moratto 1984), and additional studies have sought to further refine these earlier works (Cardenas 1986; Moratto 1984; Moriarty 1966, 1967; True 1970, 1980, 1986; True and Beemer 1982; True and Pankey 1985; Waugh 1986).

In sharp contrast, the current trend in San Diego prehistory has also resulted in a revisionist group that rejects the established cultural historical sequence for San Diego. This revisionist group (Warren et al. 1998) has replaced the concepts of La Jolla, San Dieguito, and all of their other manifestations with an extensive, all-encompassing, chronologically undifferentiated cultural unit that ranges from the initial occupation of southern California to around A.D. 1000 (Bull 1983, 1987; Ezell 1983, 1987; Gallegos 1987; Kyle et al. 1990; Stropes 2007). For the present study, the prehistory of the region is divided into four major periods including: Early Man, Paleo Indian, Early Archaic, and Late Prehistoric.

Early Man Period (Prior to 8500 B.C.)

At the present time, there has been no concrete archaeological evidence to support the occupation of San Diego County prior to 10,500 YBP. Some archaeologists, such as Carter (1957, 1980) and Minshall (1976), have been proponents of Native American occupation of the region as early as 100,000 years ago. However, their evidence for such claims is sparse at best and they have lost much support over the years as more precise dating techniques have become available for skeletal remains thought to represent early man in San Diego. In addition, many of the "artifacts" initially identified as products of early man in the region have since been rejected as natural products of geologic activity. Some of the local proposed early man sites include Texas Street, Buchanan Canyon, Brown, Mission Valley (San Diego River Valley), Del Mar, and La Jolla (Bada et al. 1974; Carter 1957, 1980; Minshall 1976, 1989; Moriarty and Minshall 1972; Reeves 1985; Reeves et al. 1986).

Paleo Indian Period (8500 to 6000 B.C.)

For the region, it is generally accepted that the earliest identifiable culture in the archaeological record is represented by the material remains of the Paleo Indian Period San Dieguito Complex. The San Dieguito Complex was thought to represent the remains of a group of people who occupied sites in this region between 10,500 and 8,000 YBP, and who were related to or contemporaneous with groups in the Great Basin. As of yet, no absolute dates have been forthcoming to support the great age attributed to this cultural phenomenon. The artifacts recovered from San Dieguito Complex sites duplicate the typology attributed to the Western Pluvial Lakes Tradition (Moratto 1984; Davis et al. 1969). These artifacts generally include scrapers, choppers, large bifaces, and large projectile points, with few milling tools. Tools recovered from San Dieguito Complex sites, along with the general pattern of their site locations, led early researchers to believe that the people of the San Dieguito Complex were a wandering hunter/gatherer society (Moriarty 1969; Rogers 1966).

The San Dieguito Complex is the least understood of the cultures that have inhabited the San Diego County region. This is due to an overall lack of stratigraphic information and/or datable materials recovered from sites identified as belonging to the San Dieguito Complex. Currently, controversy exists among researchers regarding the relationship of the San Dieguito Complex and the subsequent cultural manifestation in the area, the La Jolla Complex. Although, firm evidence has not been recovered to indicate whether the San Dieguito Complex "evolved" into the La Jolla Complex, the people of the La Jolla Complex moved into the area and assimilated with the people of the San Dieguito Complex, or the people of the San Dieguito Complex retreated from the area because of environmental or cultural pressures.

Early Archaic Period (6000 B.C. to A.D. 0)

Based upon evidence suggesting climatic shifts and archaeologically observable changes in subsistence strategies, a new cultural pattern is believed to have emerged in the San Diego region

around 6000 B.C. Archaeologists believe that this Archaic Period pattern evolved from or replaced the San Dieguito Complex culture, resulting in a pattern referred to as the Encinitas Tradition. In San Diego, the Encinitas Tradition is believed to be represented by the coastal La Jolla Complex and its inland manifestation, the Pauma Complex. The La Jolla Complex is best recognized for its pattern of shell middens and grinding tools closely associated with marine resources and flexed burials (Shumway et al. 1961; Smith and Moriarty 1985a). Increasing numbers of inland sites have been identified as dating to the Archaic Period, focusing upon terrestrial subsistence (Cardenas 1986; Smith 1996; Raven-Jennings and Smith 1999a, 1999b).

The tool typology of the La Jolla Complex displays a wide range of sophistication in the lithic manufacturing techniques used to create the tools found at their sites. Scrapers, the dominant flaked tool type, were created by either splitting cobbles or by finely flaking quarried material. Evidence suggests that after about 8,200 YBP, milling tools began to appear at La Jolla Complex sites. Inland sites of the Encinitas Tradition (Pauma Complex) exhibit a reduced quantity of marine-related food refuse and contain large quantities of milling tools and food bone. The lithic tool assemblage shifts slightly to encompass the procurement and processing of terrestrial resources, suggesting seasonal migration from the coast to the inland valleys (Smith 1996). At the present time, the transition from the Archaic Period to the Late Prehistoric Period is not well understood. Many questions remain concerning cultural transformation between periods, possibilities of ethnic replacement, and/or a possible hiatus from the western portion of the county.

Late Prehistoric Period (A.D. 0 to 1769)

The transition into the Late Prehistoric Period within the project area is primarily represented by a marked change in archaeological patterning known as the Yuman Tradition. This tradition is primarily represented by the Cuyamaca Complex, which is believed to have derived from the mountains of southern San Diego County. The people of the Cuyamaca Complex are considered ancestral to the ethnohistoric Kumeyaay (Diegueño). Although several archaeologists consider the local Native American tribes to be relatively latecomers, the traditional stories and histories passed down through oral tradition by the local Native American groups speak both presently and ethnographically to their presence here as being since the time of creation.

The Kumeyaay Native Americans were a seasonal hunting and gathering people with cultural elements that were very distinct from the people of the La Jolla Complex. Noted variations in material culture include cremation, the use of the bow and arrow, and adaptation to the use of the acorn as a main food staple (Moratto 1984). Along the coast, the Kumeyaay made use of marine resources by fishing and collecting shellfish for food. Seasonally available plant food resources (including acorns) and game were sources of nourishment for the Kumeyaay. By far the most important food resource for these people was the acorn. The acorn represented a storable surplus, which in turn allowed for seasonal sedentism and its attendant expansion of social phenomena.

Firm evidence has not been recovered to indicate whether the people of the La Jolla

Complex were present when the Kumeyaay Native Americans migrated into the coastal zone. However, stratigraphic information recovered from Site SDI-4609 in Sorrento Valley may suggest a hiatus of 650 ± 100 years between the occupation of the coastal area by the La Jolla Complex (1,730 ± 75 YBP is the youngest date for the La Jolla Complex inhabitants at SDI-4609) and Late Prehistoric cultures (Smith and Moriarty 1983). More recently, a reevaluation of two prone burials at the Spindrift Site excavated by Moriarty (1965) and radiocarbon dates of a pre-ceramic phase of Yuman occupation near Santee suggest a comingling of the latest La Jolla Complex inhabitants and the earliest Yuman inhabitants about 2,000 YBP (Kyle and Gallegos 1993).

3.2.3 History

Exploration Period (1530 to 1769)

The historic period around San Diego Bay began with the landing of Juan Rodríguez Cabrillo and his men in 1542 (Chapman 1925). Sixty years after the Cabrillo expeditions (1602 to 1603), Sebastian Vizcaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Vizcaíno had the most lasting effect on the nomenclature of the coast. Many of the names he gave to various locations have survived, whereas nearly every one of Cabrillo's has faded from use. Cabrillo gave the name "San Miguel" to the first port at which he stopped in what is now the United States; 60 years later, Vizcaíno changed it to "San Diego" (Rolle 1969).

Spanish Colonial Period (1769 to 1821)

The Spanish occupation of the claimed territory of Alta California took place during the reign of King Carlos III of Spain (Engelhardt 1920). José de Gálvez, a powerful representative of the king in Mexico, conceived the plan to colonize Alta California and thereby secure the area for the Spanish (Rolle 1969). The effort involved both military and religious components, where the overall intent of establishing forts and missions was to gain control of the land and the native inhabitants through conversion. Actual colonization of the San Diego area began on July 16, 1769, when a Spanish exploration party commanded by Gaspar de Portolá (with Father Junípero Serra in charge of religious conversion of the native populations) arrived by the overland route to San Diego to secure California for the Spanish (Palou 1926). The natural attraction of the harbor at San Diego and the establishment of a military presence in the area solidified the importance of San Diego to the Spanish colonization of the region and the growth of the civilian population.

Missions were constructed from San Diego to as far north as San Francisco. The mission locations were based upon a number of important territorial, military, and religious considerations. Grants of land were made to those who applied, but many tracts reverted back to the government due to lack of use. As an extension of territorial control by the Spanish Empire, each mission was placed so as to command as much territory and as large a population as possible. While primary access to California during the Spanish Period was by sea, the route of El Camino Real served as the land route for transportation, commercial, and military activities within the colony. This route

was considered the most direct path between the missions (Rolle 1969; Caughey 1970). As increasing numbers of Spanish and Mexican peoples, as well as the later Americans during the Gold Rush, settled in the area, the Native American populations diminished as they were displaced or decimated by disease (Carrico and Taylor 1983).

Mexican Period (1821 to 1846)

Father Miguel Hidalgo y Costilla and a group of Native American followers began a revolt against Spanish rule on September 16, 1810. Hidalgo did not succeed in the fight against the Spanish and was ultimately executed. However, the revolt continued, and the Spanish were finally defeated in 1821. Mexican Independence Day is celebrated on September 16 of each year in honor of Father Hidalgo's bravery. The revolution also had repercussions in the northern territories, and by 1834, all of the mission lands in Alta California had been removed from the control of the Franciscan Order under the Acts of Secularization. Without proper maintenance, the missions quickly began to disintegrate. After 1836, missionaries ceased to make regular visits to the outlying Native American communities to minister their needs (Engelhardt 1920). However, large tracts of land continued to be granted to those who applied or who had gained favor with the Mexican government. Grants of land were also made to settle government debts, and the Mexican government was also called upon to reaffirm some older Spanish land grants shortly before the Mexican-American War in 1846 (Moyer 1969).

Anglo-American Period (1846 to Present)

California was invaded by United States troops during the Mexican-American War from 1846 to 1848. The acquisition of strategic Pacific ports and California land was one of the principal objectives of the war (Price 1967). At the time, the inhabitants of California were practically defenseless, and they quickly surrendered to the United States Navy in July 1847 (Bancroft 1886).

The cattle ranchers of the "counties" of southern California prospered during the cattle boom of the early 1850s. They were able to "reap windfall profit … pay taxes and lawyer's bills … and generally live according to custom" (Pitt 1966). However, cattle ranching soon declined, contributing to the expansion of agriculture. With the passage of the "No Fence Act," San Diego's economy shifted from stock raising to farming (Robinson 1948). The act allowed for the expansion of unfenced farms, which was crucial in an area where fencing material was practically unavailable. Five years after its passage, most of the arable lands in San Diego County had been patented as either ranchos or homesteads, and growing grain crops replaced raising cattle in many of the county's inland valleys (Blick 1976; Elliott 1883 [1965]).

By 1870, farmers had learned to dry farm and were coping with some of the peculiarities of San Diego County's climate (*San Diego Union* 1868; Van Dyke 1886). Between 1869 and 1871, the amount of cultivated acreage in the county rose from less than 5,000, to more than 20,000 acres (*San Diego Union* 1872). Of course, droughts continued to hinder the development of agriculture (Crouch 1915; *San Diego Union* 1870; Shipek 1977). Large-scale farming in San

Diego County was limited by a lack of water and the small size of arable valleys. The small urban population and poor roads also restricted commercial crop growing. Meanwhile, cattle continued to be grazed in parts of inland San Diego County. In the Otay Mesa area, for example, the "No Fence Act" had little effect on cattle farmers because ranches were spaced far apart and natural ridges kept the cattle out of nearby growing crops (Gordinier 1966).

During the first two decades of the twentieth century, the population of San Diego County continued to grow. The population of the inland portion of the county declined during the 1890s, but between 1900 and 1910, it rose by about 70 percent. The pioneering efforts were over, the railroads had broken the relative isolation of southern California, and life in San Diego County became similar to other communities throughout the west. After World War I, the history of San Diego County was primarily determined by the growth of San Diego Bay. In 1919, the United States Navy decided to make the bay the home base for the Pacific Fleet (Pourade 1967), as did the aircraft industry in the 1920s (Heiges 1976). The establishment of these industries led to the growth of the county as a whole; however, most of the civilian population growth occurred in the coastal areas in the northern portion of the county where the population almost tripled between 1920 and 1930.

During this time period, the history of inland San Diego County was subsidiary to that of the city of San Diego, which had become a Navy center and an industrial city (Heiges 1976). In inland San Diego County, agriculture became specialized and recreation areas were established in the mountain and desert areas. Just before World War II, urbanization began to spread to the inland parts of the county.

3.2.4 History of the La Jolla Area

A limited research effort was initiated in order to characterize the circumstances of the early development of La Jolla so that the current project could be placed in context with the surrounding community. Several early land developments contributed to the overall disturbance to the major prehistoric sites in the area of the project. However, small development projects continuously encounter pockets of cultural sites that have survived grading and construction impacts over the years.

The origin of the name La Jolla, most researchers agree, is a variation of the original "La Hoya," which literally translated from Spanish means "pit, hole, grave, or valley." The equivalent American translation is "river basin" (Castillo and Bond 1975). The city surveyor, James Pascoe, spelled it "La Joya" on his map of city land in 1870, which translates as "the jewel." The location of La Hoya (or La Joya) was consistently shown as the canyon in which the southern portion of Torrey Pines Road is currently located. The first post office was established on February 28, 1888 and closed on March 31, 1893, but reopened as "Lajolla" (one word) on August 17, 1894. On June 19, 1905, the name of the post office was changed to "La Jolla" (two words) (Salley 1977).

The first purchase of Pueblo Lands in this area occurred on February 27, 1869, when the City of San Diego sold Pueblo Lot 1261 to Samuel Sizer. On the same day, the City sold Pueblo

Lot 1259 to Daniel Sizer. These lots, which sold for $1.25 per acre, were located south of "La Hoya Valley." The *San Diego Union* (1869) referred to the canyon as "La Hoya" when describing Sizer's agricultural development to the south. By the 1870s, excursions to the point and cove were offered by the Horton House in their Concord Coach, a stagecoach drawn by four horses (*San Diego Union* 1932).

The boom of the 1880s extended to La Jolla with the construction of a hotel and rental cottages (Randolph 1955). Initially, water supplies were unreliable, consisting of only two sources: a small well in Rose Canyon and a small pipeline connected to the Pacific Beach water supply. Reliable transportation to La Jolla came with the extension of the San Diego, Old Town, and Pacific Beach Railway to La Jolla in 1894. This narrow-gauge railroad was responsible for bringing passengers and prefabricated cottages (on flat cars) to the growing community (Randolph 1955). The railroad was dismantled in 1919, but not before an unsuccessful experiment with a gasoline-powered rail car (known locally as the "Red Devil") was conducted.

As the number of residences and businesses increased in La Jolla, so did the need for public services. On July 10, 1888, the San Diego City Council passed an ordinance providing for the disposal of garbage, night soil, dead animals, ashes, and rubbish (Document 101817). In 1909, natural gas was brought to La Jolla, and in 1911, electricity was made available to the community (Randolph 1955). An electric railway provided service to La Jolla between 1924 and 1940. In 1918, street paving began, and by 1922, the Girard Street business section was completely paved.

Visitors to La Jolla enjoyed the park at Alligator Head from the earliest days of stagecoach excursions. Trees and shrubs were planted around the park, but a months-long failure of the water supply in 1890 caused many of the plants to die. During the 1890s, the park was also the focus of construction for guest cottages and hotels, such as the La Jolla Beach House, which indicates that developmental impacts to prehistoric archaeological resources, as well as impacts from increased visitation, occurred during this early period. Randolph (1955) wrote about a Native American settlement at La Jolla (probably SDI-39), which was supported by Native American informants and the recovery of several artifacts, including metates, stone utensils, and other relics from La Jolla Cove. As the development of La Jolla continued, other subdivisions and plots were converted from farming and/or grazing to residential use.

The earliest notable development in this area was the construction of the Spindrift Inn in the 1920s. Also at this time, the initial development of the La Jolla Beach and Tennis Club (originally the La Jolla Beach and Yacht Club) took place. These early facilities gained in popularity and were successful in spite of the Depression that gripped the country between the stock market crash of 1929 and the opening of World War II. The La Jolla Vista Subdivision, on the other hand, was slow in building to capacity, possibly because of the real estate bust from 1925 to 1926 (Brandes et al. 1999).

Two military training camps came to La Jolla during World War II: Camp Callan and Camp Elliot. In addition, two emplacements on Mount Soledad and one on the beach in La Jolla were established during the war years (Pierson 2001). Although these military installations were

replaced after the Korean War with the University of California at San Diego campus and the expansion of the Scripps Institution of Oceanography, the economic base of La Jolla grew to include a substantial business element. This trend has continued with ever-present tourism playing a significant part in the local economy. Throughout the history of this community, the residential population has included both permanent and seasonal residents, many of whom have achieved a significant degree of financial and historical notoriety and success.

4.0 RESEARCH DESIGN

The primary goal of the research design is to attempt to reconstruct the way in which humans have used the land and resources within the project area through time. As people used the area, evidence of their activities has been preserved on and in the ground. Archaeological methods are used to retrieve and analyze portions of this evidence to reconstruct past lifeways. This type of inquiry is part of the cultural resource management aspect of environmental conformance studies. The testing program for the 2677 Brookmead Lane Project will include a records search, background research, test excavations (as outlined in Section 5.0), and the mapping of any features, artifacts, and locations of subsurface archaeological tests to be conducted.

Primary objectives, such as the determination of the boundaries of any discoveries, depth of any archaeological deposits, stratigraphy, integrity, content, and spatial distribution of any subsurface artifacts and cultural ecofacts, is essential to the ATP. Normally, a research orientation transcends these goals by expanding the meaning of information extracted from a site through the use of archaeological questions important in current scientific research. Regional and temporal research issues should be taken into consideration when posing such questions. However, because the boundary of buried intact cultural resources is uncertain, the research design for the current project is limited in scope. The topics and associated research questions provided below address concerns specific to the project.

Research Questions

The research orientation developed for the 2677 Brookmead Lane Project employs regional and locally specific questions and identifies data needs to approach these questions. For the proposed study, many of the research questions overlap, as they address environmental setting and prehistoric occupation patterns. Based on the SCIC records search, the closest prehistoric site to the subject property is to SDI-4669/W-12 which was first recorded by Malcolm Rogers in 1929. Therefore, it is most likely that Temp-1, like other prehistoric sites in the area, can be tied to SDI-4669/W-12. Although a wide range of research questions may be possible for investigation of prehistoric sites associated with SDI-4669/W-12, five primary research areas were selected for the study based upon previous work, potential of available data to address these questions, and possible overall contribution to the archaeological record. The specific research questions focus on chronology, lithic technology, settlement patterning, subsistence strategy, and trade/travel. These research topics will be used to guide the study and to determine the sample size necessary to provide sufficient materials to address these research questions posed.

Chronology

What was the period(s) of use and/or occupation for Temp-1? Is there evidence of multiple periods of occupation at Temp-1 and can they be identified through radiocarbon analysis? Temporally, how does this site fit into the overall pattern

for San Diego County (SDI-4669/W-12)? That is, what group or culture are we examining in the context of the known culture history, and can we differentiate between periods of occupation(s)?

Determining the period(s) of occupation of a site or a region can be accomplished by the use of radiocarbon dating and relative dating techniques. Radiocarbon dating depends upon the retrieval of dateable materials such as bone or shell. In San Diego County, radiocarbon dates range from approximately 9,000 years ago to historic contact. In contrast, relative dating is based upon the recovery of specific artifacts that are temporally diagnostic such as atlatl-dart points, arrow points, and ceramics. Stratigraphic analyses, obsidian sourcing, and hydration rind measurements may also serve as relative dating measures. The combination of both radiocarbon measures and relative dating observations help to provide a greater chronological picture for any given site.

Previous work at SDI-4669/W-12 produced only a handful of radiocarbon dates. Two samples from Kennedy (1983) and Bada et al. (1974) provided dates at 8,330 ± 160 YBP and 8,470 ± 140 YBP. Although this suggests occupation for the site within the Early Period, there is considerable archaeological evidence identifying later components. The dating of the later components and additional early components of the site would provide greater understanding of the site's occupation history. In addition, this research helps to delineate (where possible) divisions between Late Prehistoric occupation and Early Archaic occupation. Finally, further chronological analyses may also reveal if the site may be better understood synchronically, diachronically, or both. However, in order to address the research questions posed, a more accurate temporal placement of the site will be necessary.

Study Topics

1. Can multiple periods of occupation be determined through chronological analysis of Temp-1?
2. Does the chronological data suggest longer periods of occupation during the Late Prehistoric Period or Early Archaic Period?
3. Chronologically, where does the Temp-1 within the APE place in the overall pattern for sites along the San Diego coast and southern California in general?
4. How do temporally diagnostic artifacts from Temp-1 compare to C-14 data from (SDI-4669/W-12) and does the data suggest stratigraphy mixing of the assemblage?

Data Needs

Previous work indicates that, at a minimum, shell and bone are present within Temp-1. Therefore, materials will be selected for radiocarbon dating based upon context and quality. If the recovered data permits, relative dating may be possible using point types, the presence of ceramics, and analysis of obsidian. If present, obsidian, traded from distant sources, may also be relatively

dated using comparable hydration rates. In addition, obsidian from sources such as Obsidian Butte in the Imperial Valley was available only during the late Holocene, while obsidian from the Coso Range of the Owens Valley was available throughout the Holocene. The presence of either may be used as a temporal indicator. Shell species preference or availability may also be used to place sites within a relative order. For example, marine shell can be identified by species to determine shell habitat and along with radiocarbon dates, can be used to identify environmental setting and change over time.

Lithic Technology

Which technological lithic trajectories were employed by the prehistoric inhabitants of Temp-1? Which lithic reduction strategies were in use and when? What role did milling technology play at Temp-1? Is there notable variation in observable lithic technologies between coastal sites and inland sites of the same time period?

Several flake tool reduction strategies have been identified for the southern California coastal region. These strategies include biface reduction, split-nodule core reduction, small blade core reduction, bipolar core reduction, and nodule reduction. The decision to use one or the other of these techniques was dependent upon several factors, but the most important factors were the type of material being worked, the morphology of the parent material, and the intended tool. For example, some lithic materials, such as Monterey chert and Piedra de Lumbre chert, are more easily worked, and with heat treatment become some of the best knappable material in the western United States. Problems exist, however, in the form of the material in its raw state. Piedra de Lumbre chert generally occurs in small pieces, and thus, it was used extensively in the Late Holocene for small arrow points (Pigniolo 1992). However, this material has been recovered from a site (SDI-10,965) at Agua Hedionda Lagoon dating to 8,000 years ago (Gallegos 1991). Monterey chert occurs in small cobbles and in layers. For small cobbles, bipolar reduction would be the most efficient method of producing usable flakes. For the layered Monterey chert, biface reduction was the most expedient method of producing tools, as the layers were already thin, and only the outer perimeter needed to be worked (Cooley 1982). Other chert sources in San Diego need to be identified, and the material chemically characterized. Large biface production and reduction requires pieces of material large enough to be reduced, and homogeneous enough to produce workable items. Santiago Peak Volcanics, found in San Diego, have been used extensively for the production of large tools (*i.e.,* adzes, scrapers, scraper planes, cores, and hammerstones) and bifaces (Schroth and Flenniken 1997). The use of quarry material from these formations may be an early to middle Holocene marker, as the larger spear and dart points would have necessitated the use of larger blocks of parent material.

Nodule core reduction comprises numerous techniques with specific trajectories such as pyramidal-shaped, split-nodule core reduction (used to produce thick, contracting flakes for flake

tools), the production of teshoa flakes for large flake tools, and nodule core tools wherein the parent material, rather than the removed flakes, is used to make tools. Cobble layers found in streambeds, across coastal terraces, and along the coast provided materials for these reduction sequences. Nodule core reduction is known in southern California archaeological literature as "Cobble Core Reduction" (Gallegos et al. 2002; Gallegos et al. 2003). The term "nodule" was substituted for "cobble" because a cobble is geologically defined as a size clast (64 to 256 millimeters), and many prehistoric core and core-based artifacts (such as some battered implements) were manufactured from boulders (>256 millimeters), and to a lesser extent, pebbles (four to 64 millimeters). The term "nodule" was selected because nodules as a class are not size specific, and tend to be rounded to sub-rounded. For north-coastal San Diego, nodule core reduction technology is the most common core technology identified in archaeological sites that range from the early Holocene to historic contact with native peoples (Stropes 2007). In addition, products of nodule core reduction are some of the most abundant tool forms identified in assemblages throughout the region. This simple and expedient technology may have been so commonly employed because it provided a simple and relatively effortless way to produce useful flakes and flake blanks intended for immediate use or further reduction into a wide range of tool forms. Effort is defined in reference to the lithic technology described here as the amount of energy needed to reduce stone into a viable product. Because of the local abundance of metavolcanic materials in nodule form, there was little need for more material-efficient, and consequently, more time-consuming, technology.

Prehistorically, the use of ground stone implements (*i.e.,* manos, metates, and pestles) is common throughout San Diego County archaeological sites. However, when viewed chronologically, many researchers have suggested that lithic milling equipment was either absent or rare in assemblages identified to the Paleo Indian Period (Chartkoff and Chartkoff 1984; Moratto 1984; Moriarty 1966; Rogers 1939), suggesting a greater reliance on food packages that required minimal milling-based processing for consumption. In contrast, some believe that a lack of milling at Paleo Indian Period sites is a reflection of site use patterning rather than the absence of milling technology for the time period. To date, minimal research has been conducted regarding ground stone manufacture and use or change of use through time in San Diego County. However, studies such as Flenniken's 1993 analysis of tools from SDI-10,148 have demonstrated that sites exist in San Diego that demonstrate ground stone manufacture and rejuvenation activities (Flenniken et al. 1993). Therefore, analysis of debitage and tools from habitation sites can provide information regarding manufacture, use, and rejuvenation of ground stone, if present. In addition, variation in resource exploitation and changes in site function should be analyzed to determine if ground stone tools were designed for specific functions (*i.e.,* pestles and mortar use for acorn processing) and if technological changes in milling equipment occurred through time as climate and resources changed.

Previous work at SDI-4669/W-12 has recovered a wide range of flaked lithic materials and ground stone. Therefore, if present, the proposed recovery should provide enough data to

characterize the general lithic trajectories present. The following study topics will be addressed.

Study Topics

1. Which technological reduction strategies are present based upon a technological analysis of flaked stone at the site?
2. Which reduction strategies were used to produce which tools? Were these strategies the same or different?
3. Is the variation between flake-based tool kits at sites where shellfish processing is the dominant activity and sites focused on other subsistence activities from the same time period?
4. How do the technologies identified at Temp-1 and the stages of tool reduction relate to site function and tools recovered at the site?
5. Are the tools present at Temp-1 being manufactured on-site or at another location?
6. Have specific lithic reduction techniques changed through time at Temp-1 (*i.e.,* does large biface reduction predominate during the Paleo Indian Period and nodule-based technologies during the Early Archaic Period and Late Prehistoric Period)?
7. What function did milling technologies serve at Temp-1?

Data Needs

Previous work at SDI-4669/W-12 indicates that flaked lithics and ground stone implements are present within the region. Therefore, all lithic materials recovered will be selected for technological analysis based upon replicative data. In order to address the proposed research questions, the following will be required:

- Collection of an appropriate sample of cores, tools, and debitage.
- Technologically based analysis of cores, tools, debitage, and milling equipment.
- Identification of the technological attributes and reduction sequences used to produce the tools.

Settlement and Subsistence

Which settlement and subsistence patterns can be identified at Temp-1 and have these patterns changed over time? Did the pattern of shellfish collection change over time? If so, what influenced the changes: environmental change, population change, technological change, or a combination of these factors? If this site is representative of a continuously occupied habitation site, how does this site relate to other sites: as base camps, special-use sites, or extractive sites? How did occupation and use of this site contribute to seasonal or year-round occupation of the region in general?

Traditionally, sites such as prehistoric habitation sites are archaeologically differentiated from specialized function sites (*i.e.,* quarries, shellfish processing sites, or milling stations) by the range of materials identified in the assemblage. In addition, there is also a notable amount of variability between habitation sites as a group with regards to site size, artifact density, and diversity of material culture. This observed variation may relate to differences in the quantity of people who occupied a given site, the duration of a site occupation, the frequency with which a site was reused, and the range of activities performed at the site. Identifying such variations in site patterning may help to facilitate the reconstruction of prehistoric social organization and economic adaptations to environmental change. Although many attempts have been made to discern a settlement pattern for Late Prehistoric Period sites based upon ethnographic data, the same cannot be said for Early Archaic Period sites in San Diego. The study of earlier settlement systems represented in the archaeological record has gone largely unstudied with the exception of research pertaining to whether coastal Early Archaic Period habitation sites (such as SDI-4669/W-12) represent permanent settlements or short-term, seasonal camps (Davis 1976) primarily focused on economic exploitation of shellfish. The data gathered from Temp-1 will help to further illuminate settlement and site type issues for the region and may provide a greater understanding for Early Archaic Period site patterning.

Seasonal site use at SDI-4669/W-12 is implicit in the availability of fresh water only during the rainy season (winter). However, the attraction of the marine resource may have been strongest during the summer months due to the seasonal availability of preferred resources (Jochim 1976). Seasonality of coastal sites may be determined in two ways. The first is the analysis of fish otoliths, which provide information regarding the season of capture, and hence the season of site occupation. Since Temp-1 is located near the original La Jolla Estuary, seasonal concentrations of perennially available species must be considered. In addition, the presence of fish that inhabit the nearshore or the bay purely on a seasonal basis, such as some skates, rays, and sharks, must also be considered. For instance, if a fish species is identified that is seasonally sensitive and available near shore only during a certain period, but the otolith analysis indicates that the fish was captured during a season when it would not normally have been present in the bay, but would have been present offshore, then not only is seasonality addressed, but other activities, including sea-going vessel construction and deep-water fishing, must also be considered.

Invertebrate faunal analysis from Temp-1 may help to also identify environmental change for coastal southern California based upon the rise in sea level that occurred during the early to middle Holocene. This change is believed to have prompted the flooding of coastal valleys and the formation of much of the San Diego lagoon system. The majority of evidence for environmental change in or near lagoons is based upon the analysis of core samples combined with radiocarbon dates and radiocarbon-dated shellfish samples taken from prehistoric sites near lagoons. Several studies have employed shellfish analysis to explain site patterning and environmental change including Miller (1966), Warren et al. (1961), Warren and Pavesic (1963), Bull and Kaldenberg (1976), and Masters (1988). Environmental studies suggest that circa 3,500

years ago, sea levels stabilized, which resulted in an increase in the siltation of the majority of northern San Diego County lagoons during the late Holocene. In contrast, San Diego Bay formed in the early Holocene and stayed open to the ocean throughout the Holocene (Gallegos and Kyle 1988). Taking this into consideration, some prehistoric sites around more northern lagoons may reflect a changing environment and the loss of certain lagoon shellfish and fish species. In contrast, sites reflecting exploitation of bay resources may not reflect a change in the exploitation pattern of shellfish species, type of shellfish, and/or absence of shellfish.

Previous work at SDI-4669/W-12 recovered shellfish remains and a moderate amount of faunal remains (including marine mammal). Given that sufficient cultural materials were recovered as a result of previous studies in the region, the recovery from Temp-1 may provide enough data to characterize the general subsistence and settlement pattern for the site. Therefore, the following study topics will be addressed:

Study Topics

1. Does Site Temp-1 represent both Early Archaic Period and/or Late Prehistoric Period components, and if so, is environmental change and changes in resource exploitation over time reflected in the faunal assemblage?
2. Does Site Temp-1 represent a specialized food processing site or a campsite where a wide range of foods were gathered and processed?
3. As very little is known about Early Archaic Period settlement patterns, what information does Temp-1 provide to add to our prehistoric understanding of site occupation and use patterning?
4. Does the faunal assemblage indicate if Temp-1 was occupied on a seasonal basis or year round?

Data Needs

The data necessary to address the questions about economic exploitation of resources at Temp-1 includes recovery of flora and faunal remains to permit the reconstruction of diet or dietary practices and preferences of the site occupants. The presence of particular species of plants and animals allows for a more complete understanding of the range of environments exploited by the occupants of the sites associated with SDI-4669/W-12. Available methods for interpreting available data include speciation of vertebrate and invertebrate faunal materials, protein residue analysis, and the subsequent identification of habitats based upon species information. Based upon previous studies of intact strata, pollen and phytolith preservation may have been possible and should be considered when intact subsurface levels and/or features are identified. Artifacts recovered from the site can also provide inferential information regarding subsistence exploitation. For example, if plant material is not found, the presence of mortars, manos, pestles, bowls, and metates provides evidence that flora and faunal material were processed at the site. Immunological studies of residues on tools from the site may provide data relating to both the use of tools and to

resources exploited. As such, protein residue analysis from recovered ground stone implements and flaked tools may also be required. Often, it is necessary to process relatively large numbers of lithic tools to obtain protein residue information for a given site.

In order to understand settlement patterning for Temp-1, the archaeological assemblage recovered must be viewed in its entirety. It is through the comparison of chronological studies, faunal studies, environmental reconstruction, and prehistoric technology studies that an understanding of the settlement patterning of the site will be achieved. In addition, although the number of otoliths commonly found in a midden is very small, if present, otoliths recovered from the site can be identified by species and subjected to a seasonality study. The resulting data can then be assumed to reflect the species sample and, consequently, at a minimum, the seasonality of the site occupation.

Trade and Travel

Historically, early explorers and ethnographers recorded the presence of Native American trails and trade practices among various peoples in the southern California region. The procurement of lithic resources, such as chert, obsidian, and steatite, may suggest contact with other cultural groups, as these materials were not locally available. Although many other trade items were perishable (i.e., faunal and floral materials), is there evidence of trade networks or distant travel in the material remains recovered from Temp-1?

For San Diego County, a range of lithic materials, such as obsidian and steatite, have been identified as trade items. The presence of those items at San Diego County sites may help to identify prehistoric trade or travel routes for the region. Obsidian, thanks to its restricted geological occurrence, visual distinctiveness, and internal chemical homogeneity, is the lithic material that has served as the best tool for the study of prehistoric exchange or long-distance procurement patterns (Laylander 2006). Although it is not common in the archaeological record of San Diego, it does occur with some frequency in both Early Archaic Period sites and Late Prehistoric Period sites. As a general rule, if obsidian is identified in Early Archaic Period sites in San Diego County, then it was likely obtained from Coso Range sources located some 300 miles north in north-central California. Obsidian from Late Prehistoric Period sites is usually Obsidian Butte obsidian from the nearby Imperial Valley. In addition, obsidian may have also been available from Mexico and other unknown sources.

Other lithic materials not local to the area, but which may have come from nearby sources, include jasper, chert, and chalcedony. These generally occur at sites as very small retouch flakes or finished items, or bipolar shatter suggesting that the items were procured in a finished stage or as small clasts. Thus, they may have been traded for or picked up along a travel route. If they were obtained by direct procurement, then the raw material and early stages of tool production may be present. Sources for these materials need to be identified, as well as sites near the sources

where the material was worked, in order to more fully understand the trade network involved.

Steatite sources are also present in southern San Diego County and include the Stonewall Quarry in Rancho Cuyamaca State Park (True 1970). Another known quarry, the Jacumba Valley Quarry, is near the United States-Mexico border, about 95 kilometers from the Pacific Ocean (Polk 1972). Neutron activation has been used successfully to match specific steatite artifacts to specific sources or quarries and would provide valuable information for identifying procurement routes should the necessary materials be recovered.

Study Topics

1. What evidence from Temp-1 suggests trading contact or distant procurement of exotic goods?
2. If evidence of outside cultural contact exists, can it be determined to be continuous, sporadic, or limited?
3. What are the possible trade routes for the occupants of the region?
4. Were specific economic needs being met at Temp-1 through contact and trade?
5. Is there evidence of differentiation in trade patterns between the Early Archaic Period at Temp-1 and the Late Prehistoric Period?

Data Needs

In order to facilitate investigations into the trade and travel behavior of the occupants of Temp-1, the recovery and analysis of an adequate sample of cultural material that includes exotic goods is required. These items may include obsidian, steatite, chalcedony, and desert lithic materials. These materials must then be sourced to their geologic origin.

5.0 ARCHAEOLOGICAL TEST PLAN

The ATP for the 2677 Brookmead Lane Project is guided by previous research conducted for various studies at nearby properties. The proposed construction of a single family residence within the subject property may directly impact Temp-1. As such, this ATP includes testing Temp-1 to search for archaeological features or deposits. If archaeological features, deposits, or artifacts are discovered during testing, these shall be evaluated for significance in accordance with City of San Diego guidelines and the Public Resources Code. Significant cultural resources would require the implementation of mitigation measures if additional construction work represents a source of adverse impacts to any significant historic components of the property. The ATP includes:

- A testing program consisting of a series of STPs situated within the boundaries of Site Temp-1 in areas exhibiting a concentration of surface artifacts. The number of STPs will range from five to ten based upon site area and artifact density. Because the area was previously disturbed, parts of the site may be masked or buried and, should they be detected, additional STPs will be needed to define site boundaries and important deposits. Each STP will measure approximately 25 centimeters in diameter and will be excavated in decimeter levels to a culturally sterile soil horizon or formational soil. The proposed location of the STPs are illustrated on Figure 5.0–1.
- A Native American monitor will be included in all aspects of the field investigations.
- Should features be encountered that merit more intense investigations, hand-excavated test units will be included in the program to provide detailed information needed to address research potential and significance evaluations.
- The archaeological fieldwork will include detailed mapping and recordation of all surface elements at each site, as required by City.
- Any artifacts recovered during the archaeological excavations will be returned to the consultant's laboratory for analysis. All artifacts will be cleaned and cataloged, and all information will be included in the project's database. All artifacts from the project will be prepared for permanent curation at the San Diego Archaeological Center (SDAC); however, if human remains are discovered, the Kumeyaay Cultural Repatriation Committee (KCRC) will request that all human remains and associated grave goods, as defined by the tribal representatives, will be repatriated to the KCRC. Further, the location of the repatriation will be determined by the KCRC.
- If prehistoric features or deposits are discovered, the discovery will be recorded as a cultural site and will be registered at the SCIC at SDSU.

Figure 5.0–1

Proposed Testing Location Map

The 2677 Brookmead Lane Project

- A report of findings will be submitted to the City to detail the results of the field investigations. The report will delineate the boundaries of the cultural deposit within the subject property. The focus of the ATP is the analysis of the potential to develop the property as proposed. This analysis will include the discussion of mitigation measures that are likely to be part of any development proposal.

This study will be conducted in conformance with City of San Diego Historical Resources Guidelines, Section 21083.2 of the California Public Resources Code, CEQA, and the La Jolla Community Plan. Statutory requirements of CEQA (Section 15064.5) will be followed in evaluating the significance of each cultural resource. Specific definitions for archaeological resource type(s) used for the project are those established by the State Historic Preservation Office (SHPO 1995). All reporting will follow the Office of Historic Preservation's (OHP) Archaeological Resource Management Report (ARMR) Guidelines (OHP 1990).

5.1 Field Methodology

The methodology to be employed as part of the ATP follows standard archaeological field procedures and is sufficient to accomplish a thorough assessment of the project. Based on the survey results there is potential for prehistoric deposits at Site Temp-1. This property has been disturbed through previous development, and it is recognized that there is a possibility that no soil horizon associated with prehistoric occupation exists within the project parcel. The number of STPs to be employed to conduct the investigation of the project is presented on Figure 5.0–1. Once the STPs have been excavated, that data will be utilized to assess whether or not additional archaeological test units (one-square meter) are necessary to evaluate any cultural deposits that might be present. The tasks to be included in the ATP are:

5.1.1 Site Testing

The testing program should provide information to determine the presence or absence of subsurface deposits, assess site significance if resources are present, and evaluate potential impacts to those resources. Based upon the uncertainty of buried deposits within Site Temp-1, areas of potential impacts cannot be determined at this time. Rather, the excavation of the STPs will serve to identify buried deposits that may then be evaluated for significance. Based upon the noted considerations, the protocol for the implementation of this ATP includes the following procedures:

- Any surface artifacts or concentrations of shell within Site Temp-1 will be mapped and recorded. The surface artifact recovery will be the basis for the delineation of boundaries for Site Temp-1. All of the mapping to be conducted will be accomplished using Global Positioning System units and data applicable to the project base maps.
- The field investigation will include the excavation of up to ten STPs within Site Temp-1 at locations identified on Figure 5.0–1. The STPs will serve to identify the limits of

any subsurface archaeological deposits within the property. Soil profiles and notes will be completed for the excavations.

- Soils from the excavations will be sifted through one-eighth-inch screens to recover artifacts, which will then be collected to characterize the sample. The quantity of soil sampled will be dependent upon factors of artifact density, disturbance, cobbles and fill, and depth.
- All cultural materials recovered from archaeological deposits will be returned to our laboratory for cleaning, cataloging, and analysis. Any artifacts that require special treatment for preservation will be handled in a manner consistent with standard archaeological techniques. All artifacts will be prepared for permanent curation according to the guidelines of the SDAC.
- All information gathered from the field, laboratory analysis, and research will be incorporated into a technical report following City of San Diego guidelines and requirements. The report will be submitted as a draft to the City for review and comment. A final report will be prepared incorporating all comments that will be submitted to the City at the conclusion of the site study.
- During all field studies conducted for the project, a representative of the Kumeyaay Nation will be on-site to participate in and monitor the archeological program. The Native American monitor may have requests or suggestions regarding the excavation program, and any concerns expressed to either BFSA or the City will be considered and discussed.

5.2 Laboratory Analysis

Laboratory analysis of any prehistoric or historic collected material will be initiated by taking an inventory of the collection. The collection will then be subjected to wet screening to remove as much dirt as possible from the artifacts. This process will help to facilitate the laboratory sorting and cataloging process. As noted previously, in the event that human remains are identified in the collection, a Native American representative will be incorporated into the laboratory processing of the collection to assist with the identification of additional remains and any associated grave goods.

5.2.1 Artifact Sorting and Analysis

The sorting technique will include the sorting, identification, and cataloging of all materials returned to the BFSA laboratory. Bulk items such as fragments of concrete, slag, and nondescript glass and metal will be weighed and cataloged en masse, by material type, for each level. All remaining artifacts will be separated by class and type, identified to the most specific level possible, and sorted and cataloged by totals, materials, condition, weight, provenience, and unique artifact identification numbers.

If prehistoric lithic artifacts are recovered from the project, they will be subjected to an in-

house analysis that will include recordation of lithic material, critical measurements and weight, and inspection for evidence of use wear, retouch, patination, or stains. The recovered flakes will be subjected to technologically-based lithic studies. Non-lithic materials, such as ecofacts (shell, bone, or wood), will be subjected to specialized analyses. The laboratory analysis of the column samples will include flotation procedures to remove seeds and other microfaunal remains from the soil, followed by screening the remainder through a one-sixteenth-inch mesh sieve. The recovered materials, such as animal bone, fish bone, seeds, and charred plant remains, will be sorted and subjected to further analysis by the appropriate personnel. Other specialized studies, which will be conducted if the appropriate materials are encountered, include marine shell species identification, faunal analysis, otolith analysis (for seasonality), radiocarbon dating, obsidian sourcing and hydration, and blood residue and phytolith studies.

5.3 Provisions for the Discovery of Human Remains

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county medical examiner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The medical examiner must be notified of the find immediately. If the remains are determined to be prehistoric, the medical examiner would notify the NAHC, who would determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Adherence to State Health and Safety Code Section 7050.5 would occur as a matter of course to ensure that impacts are less than significant.

5.4 Recordation and Curation

Any cultural resources identified as part of the testing program will be recorded on the appropriate DPR site record forms and submitted to the SCIC at SDSU. After cataloging, identification, and analysis, each cataloged entry will be marked with the appropriate provenience and catalog information. The collection will be prepared for permanent storage in compliance with the standards promoted by state and federal museum guidelines. Any prehistoric cultural materials recovered from the testing program excavations will be curated at the SDAC, unless otherwise repatriated to the KCRC due to the identification of human remains. Upon approval from the City, the transfer of the collection will be executed. Copies of all data and the final report will be included with the curated artifact collection. All notes, photographs, and documents associated with the project will be housed at the office of BFSA in Poway, California.

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APPENDIX A

Resumes of Key Personnel

Brian F. Smith, MA

Owner, Principal Investigator

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: bsmith@bfsa-ca.com

Education

Master of Arts, History, University of San Diego, California **1982**

Bachelor of Arts, History, and Anthropology, University of San Diego, California **1975**

Professional Memberships

Society for California Archaeology

Experience

Principal Investigator **1977–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Brian F. Smith is the owner and principal historical and archaeological consultant for Brian F. Smith and Associates. Over the past 32 years, he has conducted over 2,500 cultural resource studies in California, Arizona, Nevada, Montana, and Texas. These studies include every possible aspect of archaeology from literature searches and large-scale surveys to intensive data recovery excavations. Reports prepared by Mr. Smith have been submitted to all facets of local, state, and federal review agencies, including the US Army Crops of Engineers, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, and the Department of Homeland Security. In addition, Mr. Smith has conducted studies for utility companies (Sempra Energy) and state highway departments (CalTrans).

Professional Accomplishments

These selected major professional accomplishments represent research efforts that have added significantly to the body of knowledge concerning the prehistoric life ways of cultures once present in the Southern California area and historic settlement since the late 18th century. Mr. Smith has been principal investigator on the following select projects, except where noted.

Downtown San Diego Mitigation and Monitoring Reporting Programs: Large numbers of downtown San Diego mitigation and monitoring projects submitted to the Centre City Development Corporation, some of which included Strata (2008), Hotel Indigo (2008), Lofts at 707 10th Avenue Project (2007), Breeza (2007), Bayside at the Embarcadero (2007), Aria (2007), Icon (2007), Vantage Pointe (2007), Aperture (2007), Sapphire Tower (2007), Lofts at 655 Sixth Avenue (2007), Metrowork (2007), The Legend (2006), The Mark (2006), Smart Corner (2006), Lofts at 677 7th Avenue (2005), Aloft on Cortez Hill (2005), Front and

Beech Apartments (2003), Bella Via Condominiums (2003), Acqua Vista Residential Tower (2003), Northblock Lofts (2003), Westin Park Place Hotel (2001), Parkloft Apartment Complex (2001), Renaissance Park (2001), and Laurel Bay Apartments (2001).

Archaeology at the Padres Ballpark: Involved the analysis of historic resources within a seven-block area of the "East Village" area of San Diego, where occupation spanned a period from the 1870s to the 1940s. Over a period of two years, BFSA recovered over 200,000 artifacts and hundreds of pounds of metal, construction debris, unidentified broken glass, and wood. Collectively, the Ballpark Project and the other downtown mitigation and monitoring projects represent the largest historical archaeological program anywhere in the country in the past decade (2000-2007).

4S Ranch Archaeological and Historical Cultural Resources Study: Data recovery program consisted of the excavation of over 2,000 square meters of archaeological deposits that produced over one million artifacts, containing primarily prehistoric materials. The archaeological program at 4S Ranch is the largest archaeological study ever undertaken in the San Diego County area and has produced data that has exceeded expectations regarding the resolution of long-standing research questions and regional prehistoric settlement patterns.

Charles H. Brown Site: Attracted international attention to the discovery of evidence of the antiquity of man in North America. Site located in Mission Valley, in the city of San Diego.

Del Mar Man Site: Study of the now famous Early Man Site in Del Mar, California, for the San Diego Science Foundation and the San Diego Museum of Man, under the direction of Dr. Spencer Rogers and Dr. James R. Moriarty.

Old Town State Park Projects: Consulting Historical Archaeologist. Projects completed in the Old Town State Park involved development of individual lots for commercial enterprises. The projects completed in Old Town include Archaeological and Historical Site Assessment for the Great Wall Cafe (1992), Archaeological Study for the Old Town Commercial Project (1991), and Cultural Resources Site Survey at the Old San Diego Inn (1988).

Site W-20, Del Mar, California: A two-year-long investigation of a major prehistoric site in the Del Mar area of the city of San Diego. This research effort documented the earliest practice of religious/ceremonial activities in San Diego County (circa 6,000 years ago), facilitated the projection of major non-material aspects of the La Jolla Complex, and revealed the pattern of civilization at this site over a continuous period of 5,000 years. The report for the investigation included over 600 pages, with nearly 500,000 words of text, illustrations, maps, and photographs documenting this major study.

City of San Diego Reclaimed Water Distribution System: A cultural resource study of nearly 400 miles of pipeline in the city and county of San Diego.

Master Environmental Assessment Project, City of Poway: Conducted for the City of Poway to produce a complete inventory of all recorded historic and prehistoric properties within the city. The information was used in conjunction with the City's General Plan Update to produce a map matrix of the city showing areas of high, moderate, and low potential for the presence of cultural resources. The effort also included the development of the City's Cultural Resource Guidelines, which were adopted as City policy.

Draft of the City of Carlsbad Historical and Archaeological Guidelines: Contracted by the City of Carlsbad to produce the draft of the City's historical and archaeological guidelines for use by the Planning Department of the City.

The Mid-Bayfront Project for the City of Chula Vista: Involved a large expanse of undeveloped agricultural land situated between the railroad and San Diego Bay in the northwestern portion of the city. The study included the analysis of some potentially historic features and numerous prehistoric sites.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Audie Murphy Ranch, Riverside County, California: Project manager/director of the investigation of 1,113.4 acres and 43 sites, both prehistoric and historic—included project coordination; direction of field crews; evaluation of sites for significance based on County of Riverside and CEQA guidelines; assessment of cupule, pictograph, and rock shelter sites, co-authoring of cultural resources project report. February-September 2002.

Cultural Resources Evaluation of Sites Within the Proposed Development of the Otay Ranch Village 13 Project, San Diego County, California: Project manager/director of the investigation of 1,947 acres and 76 sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of San Diego and CEQA guidelines; co-authoring of cultural resources project report. May-November 2002.

Cultural Resources Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County: Project manager/director for a survey of 29 individual sites near the U.S./Mexico Border for proposed video surveillance camera locations associated with the San Diego Border barrier Project—project coordination and budgeting; direction of field crews; site identification and recordation; assessment of potential impacts to cultural resources; meeting and coordinating with U.S. Army Corps of Engineers, U.S. Border Patrol, and other government agencies involved; co-authoring of cultural resources project report. January, February, and July 2002.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee West GPA, Riverside County, California: Project manager/director of the investigation of nine sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of Riverside and CEQA guidelines; historic research; co-authoring of cultural resources project report. January-March 2002.

Mitigation of An Archaic Cultural Resource for the Eastlake III Woods Project for the City of Chula Vista, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. September 2001-March 2002.

Cultural Resources Survey and Test of Sites Within the Proposed French Valley Specific Plan/EIR, Riverside County, California: Project manager/director of the investigation of two prehistoric and three historic sites—included project coordination and budgeting; survey of project area; Native American consultation; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Lawson Valley Project, San Diego County, California: Project manager/director of the investigation of 28 prehistoric and two historic sites—included project coordination; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resource Survey and Geotechnical Monitoring for the Mohyi Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; field survey; assessment of parcel for potentially buried cultural deposits; monitoring of geotechnichal borings; authoring of cultural resources project report. Brian F. Smith and Associates, San Diego, California. June 2000.

Enhanced Cultural Resource Survey and Evaluation for the Prewitt/Schmucker/Cavadias Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; direction of field crews; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. June 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee Ranch, Riverside County, California: Project manager/director of the investigation of one prehistoric and five historic sites—included project coordination and budgeting; direction of field crews; feature recordation; historic structure assessments; assessment of sites for significance based on CEQA guidelines; historic research; co-authoring of cultural resources project report. February-June 2000.

Salvage Mitigation of a Portion of the San Diego Presidio Identified During Water Pipe Construction for the City of San Diego, California: Project archaeologist/director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project, Pacific Beach, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. March-April 2000.

Salvage Mitigation of a Portion of Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project and Caltrans, Carlsbad, California: Project achaeologist/ director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. December 1999-January 2000.

Survey and Testing of Two Prehistoric Cultural Resources for the Airway Truck Parking Project, Otay Mesa, California: Project archaeologist/director—included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; authoring of cultural resources project report, in prep. December 1999-January 2000.

Cultural Resources Phase I and II Investigations for the Tin Can Hill Segment of the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for a survey and testing of a prehistoric quarry site along the border—NRHP eligibility assessment; project coordination and budgeting; direction of field crews; feature recordation; meeting and coordinating with U.S. Army Corps of Engineers; co-authoring of cultural resources project report. December 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Westview High School Project for the City of San Diego, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. October 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Otay Ranch SPA-One West Project for the City of Chula Vista, California: Project archaeologist/director—included direction of field crews; development of data recovery program; management of artifact collections cataloging and curation; assessment of

site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report, in prep. September 1999-January 2000.

Monitoring of Grading for the Herschel Place Project, La Jolla, California: Project archaeologist/ monitor—included monitoring of grading activities associated with the development of a single-dwelling parcel. September 1999.

Survey and Testing of a Historic Resource for the Osterkamp Development Project, Valley Center, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; budget development; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Testing of a Prehistoric Cultural Resource for the Proposed College Boulevard Alignment Project, Carlsbad, California: Project manager/director —included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report, in prep. July-August 1999.

Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California: Project archaeologist—included direction of field crews; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Evaluation of Cultural Resources at the Village 2 High School Site, Otay Ranch, City of Chula Vista, California: Project manager/director —management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report. July 1999.

Cultural Resources Phase I, II, and III Investigations for the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for the survey, testing, and mitigation of sites along border—supervision of multiple field crews, NRHP eligibility assessments, Native American consultation, contribution to Environmental Assessment document, lithic and marine shell analysis, authoring of cultural resources project report. August 1997-January 2000.

Phase I, II, and II Investigations for the Scripps Poway Parkway East Project, Poway California: Project archaeologist/project director—included recordation and assessment of multicomponent prehistoric and historic sites; direction of Phase II and III investigations; direction of laboratory analyses including prehistoric and historic collections; curation of collections; data synthesis; coauthorship of final cultural resources report. February 1994; March-September 1994; September-December 1995.

Archaeological Evaluation of Cultural Resources Within the Proposed Corridor for the San Elijo Water Reclamation System Project, San Elijo, California: Project manager/director —test excavations; direction of artifact identification and analysis; graphics production; coauthorship of final cultural resources report. December 1994-July 1995.

Evaluation of Cultural Resources for the Environmental Impact Report for the Rose Canyon Trunk Sewer Project, San Diego, California: Project manager/Director —direction of test excavations; identification and analysis of prehistoric and historic artifact collections; data synthesis; co-authorship of final cultural resources report, San Diego, California. June 1991-March 1992.

Reports/Papers

Author, coauthor, or contributor to over 2,500 cultural resources management publications, a selection of which are presented below.

2015 An Archaeological/Historical Study for the Safari Highlands Ranch Project, City of Escondido, County of San Diego.

2015 A Phase I and II Cultural Resources Assessment for the Decker Parcels II Project, Planning Case No. 36962, Riverside County, California.

2015 A Phase I and II Cultural Resources Assessment for the Decker Parcels I Project, Planning Case No. 36950, Riverside County, California.

2015 Cultural Resource Data Recovery and Mitigation Monitoring Program for Site SDI-10,237 Locus F, Everly Subdivision Project, El Cajon, California.

2015 Phase I Cultural Resource Survey for the Woodward Street Senior Housing Project, City of San Marcos, California (APN 218-120-31).

2015 An Updated Cultural Resource Survey for the Box Springs Project (TR 33410), APNs 255-230-010, 255-240-005, 255-240-006, and Portions of 257-180-004, 257-180-005, and 257-180-006.

2015 A Phase I and II Cultural Resource Report for the Lake Ranch Project, TR 36730, Riverside County, California.

2015 A Phase II Cultural Resource Assessment for the Munro Valley Solar Project, Inyo County, California.

2014 Cultural Resources Monitoring Report for the Diamond Valley Solar Project, Community of Winchester, County of Riverside.

2014 National Historic Preservation Act Section 106 Compliance for the Proposed Saddleback Estates Project, Riverside County, California.

2014 A Phase II Cultural Resource Evaluation Report for RIV-8137 at the Toscana Project, TR 36593, Riverside County, California.

2014 Cultural Resources Study for the Estates at Del Mar Project, City of Del Mar, San Diego, California (TTM 14-001).

2014 Cultural Resources Study for the Aliso Canyon Major Subdivision Project, Rancho Santa Fe, San Diego County, California.

2014 Cultural Resources Due Diligence Assessment of the Ocean Colony Project, City of Encinitas.

2014 A Phase I and Phase II Cultural Resource Assessment for the Citrus Heights II Project, TTM 36475, Riverside County, California.

2013 A Phase I Cultural Resource Assessment for the Modular Logistics Center, Moreno Valley, Riverside County, California.

2013 A Phase I Cultural Resources Survey of the Ivey Ranch Project, Thousand Palms, Riverside County, California.

2013 Cultural Resources Report for the Emerald Acres Project, Riverside County, California.

2013 A Cultural Resources Records Search and Review for the Pala Del Norte Conservation Bank Project, San Diego County, California.

2013 An Updated Phase I Cultural Resources Assessment for Tentative Tract Maps 36484 and 36485, Audie Murphy Ranch, City of Menifee, County of Riverside.

2013 El Centro Town Center Industrial Development Project (EDA Grant No. 07-01-06386); Result of Cultural Resource Monitoring.

2013 Cultural Resources Survey Report for the Renda Residence Project, 9521 La Jolla Farms Road, La Jolla, California.

2013 A Phase I Cultural Resource Study for the Ballpark Village Project, San Diego, California.

2013 Archaeological Monitoring and Mitigation Program, San Clemente Senior Housing Project, 2350 South El Camino Real, City of San Clemente, Orange County, California (CUP No. 06-065; APN-060-032-04).

2012 Mitigation Monitoring Report for the Los Peñasquitos Recycled Water Pipeline.

2012 Cultural Resources Report for Menifee Heights (Tract 32277).

2012 A Phase I Cultural Resource Study for the Altman Residence at 9696 La Jolla Farms Road, La Jolla, California 92037.

2012 Mission Ranch Project (TM 5290-1/MUP P87-036W3): Results of Cultural Resources Monitoring During Mass Grading.

2012 A Phase I Cultural Resource Study for the Payan Property Project, San Diego, California.

2012 Phase I Archaeological Survey of the Rieger Residence, 13707 Durango Drive, Del Mar, California 92014, APN 300-369-49.

2011 Mission Ranch Project (TM 5290-1/MUP P87-036W3): Results of Cultural Resources Monitoring During Mass Grading.

2011 Mitigation Monitoring Report for the 1887 Viking Way Project, La Jolla, California.

2011 Cultural Resource Monitoring Report for the Sewer Group 714 Project.

2011 Results of Archaeological Monitoring at the 10th Avenue Parking Lot Project, City of San Diego, California (APNs 534-194-02 and 03).

2011 Archaeological Survey of the Pelberg Residence for a Bulletin 560 Permit Application; 8335 Camino Del Oro; La Jolla, California 92037 APN 346-162-01-00 .

2011 A Cultural Resources Survey Update and Evaluation for the Robertson Ranch West Project and an Evaluation of National Register Eligibility of Archaeological sites for Sites for Section 106 Review (NHPA).

2011 Mitigation Monitoring Report for the 43rd and Logan Project.

2011 Mitigation Monitoring Report for the Sewer Group 682 M Project, City of San Diego Project #174116.

2011 A Phase I Cultural Resource Study for the Nooren Residence Project, 8001 Calle de la Plata, La Jolla, California, Project No. 226965.

2011 A Phase I Cultural Resource Study for the Keating Residence Project, 9633 La Jolla Farms Road, La Jolla, California 92037.

2010 Mitigation Monitoring Report for the 15th & Island Project, City of San Diego; APNs 535-365-01, 535-365-02 and 535-392-05 through 535-392-07.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Sewer and Water Group 772 Project, San Diego, California, W.O. Nos. 187861 and 178351.

2010 Pottery Canyon Site Archaeological Evaluation Project, City of San Diego, California, Contract No. H105126.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Racetrack View Drive Project, San Diego, California; Project No. 163216.

2010 A Historical Evaluation of Structures on the Butterfield Trails Property.

2010 Historic Archaeological Significance Evaluation of 1761 Haydn Drive, Encinitas, California (APN 260-276-07-00).

2010 Results of Archaeological Monitoring of the Heller/Nguyen Project, TPM 06-01, Poway, California.

2010 Cultural Resource Survey and Evaluation Program for the Sunday Drive Parcel Project, San Diego County, California, APN 189-281-14.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Emergency Garnet Avenue Storm Drain Replacement Project, San Diego, California, Project No. B10062

2010 An Archaeological Study for the 1912 Spindrift Drive Project

2009 Cultural Resource Assessment of the North Ocean Beach Gateway Project City of San Diego #64A-003A; Project #154116.

2009 Archaeological Constraints Study of the Morgan Valley Wind Assessment Project, Lake County, California.

2008 Results of an Archaeological Review of the Helen Park Lane 3.1-acre Property (APN 314-561-31), Poway, California.

2008 Archaeological Letter Report for a Phase I Archaeological Assessment of the Valley Park Condominium Project, Ramona, California; APN 282-262-75-00.

2007 Archaeology at the Ballpark. Brian F. Smith and Associates, San Diego, California. Submitted to the Centre City Development Corporation.

2007 Result of an Archaeological Survey for the Villages at Promenade Project (APNs 115-180-007-3,115-180-049-1, 115-180-042-4, 115-180-047-9) in the City of Corona, Riverside County.

2007 Monitoring Results for the Capping of Site CA-SDI-6038/SDM-W-5517 within the Katzer Jamul Center Project; P00-017.

2006 Archaeological Assessment for The Johnson Project (APN 322-011-10), Poway, California.

2005 Results of Archaeological Monitoring at the El Camino Del Teatro Accelerated Sewer Replacement Project (Bid No. K041364; WO # 177741; CIP # 46-610.6.

2005 Results of Archaeological Monitoring at the Baltazar Draper Avenue Project (Project No. 15857; APN: 351-040-09).

2004 TM 5325 ER #03-14-043 Cultural Resources.

2004 An Archaeological Survey and an Evaluation of Cultural Resources at the Salt Creek Project. Report on file at Brian F. Smith and Associates.

2003 An Archaeological Assessment for the Hidden Meadows Project, San Diego County, TM 5174, Log No. 99-08-033. Report on file at Brian F. Smith and Associates.

2003 An Archaeological Survey for the Manchester Estates Project, Coastal Development Permit #02-009, Encinitas, California. Report on file at Brian F. Smith and Associates.

2003 Archaeological Investigations at the Manchester Estates Project, Coastal Development Permit #02-009, Encinitas, California. Report on file at Brian F. Smith and Associates.

2003 Archaeological Monitoring of Geological Testing Cores at the Pacific Beach Christian Church Project. Report on file at Brian F. Smith and Associates.

2003 San Juan Creek Drilling Archaeological Monitoring. Report on file at Brian F. Smith and Associates.

2003 Evaluation of Archaeological Resources Within the Spring Canyon Biological Mitigation Area, Otay Mesa, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for the Otay Ranch Village 13 Project (et al.). Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for the Audie Murphy Ranch Project (et al.). Brian F. Smith and Associates, San Diego, California.

2002 Results of an Archaeological Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County, California. Brian F. Smith and Associates, San Diego, California.

2002 A Cultural Resources Survey and Evaluation for the Proposed Robertson Ranch Project, City of Carlsbad. Brian F. Smith and Associates, San Diego, California.

2002 Archaeological Mitigation of Impacts to Prehistoric Site SDI-7976 for the Eastlake III Woods Project, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for Tract No. 29777, Menifee West GPA Project, Perris Valley, Riverside County. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for Tract No. 29835, Menifee West GPA Project, Perris Valley, Riverside County. Brian F. Smith and Associates, San Diego, California.

2001 An Archaeological Survey and Evaluation of a Cultural Resource for the Moore Property, Poway. Brian F. Smith and Associates, San Diego, California.

2001 An Archaeological Report for the Mitigation, Monitoring, and Reporting Program at the Water and Sewer Group Job 530A, Old Town San Diego. Brian F. Smith and Associates, San Diego, California.

2001 A Cultural Resources Impact Survey for the High Desert Water District Recharge Site 6 Project, Yucca Valley. Brian F. Smith and Associates, San Diego, California.

2001 Archaeological Mitigation of Impacts to Prehistoric Site SDI-13,864 at the Otay Ranch SPA-One West Project. Brian F. Smith and Associates, San Diego, California.

2001 A Cultural Resources Survey and Site Evaluations at the Stewart Subdivision Project, Moreno Valley, County of San Diego. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological/Historical Study for the French Valley Specific Plan/EIR, French Valley, County of Riverside. Brian F. Smith and Associates, San Diego, California.

2000 Results of an Archaeological Survey and the Evaluation of Cultural Resources at The TPM#24003–Lawson Valley Project. Brian F. Smith and Associates, San Diego, California.

2000 Archaeological Mitigation of Impacts to Prehistoric Site SDI-5326 at the Westview High School Project for the Poway Unified School District. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological/Historical Study for the Menifee Ranch Project. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological Survey and Evaluation of Cultural Resources for the Bernardo Mountain Project, Escondido, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Nextel Black Mountain Road Project, San Diego, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Rancho Vista Project, 740 Hilltop Drive, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Poway Creek Project, Poway, California. Brian F. Smith and Associates, San Diego, California.

2000 Cultural Resource Survey and Geotechnical Monitoring for the Mohyi Residence Project. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Prewitt/Schmucker/ Cavadias Project. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project. Brian F. Smith and Associates, San Diego, California.

2000 Salvage Excavations at Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project, Carlsbad, California. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California. Brian F. Smith and Associates, San Diego, California.

2000 A Report for an Archaeological Evaluation of Cultural Resources at the Otay Ranch Village Two SPA, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological Evaluation of Cultural Resources for the Airway Truck Parking Project, Otay Mesa, County of San Diego. Brian F. Smith and Associates, San Diego, California.

2000 Results of an Archaeological Survey and Evaluation of a Resource for the Tin Can Hill Segment of the Immigration and Naturalization and Immigration Service Border Road, Fence, and Lighting Project, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey of the Home Creek Village Project, 4600 Block of Home Avenue, San Diego, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey for the Sgobassi Lot Split, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

1999 An Evaluation of Cultural Resources at the Otay Ranch Village 11 Project. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological/Historical Survey and Evaluation of a Cultural Resource for The Osterkamp Development Project, Valley Center, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey and Evaluation of a Cultural Resource for the Proposed College Boulevard Alignment Project. Brian F. Smith and Associates, San Diego, California.

1999 Results of an Archaeological Evaluation for the Anthony's Pizza Acquisition Project in Ocean Beach, City of San Diego (with L. Pierson and B. Smith). Brian F. Smith and Associates, San Diego, California.

1996 An Archaeological Testing Program for the Scripps Poway Parkway East Project. Brian F. Smith and Associates, San Diego, California.

1995 Results of a Cultural Resources Study for the 4S Ranch. Brian F. Smith and Associates, San Diego, California.

1995 Results of an Archaeological Evaluation of Cultural Resources Within the Proposed Corridor for the San Elijo Water Reclamation System. Brian F. Smith and Associates, San Diego, California.

1994 Results of the Cultural Resources Mitigation Programs at Sites SDI-11,044/H and SDI-12,038 at the Salt Creek Ranch Project . Brian F. Smith and Associates, San Diego, California.

1993 Results of an Archaeological Survey and Evaluation of Cultural Resources at the Stallion Oaks Ranch Project. Brian F. Smith and Associates, San Diego, California.

1992 Results of an Archaeological Survey and the Evaluation of Cultural Resources at the Ely Lot Split Project. Brian F. Smith and Associates, San Diego, California.

1991 The Results of an Archaeological Study for the Walton Development Group Project. Brian F. Smith and Associates, San Diego, California.

Andrew J. Garrison, M.A., RPA

Senior Project Archaeologist

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: agarrison@bfsa-ca.com

Education

Master of Arts, Public History, University of California, Riverside **2009**

Bachelor of Science, Anthropology, University of California, Riverside **2005**

Bachelor of Arts, History, University of California, Riverside **2005**

Professional Memberships

Register of Professional Archaeologists
Society for California Archaeology
Society for American Archaeology
California Council for the Promotion of History
Society of Primitive Technology
Lithic Studies Society
California Preservation Foundation
Pacific Coast Archaeological Society

Experience

Senior Project Archaeologist **June 2017–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Project management of all phases of archaeological investigations for local, state, and federal agencies including National Register of Historic Places (NRHP) and California Environmental Quality Act (CEQA) level projects interacting with clients, sub-consultants, and lead agencies. Supervise and perform fieldwork including archaeological survey, monitoring, site testing, comprehensive site records checks, and historic building assessments. Perform and oversee technological analysis of prehistoric lithic assemblages. Author or co-author cultural resource management reports submitted to private clients and lead agencies.

Senior Archaeologist and GIS Specialist **2009–2017**
Scientific Resource Surveys, Inc. **Orange, California**

Served as Project Archaeologist or Principal Investigator on multiple projects, including archaeological monitoring, cultural resource surveys, test excavations, and historic building assessments. Directed projects from start to finish, including budget and personnel hours proposals, field and laboratory direction, report writing, technical editing, Native American consultation, and final report submittal. Oversaw all GIS projects including data collection, spatial analysis, and map creation.

Preservation Researcher **2009**
City of Riverside Modernism Survey **Riverside, California**

Completed DPR Primary, District, and Building, Structure and Object Forms for five sites for a grant-funded project to survey designated modern architectural resources within the City of Riverside.

Information Officer **2005, 2008–2009**
Eastern Information Center (EIC), University of California, Riverside **Riverside, California**

Processed and catalogued restricted and unrestricted archaeological and historical site record forms. Conducted research projects and records searches for government agencies and private cultural resource firms.

Reports/Papers

2017 A Phase I Cultural Resources Assessment for the Marbella Villa Project, City of Desert Hot Springs, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resources Survey for TTM 37109, City of Jurupa Valley, County of Riverside. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Survey for the Jefferson & Ivy Project, City of Murrieta, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Nuevo Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resource Study for the Westmont Project, Encinitas, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Winchester Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resource Assessment for TTM 31810 (42.42 acres) Predico Properties Olive Grove Project. Scientific Resource Surveys, Inc.

2016 John Wayne Airport Jet Fuel Pipeline and Tank Farm Archaeological Monitoring Plan. Scientific Resource Surveys, Inc. On file at the County of Orange, California.

2016 Phase I Cultural Resources Assessment: All Star Super Storage City of Menifee Project, 2015-156. Scientific Resource Surveys, Inc. On file at the Eastern Information Center, University of California, Riverside.

2016 Historic Resource Assessment for 220 South Batavia Street, Orange, CA 92868 Assessor's Parcel Number 041-064-4. Scientific Resource Surveys, Inc. Submitted to the City of Orange as part of Mills Act application.

2015 Historic Resource Report: 807-813 Harvard Boulevard, Los Angeles. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2015 Exploring a Traditional Rock Cairn: Test Excavation at CA-SDI-13/RBLI-26: The Rincon Indian Reservation, San Diego County, California. Scientific Resource Surveys, Inc.

2015 Class III Scientific Resource Surveys, Inc. Survey for The Lynx Cat Granite Quarry and Water Valley Road Widening Project County of San Bernardino, California, Near the Community of Hinkley. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2014 Archaeological Phase I: Cultural Resource Survey of the South West Quadrant of Fairview Park, Costa Mesa. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2014 Archaeological Monitoring Results: The New Los Angeles Federal Courthouse. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2012 Bolsa Chica Archaeological Project Volume 7, Technological Analysis of Stone Tools, Lithic Technology at Bolsa Chica: Reduction Maintenance and Experimentation. Scientific Resource Surveys, Inc.

2010 Phase II Cultural Resources Report Site CA=RIV-2160 PM No. 35164. Scientific Resource Surveys, Inc. On file at the Eastern Information Center, University of California, Riverside.

2009 Riverside Modernism Context Survey, contributing author. Available online at the City of Riverside.

Presentations

2017 "Repair and Replace: Lithic Production Behavior as Indicated by the Debitage Assemblage from CA-MRP-283 the Hackney Site." Presented at the Society for California Archaeology Annual Meeting, Fish Camp, California.

2016 "Bones, Stones, and Shell at Bolsa Chica: A Ceremonial Relationship?" Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Markers of Time: Exploring Transitions in the Bolsa Chica Assemblage." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Dating Duress: Understanding Prehistoric Climate Change at Bolsa Chica." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2015 "Successive Cultural Phasing Of Prehistoric Northern Orange County, California." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Southern California Cogged Stone Replication: Experimentation and Results." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Prehistoric House Keeping: Lithic Analysis of an Intermediate Horizon House Pit." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Pits and Privies: The Use and Disposal of Artifacts from Historic Los Angeles." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Grooving in the Past: A Demonstration of the Manufacturing of OGR beads and a look at Past SRS, Inc. Replicative Studies." Demonstration of experimental manufacturing techniques at the January meeting of The Pacific Coast Archaeological Society, Irvine, California.

2014 "From Artifact to Replication: Examining *Olivella* Grooved Bead Manufacturing." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2014 "New Discoveries from an Old Collection: Comparing Recently Identified OGR Beads to Those Previously Analyzed from the Encino Village Site." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2012 Bolsa Chica Archaeology: Part Seven: Culture and Chronology. Lithic demonstration of experimental manufacturing techniques at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

2012 "Expedient Flaked Tools from Bolsa Chica: Exploring the Lithic Technological Organization." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2012 "Utilitarian and Ceremonial Ground Stone Production at Bolsa Chica Identified Through Production Tools." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2012 "Connecting Production Industries at Bolsa Chica: Lithic Reduction and Bead Manufacturing." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2011 Bolsa Chica Archaeology: Part Four: Mesa Production Industries. Co-presenter at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

2011 "Hammerstones from Bolsa Chica and Their Relationship towards Site Interpretation." Presented at the Society for California Archaeology Annual Meeting, Rohnert Park, California.

2011 "Exploring Bipolar Reduction at Bolsa Chica: Debitage Analysis and Replication." Presented at the Society for California Archaeology Annual Meeting, Rohnert Park, California.

CAP CONSISTENCY CHECKLIST SUBMITTAL APPLICATION

- The Checklist is required only for projects subject to CEQA review.[2]
- If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found in Chapter 11: Land Development Procedures of the City's Municipal Code.
- The requirements in the Checklist will be included in the project's conditions of approval.
- The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Department.

Application Information

Contact Information

Project No./Name: 2677 BROOKMEAD LANE

Property Address: 2677 BROOKMEAD LANE, LAJOLLA, CA 9203

Applicant Name/Co.: JAMES L. ALCORN, ARCHITECT AIA

Contact Phone: 619 701 8488 Contact Email: jamesalcornaia@gmail.com

Was a consultant retained to complete this checklist? ☐ Yes ☒ No If Yes, complete the following

Consultant Name: Contact Phone:

Company Name: Contact Email:

Project Information

1. What is the size of the project (acres)? 1.29 ACRES

2. Identify all applicable proposed land uses:
   - ☒ Residential (indicate # of single-family units): 1
   - ☐ Residential (indicate # of multi-family units):
   - ☐ Commercial (total square footage):
   - ☐ Industrial (total square footage):
   - ☐ Other (describe):

3. Is the project or a portion of the project located in a Transit Priority Area? ☐ Yes ☒ No

4. Provide a brief description of the project proposed:

VACANT LOT TO BE DEVELOPED WITH SINGLE STOREY HOME WITH 4 BEDROOMS, GARAGING FOR 6 AUTOS, A TENNIS COURT, SWIMMING POOL AND SPA.
HOME = 9500 SF | GARAGE = 1600 SF = 11,100 SF

[2] Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

CAP CONSISTENCY CHECKLIST QUESTIONS

Step 1: Land Use Consistency

The first step in determining CAP consistency for discretionary development projects is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
A. Is the proposed project consistent with the existing General Plan and Community Plan land use and zoning designations?;[3] OR,		
B. If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a Transit Priority Area (TPA)[4] and implement CAP Strategy 3 actions, as determined in Step 3 to the satisfaction of the Development Services Department?; OR,	☒	☐
C. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?		

If "***Yes***," proceed to Step 2 of the Checklist. For question B above, complete Step 3. For question C above, provide estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation.

If "***No***," in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must nonetheless incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete Step 2 of the Checklist.

THE PROJECT IS CONSISTENT WITH THE GENERAL PLAN

[3] This question may also be answered in the affirmative if the project is consistent with SANDAG Series 12 growth projections, which were used to determine the CAP projections, as determined by the Planning Department.

[4] This category applies to all projects that answered in the affirmative to question 3 on the previous page: Is the project or a portion of the project located in a transit priority area.

Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.[5] All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the Greenbook (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
Strategy 1: Energy & Water Efficient Buildings			
1. *Cool/Green Roofs.* • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code (Attachment A)?; OR • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project include a combination of the above two options? Check "N/A" only if the project does not include a roof component. THE PROJECT PROPOSES RAISED SOLAR TRAYS ALSO PROVIDING SHADE ON SOME ROOF AREAS. SOLAR REFLECTION AND THERMAL EMITTANCE ARE GREATER THAN CAL GREEN STANDARDS	☒	☐	☐

[5] Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits or other permits that do not result in the expansion or enlargement of a building (e.g., decks, garages, etc.), and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

2. *Plumbing fixtures and fittings* With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following: Residential buildings: • Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 psi; • Standard dishwashers: 4.25 gallons per cycle; • Compact dishwashers: 3.5 gallons per cycle; and • Clothes washers: water factor of 6 gallons per cubic feet of drum capacity? Nonresidential buildings: • Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code (See Attachment A); and • Appliances and fixtures for commercial applications that meet the provisions of Section A5.303.3 (voluntary measures) of the California Green Building Standards Code (See Attachment A)? Check "N/A" only if the project does not include any plumbing fixtures or fittings.	☒	☐	☐

Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.[5] All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the Greenbook (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
Strategy 1: Energy & Water Efficient Buildings			
1. *Cool/Green Roofs.* • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code (Attachment A)?; OR • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project include a combination of the above two options? Check "N/A" only if the project does not include a roof component. THE PROJECT PROPOSES RAISED SOLAR TRAYS ALSO PROVIDING SHADE ON SOME ROOF AREAS. SOLAR REFLECTION AND THERMAL EMITTANCE ARE GREATER THAN CAL GREEN STANDARDS	☒	☐	☐

[5] Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits or other permits that do not result in the expansion or enlargement of a building (e.g., decks, garages, etc.), and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

Strategy 3: Bicycling, Walking, Transit & Land Use

3. *Electric Vehicle Charging* • Multiple-family projects of 17 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? • Multiple-family projects of more than 17 dwelling units: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents? • Non-residential projects: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use? Check "N/A" only if the project is a single-family project or would not require the provision of listed cabinets, boxes, or enclosures connected to a conduit linking the parking spaces with electrical service, e.g., projects requiring fewer than 10 parking spaces. N/A	☐	☐	☒

Strategy 3: Bicycling, Walking, Transit & Land Use
(Complete this section if project includes non-residential or mixed uses)

4. *Bicycle Parking Spaces* Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code (Chapter 14, Article 2, Division 5)?[6] Check "N/A" only if the project is a residential project. N/A	☐	☐	☒

[6] Non-portable bicycle corrals within 600 feet of project frontage can be counted towards the project's bicycle parking requirements.

5. *Shower facilities*

If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the California Green Building Standards Code as shown in the table below?

Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required
0-10	0	0
11-50	1 shower stall	2
51-100	1 shower stall	3
101-200	1 shower stall	4
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants

☐ ☐ ☒

Check "N/A" only if the project is a residential project, or if it does not include nonresidential development that would accommodate over 10 tenant occupants (employees).

N/A

6. *Designated Parking Spaces*

If the project includes a nonresidential use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the following table?

Number of Required Parking Spaces	Number of Designated Parking Spaces
0-9	0
10-25	2
26-50	4
51-75	6
76-100	9
101-150	11
151-200	18
201 and over	At least 10% of total

This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.

Check "N/A" only if the project is a residential project, or if it does not include nonresidential use in a TPA.

N/A

☐ ☐ ☒

7. *Transportation Demand Management Program* If the project would accommodate over 50 tenant-occupants (employees), would it include a transportation demand management program that would be applicable to existing tenants and future tenants that includes: At least one of the following components: • Parking cash out program • Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools • Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development And at least three of the following components: • Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees • On-site carsharing vehicle(s) or bikesharing • Flexible or alternative work hours • Telework program • Transit, carpool, and vanpool subsidies • Pre-tax deduction for transit or vanpool fares and bicycle commute costs • Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either onsite or within 1,320 feet (1/4 mile) of the structure/use? Check "N/A" only if the project is a residential project or if it would not accommodate over 50 tenant-occupants (employees). N/A	☐	☐	☒

Step 3: Project CAP Conformance Evaluation (if applicable)

The third step of the CAP consistency review only applies if Step 1 is answered in the affirmative under option B. The purpose of this step is to determine whether a project that is located in a TPA but that includes a land use plan and/or zoning designation amendment is nevertheless consistent with the assumptions in the CAP because it would implement CAP Strategy 3 actions. In general, a project that would result in a reduction in density inside a TPA would not be consistent with Strategy 3.The following questions must each be answered in the affirmative and fully explained.

1. **Would the proposed project implement the General Plan's City of Villages strategy in an identified Transit Priority Area (TPA) that will result in an increase in the capacity for transit-supportive residential and/or employment densities?**

   Considerations for this question:
   - Does the proposed land use and zoning designation associated with the project provide capacity for transit-supportive residential densities within the TPA?
   - Is the project site suitable to accommodate mixed-use village development, as defined in the General Plan, within the TPA?
   - Does the land use and zoning associated with the project increase the capacity for transit-supportive employment intensities within the TPA?

2. **Would the proposed project implement the General Plan's Mobility Element in Transit Priority Areas to increase the use of transit?**

   Considerations for this question:
   - Does the proposed project support/incorporate identified transit routes and stops/stations?
   - Does the project include transit priority measures?

3. **Would the proposed project implement pedestrian improvements in Transit Priority Areas to increase walking opportunities?**

   Considerations for this question:
   - Does the proposed project circulation system provide multiple and direct pedestrian connections and accessibility to local activity centers (such as transit stations, schools, shopping centers, and libraries)?
   - Does the proposed project urban design include features for walkability to promote a transit supportive environment?

4. **Would the proposed project implement the City of San Diego's Bicycle Master Plan to increase bicycling opportunities?**

   Considerations for this question:
   - Does the proposed project circulation system include bicycle improvements consistent with the Bicycle Master Plan?
   - Does the overall project circulation system provide a balanced, multimodal, "complete streets" approach to accommodate mobility needs of all users?

5. **Would the proposed project incorporate implementation mechanisms that support Transit Oriented Development?**

   Considerations for this question:
   - Does the proposed project include new or expanded urban public spaces such as plazas, pocket parks, or urban greens in the TPA?
   - Does the land use and zoning associated with the proposed project increase the potential for jobs within the TPA?
   - Do the zoning/implementing regulations associated with the proposed project support the efficient use of parking through mechanisms such as: shared parking, parking districts, unbundled parking, reduced parking, paid or time-limited parking, etc.?

6. **Would the proposed project implement the Urban Forest Management Plan to increase urban tree canopy coverage?**

   Considerations for this question:
   - Does the proposed project provide at least three different species for the primary, secondary and accent trees in order to accommodate varying parkway widths?
   - Does the proposed project include policies or strategies for preserving existing trees?
   - Does the proposed project incorporate tree planting that will contribute to the City's 20% urban canopy tree coverage goal?

CLIMATE ACTION PLAN CONSISTENCY CHECKLIST
ATTACHMENT A

This attachment provides performance standards for applicable Climate Action Pan (CAP) Consistency Checklist measures.

Table 1 Roof Design Values for Question 1: Cool/Green Roofs supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan

Land Use Type	Roof Slope	Minimum 3-Year Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index
Low-Rise Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
High-Rise Residential Buildings, Hotels and Motels	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
Non-Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 residential and non-residential voluntary measures shown in Tables A4.106.5.1 and A5.106.11.2.2, respectively. Roof installation and verification shall occur in accordance with the CALGreen Code.

CALGreen does not include recommended values for low-rise residential buildings with roof slopes of ≤ 2:12 for San Diego's climate zones (7 and 10). Therefore, the values for climate zone 15 that covers Imperial County are adapted here.

Solar Reflectance Index (SRI) equal to or greater than the values specified in this table may be used as an alternative to compliance with the aged solar reflectance values and thermal emittance.

Table 2	Fixture Flow Rates for Non-Residential Buildings related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan
Fixture Type	**Maximum Flow Rate**
Showerheads	1.8 gpm @ 80 psi
Lavatory Faucets	0.35 gpm @60 psi
Kitchen Faucets	1.6 gpm @ 60 psi
Wash Fountains	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering Faucets	0.18 gallons/cycle
Metering Faucets for Wash Fountains	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity Tank-type Water Closets	1.12 gallons/flush
Flushometer Tank Water Closets	1.12 gallons/flush
Flushometer Valve Water Closets	1.12 gallons/flush
Electromechanical Hydraulic Water Closets	1.12 gallons/flush
Urinals	0.5 gallons/flush

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 non-residential voluntary measures shown in Tables A5.303.2.3.1 and A5.106.11.2.2, respectively. See the California Plumbing Code for definitions of each fixture type.

Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

Acronyms:
gpm = gallons per minute
psi = pounds per square inch (unit of pressure)
in. = inch

Preliminary Drainage Study

Brookmead Residence

2677 Brookmead Lane
La Jolla, CA 92037

Prepared for:
YDNL, LLC
2677 Brookmead Lane
La Jolla, CA 92037

Prepared by:
Christensen Engineering & Surveying
7888 Silverton Avenue, Suite "J"
San Diego, CA 92126
(858) 271-9901

August 25, 2019

PTS No. 630967

Introduction

This project is located at 2677 Brookmead Lane, Lot 53, Map No. 3487. The project was previous occupied by a single-family residence and appurtenances and this project proposes their replacement with a new single-family residence, landscaping, hardscape, pool and spa.

The site, in its existing pre-construction condition, consists of the remnants of a single-family residence with runoff flowing northerly (ON-N) onto a neighboring property, which then flows easterly to a concrete ditch on another neighboring property that is intended to collect and convey site runoff from properties westerly of it. Area ON-E runoff flows easterly to the same concrete ditch. Area ON-S runoff flows southerly to a neighboring property and then again flows easterly to the aforementioned concrete ditch. Offsite area from the westerly neighbor (OF-W) conveys runoff onto the project site to Area ON-S. Following removal of the remaining existing single-family residence appurtenances and construction of the new single-family residence, the runoff pattern will persist with runoff from the site and from the offsite area flowing to the same concrete ditch on the neighboring property easterly. A portion of site runoff is being abstracted by the proposed pool (PC-P) 0.06 cfs. Areas PC-B, PC-C and a small planter in OS-E convey runoff to a cleanout that employs a pump to convey runoff to an energy dissipater outlet, directing runoff easterly to the existing offsite concrete ditch. Area PC-A and Area PC-SD's runoff is conveyed directly to the aforementioned energy dissipater outlet. Area OS-E conveys runoff that formerly flowed northerly (ON-N) now directly easterly to the concrete ditch. Area PC-OSW joins runoff from the neighboring property westerly (OF-W) and conveys runoff southerly to a catch basin at the SW corner of the property then it is conveyed to Area PC-SD's drain system. Flow to the east decreases from 2.26 cfs to 2.20, due to 0.06 cfs being abstracted by the pool. Existing site imperviousness is 0.045 Ac (3.5%). Proposed site imperviousness is 0.518 Ac (40.3%)

Section 404 of CWA regulates the discharge of dredged or fill material into waters of the United States. Section 404 is regulated by the Army Corps of Engineers. Section 401 of CWA requires that the State provide certification that any activity authorized under Section 404 is in compliance with effluent limits, the state's water quality standards, and any other appropriate requirements of state law. Section 401 is administered by the State Regional Water Quality Control Board. The project does not require a Federal CWA Section 404 permit nor Section 401 Certification because it does not cause dredging or filling in waters of the United States and is in compliance with the State Water Quality Standards.

The Rational Method was used to calculate the anticipated flow for the 100-year storm return frequency event using the method outlined in the City of San Diego Drainage Design Manual.

The proposed project will have no adverse effects on the neighboring properties nor the public storm drain system.

_____ 08-25-19

Antony K. Christensen
RCE 54021
Exp. 12-31-19
JN A2019-19

Date

Calculations

1. *Intensity Calculation*

(From the City of San Diego Drainage Design Manual)
Tc = Time of concentration

$Tc = 1.8\ (1.1-C)\ (D)^{1/2} / S^{1/3}$

Since the difference in elevation is 9' (384'-375') and the distance traveled is 319' (S=2.8%). C=0.55.

Tc = 12.5 minutes

From table in Manual:

I_{100} = 3.2 inches

2. *Coefficient Determination*

This is a single-family residential site with appurtenances remaining, with some single-family residential offsite improvements that will contribute to runoff:

Pre-Construction:
Single-Family

C= 0.55

Post construction:
Single-Family

C= 0.55

3. *Volume calculations*

Q = CIA

Areas of Drainage

Pre-Construction

Area of site draining offsite northerly and then easterly	ON-N= 0.097 Acre
Area of site draining easterly	ON-E = 0.708 Acre
Area of site draining offsite Southerly and then easterly	ON-S= 0.480 Acre
Area of offsite draining easterly onto Area ON-S	OF-W= 0.103 Acre

Post-Construction

Area of site draining to site drain and discharging to onsite cleanout	PC-SD = 0.4334 Acre
Area of site draining westerly and then southerly	PC-OSW = 0.0117 Acre
Area of site abstracted (pool)	PC-P = 0.0343 Acre
Area of site draining to Outlet	PC-A = 0.2505 Acre
Area of site draining pool pavement and gazebo	PC-B = 0.1085 Acre
Area of site draining walkway, small landscape area and tennis court	PC-C = 0.2215 Acre
Area onsite draining easterly To neighboring ditch	OS-E= 0.2247 Acre
Area of offsite draining easterly onto Area PC-OSW	OF-W= 0.103 Acre

Pre-Construction

$Q_{100ON-N}$ = (0.55) (3.2) (0.097)
$Q_{100ON-E}$ = (0.55) (3.2) (0.708)
$Q_{100ON-S}$ = (0.55) (3.2) (0.480)
$Q_{100OF-W}$ = (0.55) (3.2) (0.103)

$Q_{100ON-N}$ = 0.17cfs
$Q_{100ON-E}$ = 1.25 cfs
$Q_{100ON-S}$ = 0.84cfs
$Q_{100OF-W}$ = 0.18 cfs

Post-Construction

$Q_{100PC-SD}$ = (0.55) (3.2) (0.4334)
$Q_{100PC-OSW}$ = (0.55) (3.2) (0.0117)
$Q_{100PC-P}$ = (0.0) (3.2) (0.0343) (abstracted)
$Q_{100PC-A}$ = (0.55) (3.2) (0.2505)
$Q_{100PC-B}$ = (0.55) (3.2) (0.1085)
$Q_{100PC-C}$ = (0.55) (3.2) (0.2215)
$Q_{100OS-E}$ = (0.55) (3.2) (0.2247)
$Q_{100OF-W}$ = (0.55) (3.2) (0.103)

$Q_{100PC-SD}$ = 0.76 cfs
$Q_{100PC-OSW}$ = 0.02 cfs
$Q_{100PC-P}$ = 0.00 cfs (abstracted)
$Q_{100PC-A}$ = 0.44 cfs
$Q_{100PC-B}$ = 0.19 cfs
$Q_{100PC-C}$ = 0.39 cfs
$Q_{100OS-E}$ = 0.40 cfs
$Q_{100OF-W}$ = 0.18 cfs

4. Discussion

The site, in its existing pre-construction condition, consists of remnants of a single-family residence with runoff flowing northerly, then easterly (ON-N), directly easterly (ON-E) and southerly then easterly (ON-S). Some runoff flows from the property to the west (OF-W), onto area ON-S and contributes to the total flow to the east of 2.26 cfs. The runoff flows to a concrete ditch located on the property easterly and then flows northerly. The ditch runs along a wall constructed by the neighboring property. The ditch was constructed to convey runoff from this property and those more northerly, that have traditionally contributed runoff easterly, to the neighboring property. Following development, the same pattern exists, with the exception that runoff no longer flows to the northerly property before being conveyed easterly. The volume of runoff flowing easterly decreases by 0.06 cfs due to precipitation being abstracted by the proposed pool. Post-construction areas OS-E, PC-A, PC-SD, PC-OSW and offsite area OW-S flow easterly to the existing ditch with areas PC-B, PC-C and a small planter area of OS-E draining to a cleanout with a pump, to convey runoff to the outlet, directed to the easterly ditch. Runoff from the pool is abstracted so the volume of runoff flowing easterly is reduced from 2.26 cfs to 2.20 cfs, following development.

Type of conveyance is a: Energy Dissipater at Outlet
Depth of channel equals 1 Feet
Bottom Width Equals 2
Side slope equals 2
Slope of conveyance equals 2 %
Roughness equals .023
Flow quantity equals 1.82533 CFS
Area equals .5952009 Square Feet
Velocity equals 3.057791 FPS
Depth of flow equals .2400003 Feet

APPENDIX

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C)
	Soil Type [1]
Residential:	
Single Family	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial [2]	
80% Impervious	0.85
Industrial [2]	
90% Impervious	0.95

Note:
[1] Type D soil to be used for all areas.
[2] Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness = 50%
Tabulated imperviousness = 80%
Revised C = (50/80) x 0.85 = 0.53

The values in Table A-1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

A.1.3. Rainfall Intensity

The rainfall intensity (I) is the rainfall in inches per hour (in/hr.) for a duration equal to the T_c for a selected storm frequency. Once a particular storm frequency has been selected for design and a T_c calculated for the drainage area, the rainfall intensity can be determined from the Intensity-Duration-Frequency Design Chart (Figure A-1).

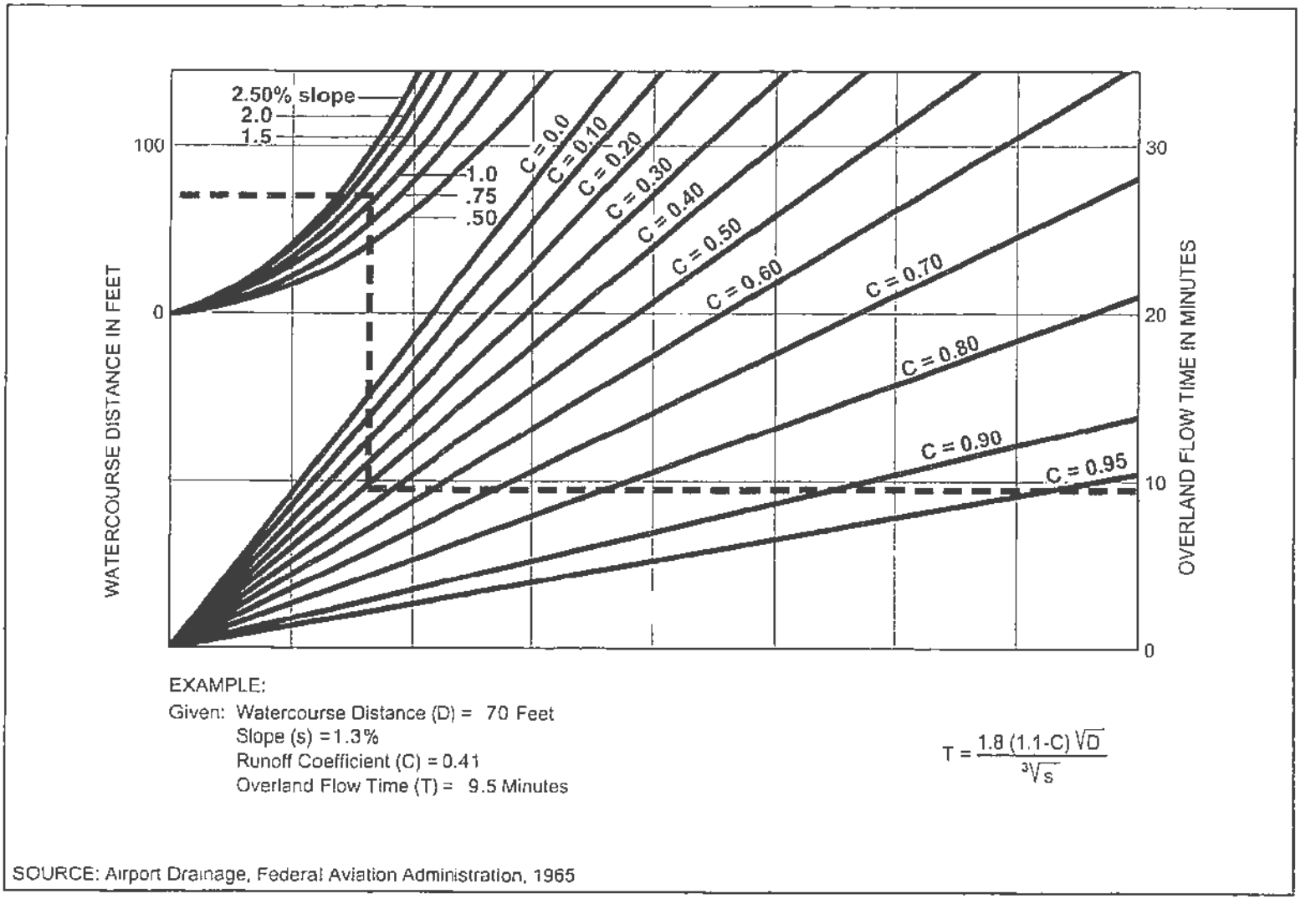

Figure A-4. Rational Formula – Overland Time of Flow Nomograph

Note: Use formula for watercourse distances in excess of 100 feet.

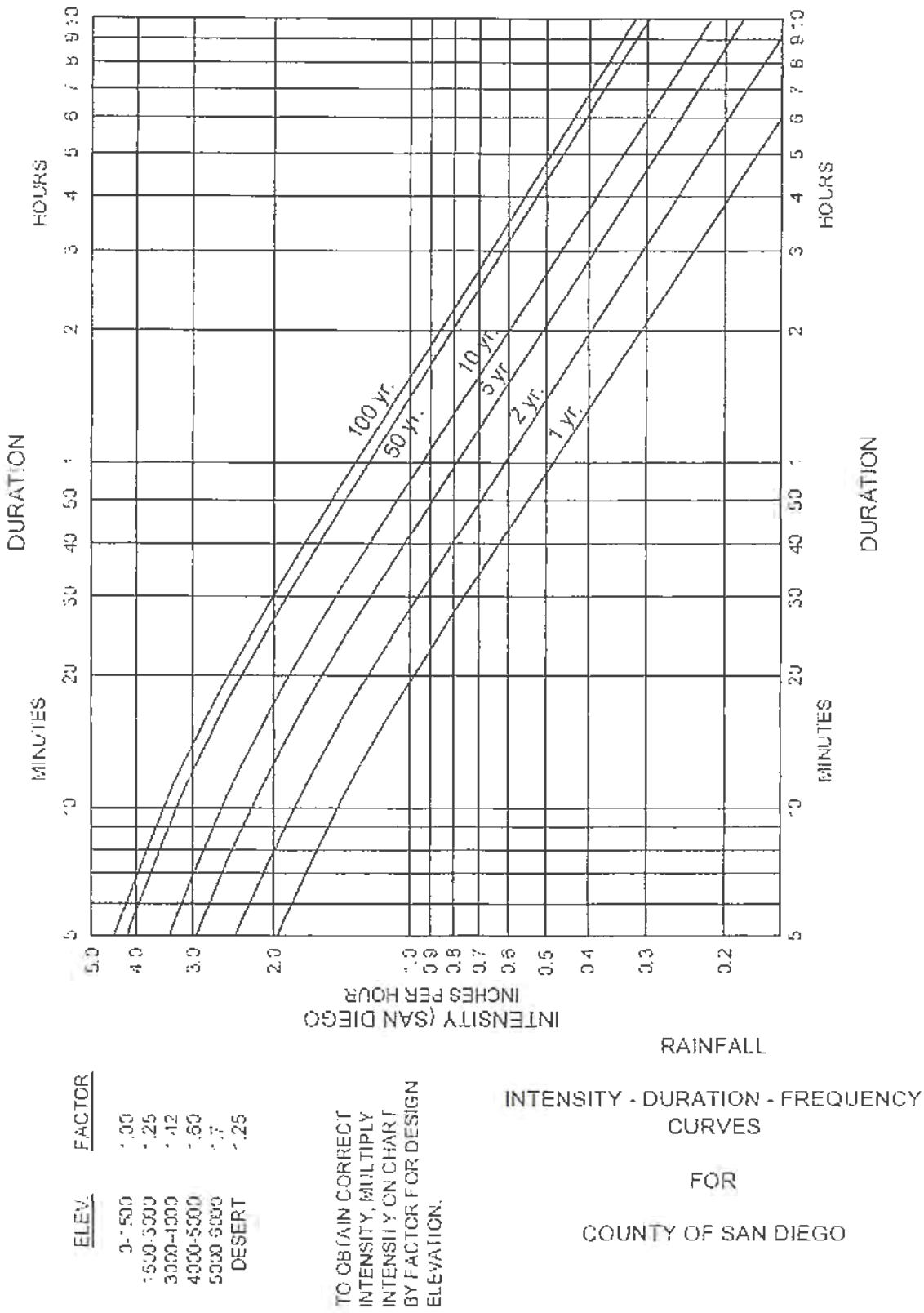

Figure A-1. Intensity-Duration-Frequency Design Chart

DRAINAGE AREA MAPS

PRE-DEVELOPMENT DRAINAGE AREA MAP

PRE-CONSTRUCTION DRAINAGE AREA MAP

LA JOLLA FARMS
MAP NO. 3487
LOT 54

LOT 55

LOT 53

LOT 52

AREA ON-N
0.097 AC
ONSITE AREA
FLOWING NORTHERLY
THEN EASTERLY TO
EX CONCRETE DITCH
OFFSITE

EX WALL
APPROX

EX CONCRETE DITCH
APPROX

AREA OF-W
0.103 AC
OFFSITE AREA
FLOWING ONSITE TO
AREA ON-S

AREA ON-S
0.480 AC
ONSITE AREA
FLOWING SOUTHEASTERLY
TO EX TYPE F CATCH BASIN
OFFSITE

AREA ON-E
0.708 AC
ONSITE AREA
FLOWING EASTERLY TO
EX CONCRETE DITCH
OFFSITE

Obscured due to dense trees and vegetation

SCALE 1" = 30'

POST-DEVELOPMENT DRAINAGE AREA MAP

POST-CONSTRUCTION DRAINAGE AREA MAP

LA JOLLA FARMS
MAP NO. 3487
LOT 54

LOT 55

LOT 53

LOT 52

382.00 FF
381.25 PAD

AREA PC-SD
0.4334
FLOWS IN SURFACE DRAIN SYSTEM TO CLEANOUT

AREA OS-W
0.103 AC
FLOWS ONTO AREA PC-OSW

AREA PC-OSW
0.0117 AC
FLOWS SOUTHERLY

AREA PC-A
0.2505 AC
FLOWS TO OUTLET THEN TO EX OFFSITE DITCH

AREA OS-E
0.2247 AC
FLOWS OFFSITE TO EX DITCH

EX WALL
APPROX

EX CONCRETE DITCH
APPROX

AREA PC-C
0.2215 AC
FLOWS TO CLEANOUT

AREA PC-P
0.0343 AC
(ABSTRACTED)

AREA PC-B
0.1085 AC
FLOWS TO CLEANOUT

OUTLET TO EASTERLY DITCH OFFSITE

CLEANOUT

SCALE 1" = 30'

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM DS-560
November 2018

Project Address: 2677 Brookmead Lane, San Diego, CA 92037 | Project Number: 630967

SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1], which is administered by the State Regional Water Quality Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

   ☒ Yes; SWPPP required, skip questions 2-4 ☐ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and/or contact with storm water?

   ☐ Yes; WPCP required, skip questions 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

   ☐ Yes; WPCP required, skip question 4 ☐ No; next question

4. Does the project only include the following Permit types listed below?

   - Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
   - Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
   - Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

   ☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☒ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☐ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☐ **ASBS**
   a. Projects located in the ASBS watershed.

2. ☐ **High Priority**
   a. Projects that qualify as Risk Level 2 or Risk Level 3 per the Construction General Permit (CGP) and not located in the ASBS watershed.
   b. Projects that qualify as LUP Type 2 or LUP Type 3 per the CGP and not located in the ASBS watershed.

3. ☒ **Medium Priority**
   a. Projects that are not located in an ASBS watershed or designated as a High priority site.
   b. Projects that qualify as Risk Level 1 or LUP Type 1 per the CGP and not located in an ASBS watershed.
   c. WPCP projects (>5,000sf of ground disturbance) located within the Los Penasquitos watershed management area.

4. ☐ **Low Priority**
   a. Projects not subject to a Medium or High site priority designation and are not located in an ASBS watershed.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes ☒ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes ☒ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes ☒ No

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☒ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☒ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☒ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☒ Yes ☐ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface. ☐ Yes ☒ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ☐ Yes ☒ No

5. New **development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ☐ Yes ☒ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ☐ Yes ☒ No

7.	**New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).	☐ Yes ☒ No
8.	**New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.	☐ Yes ☒ No
9.	**New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.	☐ Yes ☒ No
10.	**Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces.	☐ Yes ☒ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1.	The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS.**	☐
2.	The project is a **STANDARD DEVELOPMENT PROJECT.** Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
3.	The project is **PDP EXEMPT.** Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
4.	The project is a **PRIORITY DEVELOPMENT PROJECT.** Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management	☒

Joy D. Christensen	Assistant Engineer
Name of Owner or Agent *(Please Print)*	Title
Joy D. Christensen	08/26/2019
Signature	Date