HISTORICAL RESOURCE EVALUATIONS, CULTURAL RECORDS SEARCH, SACRED LANDS SEARCH, ARCHAEOLOGICAL TESTING PLAN AND RESULTS

APPENDIX D

to the
Alexandria Center for Life Science Project Draft EIR

PRESERVATION
ARCHITECTURE

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ALEXANDRIA CENTER FOR LIFE SCIENCE
900-960 INDUSTRIAL RD., 961 COMMERCIAL ST., SAN CARLOS
Historical Resource Evaluations

This report provides an historical evaluation of three parcels and their buildings located at the above addresses. The purpose of this evaluation effort is to determine if the subject properties and buildings do or do not qualify as historical resources per the California Register of Historical Resources (CR) criteria and with respect to the California Environmental Quality Act (CEQA).

This evaluation effort is based on site visits to survey and record the buildings and their setting. Prior records were also collected and reviewed, including previous environmental reports,[1] historical maps and aerial views, historical telephone directories,[2] building permit records from the City of San Carlos, along with San Mateo County deed research. Despite the relatively recent age of the subject resources, few original records and no original plans have been located.

This evaluation report addresses three properties and their built resources. While understanding that the overall property associated with these three parcels encompasses the majority of the block bounded by Industrial Rd. (east), Commercial St. (north), Old County Rd. (west) and Brittan Ave. (south), with the Pulgas Creek channel, which bisects the block east to west across its southern half, forming the southern boundary (figs.1-4).[3] The overall site thus contains some twelve parcels, with all but the three subject parcels currently vacant and undeveloped. With the exception of the three subject properties with built resources, the remainder of the overall subject site will not be further addressed herein.

The current effort updates a previous report that in part addressed a different range of parcels and buildings. In the three years since the previous report was completed, the three buildings at 987 and 1003-1011 were removed as part of an environmental remediation project on the western half of the subject block. Consequently, those resources have been deleted from the current report. Previously, the parcel and building at 961 Commercial St. was not previously evaluated as that built resource was, in 2020, less than 45 years of age, thus under the typical threshold for CEQA historical evaluation. As that 1976 building has since crossed the 45-year threshold, its evaluation has been added to the current effort. In the interim, this historical consultant has completed a pair of evaluations of adjoining resources, which reports have also informed the current effort.[4]

EVALUATION SUMMARY

As detailed herein, two of the subject parcels, 900 Industrial Rd. and 961 Commercial St., contain buildings that have housed, since their original construction, general commercial-light industrial uses without any measurable historical importance. Additionally, the building at 900 Industrial Rd. has been recently altered and added to, further reinforcing its lack of potential historical design and construction character. And the building at 961 Commercial St. was constructed in the latter 1970s,

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[1] Ramboll Environ, *Phase 1 and Phase II Environmental Site Assessment[s]: 900 Industrial Road* (and) *960 industrial Road, San Carlos,* April 25, 2017; and *961 Commercial St., San Carlos, May 2018.*
[2] San Mateo County directories, Library of Congress (loc.org), accessed Nov.-Dec.2020.
[3] For the purposes of this report, descriptive orientations place the freeway to the east and downtown San Carlos to the west.
[4] *803-841-851 Old County Rd., San Carlos*, March 15, 2022; and *797 Industrial Rd. – 814-838 & 040-870 Bransten Rd., San Carlos,* May 31, 2022.

446 17th Street #302 Oakland CA 94612
510.418.0285 mhulbert@earthlink.net

so is of marginal historical potential on the basis of its recent age in addition to being a small warehouse that, in its brief historical period (1976-1979), was utilized for storage. As neither property nor building are associated with any persons or events of historical importance and neither embodies design or construction distinction, neither 900 Industrial Rd. nor 961 Commercial St. have any potential historical importance.

Comparatively, 960 Industrial Rd. is a physically substantial industrial property that houses a relatively large and multi-part industrial complex, the original and early military-industrial use of which – the production of electron tubes – is of historical interest. In its potential historical period (1956-1979), four of its five primary interrelated structures were assembled (the fifth structure dates to 1982, thus too recent for historical consideration). Despite these considerations:

- While internally related, externally, the structural parts appear only partially related, specifically the 1956 and 1959 structures that front Industrial Rd., yet the overall building exteriors are otherwise an agglomeration of spaces and forms in addition to being dominated by the 1982 structure.
- The corporation responsible for its development, Litton Industries, did not invent the processes and products which they produced at 960 Industrial Rd., which were invented by others elsewhere and preceded the corporation's founding.
- The military-industrial use does not uniquely or distinctly relate to the post World War II military-industrial context, as the facility was not a research incubator but was developed to suit and exploit commercial production.
- In part, the assembled complex is an example of mid-20th century industrial architecture, specifically the conjoined original (1956) and early (1959) structures fronting on Industrial Rd. Yet, those original and early parts do not exhibit distinctive – i.e., unique, inventive or prototypical – modern industrial architectural characteristics and were also common construction (exemplified by two different builders yet the same construction).
- Of further relevance, the exteriors of the original and early structures have been recently and substantively altered and a dominant 2-story addition has been inserted into the complex.

This evaluation report therefore concludes that the existing properties and buildings at 900 and 960 Industrial Rd., and 961 Commercial St. in San Carlos do not meet any applicable historical resource criteria so are not eligible for listing on the CR.

The City of San Carlos ("City") has no historical preservation ordinance or formal designation process. In 1990, a group of volunteers identified and researched the historical resources in San Carlos. The volunteers' efforts led to the creation of the 1991 Historic Resources Inventory. The inventory contains 52 listings which include residential and commercial structures and one public park. For descriptive purposes, the inventory also identifies two historic districts: the Hacienda Gardens Apartments at 1315 San Carlos Boulevard and Brittan Avenue and the 1000 Block of Elm Street between Morse Boulevard and Brittan Avenue. The three subject parcels and buildings are not included on the City Historic Resources Inventory or within the historic districts.

HISTORICAL SETTING

In the first half of the 20th century, fill of the San Francisco Bay shoreline and construction of the Bayshore Highway interconnecting San Francisco and San Jose provided a new landscape and development zone along the eastern boundaries of the cities of the San Francisco Peninsula, including San Carlos. The Bayshore Highway and associated bay fill dates to the late 1930s while

the present-day Bayshore (aka James Lick) Freeway succeeded the highway within some twenty years. Based on historical topographic maps, in the 1940s, prior to any development, the subject block was essentially at the historical shoreline. Once filled, development was enabled eastward from the center of San Carlos, yet which development awaited the post-World War II period. As remains in evidence today, much of the surrounding development was industrial, yet commercial and residential development were also in the 1950s east San Carlos mix.

Along Old County Road and the railroad as well as nearer to downtown, the western sides of the subject and adjoining blocks were first developed with industries. The earliest developments on the subject block were a Mathews Conveyor Company factory at the northwest corner and, directly to the east of that property, at 1011 Commercial St., a food processing facility for Kuster Laboratories, first occupied in 1949.

Some of the earliest developments on the directly adjoining blocks were for companies who subsequently moved onto the subject block. Litton Industries' first San Carlos plant was on the block to the south, across Brittan Ave., where directories confirm that Litton first located in 1945 and which complex (not extant), along with an eclectic mix of adjoining development (lumber, mushrooms), was depicted in the 1950 Sanborn map (fig.5). That map also showed the "San Carlos Airport" occupying the eastern end of the subject and south-adjoining parcel, spanning that unimproved end of Brittan. Litton Industries began to acquire their land at 960 Industrial Rd. in the mid-1950s and the first structure of their complex was built in 1956.

In the 1940s, the original Kelly Moore plant was on the block to the north, along Old County Road. Kelly Moore then also began to acquire properties on the subject block in the mid-1950s, their first acquisition being the aforementioned Mathews facility at 1015 Commercial St., where Kelly Moore was first listed in 1956 and whose uses and facilities expanded along the Old County and Commercial roads into the large complex that was recently removed.

Along the Industrial Rd. front of the subject block, the existing commercial-industrial building at 900 Industrial Rd. was erected c1954 and added to c1958. Following its 1955 construction, Litton Industries added increments to their 960 Industrial Rd. property, first expanding the original building with a northern addition in 1959. Thereafter, Litton added two rearward structures in 1960 and 1968, then attached the front and rear buildings with their 2-story addition in 1981-1982.

Along Commercial St., the warehouse building at 961 Commercial was constructed in 1976.

Uses of this range of commercial and industrial properties varied. The 900 Industrial building was erected speculatively, so has had multiple tenancies. The Litton property was one of their tube manufacturing facilities from 1955 to 2000, thereafter sold the property and manufacturing use. And the 961 Commercial St. building was constructed as a storage warehouse, again with a sequence of tenants including, in the 1970s, a commercial press and during the 1980s and early 1990s, a storage facility for Litton Industries and, thereafter, Kelly-Moore.

SUMMARY DESCRIPTIONS & HISTORIES

900 Industrial Rd. (figs.6-10)

900 Industrial (APN 046-162-010) is a 1.03 acre site housing a 33,600 square foot commercial-industrial building with a shallow, 2 story commercial-office front at the northwestern corner of

Industrial Rd. and Commercial St., facing Industrial. Behind is an attached, tall single story industrial warehouse, its elongated northern side on Commercial St. The building largely fills its site, a rectangle with a skewed front (east) property line, which is some 142 feet wide by 322.5 feet (north) – 310 feet (south) deep.

While no original records have been located, based on available information, the building's front and the frontward two-thirds of its warehouse were constructed c1954. At that time, the commercial front was 1 story. The rearward portion of its warehouse was added c1958 and the second story was completed in 1993.

There is no evidence of what the commercial front looked like originally. Given the addition of a story, it is presumed that the existing exterior design dates to 1993. That front consists of an off-center entrance way with 2 stories of metal sash doors and windows separated by a wood transom at the line of the second floor. That entry's vertical arrangement counters the façade's overall horizontality, which consists of five horizontal bands, two of which collect rows of metal sash windows at each floor, three sets at each side of the entry way and which bands are dark painted, vertical board sided and wood trimmed. The other three bands – including a shallow apron below the first floor windows, a broader spandrel separating the window bands and a taller, parapeted upper wall above – are finished with light colored plain stucco (cement plaster). The top of parapet is capped by a continuous metal coping and the parapet surrounds the front structure's flat roof on three sides.

Between the building front and concrete Industrial Rd. sidewalk is a shallow planting strip, which is interrupted where the sidewalk extends into the entry way, its plan angled to follow the line of the front property line and street.

The banded façade treatment and shallow planting strip returns at the Commercial St. (north) side for approximately 20 feet, where there is a set of windows and door below and a set of windows centered above. Beyond, the long north side wall of the industrial structure is painted concrete, the building's bays expressed by vertical joints at columns, the walls at each bay having an upper window with industrial steel sash or a loading door opening, the latter infilled with storefront entrances or upward acting metal loading doors.

At the south, where the façade and planting strip return internal to the site, the 2-story wall is plain stucco without window bands. The continuation of that internal building side is a long painted concrete wall relieved only by vertical joints at columns and there is no apparent differentiation between the original warehouse and its addition. The narrow strip of utility space between the south wall and property line is largely fenced yet with a couple of frontward trees.

The rear (west) wall is also painted concrete with two openings with surface mounted, coil-type steel loading doors. A shed stands outboard of this wall at its south end.

Lastly, the tops of the shallow, membrane-surfaced, four vaulted roof segments of the industrial structure are partly visible above the building walls.

As noted, 900 Industrial Rd. dates from 1954 with later additions. The property owner at the time of its construction was Eugene A. Mignacco, who evidently built for real estate investment. The original tenant was Globe Container Co., a paper tube manufacturer, who occupied this location from 1954-c1958. Subsequent tenants included the Tilley Manufacturing Co. in the 1960s and 70s. A

subsequent owner in the 1980s and later was Richard and Brigitte Saiya, who were owners when the second floor was added. Multiple tenancies followed.

Available building permit records start with a 1976 reroof for Mignacco. Completion of the 1993 second floor office addition was for the Saiyas, which permit was first applied for in 1985. A 1989-1990 alteration permit was for Hatcher Trade Press at 900 Commercial (yet whose main address was listed at 950 Commercial). And a 1998 reroof was also for the Saiyas.

Deed records from the 1920s to the early 1950s are challenging to sort through as the newly formed lands of east San Carlos consisted of a puzzle of large parcels relative to which, other than County Rd., the streets were not yet dedicated. Thus, references are to layers of deeds. However, early property owners of 900 Industrial Rd. was Eugene A. and Carolyn P. Mignacco, who apparently acquired this parcel in 1947 from T. I. and Dorothy Smith Moseley. Corroboratively, per current environmental documentation, Mignacco granted a 10 foot pipeline easement across the parcel in 1949.[5] At the time of its development, per San Mateo County directory listings, Eugene A. Mignacco was the general manager of the Western Can Co. in San Jose and resided in Hillsborough. Mignacco owned the 900 Industrial Rd. property and its building from c1954-1983. No other specific historical information has been located for Mignacco.

Richard and Brigitte Saiya acquired the property and its original, 1-story warehouse building in 1983, thereafter undertook its expansion and retained ownership until 2001.

No architects, engineers, designers or builders have been identified for the design and construction of the c1954 900 Industrial Rd. building, nor for its c1993 addition.

960 Industrial Rd. (figs.11-17)

Per permit records and the previous environmental documentation, 960 Industrial Rd. (APN 046-162-290) is an agglomerated industrial building complex in five primary parts, its earliest southeastern part built in 1956 followed by a 1959 addition to the north, which together comprise the existing building fronting on Industrial. Two separate rearward buildings were subsequently added, the north half in c1961, the southern half in 1968. In 1982, the front and rear structures were joined together by the central 2-story addition. Beyond these five parts and largely within the confines of the site, there are various external building and site accretions including, to the rear (west), an existing storage building and equipment pad, which date to 1983.

For the purposes of this historical resource evaluation, the four earlier building parts are salient whereas the 1982 addition, however central as well as dominant, stands outside the potential historical period (1955-1979), as do the 1983 rearward structures.

The existing overall building footprint totals some 195,000 square feet on a 10.68 acre site. Drives, yards, loading and parking areas surround the building to the north and west. The primary entry into the site is from its southeast corner. Across the front of the building is a drive – along which are two building entry ways – and an outer parking strip with a landscape border between the parking and the sidewalk. A secondary entry to the site is at its northeastern corner and which also connects to the internal site areas via a drive that passes the north side of the building. To the south, the landscaped entry and drive into the site passes the building's southern front, where there are again

[5] Ramboll, *900 Industrial Rd.*, Oct. 2018, p26.

two building entries, across which is a large open parking lot, also landscaped, that is bounded to its south by Pulgas Creek.

While the internal, north and east sides of this building complex are a jumble of industrial and utilitarian areas to the extent that those exteriors are for practical purposes indescribable, the industrial architectural character of the overall complex is present from its eastern front and frontward southern side. Such general characteristics include regimented concrete walls parsed into regular segments by vertical concrete pilasters, each wall panel punctuated by narrow glass block window openings, the walls continuously capped by a concrete bond beam with an overhanging square roof edge.

The front (east) face is some 480 feet long, the south face 500 feet in length. While it was built in two parts, the front has a unified exterior with a repetitive, expressed concrete frame of approximately 20 foot wide bays infilled with concrete walls with, excepting at the two entry ways, horizontally oriented glass block window units vertically centered. The two entry ways have clear aluminum sash entry door and window units below flat projecting canopies. The southern entry is evidently primary, as it is wider, its canopy deeper and as the flanking exterior wall is built out. That entry way corresponds to the original 1955 building and the north entry is part of the 1959 addition though, again, there is no visible evidence of two building parts from the front. What additionally unifies the front is the massive, projecting and vertically slatted metal screen that surmounts the front building wall for its full length. That screen returns for some 20 feet at the north side yet extends along the southern side for the full depth of the original building, where it is even higher as its bottom edge drops to cover more of the facade. While an architecturally dominant existing feature, based on a 1963 photo (fig.18), the screen was added subsequent to 1982.

The south side wall of the 1955 building, which is seven bays deep with expressed concrete frames and infill walls, aligns with and terminates at the central, 2 story, 1982 addition. Beyond, to the west, again aligned, stands the exterior wall of the 1968, formerly detached rear building. That wall is also seven bays deep, its concrete columns expressed with plain, concrete infill walls except at the frontward bay, where there is a set of aluminum sash entry doors and windows. Atop this length of wall, a row of slightly recessed steel pipe railings are visible. This wall extends to metal sheds attached across the rear of the complex.

The Litton company was the creation of engineer Charles V. Litton (1904-1972), founded in Redwood City in the 1930s for the production of electron vacuum tubes. Based on previous environmental documentation[6] along with permit and deed research. Litton sold his interests in 1953 to Charles Bates Thornton, who thereafter established Litton Industries. This successor company began to acquire the current and then vacant site in 1955 with the intention of relocating the Litton tube manufacturing division from Litton's earlier location across Brittan Ave. Immediately thereafter, Litton Industries deeded the property to a building contractor, William J. Moran of Los Angeles, who designed, built and leased the original 1956 building back to the company before, also in 1956, deeding property ownership to Occidental Life Insurance Co. The 1959 addition was constructed for Litton Industries by the Barrett Construction Co. of San Francisco, the 1968 addition was erected by local (i.e., S.F. Peninsula) contractors Daley & Trudell, and the 1981-82 addition by Hodgson Construction. In 1981, Occidental Life deeded the property back to Litton Industries and who, in

[6] Ramboll, *960 Industrial Rd.*, April 25. 2017, p33.

2000, sold the company to Northrop Grumman who, in turn, sold the former Litton Industries and their property at 960 Industrial Rd. to the current owner-occupants, L-3 Communications.

As summarized above, the 960 Industrial Rd. complex grew in increments, the first in 1956 followed by building additions in 1959, 1961, 1968 and 1982, along with numerous smaller exterior adds and alterations. Despite its scale and development period, relatively few and mostly miscellaneous building permit records exist; the only salient exterior permits are for the 1968 (Daley & Trudell Construction, contractor) and 1981-82 (Hodgson Construction, contractor) additions, and the façade screens, first permitted in 1987, yet more probably added later as the screens covered or removed the Litton Industries façade signage.

961 Commercial St. (figs.19-22)

The 961 Commercial St. property (APN 046-162-210) is some .65 acres and houses an approximately 14,000 square foot, tall single story warehouse building fronting northward to Commercial St.

The parcel is a rectangle measuring 140.18 feet wide (east-west) by 202 feet deep. The existing building stands at the very rear of the parcel and fills the parcel width. Its asphalt paved parking lot and building front are minimally landscaped and where both side lot lines are cyclone fenced. The side and rear exterior building walls are plain tilted-up concrete with raised parapets. The front also has 3 tilted-up concrete walls at center and at each side, separated by recessed loading bays, each with 2 metal truck doors, though the easternmost loading door opening has been infilled with storefront doors and windows. Frontward walls are accented with textured masonry or masonry-like vertical panels. Each frontward wall also has individual metal entrance doors or windows, plus doors within the perpendicular recessed walls.

The 961 Commercial St. building was permitted in 1976 for then property owner B. J. Tanklage. In May 1977, Bernard J. and Marguerite Tanklage sold the property and its newly completed building to Janie M. Cafferata, the current owner. The building has since been leased by various commercial and industrial users, including Hatcher Trade Press (1970s), Litton Industries (1980s to 1990s), Kelly Moore Paints (1980s-2000) and, since 2001, HY Flooring.[7] Several permit records identify miscellaneous building alterations, so it is presumed the existing building largely retains its original character.

HISTORIC CONTEXTS

As summarized above, relative to the historical setting of the subject block, there are two primary historical contexts.

Historic Development Context

The development context of the subject and adjoining blocks is strictly post-war, as development in the immediate vicinity occurred only after WWII, when the three subject, contiguous resources were each constructed for commercial and industrial uses on what was, until then, undeveloped land. This development context is directly situated in the post-World War II, American suburbanization and transportation boom, which context also embodied the outset of large-scale conversion of

[7] Ramboll, *961 Commercial St.*, May 2018, p23.

agricultural land. This development context was far-ranging in the post-war period throughout the region, including the towns and cities of the San Francisco Peninsula, each of which then experienced extensive new industrial, commercial and residential development.

Historic Architectural Context

Given their period of development, the subject-built resources generally relate to mid-20th century, commercial and industrial design and construction.

While smaller cities like San Carlos have not addressed historical contexts re: Modern architecture and landscape architecture, other regional jurisdictions have prepared context statements for Modern resources. For example, San Jose's Modern context statement and which encompasses architecture in the overall period from 1935-1975 yet which does not have a directly applicable category for Modern industrial resources.[8] The most applicable historical context statement to the subject buildings is the City of San Francisco's which, in addition to addressing the broad range of Modern resources, specifically addresses the Midcentury Modern style.[9] As documented therein:

Midcentury Modern and late interpretations of the International Style were the primary styles applied to everyday residential, commercial, and institutional buildings. Midcentury Modern design elements include:

- *Cantilevered roofs and overhangs*
- *The use of bright or contrasting colors*
- *Projecting eaves*
- *Canted windows*
- *Projecting boxes that frame the upper stories*
- *Stucco siding*
- *Spandrel glass*
- *Large expanses of windows˙*
- *Flat or shed roof forms*
- *Vertical corrugated siding*
- *Stacked roman brick cladding*
- *And, occasionally, vertical wood siding.*
- *New technology and materials, such as plastic laminates, spandrel glass, and anodized metal sheaths were increasingly incorporated in midcentury modern buildings.*

Midcentury Modern design reflected the emerging philosophy of indoor-outdoor living. Design elements such as overhanging trellises, pergolas, atriums, and planters integrated in the building's design literally wedded the building form to the environment. Projecting trellises, in particular, were a notable design element of residential, commercial, and institutional buildings.[10]

While these descriptions and characterizations are most applicable to architecturally designed residential, commercial and institutional resources, the overall characterization is applicable toward gauging the character of built resources from the mid-century period. In San Francisco's context, the Midcentury Modern period spans 1945-1965, thus only applies to the original and early built

[8] Past Consultants. *San Jose Modernism Context Statement.* June 2009.
[9] Mary Brown, San Francisco City and County Planning Department. *San Francisco Modern Architecture and Landscape Design 1935-1970: Historic Context Statement*, September 30, 2010.
[10] *SF Modern,* pp.115-116.

resources at 900 and 960 Industrial Rd., whereas the 1976 warehouse building at 961 Commercial is more recent so may best be typified as a Contractor Modern style industrial building. Again referencing *SF Modern*, characteristics of the Contractor Modern style are:[11]

- *Absence of style*
- *Simple forms*
- *Inexpensive building materials*
- *Reference to Modern design added as an afterthought.*

EVALUATION

The three subject parcels and their buildings have not previously been evaluated for historical resource eligibility. In order to address the requirements of the California Environmental Quality Act (CEQA) specific to historical resources, the current effort has been requested and is intended to provide such historical resource evaluation.

Under CEQA, “historical resources” include the following:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CR.

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section5024.1(g) of the Public Resources Code, is presumed to be historically or culturally significant and is treated as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines, based on substantial evidence in light of the whole record, to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Generally, under CEQA, a resource is deemed "historically significant" if the resource meets the criteria for listing on the CR, including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

The California Office of Historic Preservation (OHP) recommends surveying physical evidence of human activities that is at least 45 years or older. According to OHP, the 45-year criteria recognizes that there is commonly a five-year lag between resource identification and the date

[11] *SF Modern,* pp.193-194.

that planning decisions are made and OHP encourages the collection of data about resources that may become eligible for the National Register of Historic Places (NRHP) or CR within that planning period. Resources determined eligible for the NRHP are automatically listed on the CR.

In this instance, there are three parcels with built resources greater than 45 years:

- 900 Industrial Rd., a street-corner parcel with a mixed commercial-light industrial building constructed between c1954-c1958 (and with a c1993 addition).
- 960 Industrial Rd., a large parcel with an amalgamated industrial facility dating from 1956-1982.
- 961 Commercial St., a mid-block parcel with a warehouse building dating to 1976.

While resources less than 45 years old are not excluded from historical resource consideration, such recent resources must be demonstrably exceptional. With respect to the buildings and portions thereof as well as the users added to the subject parcels post-1979, there is no conceivable exceptionality. Consequently, no post-1979 portions of buildings or users are herein evaluated.

The following provides an evaluation summary comprehensively addressing the three subject resources and including, where applicable, criterion-specific evaluations of the individual resources.

To be eligible for listing on the California Register (CR), a resource must be historically significant at the local, state, or national level, under one or more of the following four criteria.

1. *It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;*

   In general, in their post-WWII development context, there is no potential historical significance associated with the subject properties as each generally fit that far-ranging pattern of events.

   More specifically, an associated pattern of historical events that partly applies to the subject properties is mid-20th century military-related industrial development on the San Francisco Peninsula.

   In the U.S. during the combined post-WWII and Cold War period, military-industrial development surrounded and adjoined nodes of military-sponsored technological research and development. Such nodes included major research universities, U.S. military bases and related institutions and installations. While the pattern was national and the San Francisco Bay Area was not alone, the S.F. Peninsula had several such nodes, including Stanford University and Mather Air Force Base, both of which spun off and supported numerous research and manufacturing ventures that commercially exploited largely military sponsored technologies. By extension, such mid-20th century industries throughout the S.F. Peninsula were participants at the outset of commercialization of digital technologies.

   Though this development pattern was, in the mid-1900s, concentrated to a greater extent in Santa Clara County, the cities of San Mateo County were also participants. This included San Carlos, where the newly filled bay shore – an endeavor that was also government subsidized via federal highway funding – provided developable sites that were then occupied by a range of uses yet with a proportion of military-industrial ventures.

   Relative to the subject parcels, Litton Industries (960 Industrial Rd.) developed and manufactured military components as their San Carlos based operations produced electron

tubes for communication and radar applications. So this pattern of military-industrial and technological events is directly associated with Litton and the 960 Industrial Rd. parcel. However, their individual associations with the broad historical pattern of military-technological industries and contributions were minor – as were those of the original company founded by Charles Litton on the basis of their development of glass lathes for tube manufacturing – as this technological development pattern was broadly shared by many individuals and companies. One such example is Varian Associates, who were founded in San Carlos before WWII and whose claim to fame was the development of the Klystron electron tube.[12] Both early companies were associated with the electronics laboratories at Stanford, from where Varian emerged as a leader. While the original Charles Litton founded company can likewise claim historical significance for its early contribution to electron tube manufacturing – specifically the development of glass-making lathes – those contributions pre-date Litton Industries and their 960 Industrial Rd. facilities.

Unlike Litton Industries, which corporation extensively diversified its product line, post WWII, Varian largely maintained their focus on the Klystron. At that same time, Litton Industries became a highly dispersed corporation with headquarters in Southern California, which locale was even closer to the center of the U.S. military and aerospace industry. Based on a 1963 product brochure, Litton Industries' San Carlos Electron Tube Division itself diversified its product lines of electronic devices and equipment via acquisition.[13] Whether any of the numerous products associated with the San Carlos plant may be defined as historically important is not presently known and any such determination would require an extensive evaluation of the electronics industry and Litton Industries role. Unlike the Varian Klystron, no one of Litton Industries' products generally arises as an invention of relative importance. In fact, it may be that Litton Industries most well-known products were for the general consumer rather than the military and/or industry.

In sum, while the subject properties in part have an association to this broad historical pattern of events, there is no evidence of any major or individual important events directly associated with the subject properties. Consequently, these five properties and their buildings do not meet CR criterion 1.

2. *It is associated with the lives of persons important to local, California, or national history;*

Several identifiable individuals were directly associated with the origins of the three subject properties:

<u>900 Industrial Rd.</u> – In its potential period of significance (1954-1979), the property and building at 900 Industrial Rd. was directly associated with one individual, Eugene A. Mignacco. The c1954 building was evidently speculatively built for real estate investment purposes but not for specific uses for or associated with Mignacco, whose career and residence was elsewhere. Further, as there is no evidence that Mignacco has historical importance, 900 Industrial Rd. is not directly associated with any individuals of identifiable historical importance.

[12] Pierluigi Serraino and Mark Hulbert, *Varian Buildings 1 & 2, Palo Alto, CA;* unpublished report dated Feb. 28, 2020.
[13] *A Summary of Products and Review of Capabilities: Litton Electron Tube Division 1963* (<u>https://frank.pocnet.net/</u> other/LittonIndustries/Litton_ASummaryOfProductsAndReviewOfCapabilities_1963.pdf, accessed Jan.2023).

960 Industrial Rd. – In its potential period of significance (1955-1979), the property and building at 960 Industrial Rd. is not directly associated with any specific individuals. While Charles Litton founded the company, in 1953 he sold his interests to Charles Bates Thornton who thereafter established Litton Industries Electron Tube Division at the subject site while, simultaneously, relocating the Litton headquarters to Southern California and, in the process, substantially diversifying his company via acquisition. Additionally, Litton Industries was a large corporate entity with whom many persons were associated, so 960 Industrial Rd. is not directly associated with individuals of identifiable historic importance.

961 Commercial St. – Specific individuals directly associated with the 1976 building at 961 Commercial St. were Bernard and Marguerite Tanklage. The Tanklage family, including Donald and Carole Tanklage, are noteworthy for their development and construction activities in eastern San Carlos, where they developed and/or constructed numerous industrial facilities, a number of which remain. Yet, such developments were the norm for the period and there is no evidence that any of their development projects were inventive or creative of any unique pattern of development or construction. Rather, such functional development and construction was typical of its period.

A direct example that illustrates the nominal import of their developments was sometimes referred to as Tanklage Square, a cluster of tilt-up concrete industrial buildings, evidently the most substantial of their developments, which stood nearby on Bransten Rd. That Tanklage development was recently removed and replaced without any evidence of historical concern or affect.

There are other Tanklage developments that remain, including their own c1960 buildings at 1025 Terminal Way, which development stands at the western end of the eponymous Tanklage Rd. While again typical tilt-up concrete construction, those buildings best represent the Tanklages' industrial development output.

In conclusion, there is no present evidence that, relative to the identified development context and period, the Tanklages are of any historical importance.

As none of the directly associated persons have identifiable historical importance, none of the three subject resources meet CR criterion 2.

3. *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values;*

Relative to their mid-late 20th century period, each of these three commercial and industrial resources have, to varying extents, Modern design characteristics.

900 Industrial Rd. – The 900 Industrial Rd. building is, in its original part, a utilitarian Mid-century Modern industrial building design, as the building is a low, rectangular and non-descript container for light-industrial use and was built in the mid-20th century. A small strip (approx. 20 ft. deep) across its front is an architectural appendage to the bulk of the light-industrial building, which character is minimal and which has also been substantially altered and added to in recent decades.

960 Industrial Rd. – The 960 Industrial Rd. building is a relatively large, agglomerated industrial

complex. The overall building lacks distinction in terms of design and construction, as there are no inventive, unique or prototypical design forms or building systems, and as its industrial architectural front elevation minimally incorporated Midcentury Modern design. Rather, its industrial building parts exhibit utilitarian design and construction. The original complex has also been extensively altered and added to, with numerous appendages along with the large and central 1982 addition that interconnects the earlier buildings, while its front and south façades have also been substantially altered.

961 Commercial St. – Dating to 1976, the 961 Commercial St. building is a generic, tilt-up concrete warehouse building. It is a Contractor Modern style building with no architectural character or construction interest.
Further, no evidence has been found to identify any original engineers, architects or designers. Several contractors are identifiable relative to 960 Industrial Rd., including William J. Moran, Barrett Construction Co. and Daley & Trudell Construction. The contractor for the 961 Commercial St. building was Tanklage Construction. None of those industrial contractors are important to history as each deployed standard construction methodologies while none produced inventive, unique, or prototypical construction products.

Lastly, while these built resources generally interrelate to their mid-20th century period of development, there is no evidence of any planning or design interrelationships between the three developments or to adjoining developments. Rather, as is the case with much 20th century industrial development, the subject buildings and structures were expedient and utilitarian rather than planning or design oriented.

The subject buildings have negligible design and material character so do not embody design or construction distinction in terms of type, period, region or methods, nor are they the work of any identified architect, engineer or designer; nor are any of the identified builders identifiably important, nor do they possess any artistic value. Therefore, the subject resources are not potentially eligible for the CR under CR Criterion 3.

4. *It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation;*

The subject properties and buildings have not yielded and do not appear to have the potential to yield any important historical information beyond the present historical record (prehistory is outside the scope of this historical effort). As addressed herein, the subject resources do not present any historical information specific or unique to their context, setting or locale; each of the buildings are standard, light-industrial structures of no identifiable design or construction interest,; none of their uses are of identifiable importance and there are no associated individuals of historical interest. Thus, relative to the subject of this evaluation – potential historical resources – the subject resources have not yielded and have no identifiable potential to yield important historical information, so do not meet CR Criterion 4.

In sum, the existing resources at 900 and 960 Industrial Rd., and 961 Commercial St. do not meet any applicable criteria so are not eligible for the CR. In addition, as noted above, the City does not have an official historical registry. The resources are not included in the Historic Resources Inventory prepared by City volunteers and do not include any features, as noted above, that would recommend them for inclusion.

Signed:

Mark Hulbert
Preservation Architect

attached: Figs.1-22 (pp.15-25)

Fig.1 – 900-960 INDUSTRIAL RD., 961 COMMERCIAL ST. - LOCATION AERIAL
WITH PROJECT BOUNDARY IN RED (GOOGLE EARTH, 2023, NORTH AT UPPER RIGHT)

Fig.2 – 900-960 INDUSTRIAL RD., 961 COMMERCIAL ST. - LOCATION AERIAL WITH HISTORICAL PERIOD
SUBJECT BUILDINGS IN BLUE (GOOGLE EARTH, 2023, NORTH AT UPPER RIGHT)

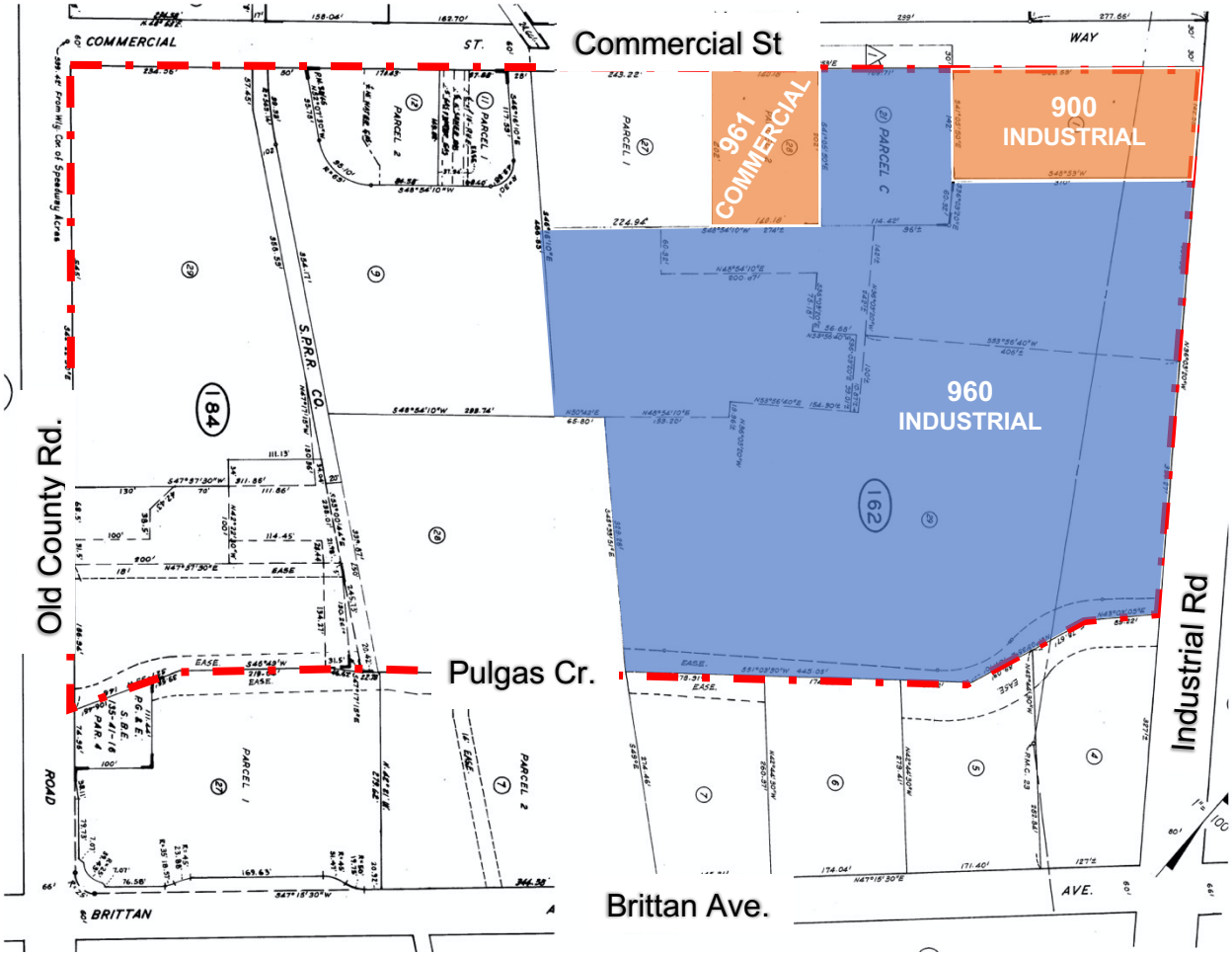


Fig.3 – 900-960 INDUSTRIAL RD., 961 COMMERCIAL ST. - ASSESSOR'S PARCEL MAPS WITH SUBJECT PARCELS HIGHLIGHTED (NORTH AT UPPER RIGHT)

Fig.4 – 900-960 INDUSTRIAL RD., 961 COMMERCIAL ST. - AERIAL VIEW, 1974 (NORTH AT UPPER RIGHT)

Fig.5 – 900-960 INDUSTRIAL RD., 961 COMMERCIAL ST. - FUTURE SUBJECT SITE FROM OUTLINED (APPROX.), FROM 1950 SANBORN MAPS (ARROW INDICATING FORMER LITTON INDUSTRIES BUILDING)

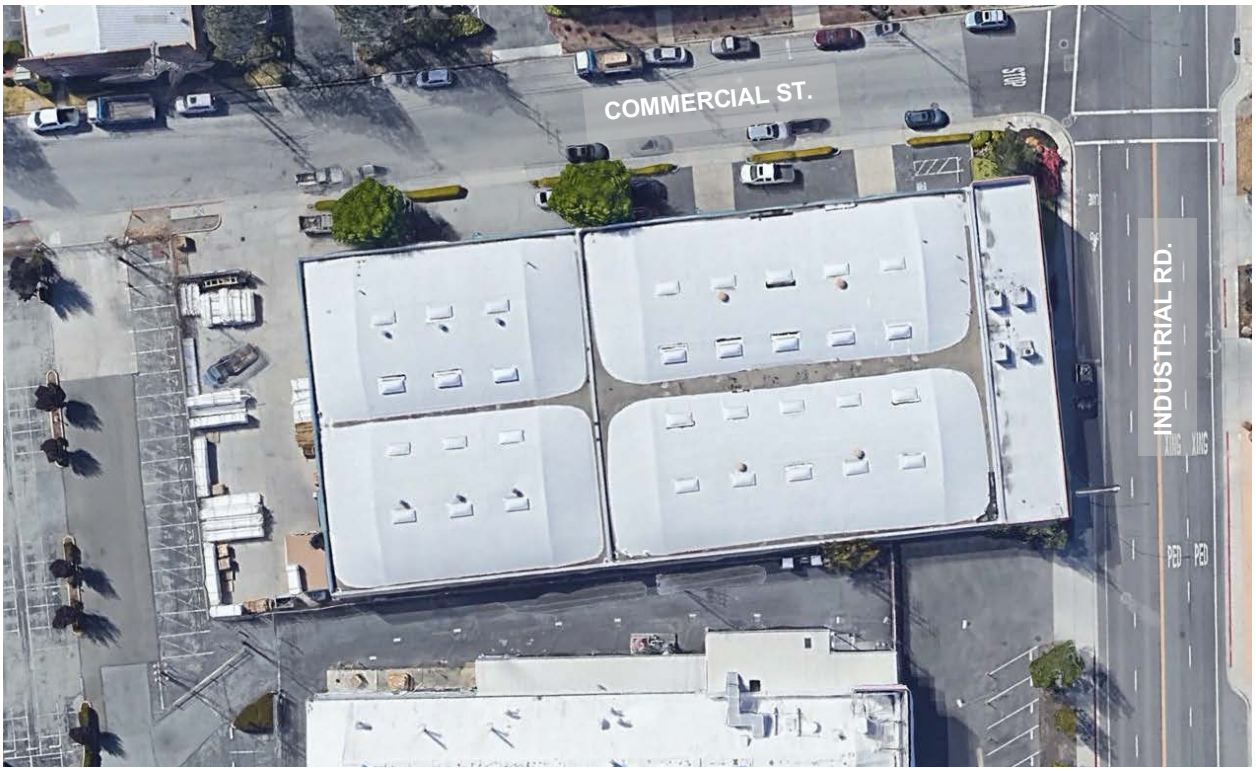


Fig.6 – 900 INDUSTRIAL AVE., AERIAL (Google Earth, 2020, north at upper right)


Fig.7 – 900 INDUSTRIAL AVE., FRONT (EAST) FROM INDUSTRIAL RD. (figs.7-10, MH 2020)

Fig.8 – 900 INDUSTRIAL AVE., NORTH SIDE FROM COMMERCIAL ST.

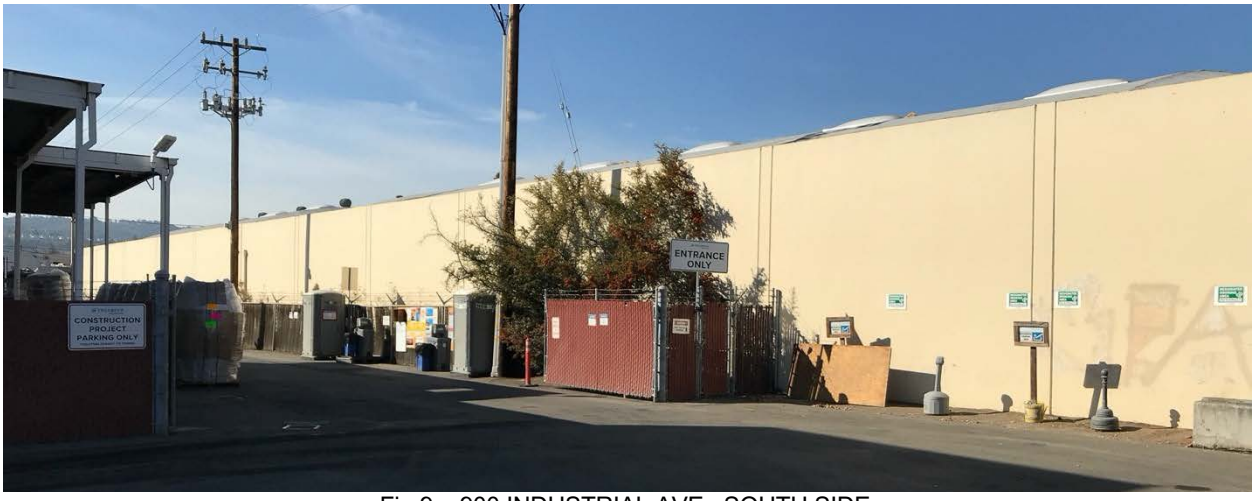


Fig.9 – 900 INDUSTRIAL AVE., SOUTH SIDE

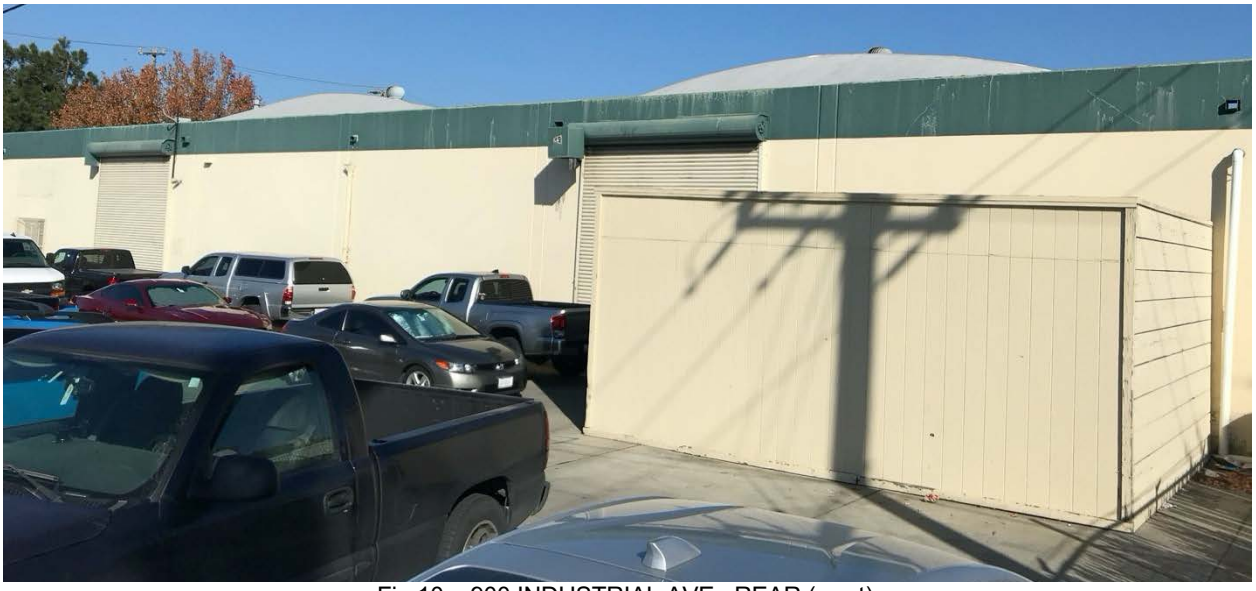


Fig.10 – 900 INDUSTRIAL AVE., REAR (west)

Fig.11 – 960 INDUSTRIAL AVE., AERIAL (Google Earth, 2020, north at upper right)

Fig.12 – 960 INDUSTRIAL AVE., SOUTH HALF OF FRONT/EAST (figs.12-17, MH 2020)

Fig.13 – 960 Industrial Ave., north half of front (east)


Fig.14 – 960 Industrial Ave., south side, looking west from site entry on Industrial

Fig.15 – 960 INDUSTRIAL AVE., SOUTH SIDE, LOOKING NORTHEAST FROM PARKING LOT

Fig.16 – 960 INDUSTRIAL AVE., PARTIAL REAR, LOOKING SOUTHEAST

Fig.17 – 960 INDUSTRIAL AVE., PARTIAL REAR, LOOKING WEST

Fig.18 – 960 INDUSTRIAL AVE., 1963
(From *A Summary of Products and Review af Capabilities: Litton Electron Tube Division*)

Fig.19 – 961 COMMERCIAL ST., AERIAL (Google Earth, 2023, north at upper right)

Fig.20 – 961 COMMERCIAL ST., FRONT/NORTH (figs.20-22, MH 2020)

Fig.21 – 961 COMMERCIAL ST., FRONT & WEST SIDE

Fig.22 – 961 COMMERCIAL ST., WEST SIDE & REAR

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

November 13, 2020 NWIC File No.: 20-0887

Rebecca Auld
Lamphier-Gregory, Inc.
1944 Embarcadero
Oakland, CA 94606

Re: Record search results for the proposed Alexandria District Project in the City of San Carlos.

Dear Ms. Rebecca Auld:

Per your request received by our office on the 5th of November, 2020, a rapid response records search was conducted for the above referenced project by reviewing pertinent Northwest Information Center (NWIC) base maps that reference cultural resources records and reports, historic-period maps, and literature for San Mateo County. Please note that use of the term cultural resources includes both archaeological resources and historical buildings and/or structures.

Review of this information indicates that there have been two cultural resource studies that in total, cover approximately 45% of the Alexandria District Project area, Study # 48738 (Jurich and Grady 2011) and Study # 38684 (Kozakavich and Merritt-Smith 2008). This Alexandria District Project area contains no recorded archaeological resources. The State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists no recorded buildings or structures within or adjacent to the proposed Alexandria District Project area. In addition to these inventories, the NWIC base maps show no recorded buildings or structures within the proposed Alexandria District Project area.

At the time of Euroamerican contact the Native Americans that lived in the area were speakers of the Ramaytush language, part of the Costanoan/Ohlone language family (Levy 1978:485). There are Native American resources in or adjacent to the

proposed Alexandria District Project area referenced in the ethnographic literature [the village area of *Lamsin* (Levy 1978:485)].

Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of San Mateo County have been found in areas marginal to the San Francisco Bayshore and inland near intermittent and perennial freshwater courses. The Alexandria District Project area is located in the San Carlos area along the historic bayshore margins of San Francisco Bay and its associated wetlands. The project area contains both artificial fill and Holocene alluvial fan deposits, and is located immediately adjacent to Pulgas Creek just south of Steinberger Slough. Given the similarity of these environmental factors and the ethnographic sensitivity of the area, there is a moderately high potential for unrecorded Native American resources to be within the proposed Alexandria District Project area.

Review of historical literature and maps indicated the possibility of historic-period activity within the Alexandria District Project area. The 1894 Map of San Mateo County indicated the project area was located within the lands of T.G. Phelps. With this in mind, there is a moderately high potential for unrecorded historic-period archaeological resources to be within the proposed Alexandria District Project area.

The 1956 photorevised 1980 San Mateo and the 1959 photorevised 1968 and 1973 Redwood Point USGS 7.5-minute topographic quadrangles depict several buildings or structures within the Alexandria District Project area. If present, these unrecorded buildings or structures may meet the Office of Historic Preservation's minimum age standard that buildings, structures, and objects 45 years or older may be of historical value.

RECOMMENDATIONS:

1) There is a moderately high potential of identifying Native American archaeological resources and a moderately high potential of identifying historic-period archaeological resources in the project area. Given the potential for archaeological resources in the proposed Alexandria District Project area, our usual recommendation would include archival research and a field examination. The proposed project area, however, has been highly developed and is presently covered with asphalt, buildings, or fill that obscures the visibility of original surface soils, which negates the feasibility of an adequate surface inspection.

Therefore, prior to demolition or other ground disturbance, we recommend a qualified archaeologist conduct further archival and field study to identify archaeological resources, including a good faith effort to identify archaeological deposits that may show no indications on the surface.

Field study may include, but is not limited to, hand auger sampling, shovel test units, or geoarchaeological analyses as well as other common methods used to identify the presence of buried archaeological resources. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

2) We recommend the lead agency contact the local Native American tribe(s) regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at 916/373-3710.

3) The proposed Alexandria District Project area contains several unrecorded buildings or structures that may meet the Office of Historic Preservation's minimum age standard that buildings, structures, and objects 45 years or older may be of historical value; therefore, prior to commencement of project activities, it is recommended that these resources be assessed by a professional familiar with the architecture and history of San Mateo County. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

4) Review for possible historic-period buildings or structures has included only those sources listed in the attached bibliography and should not be considered comprehensive.

5) If archaeological resources are encountered **during construction,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources. Native American resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include stone or adobe foundations or walls; structures and remains with

square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

6) It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the Office of Historic Preservation's website: https://ohp.parks.ca.gov/?page_id=28351

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Thank you for using our services. Please contact this office if you have any questions, (707) 588-8455.

Sincerely,

Jillian Guldenbrein
Researcher

LITERATURE REVIEWED

In addition to archaeological maps and site records on file at the Northwest Information Center of the Historical Resources Information System, the following literature was reviewed:

Bromfield, Davenport
1894 Official Map of San Mateo County, California

General Land Office
1834, 1867, 1917 Survey Plat for Rancho Pulgas, Township 5 South/Range 4 West.

Grady, Amber and Richard Brandi (PBS&J)
2011 *California High-Speed Train Project Environmental Impact Report/Environmental Impact Statement, Draft: San Francisco to San Jose Section Historic Architectural Survey Report, Technical Report.* **NWIC Report S-048738a**

Helley, E.J., K.R. Lajoie, W.E. Spangle, and M.L. Blair
1979 *Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning*. Geological Survey Professional Paper 943. United States Geological Survey and Department of Housing and Urban Development.

Jurich, Denise and Amber Grady (PBS&J)
2011 *California High-Speed Train Project, Environmental Impact Report/Environmental Impact Statement, Draft: San Francisco to San Jose Section, Archaeological Survey Report, Technical Report.* **NWIC Report S-048738**

Kaptain, Neal (LSA Associates, Inc.)
2009 *Smart Corridors Geoarchaeological Sensitivity Research (letter report).* **NWIC Report S-038684a**

Kozakavich, Stacy and Alexandra Merritt-Smith (LSA Associates, Inc.)
2008 *A Cultural Resources Study for the San Mateo County SMART Corridors Project, San Mateo County, California.* **NWIC Report S-038684**

Levy, Richard
1978 Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Nelson, N.C.
1909 *Shellmounds of the San Francisco Bay Region*. University of California Publications in American Archaeology and Ethnology 7(4):309-356. Berkeley. (Reprint by Kraus Reprint Corporation, New York, 1964)

Nichols, Donald R., and Nancy A. Wright
1971 Preliminary Map of Historic Margins of Marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map. U.S. Department of the Interior, Geological Survey in cooperation with the U.S. Department of Housing and Urban Development, Washington, D.C.

San Mateo County Historic Resources Advisory Board
1984 San Mateo County: Its History and Heritage. Second Edition. Division of Planning and Development Department of Environmental Management.

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

State of California Office of Historic Preservation **
2019 *Built Environment Resources Directory*. Listing by City (through December 17, 2019). State of California Office of Historic Preservation, Sacramento.

**Note that the Office of Historic Preservation's *Historic Properties Directory* includes National Register, State Registered Landmarks, California Points of Historical Interest, and the California Register of Historical Resources as well as Certified Local Government surveys that have undergone Section 106 review.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

November 12, 2020

Rebecca Auld, Senior Planner
Lamphier-Gregory

Via Email to: rauld@lamphier-gregory.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Alexandria District Project, San Mateo County

To Ms. Auld:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Sarah.Fonseca@nahc.ac.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

ESA

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

memorandum

date	August 9, 2021
to	Patrick Dillmann, Alexandria Real Estate Equities
from	Matthew A. Russell and Paul D. Zimmer, Environmental Science Associates (ESA)
subject	Archeological Monitoring and Testing Plan for the Alexandria Center for Life Sciences Project, San Carlos, California

Introduction

This memorandum presents an Archeological Monitoring and Testing Plan (AMTP) for the Alexandria Center for Life Sciences Project (project) in San Carlos, California. Environmental Science Associates (ESA) prepared this document on behalf of the project sponsor, Alexandria Real Estate Equities, to satisfy the requirements of one of the project's anticipated mitigation measures, as more specifically discussed below, to gather more information about the project site's potential to contain cultural resources. This information can be used by the lead agency as it prepares the environmental impact report (EIR) for this project.

The City of San Carlos (City), as the lead agency, prepared an Initial Study (IS) for the project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines (California Code of Regulations Section 15000 et. seq). The IS identified a moderately high potential to impact unrecorded archeological resources and includes Mitigation Measure Culture-1 to address the potential impacts of the project upon archeological resources. The mitigation measure states:

> Prior to ground disturbance, a qualified consultant shall conduct archival research to determine the appropriate locations for cultural or tribal cultural resource (historic/archeological/paleontological/Native American) monitoring during removal of asphalt or concrete, fill, vegetation, or structures. Following the exposure of the original soils, a qualified consultant shall conduct a field inspection and prepare a report containing "next-step" recommendations to be implemented by the project sponsor, if the potential presence of cultural resources in certain locations is considered to be moderate or high based upon the research and field inspection of the uncovered site. Next steps could include additional exploration prior to construction, monitoring of site disturbance by a qualified professional, or no additional action other than that specified in Culture-2 and Culture-3.

This AMTP memorandum was prepared to: 1) comply with the "archival research" component of the mitigation measure to identify whether there are archeologically sensitive areas within the project site that warrant archeological monitoring during site demolition activities (removal of asphalt or concrete, fill, vegetation, or structures);and 2) propose an archeological testing plan to guide the "field inspection" component of the

mitigation requirement to identify potential archeological resources within the project site. The AMTP provides a project description focused on planned ground disturbance within the project site; summarizes the project's regulatory context; describes the environmental and cultural context in the project vicinity; provides a research design and framework for evaluating the significance of archeological sites that may be encountered during archeological testing; and outlines an archeological testing program to complete mechanical presence/absence testing for archeological resources on the project site, in compliance with Mitigation Measure Culture-1.

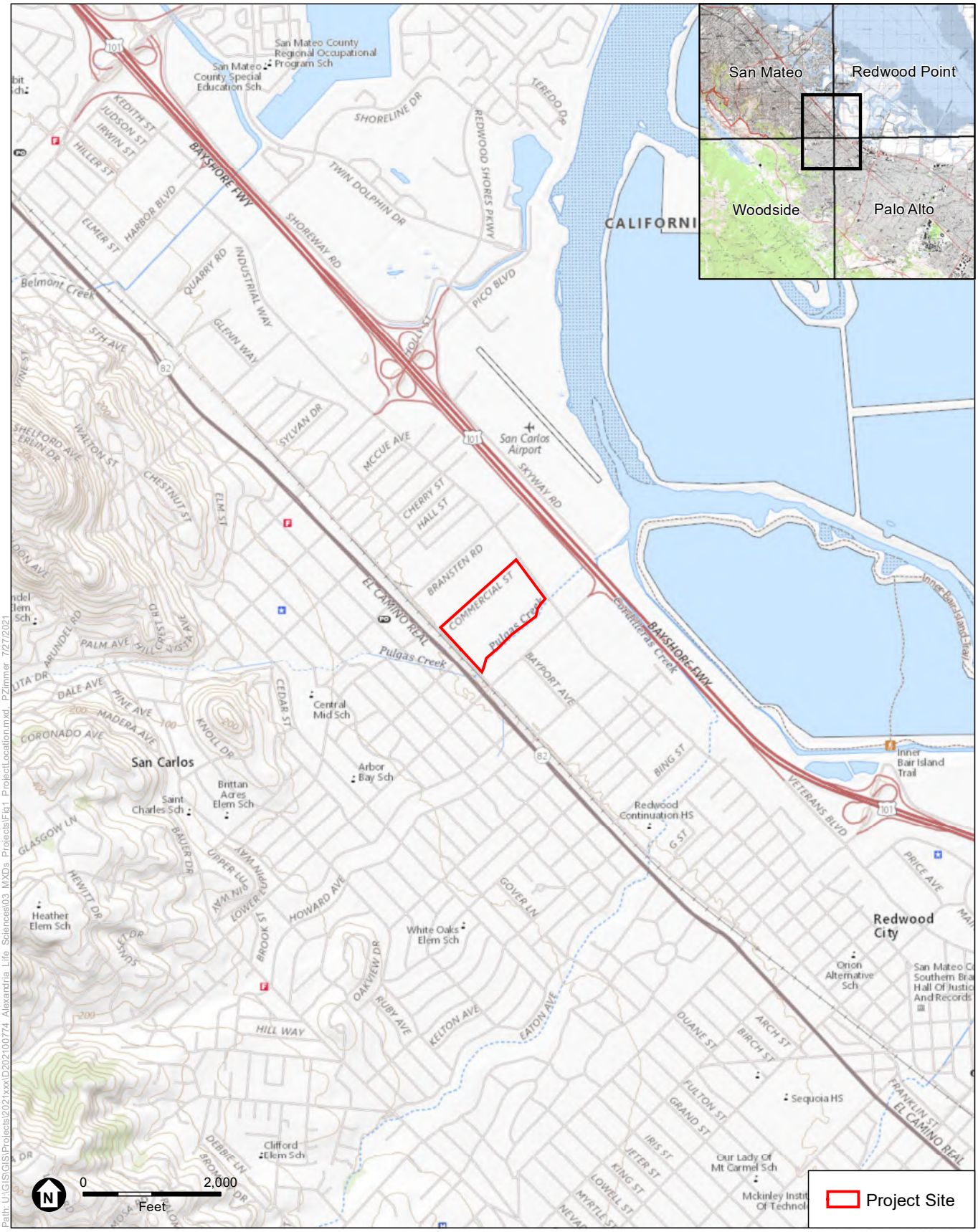
Project Description

The approximately 25.34-acre, irregularly-shaped project site is bounded by Industrial Road to the east, Commercial Street to the north, Old County Road to the west, and Pulgas Creek to the south. The site includes the following addresses: 900, 960, 961, 967 Industrial Road; 1003, 1011 Commercial Street; and 915, 1055 and 1063 Old County Road (Assessor's Parcel Numbers 046-162-010, -210, -270, -280, and -290; and 046-184- 090, -110, -120, -280, -290, and -300) (**Figures 1** and **2**).

The project site is developed with multiple buildings and asphalt- and concrete-paved parking areas, some of which are currently being demolished. The existing project site is relatively level, with general site grades ranging from approximate Elevation 10 to 17 feet, rising from Industrial Road towards Old County Road. Pulgas Creek borders the project site on the southeast side. The creek banks are approximately 6 to 7 feet high, with localized areas up to 10 feet high. The section of Pulgas Creek along the boundary of the project site was improved with concrete sandbag bank protection in 1974.

The project will demolish the existing buildings and replace them with a new life science campus. The buildings on the former Kelly Moore property were approved for removal as a separate action prior to this project and will be demolished prior to construction of this project. Therefore, for purposes of the CEQA analysis, the removal of those buildings was not considered a part of the current project. The new life science campus will include six new office/research buildings (designated B1 through B6), which will be constructed at grade with 4- to 6-foot-thick mat foundations and spread footings. The project will also include two parking garages (designated PG1 and PG2), which will each have one basement level requiring excavations of as much as 9½ feet below ground surface (bgs). Parking garages will be supported on a mat foundation. An at-grade amenities building (designated B7) and amenity area, where up to 13 feet of fill and 2 feet of cut will be required, will be surrounded by B3, B4, B5, and PG2. The project will also include landscaping, open space, surface parking, and bicycle and vehicle access along Pulgas Creek. Finished grades around the campus will generally range in elevation from 14 feet to 23 feet.

The project will be implemented in three phases. In addition to construction of the proposed buildings and outdoor improvements, each phase would include demolition of any remaining structures in that phase area and any adjacent roadway and creek-side improvements. This AMTP covers the entire project site and recommends that archeological testing for the entire project site be completed at the same time, thereby fulfilling all mitigation requirements of Mitigation Measure Culture-1 and providing additional information for the project EIR.



SOURCE: ESA, 2021; USGS National Map, 2021

Alexandria Center for Life Sciences

Figure 1
Project Location and Vicinity

ESA

SOURCE: ESA, 2021; USGS, 2018

Alexandria Center for Life Sciences

Figure 2
Project Site

ESA

Regulatory Context

State Regulatory Framework

The California Environmental Quality Act (CEQA) mandates that all proposed projects that require State or local government agency approval must consider potential project effects upon the environment. Under California State law, effects to significant cultural resources— archeological remains, historic buildings and structures, and tribal cultural resources—must be considered as part of the environmental analysis of a proposed project. Significant archeological resources are termed "historical resources" under CEQA. Criteria for defining significant archeological resources are stipulated in CEQA (codified at California Public Resources Code [PRC] Section 21000 *et seq*.), as detailed below. For the current project, the City of San Carlos Planning Division is the CEQA lead agency.

CEQA recognizes two types of significant archeological resources: "unique" archeological resources (PRC Section 21083.2) and archeological resources that qualify as "historical resources" (PRC Sections 21084.1; CCR Section 15064.5) and affords certain protections under CEQA to such resources. Historical resources include archeological resources eligible for listing on the California Register of Historical Resources (California Register) or identified "in a local register of historical resources."

To be considered eligible to the California Register, resources must possess physical integrity as well as integrity of setting, and meet at least one of the following criteria (CCR Section 15064.6):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in California's past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A "unique" archeological resource is an object, artifact, or site that:

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

In addition to the above, the California Register has structural and contextual requirements of integrity; that is, the physical characteristics and levels of integrity that individual properties must retain to be capable of yielding specific types and qualities of information. Retention of such characteristics by themselves may not ensure that the property is capable of addressing important research themes (as defined below), but it would indicate that further research is warranted before a definitive determination is made. If a site does not have the basic physical prerequisite requirements, it would not warrant additional consideration and would be determined not eligible for the California Register.

In September 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC to evaluate under CEQA impacts to tribal cultural resources, as well as other requirements. Lead agencies are required to analyze project impacts to tribal cultural resources separately from archeological resources (PRC Section 21074; 21083.09). A tribal cultural resource is defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1. Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Methods to avoid or mitigate impacts to tribal cultural resources are informed through consultation with the tribes that have requested consultation. Mitigation of impacts to tribal cultural resources typically include preservation in place if feasible and, if not feasible, archeological data recovery and public interpretation in consultation with and with the participation of the affected tribes. Projects that are sensitive for prehistoric archeological resources are assumed to be sensitive for tribal cultural resources.

Under CEQA Guidelines, a project would be considered to have a significant impact on unique archeological, and historical resources if it would result in any of the following:

- Cause a substantial adverse change in the significance of an historical resource, as defined in [CCR] Section 15064.5,
- Cause a substantial adverse change in the significance of an archeological resource pursuant to [CCR] Section 15064.5, or
- Disturb any human remains, including those interred outside formal cemeteries.

Under CEQA Guidelines, a project would be considered to have a significant impact on tribal cultural resources if it would result in any of the following:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

California law also protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code [CHSC] Section 7050.5; PRC Section 5097.94 *et seq*.).

If an archeological resource is not a unique archeological, historical, or tribal cultural resource, the effects of the proposed project on those resources shall not be considered a significant effect on the environment, and they need not be considered further in the CEQA process (CCR Section 15064.5[c][4]).

CEQA Archeological Area of Potential Effects

For the purposes of this AMTP, the horizontal extent of the CEQA Archeological Area of Potential Effects (C-AAPE) is considered the entire project site encompassing 25.34-acres within the legal lot lines of APNs 046-162-010, -210, -270, -280, and -290; and 046-184- 090, -110, -120, -280, -290, and -300. This C-AAPE (project site) encompasses all areas of anticipated ground disturbance, staging areas, access, and work areas associated with the project (see Figure 2). The vertical C-AAPE extends from the existing ground surface to the maximum depth of planned project-related ground disturbance. As described above, the maximum depth of project excavations is for the proposed parking garages, which will extend approximately 9½ feet bgs. On this basis, the vertical C-AAPE is a maximum of 9½ feet bgs.

Background

This section includes a summary of the environmental setting, geological context, and cultural setting for the project site.

Environmental Setting

The project site is located in San Mateo County, which is bounded by the Pacific Ocean to the west and San Francisco Bay to the east. The peninsula is topographically, geologically, and climatically varied, such that many microclimates and ecozones are created. Generally, there are three ecozones in San Mateo County: the margins and near plains along San Francisco Bay, the redwood and mixed wooded hills in the middle, and the ocean coast and coastal terraces. Aboriginal populations adapted to these varied zones and resources, which resulted in a subsistence settlement pattern shaped by seasonality and physiography of the area.[1]

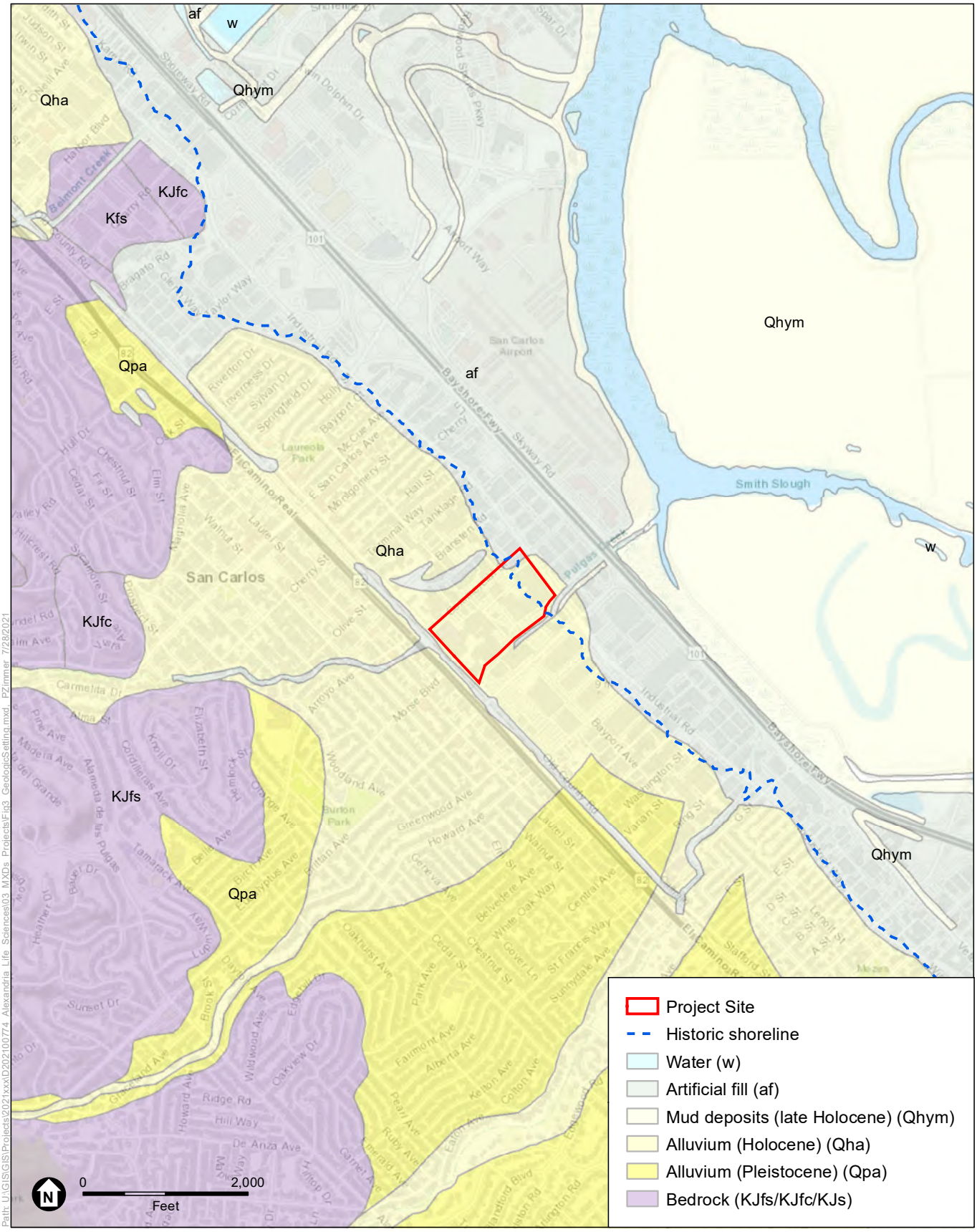
The project site is located adjacent to the historical alignment of Pulgas Creek, which borders the project site's southern boundary. The historic shoreline of San Francisco Bay bisected the western portion of the project site, such that the westernmost one-quarter to one-third of the project site is artificial fill over tidal marsh (**Figure 3**).

Geological Context

The project site has been mapped as underlain by Holocene age (approximately 11,700 years old to present day) alluvial deposits (see Figure 3).

The project geotechnical report indicates the project site is underlain by alluvial deposits generally consisting of clays with interbedded lenses of sands. Approximately 7½ feet of very stiff clay and sandy clay fill was

[1] Milliken, Randall T. 1983. The Spatial Organization of Human Population on Central California's San Francisco Peninsula at the Spanish Arrival. Master's Thesis, Department of Interdisciplinary Studies, Sonoma State University.



SOURCE: ESA, 2021; ESRI, 2021; USGS Scientific Investigations Map 2918

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Figure 3
Geological Setting

ESA

encountered below the project site. The upper approximately 30 feet of the clay is generally medium stiff to very stiff, with localized very soft to soft clays and varying amounts of sand. The clays below a depth of approximately 30 feet are generally stiff to hard and include varying amounts of sand. The interbedded sand layers vary in thickness between 1 and 14 feet. Groundwater levels encountered during geotechnical borings ranged from 1.7 to 15 feet bgs.[2]

Cultural Setting

Prehistoric Context

Chronological frameworks facilitate comparison of prehistoric regional archeological trends and differences. For the San Francisco Bay Area, Scheme D, which is based on stylistic temporal variation in shell bead types, is the most recent and refined chronology.[3] Scheme D uses a general three-part sequence (Early, Middle, and Late Periods), supplemented by two transition periods (Early/Middle, and Middle/Late Periods). The following discussion of the San Francisco Bay Area prehistoric chronology uses a generalized geologic-time based scheme, as presented by Milliken et al.,[4] with Groza et al.'s Scheme D supplementing the Late Holocene (4200 to 180 years before present [BP]) period.[5] The geologic periods used are: Terminal Pleistocene (13,500 to 11,700 BP), Early Holocene (11,700 to 8200 BP), Middle Holocene (8200 to 4200 BP), and Late Holocene (4200 to 180 BP).

Terminal Pleistocene (13,500 to 11,700 BP)

To date, there is general agreement among archeologists that multiple human migrations to North America occurred, along both inland and coastal routes. The Terminal Pleistocene was characterized by highly mobile hunter-gatherers occupying broad geographic areas who occasionally exploited large game. Archeological evidence from this period is rare throughout California, mostly represented by isolated fluted projectile points, and none such evidence has been discovered in the San Francisco Bay Area to date.[6] [7] The nearest Terminal Pleistocene site is the Borax Lake site (CA-LAK-36), located in Lake County, more than 130 miles north of San Francisco.

Early Holocene (11,700 to 8200 BP)

Similar to Terminal Pleistocene populations, Early Holocene human occupation in the overall region was characterized by highly mobile groups exploiting a wide variety of plant and animal resources. Assemblages from this period are dominated by stemmed projectile points, flake tools, core tools, cobble tools, crescents, with those in California distinguished by high numbers of handstones and millingslabs. In the San Francisco Bay Area, only four archeological deposits from this period have been documented, two in the East Bay (at Los Vaqueros

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[2] Langan Engineering and Environmental Services, Inc., "Geotechnical Investigation, Alexandria Center for Life Sciences - San Carlos, San Carlos, California." Prepared for Alexandria Real Estate Equities, 2021.

[3] Groza, Randall, Jeffrey Rosenthal, John Southon, and Randall Milliken, 2011, "A Refined Shell Bead Chronology for Late Holocene Central California." *Journal of California and Great Basin Anthropology* 31(2):13-32.

[4] Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottsfield, Donna Gillette, Viviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson, 2007, Punctuated Cultural Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 99-124. AltaMira Press, Lanham, Maryland.

[5] Groza et al., 2011.

[6] Milliken et al., 2007.

[7] Byrd, Brian F., Adrian R. Whitaker, Patricia J. Mikkelsen, and Jeffrey S. Rosenthal, 2017, *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Prepared by Far Western Anthropological Research Group, Inc., Davis, California. Prepared for California Department of Transportation, District 4, Oakland, California.

Reservoir), one in the North Delta (near Vacaville), and one in the South Bay (in Fremont). Two additional deposits from the period have been documented adjacent to the San Francisco Bay Area, one in Santa Clara Valley and one in the Santa Cruz Mountains. All of the abovementioned sites were in buried contexts.[8] [9]

Middle Holocene (8200 to 4200 BP)

When compared with the Early Holocene, there is much more archeological data from the Middle Holocene for the San Francisco Bay Area, including abundant surface and buried deposits. Assemblages from this period indicate increased sedentism and population size, and include a wide variety of ground stone artifacts (e.g., handstones, millingslabs, mortars, and pestles), side-notched dart points, cobble tools, flake tools, shell beads and ornaments. Notable among technological developments of the period is the appearance of the mortar and pestle, which appear by 6000 BP and would become the dominant milling tools in the region in subsequent periods. Extensive inter-regional trade is indicated by the presence of distinct shell bead types (Type N grooved rectangular *Olivella*) and Napa Valley and eastern Sierra Nevada obsidian at period sites in the area. With the expansion of the San Francisco Bay mud flats and tidal marshes during the period, human populations increasingly exploited estuarine resources, such oyster and mussel, reflected in the presence of shell middens. A diverse set of other animal resources was used, likely through local specialized strategies. Middle Holocene archeobotanical assemblages include a large number of nuts, seeds, and fruit pits, suggesting year-round exploitation of a range of habitats, again reflecting increased sedentism.[10] [11]

Late Holocene (4200 to 180 BP)

By far the best represented period, archeologically, in the San Francisco Bay Area, the Late Holocene is typically separated into five additional periods: Early (4200 to 2550 BP), Early/Middle Transition (2550 to 2150 BP), Middle (2150 to 930 BP), Middle/Late Transition (930 to 685 BP), and Late (685 to 180 BP). During the Late Holocene, population size, as well as social, political, and economic complexity increased throughout the region. These developments were accompanied by resource intensification throughout the region. Late Holocene archeological sites were the first in which large cemeteries appear, with most burials in flexed positions, and grave goods common.

A notable development of the Early Period are the numerous large shell mounds along the San Francisco Bay, yielding assemblages with stemmed leaf-shaped projectile points, flaked-stone knives, mortars, pestles, crescents, perforated charmstones, bone awls and other tools, new sinkers, shell beads and pendants, among other artifacts. As would be expected, marine resource exploitation dominated sites along the Bay shore, while interior sites appear to have focused on freshwater fish and shellfish, and terrestrial mammals; a variety of nuts, berries, and seeds were used at sites throughout the region. Increasing sedentism is seen in the Middle Period, which saw the height of mound building in the area and more social complexity compared to earlier periods. New artifacts to the Middle Period include: large shaped mortars and pestles, ear spools, bone fishing spears, and more varieties of shell beads and ornaments. A shift to greater terrestrial resource, such as deer and acorn, exploitation is seen in the Middle Period. Evidence also shows that some Central Valley groups migrated to the East Bay during the Middle Period; called the Meganos Intrusion, settlements of this group are distinct and include a high proportion of extended burials. Increased population size and resource intensification continued during the Late Period,

[8] Milliken et al., 2007.
[9] Byrd et al., 2017.
[10] Milliken et al., 2007.
[11] Byrd et al., 2017.

which is by far the best documented prehistoric period in the region. New artifact types appearing during the Late Period include the clamshell disk bead, flanged steatite pipes, more elaborate mortars, and new shell bead and pendant forms. Though first appearing around 700 BP, at the end of the Middle Period, the bow and arrow becomes widespread at Late Period sites and is reflected by locally invented and distinct serrated Stockton arrow point. Populations of the Late Period apparently relied on small seeds more than during the preceding periods, and a large variety of terrestrial and estuarine faunal species (e.g., sea otter, deer, rabbit, clams) were utilized. Flexed internments, occasional cremations, and intentionally broken grave goods characterized burial practices of the period. Trade with groups from neighboring areas, particularly with those in Napa Valley (for obsidian) and north of the San Francisco Bay (for clamshell beads), was seemingly widespread and highly developed.[12] [13]

Ethnohistoric Context

Ethnohistorical, historical, and archeological data indicate that, prior to Euroamerican settlement of the area, the project site and vicinity was inhabited by a group known as the Ohlone. [14] [15] [16] The Ohlone territory extended along the Pacific Coast from south of Monterey Bay to the north end of the San Francisco Peninsula, and inland to the Coast Ranges, from the east side of San Francisco Bay to the Carquinez Straits.[17] [18] Though varied, contact-era population estimates for the Ohlone range from between 7,000 and 16,000.[19]

Linguistically, Ohlone (also known as Costanoan) is a subfamily of the Penutian stock,[20] [21] with an estimated six separate languages or dialect clusters. Though traditional anthropological literature portrayed the Ohlone culture as static, today it is better understood that many variations of culture and ideology existed within and between village communities. The use of static descriptions allowed for easier ethnographic classification of California native cultures, but inherently masked Native adaptability and self-identity; California Native Americans rarely viewed themselves as members of larger cultural groups, which were posited by anthropologists. Rather, the village community tended to be the primary identifier of origin, with marriage and kinship providing additional sources.[22] [23] [24]

The basic political unit of organization for the Ohlone was one or more associated villages or camps holding a specific territory; this unit is often referred to as a village community. Overall, village communities were multi-family, independent landholding groups. Ohlone regional communities consisted of fairly autonomous units of

[12] Milliken et al., 2007.
[13] Byrd et al., 2017.
[14] Milliken, Randall, 1995, *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*. Ballena Press, Menlo Park, California.
[15] Milliken, Randall, Laurence H. Shoup, and Beverly R. Ortiz, 2009, *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today*. Prepared by Archaeological and Historical Consultants, Oakland, California. Prepared for the U.S. National Park Service, Golden Gate Recreation Area, San Francisco, California.
[16] Levy, Richard, 1978, Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495, Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
[17] Milliken et al., 2007.
[18] Milliken, 1995.
[19] Kroeber, Alfred L., 1925 [1976], *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C. 1976 reprinted ed. Dover Publications, Inc., New York, New York.
[20] Milliken et al., 2009.
[21] Levy, 1978.
[22] Milliken, 1995.
[23] Milliken et al., 2007.
[24] Milliken et al., 2009

between 150 and 400 people led by a chief (man or woman) and council.[25] Other key roles in the community were shamans and war leaders. Permanent villages tended to be situated along or near waterbodies, with temporary camps in prime resource-processing areas.[26] [27]

Economically, the Ohlone engaged in hunting, fishing, and gathering. Their territory included coastal as well as open valley environments that yielded a wide variety of resources, such as acorns, grasses, bulbs, tubers, deer, elk, antelope, bear, and a variety of birds, fishes, shellfish, and small mammals. Private ownership of natural and cultural resources was acknowledged, with ownership at the village level. The Ohlone apparently aggressively protected territories, requiring monetary payment (e.g., clam shell beads) for access rights.[28] [29] [30]

The most common Ohlone house type was circular and grass-/rush-thatched.[31] Other common structures were the sweathouse, dance plazas, and assembly house. The Ohlone used a variety of stone tools, ranging from flaked-stone knives, arrow points, and spear points, to ground-stone handstones, millingslabs, mortars, pestles, net sinkers, anchors, and pipes. Flaked-stone tools were most often made from locally available chert or imported obsidian. Other common Ohlone material goods included: tule canoes, mats, and baskets; plant fiber cordage, nets, and baskets; animal skin blankets (e.g., sea otter, rabbit, duck); wood bows and arrow shafts; and shell beads and ornaments. There is no evidence that the Ohlone used or made ceramics prior to Euroamerican contact. The Ohlone traded extensively with neighboring groups.[32] [33] [34]

During the Mission Period (1770 to 1835), California Native Americans, particularly along the coast, were brought, usually by force, to the missions by Spanish missionaries to supply labor demands. The missionization resulted in immediate and devastating changes to Ohlone lives and traditional lifeways, including a massive population decline due to introduced diseases (e.g., measles epidemic of 1806, during which almost 25 percent of the indigenous population died) and declining birth rates. Following the secularization of the missions by the Mexican government in the 1830s, most Native Americans gradually left the missions and established rancherias in the surrounding areas. [35] [36] [37] Today, the Ohlone still have a strong presence in the San Francisco Bay Area, and are very interested in their past and in maintaining their culture.[38] [39] [40]

[25] Levy, 1978.
[26] Levy, 1978.
[27] Milliken et al., 2009.
[28] Milliken, 1995.
[29] Milliken et al., 2007.
[30] Milliken et al., 2009
[31] Kroeber, 1925 [1976].
[32] Milliken, 1995.
[33] Milliken et al., 2007.
[34] Milliken et al., 2009
[35] Milliken et al., 2007.
[36] Milliken et al., 2009
[37] Levy, 1978.
[38] Milliken, 1995.
[39] Milliken et al., 2007.
[40] Milliken et al., 2009

Historic Context

Based on historic maps, the project site was undeveloped throughout nineteenth and early twentieth centuries (**Figures 4 and 5**). The western portion of the project site was within the tidal marsh surrounding San Francisco Bay until the early 1940s, but was reclaimed by 1943 (**Figure 6**). During the 1940s, filling of the San Francisco Bay shoreline and construction of the Bayshore Highway interconnecting San Francisco and San Jose provided a new landscape and development zone along the eastern boundaries of the cities of the San Francisco Peninsula, including San Carlos. Once filled, development was enabled eastward from the center of San Carlos. As remains in evidence today, much of the surrounding development was industrial, yet commercial and residential development were also in the 1950s mix.

Along Old County Road and the railroad, as well as nearer to downtown, the western side of the project site was first developed with industries. The earliest developments on project site were a Mathews Conveyor Company factory at the northwest corner, where the present-day Kelly Moore Paint store exists and, directly to the east of that property, a food processing facility for Kuster Laboratories, first occupied in 1949 (**Figure 7**).[41]

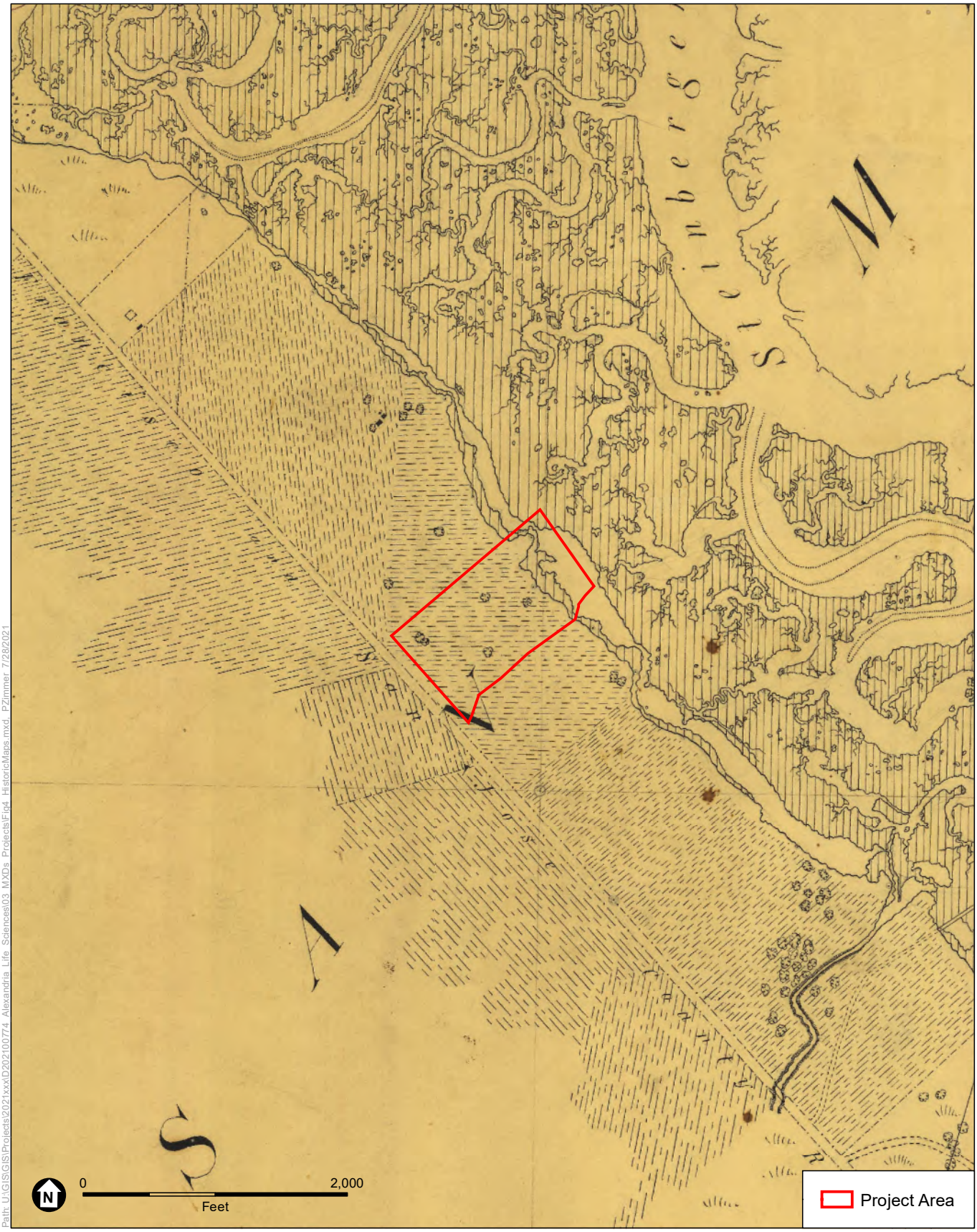
Litton Industries and Kelly Moore acquired parcels on the project site and began to develop the current facilities in the mid-1950s. The Industrial Road front of the project site also first experienced development in the mid-1950s. Following their 1955 building, Litton Industries made additions to their 960 Industrial Road property, first expanding the original building with a northern addition in 1959. Thereafter, Litton added two rearward structures in 1960 and 1968, then attached the front and rear buildings with their two-story addition in the early 1980s. Along Commercial Street, the office building at 987 (originally 999) Commercial Street dates to 1965, while the last building to be added, at 961 Commercial Street, was constructed in 1976.

During the latter part of the twentieth century, the range of commercial and industrial uses on the project site varied. The 900 Industrial Street and 1003 Commercial Street buildings were erected speculatively, so have had multiple tenancies. The 1011 Commercial Street building was constructed in 1949 for Kuster Laboratories, a food processing company, who vacated it within a few years. The building has since gone through a number of users. The Litton property was one of their tube manufacturing facilities from 1955 to 2005. The 987 Commercial Street building was purpose-built in 1965 for Quantic Industries, a military industrial component manufacturer who were by then occupants of the two adjoining Commercial Street buildings. They vacated their buildings within a decade.

Archeological Sensitivity

ESA conducted a records search of the project site at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) on July 29, 2021 (NWIC File No. 21-0158). The records search included a review of previous studies, records, and maps on file at the NWIC. The records search area consisted of the project site and a surrounding 0.25-mile radius. The records search included a review of the State of California Office of Historic Preservation Built Environment Resources Directory with summary information from the National Register, Registered California State Landmarks, and California Historic Points of Interest, the Archaeological Determinations of Eligibility, and the California Inventory of Historical Resources (March 1976).

[41] Hulbert, Mark. "Alexandria District, 900-960 Industrial Rd., 987-1003-1011 Commercial St., San Carlos, Historic Resources Evaluations." Prepared by Preservation Architecture, 2020.



Path: U:\GIS\GIS\Projects\2021xxx\D20210774 Alexandria Life Sciences\03 MXDs Projects\Fig4 HistoricMaps.mxd PZimmer 7/28/2021

SOURCE: ESA, 2021; NOAA, 2021

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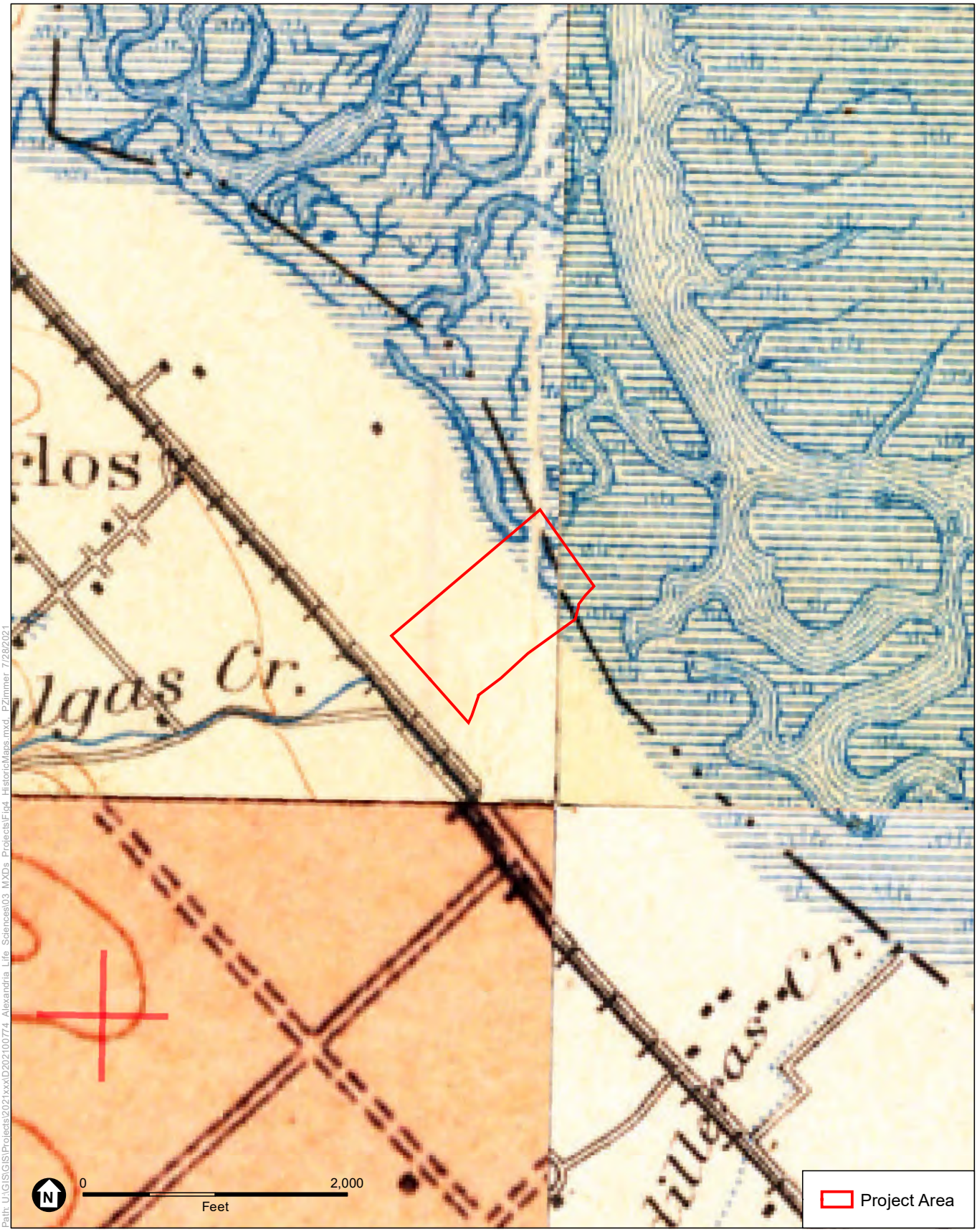
Figure 4
1857 U.S. Coast Survey Map

ESA



SOURCE: ESA, 2021; USGS Haywards, Palo Alto, San Mateo, and Santa Cruz topos (1899)

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Figure 5
1899 USGS Topographic Maps

ESA

SOURCE: ESA, 2021; UCSC Library Air Photo Collection

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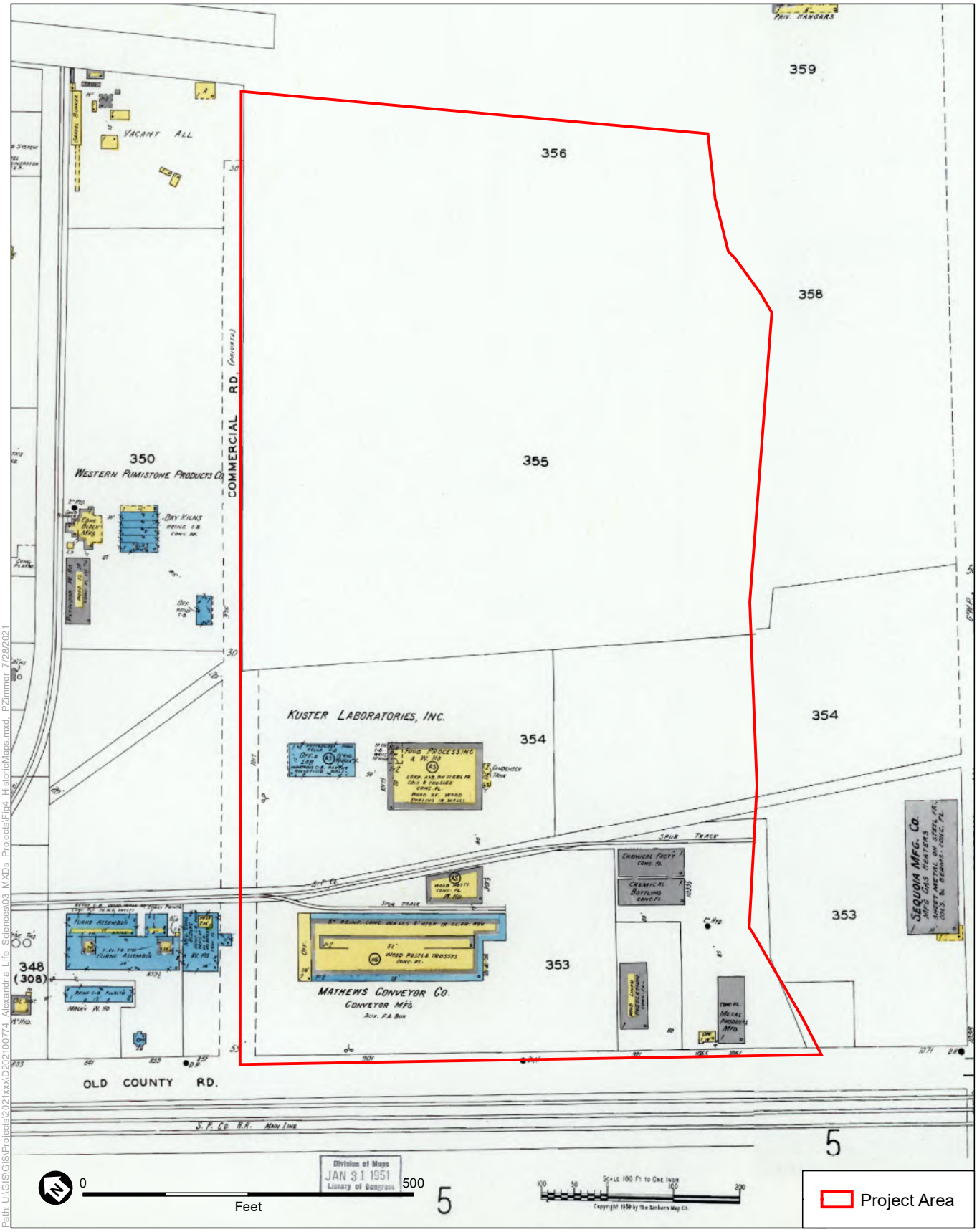
Figure 6
1943 Aerial Photograph

ESA



SOURCE: ESA, 2021; Sanborn Insurance Company

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Figure 7
1950 Sanborn Map

ESA

The results of a background literature review, including the records search results, determined that no archeological resources are recorded within or adjacent to the project site or within the 0.25-mile records search area.

Based on an assessment of the environmental setting and features associated with recorded prehistoric archeological sites in the San Francisco Bay Area, Native American archeological resources in this part of San Mateo County have been found in areas marginal to the San Francisco bayshore and inland near intermittent and perennial freshwater courses. No archeological sites have been recorded within or adjacent to the project site; however, the project site has not been previously studied for its archeological resource potential. The project site is along the historic bayshore margins of San Francisco Bay and its associated wetland, and adjacent to Pulgas Creek. In addition, the western portion of the project site contains Holocene alluvial fan deposits, a soil type that

is generally sensitive for prehistoric archeological resources. Given these environmental factors and the ethnographic sensitivity of the area, there is a moderately high sensitivity for unrecorded Native American archeological resources to be within the western portion of the project site, west of the former bay shore. East of the former bay shore, within the former tidal marsh, there is a low sensitivity for prehistoric archeological resources, and a low potential to encounter Native American archeological resources during project implementation.

Based on historic maps, the project site was undeveloped until the late 1940s and early 1950s, when a variety of industrial and commercial facilities were developed and operated until the present. As a result, there is a low sensitivity for significant historical archeological resources to be present on the project site, and a low potential to encounter significant historical archeological resources during project implementation.

Evaluating Archeological Resources

Prehistoric Research Themes and Questions

Research themes are presented here to provide a framework in which to evaluate prehistoric archeological remains in the event that any are discovered during archeological testing. Research themes are used to outline both the questions that can be asked of the archeological record, and the types of data required to answer them. The purpose of identifying relevant research themes here is to guide evaluation of the resource. If archeological remains are encountered during testing, determining their ability to address the research themes presented below is critical to evaluating their significance. These research questions address a number of general topics that are central to prehistoric archeological investigations in the wider San Francisco Bay Area, including cultural chronology, trade and exchange, socio-political organization, settlement systems, subsistence, and site formation processes.

Cultural Chronology

One of the primary requisites in studying the prehistory of a region is to establish a chronology of occupation, which involves the ordering of archeological assemblages in time. To do so requires reliable dates from archeological sites or materials, and of different occupation components within sites. Without a reliable chronology of change in archeological assemblages through time, higher level questions pertaining to changes in adaptation, technology, and society cannot be addressed. Secure chronologies are also prerequisite for integrating archeological data into the broader economic, social, and political theories that drive archeological research.

The period of use for a site can generally be understood using two dating methodologies: 1) relative dating, and 2) absolute dating. Relative dates can be obtained by comparing materials recovered from a site (e.g., projectile points or beads) to established artifact typologies for the region. Relative dates can also be established for a site through seriation and stratigraphy. Absolute dating includes radiometric techniques such as Carbon-14 dating. Radiometric dates are obtained from organic materials such as charcoal, bone, and shell. Samples for radiocarbon dating are most meaningful when obtained from vertically stratified deposits, features, or similar contexts that maintain a clear linkage between the material dated and the cultural occupation. Another dating technique commonly used in California, obsidian hydration, can provide both relative and absolute dating depending on conditions at a site, though the use of the method as an absolute dating technique has been questioned.[42]

Research Questions

- What is/are the estimated date(s) for the remains based on the archeological deposits and datable cultural materials?
- What is the relationship between culture chronology (as identified through artifact assemblages), periods of site use, and landform evolution as seen through stratigraphy?
- What is the temporal relationship between newly discovered deposits and deposits previously recorded in the vicinity of the project site?

Data Requirements

- Temporally discrete archeological materials that can be securely dated.
- Stratigraphic integrity of soil layers surrounding the archeological remains are necessary for some dating methods, but radiometric dates may be obtained from redeposited prehistoric material.
- Datable materials with a clear cultural association, including suitable organic materials for radiocarbon dating, artifacts made from obsidian for hydration dating, or time-diagnostic artifacts.

Trade and Exchange

Prehistoric populations, including those that lived in the greater San Francisco Bay Area, did not live in isolation. An assessment of trade, exchange, and other forms of contact between prehistoric populations is a key research issue that has implications for subsistence and technology, ideology, development of socio-political complexity, and other themes. At the most basic level, studies of trade and exchange rely on the presence of non-native materials, often referred to as *exotics*. These may have been obtained through direct contact with neighboring populations, or through direct procurement and transport. Discriminating between these two methods of acquisition can be difficult.[43]

In general, exotic items indicate the range of a group's interaction sphere, as well as the importance or role of specific materials in a larger conveyance and exchange system. For example, the presence of shell beads at inland sites, or obsidian at sites that are great distances from obsidian quarries, are two examples of trade and exchange in prehistory that are may provide information about prehistoric trade patterns.

Research Questions

- What non-native materials are present in the assemblage, and where are the sources?

[42] Hughes, Richard E. and Randall Milliken, 2007, Prehistoric Material Conveyances. In *Prehistoric California: Colonization, Culture, and Complexity*. T.L. Jones and K.A. Klar, editors, pp. 259–271, AltaMira Press.

[43] Hughes and Milliken, 2007.

- What evidence is there for on-site manufacturing as contrasted with acquisition of ready-made artifacts, partially formed artifacts ("blanks") or raw materials? What materials were being used to manufacture which goods, and to what groups and time periods can the manufacture be traced?
- If evidence of manufacturing is available, were manufactured objects at the site made from exotic or locally available material? If exotic, where did the materials originate? If local, were those goods types that have been identified in the archeological literature as commonly exchanged for exotic material, such as shell beads?
- What resources or artifacts were produced or harvested specifically for exchange here? Did the population store food surpluses, or were they produced for exchange?

Data Requirements

- Artifacts or archeological materials from buried prehistoric contexts (even secondary contexts) manufactured from exotic or non-local materials. In San Mateo County, these might include shell, obsidian, steatite, or other non-local lithic materials.
- Evidence of specialized manufacture or procurement of local items for trade, which may be indicative of a trading relationship with non-local populations.

Socio-Political Organization

A large body of archeological research pertains to social and political themes related to group organization, the development of complexity (such as specialized division of labor and intergroup trade), mortuary and burial practices, and symbolic use of space. In terms of sociopolitical organization, the primary unit among Central California groups was the village community (sometimes referred to as "tribelet"). The village community consisted of a well-defined territory with a core village and ancillary settlements. The chief, religious leader(s), and various craft specialists primarily resided within the core village, where surplus goods also were stored and, presumably, distributed.[44] Milliken et al. noted that "evidence of ritual treatment of the dead is one of the few archeological windows for viewing the emergence of social complexity in the past."[45] This can be extended to the designation of specialized places for interment, termed mortuary sites, or differential mortuary treatments among the population, that not only can inform on inter-personal relationships between members of a single group, but also broader patterns in political organization and beliefs.

Research Questions

- What evidence is there of craft specialization? For example, are there discrete work areas?
- What evidence is there of production for exchange or surplus storage? For example, what types of caches of food resources, tool blanks or other evidence of items available for exchange are present?
- To what degree is differential social status and craft specialization reflected at the sites?
- What was the relationship between sociopolitical status and exchange wealth at these sites?
- What evidence is there for shifts in social complexity?
- What evidence is there of shifts in activity areas at these sites, indicating the use of the sites for multiple activities during a long-term occupation?
- Are there burials with grave goods that can be used to infer socio-political complexity?

Data Requirements

- Human remains with burial goods, to address degree of social complexity.

[44] Kroeber, 1925 [1976].
[45] Milliken et al., 2007.

- Some of the research questions above require an archeological assemblage with depositional integrity, or intact storage features.
- Artifactual evidence generating geologic and chronometric dates that can be related to evidence of occupational shifts at the site(s).

Settlement Systems

Studies of settlement systems attempt to link individual sites or site components into a broader framework by comparison to other sites in the region to describes how past inhabitants used a larger landscape, and how use of that landscape changed through time. Keys in understanding past settlement systems include both a clear picture of the site's ecological setting and site function, a secure functional typology and chronology for integrating site data across a region, as discussed above.

At a broader level, settlement patterns in the Central California region generally indicate a small initial occupation during the Early Holocene followed by population growth, immigration of new populations, and attendant changes in subsistence and socio-political organization. This simple scenario, however, masks much regional variation. In the Bay Area, it has been argued that, during the Middle Holocene, there was a struggle over dominance between unrelated bayshore and inland groups, followed in the Late Holocene by population increase across Central California. More recent researchers have suggested that population decreased and settlements shifted from bayshore to inland localities during the Late Holocene.[46] Regardless, it is clear that settlement patterns during the Middle to Late Holocene were more complicated than previously thought. Milliken et al. conclude that settlement shifts from bay shore to inland localities were fluid, and that no one model encompasses all localities.[47] Further research is necessary to understand settlement patterns in this region.

Research Questions

- What evidence is there that may contribute to the understanding of settlement shifts through the Middle and Late Holocene?
- What evidence is there for seasonal occupation or permanent/semi-permanent villages?
- What was the population size and how did it change over time?
- What attributes of the site locations made them favorable for habitation?
- What types of activities took place there that might be reflective of seasonal or intermittent occupation vs. long-term occupation?

Data Requirements

- Securely dated archeological deposits or components.
- Stratigraphic integrity of soil layers and features is required to answer some of the research questions above.
- Discrete archeological features or sufficient quantities of ecofacts and artifacts to allow for analysis and interpretation of site size, seasonality, and function.
- Sufficient ethnobotanical or faunal remains to determine seasonality and duration of occupation.

Subsistence Patterns and Subsistence Technology

Subsistence refers to the procurement and consumption of food. Subsistence trends are generally reconstructed from food remains (both plant and animal) and the types of food hunting, gathering, and processing tools present

[46] Milliken et al., 2007.
[47] Milliken et al., 2007.

in an archeological deposit. For this reason, a study of subsistence goes hand-in-hand with the analysis of technologies for obtaining and processing food items. Food remains most often include faunal bone, shellfish remains, and both micro- and macrobotanical remains, such as charred plant remains, seeds and seed hulls, pollen, phytoliths, and starch grains. These remains can be identified by species and quantified to determine whether a broad spectrum of food types was being exploited at a given site over time or whether site activities focused on the exploitation of a limited number of resources.

Resource intensification refers to increasing reliance on labor-intensive subsistence practices and decline in overall foraging efficiency.[48] Evidence of resource intensification can be indicative of environmental change, over-exploitation, or territorial circumscription. A large body of economic theory has been developed around foraging practices and subsistence patterns in archeological and anthropological research.[49] [50] Byrd et al. include an overview and summary of issues related to resource intensification in prehistoric subsistence regimes.[51] The degree of resource intensification can also be understood from studying food remains as well as tool assemblages.

Research Questions

- What were the predominant subsistence patterns and how did they change over time?
- What foods were being consumed and did that change over time?
- Did food processing methods for the same foods change over time, or did they remain stable?
- What was the diet breadth (the range of food resources consumed)? Did the proportions of food types change through time? If so, to what was this change due? (Possibilities include environmental change, overexploitation of resources, or new technologies).

Data Requirements

- Securely dated archeological deposits or components. Sites spanning long periods of time and environmental change would be particularly illuminating as to shifts in subsistence patterns and social structures both regionally and locally.
- Stratigraphic integrity of soil layers and features is necessary to address some of the research questions above.
- Sufficient quantities of ecofacts and artifacts to allow for analysis and interpretation of site function.
- Archeological deposit with substantial assemblages of faunal or macrobotanical remains.
- Evidence of food procurement and processing technologies, including hunting and fishing weapons, ground stone, and food processing features like hearths or earthen ovens.
- Debitage (waste produced during the production of flaked or chipped stone tools), to determine the types of lithic tool production and use that took place at the site.
- Botanical remains that can be assumed to be cultural in origin (e.g. from flotation samples from hearths), such as seeds, bulbs, and acorns, to reconstruct the catchment habitat and determine the types of plant resources utilized at the site. Pollen recovered from sediment samples is another important data source for environmental reconstruction.
- Artifacts that can address questions of subsistence technologies, including ground stone tools, such as mortars and pestles, which indicate food processing methods.
- Identifiable faunal remains, including large and small marine mammals (specifically sea lions, sea otters, and harbor seals), large terrestrial mammals such as artiodactyls (deer, elk, pronghorn), small mammals

[48] Byrd et al., 2017:9-1.
[49] Bettinger, R.L., 1991, *Hunter-Gatherers: Archaeological and Evolutionary Theory*. Springer, New York.
[50] Broughton, J.M., 1997, "Widening Diet Breadth, Declining Foraging Efficiency, and Prehistoric Harvest Pressure: Ichthyofaunal Evidence from the Emeryville Shellmound, California." *American Antiquity* 71(274): 845-862.
[51] Byrd et al., 2017:9-1 to 9.7

such as jackrabbits, fish (including small schooling fishes such as herring, freshwater fishes, and pelagic fishes), and birds, to determine the types of animals processed and/or consumed at the site.
- Invertebrate remains, including clam, oyster, mussel, and marine snails, to determine the types of riverine or marine resources utilized at the site.

Site Formation Processes and Environmental Reconstruction

Research questions under this theme are focused on the context and integrity of possible site deposits, and involve the identification and assessment of the various natural and cultural processes that contribute to the formation of archeological and/or paleoenvironmental deposits. Whereas questions of cultural chronology pertain to the ordering of archeological materials in time, questions of site formation address the spatial structure of archeological deposits within a site to help researchers understand how an archeological deposit formed and has been affected from the time of its deposition until it is uncovered by researchers. Understanding site formation processes can help identify the integrity of site deposits and features, and therefore aid in archeological interpretation.

Site formation processes can also examine environmental change over time. Bayshore locations, near major stream courses, were dynamic environments throughout the late Holocene, as stream courses may have shifted and seasonal flooding may have occurred. Periods of stability would have allowed prehistoric human populations to move within an area on a seasonal cycle in response to seasonal environmental changes and availability of plant and animal resources, to exploit the plant and animal resources available in different habitats and at different times of the year. An analysis of archeological site formation may include paleoenvironmental reconstruction to investigate the natural environmental to assess what aspects of the natural environment made this location suitable and attractive for human settlement.

Research Questions

- What site formation processes have contributed to the creation of the archeological deposits at a site? Has the deposit been affected by burial or erosion?
- If buried deposits are present, what were the natural processes by which site deposits were successively formed and buried?
- What kinds of subsistence resources would have been present in the ecosystem surrounding the creek, and how did they attract prehistoric populations to the area?
- Are artifacts or features in a primary context, or have they been disturbed and re-deposited into a secondary context?
- What mechanisms of post-depositional biological and natural disturbance have archeological deposits been subjected to?
- Is an artifact or feature's location due to geological or environmental factors (e.g., wind, rain, erosion, or flood) (natural formation processes) or due to human factors (e.g., abandonment, disturbance, or filling) (cultural formation processes)?
- How are overlapping features or strata related chronologically?

Data Requirements

- Stratigraphic and contextual data derived from controlled archeological excavation or sampling.
- Geological and topographical data.
- Samples suitable for geoarcheological and sedimentary analysis to identify depositional environments, natural and cultural strata, and paleosols.

Archeological Monitoring

Demolition activities on the project site are removing existing structures and paved surface in the western portion of the project site. Mitigation Measure Culture-1 states that "Prior to ground disturbance, a qualified consultant shall conduct archival research to determine the appropriate locations for cultural or tribal cultural resource (historic/archeological/paleontological/Native American) monitoring during removal of asphalt or concrete, fill, vegetation, or structures."

ESA archeologists completed a site visit on July 28, 2021, to observe demolition activities and assess the need for archeological monitoring. Demolition activities are limited to removing existing structures, including underground storage tanks, and paved surfaces, and are therefore only limited to previously disturbed soils. During the site visit, ESA archeologists did not observe any exposed native soils. Although the project site has been assessed as having a moderately high sensitivity for prehistoric archeological resources, if any such resources are present they would be buried below the fill layer that blankets the project site within the underlying native alluvial soils. Based on observations made during the site visit, as well as the archeological sensitivity assessment presented above, ESA recommends there is a low potential to encounter significant archeological resources during project demolition activities, and recommends that archeological monitoring is not warranted. Instead, ESA recommends that immediately following removal of existing buildings and paved surfaces in the western portion of the project site, subsurface archeological testing should be conducted to identify the presence or absence of buried archeological resources, following the methods outlined below.

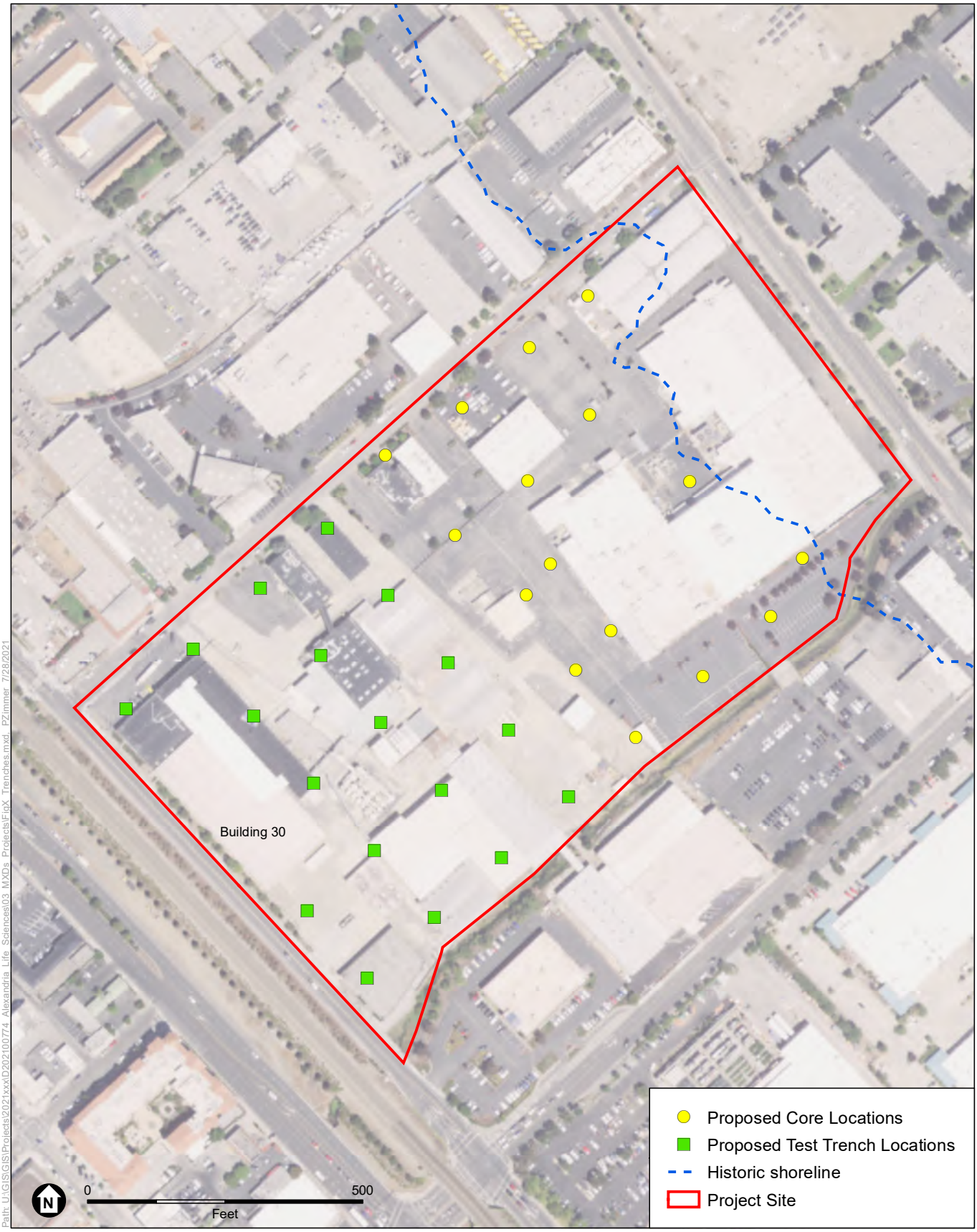
Archeological Testing

Considering the uniform moderately high sensitivity for buried prehistoric archeological resources to be present throughout the entire project site and the lack of specific landforms that may be more likely to contain buried archeological resources (e.g., rock outcrops, drainages), archeological testing will systematically sample the entire project site at approximately 165-foot (50 meter) horizontal intervals. The goal of the testing is to find and evaluate potential archeological sites and features with respect to their physical integrity and the data requirements of the research themes identified above. Two archeological testing methods will be used to complete the investigation: archeological test trenching and geoarcheological coring.

Archeological Test Trenching

Mechanical trenching is proposed as the most effective testing method in the western portion of the project site where existing structures and paved surfaces have been removed. Archeological test trenching will be conducted after existing building demolition and before site preparation grading or utility excavation. A qualified archeologist meeting the Secretary of the Interior's Professional Qualification Standards for Archeology and knowledgeable at identifying San Francisco Bay Area prehistoric archeological materials will direct test trenching operations.

The goal for the trenching program will be to assess the site for the presence or absence of subsurface prehistoric archeological resources within the vertical C-AAPE. A series of 18 trenches will be distributed across the project site at approximately 50-meter intervals (**Figure 8**). This testing interval is sufficient to identify the presence of any potential prehistoric archeological resources. Depending on field conditions, existing utility locations, and findings, the location of trenches proposed in Figure 8 may be adjusted, but will be placed as close as possible to



SOURCE: ESA, 2021; SFEI, 1998

Alexandria Center for Life Sciences

Figure 8
Proposed Testing Locations

ESA

the planned locations to maintain the grid spacing. Trenches will be excavated to the maximum depth of planned project-related ground disturbance.

Trenching will create both vertical and horizontal exposures using a backhoe or small excavator fitted with a flat bladed bucket. At each test location, a 3 to 4-foot-wide trench approximately 5–10 feet long will be excavated in successive, shallow layers to avoid impacting cultural deposits or seriously compromising feature associations

should any be present. Spoil from the trenches will be screened through 1/8-inch mesh if potential cultural materials are observed during trenching. All aspects of testing will be documented on field notes and field forms, as appropriate.

Should trenching encounter archeological resources, the archeologists will halt all earthmoving equipment in the immediate area of discovery, until further clarification of the nature of the materials (e.g., age, type) and evaluation of potential significance can be made. Evaluation of the resource may require additional areal exposure of the deposit or feature beyond the footprint of the trench. If an archeologist needs to enter the excavation to examine a potential find at depths greater than 4 feet bgs, shoring, stepping back, or sloping of the trench will be required to adhere to Occupational Safety and Health Administration (OSHA) guidelines.

If based on archeological testing the consultant finds that significant archeological resources may be present or if additional archeological investigation is needed, the City in consultation with the archeological consultant will determine what additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of City. If the City determines that a significant archeological resource is present and that the resource could be adversely affected by the project, at the discretion of the project sponsor either:

- The project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or
- A separate data recovery program may be implemented.
- If a prehistoric archeological resource is discovered and further archeological testing or data recovery is required, a Native American monitor of any tribe that has requested consultation will be offered the opportunity to be present. In addition, the feasibility of preservation in place will be considered, in consultation with the City and the project sponsor, and the resource will be preserved if feasible.

Geoarcheological Coring

Due to the existing development and paved surfaces in the eastern portion of the project site, geoarcheological coring is the most practical testing method for identifying buried prehistoric archeological resources. Coring can provide sufficient horizontal coverage to make a presence/absence determination, providing that the resource is a deposit of sufficient size, and allows for investigation to depths consistent with the depth of prehistoric archeological sensitivity.

Geoarcheological coring will occur prior to any ground disturbing activities, including demolition activities, on the project site. A geoarcheologist meeting the Secretary of the Interior's Professional Qualifications Standards (SOI PQS) for Archeology will be present during all fieldwork. A professional drilling subcontractor will supply the

Geoprobe equipment. Appropriate San Mateo County permits will be obtained to conduct the investigation. All coring locations will be cleared of underground utilities in advance of work.

The coring will identify the presence or absence of subsurface prehistoric archeological resources within intact paleosol(s) or other potentially archeologically sensitive soils (if present). A series of 16 cores will be distributed across the eastern portion of the project site at approximately 50-meter intervals (see Figure 8). This testing interval is sufficient to identify the presence of any potential prehistoric archeological resources. Depending on field conditions, existing utility locations, and findings, the location of cores proposed in Figure 8 may be adjusted, but will be placed as close as possible to the planned locations to maintain the grid spacing. Cores will be advanced to the maximum depth of planned project-related ground disturbance, approximately 10 feet bgs.

Mechanical core sampling will consist of a drilling subcontractor advancing 2-inch diameter core samplers using a direct push hydraulic rig to obtain a continuous core. Depending on field conditions, utility locations, and findings, the location of core samples proposed in Figure 8 may be adjusted. Each push will extend approximately 4–5 feet bgs until the maximum depth of 10 feet bgs is reached. Each clear plastic core sample will be opened and examined by the geoarcheologist in the field. The core stratigraphy will be recorded to define soil stratigraphy and control potential artifact associations. Each coring location will be given a unique field designation and will be plotted using a global positioning system (GPS) device. Stratigraphic logs of each core sample will be prepared. Natural and/or cultural stratigraphy will be identified visually by examining the deposits contained within the cores. In particular, the geoarcheologist will closely examine soils for the presence of paleosols, which represent formerly stable and livable ground surfaces that will be identified on the basis of color, structure, horizon development, bioturbation, lateral continuity, and the nature of the upper boundary (contact) with the overlying deposit.

If intact paleosols or other potentially archeologically sensitive soils are encountered, soils will be dry-screened through a 1/8-inch mesh screens and examined for archeological materials. If archeological materials are observed, procedures outlined below in the *Laboratory Processing and Data Analysis* section will be followed, and additional cores, beyond those shown on Figure 8, may be needed to help identify boundaries and to further characterize the deposit.

Following completion of the archeological coring program, the archeological consultant will review the results and discuss next steps with the City to determine if archeological monitoring and/or archeological data recovery excavations will be required project grading. If a potentially significant prehistoric deposit is identified during geoarchaeological coring, data recovery excavations will be required.

Health, Safety, and Security

The archeological consultant will work under project-specific health and safety plan (HASP). This will include following whatever appropriate hazard mitigation procedures (for example, appropriate personal protection equipment) are required for fieldwork. The HASP will include information concerning the specific risks posed by the project, and the specific measures to be taken to avoid personal injury. If the archeological team believes that unexpected hazards exist on a site, they have the authority to discontinue all archeological activities until it can be demonstrated that no hazards exist.

Archeological excavations often generate considerable public interest, and public knowledge and awareness of archeology and field investigations is important. Concomitant with this heightened awareness of archeology is a concern for site security and public safety. Should significant archeological materials be encountered during

testing, there may be a need for site protection measures to avoid destruction and/or theft of archeological material. This need will be determined by the archeological consultant in consultation with the project sponsor and City.

Native American Coordination

Native American coordination will be completed in consultation with the City. Representatives of Native American tribes that have requested consultation will be invited to provide monitors in the event that prehistoric archeological resources are encountered during archeological site testing and/or data recovery.

Treatment of Human Remains

If Native American human remains are encountered during archeological testing, ground-disturbing work in the project site within 50 feet of the remains shall be halted and arrangements made to protect the remains in place until appropriate treatment and disposition have been arranged according to this section. The treatment of Native American human remains and associated and unassociated funerary objects discovered during any ground-disturbing activity shall comply with applicable State laws, including Section 7050.5 of the Health and Safety Code. If human remains are discovered during testing, the archeological consultant shall immediately notify the San Mateo County Coroner's Office (Coroner). The consultant also will immediately notify the project sponsor and City upon the discovery of human remains. In the event of the Coroner's determination that the human remains are Native American remains, the Coroner will notify the California State Native American Heritage Commission (NAHC), which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (PRC Section 5097.98).

The City shall make all reasonable efforts to develop a Burial Agreement ("Agreement") with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and associated or unassociated funerary objects (as detailed in CEQA Guidelines Section 15064.5(d)). The Agreement shall take into consideration the appropriate excavation, removal, recordation, scientific analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD agrees to scientific analyses of the remains and/or associated or unassociated funerary objects, the archeological consultant shall retain possession of the remains and associated or unassociated funerary objects until completion of any such analyses, after which the remains and associated or unassociated funerary objects shall be reinterred or curated as specified in the Agreement.

Nothing in existing State regulations or in this section compels the City to accept treatment recommendations of the MLD. However, if the City and MLD are unable to reach an Agreement on scientific treatment of the remains and associated or unassociated funerary objects, the City shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance, consistent with state law.

Laboratory Processing and Data Analysis

In the event that a potentially significant resource is determined to be present, sufficient analysis will be conducted to make a definitive significance determination; that is, to extract sufficient data from the collection to demonstrate its capacity to address significant research questions, or to demonstrate its association with

significant persons or events. However, at the testing phase, exhaustive analyses may not be conducted, particularly if it is anticipated that archeological data recovery in advance of construction will be required to address the effects of project construction.

Prehistoric Archeological Materials

Text above describes the treatment of Native American human remains and directly-associated mortuary material, should they be encountered. Text below addresses non-skeletal artifacts and other materials that may be archeological resources and/or associated with prehistoric Native American occupation and land use.

If the archeological consultant observes any suspected prehistoric archeological remains or soil strata indicative of potential prehistoric midden during archeological testing, samples or other materials collected will be transported to the archeological consultant's laboratory for processing. If soil samples are collected from suspected midden deposits or archeological features, they will be flotation processed, and the heavy fraction will be fine screened for any archeological materials. Any archeological materials will be identified, catalogued in their stratigraphic context, and collected. If obsidian fragments are encountered that are suitable for testing, they will be collected for possible obsidian hydration analysis for dating. Shell and faunal bone will be identified to species-level, if possible, and examined for signs of cultural modification. The light fraction from the flotation processing will be sorted for plant remains, and on charred material for radiocarbon dating. Preserved remains of nuts, berries, and seeds will be sorted and identified to small grades (to 0.5 mm), while only the larger fragments of roots and bulb fragments will be identified, if present. Any nutshell and berry pit residues recovered will be weighed (to 0.1 mg) as well as counted, while all other identified constituents will only be counted. Prehistoric archeological deposits, if encountered during testing will be assessed to determine whether the material is cultural or natural in origin, and if cultural, assessed for degree of stratigraphic and/or chronological integrity, and for data potential as relates to the research design set forth above.

If artifacts or other cultural materials are collected during either field testing or laboratory processing, analysis of materials from each artifact type will be conducted following generally accepted methods. Given the wide variety of materials that may be found in prehistoric sites, it is not practical to describe all potential avenues of analysis. Additional analytical procedures will be utilized as appropriate during laboratory processing and as analysis proceeds. While each material type/artifact class is discussed individually, below, they provide complementary forms of evidence that will be analyzed in comparison to each other to recognize their full information potential. All artifacts will be researched to determine whether they are temporally or culturally diagnostic. At the least, the date range of the assemblages will be determined. Note that any artifacts found in association with human remains (should any be encountered) will be treated with respect, and in accordance with the recommendations of the MLD (see further discussion above in the *Treatment of Human Remains* section).

Artifacts will be washed in the laboratory, excepting those items that will be subject to further study. Analysis of prehistoric materials usually includes: sorting (involving counting, measuring, and weighing) and classification of artifacts according to their provenience and association. The archeological consultant, in consultation with the City, will determine what materials should be separated for additional specialized studies. This may include but is not limited to: obsidian (for sourcing and hydration studies), faunal material, carbonized plant remains suitable for radiocarbon investigations and/or or macrobotanical analysis, and pollen specimens for environmental reconstruction. Classification is expected to identify time-sensitive prehistoric artifacts (such as projectile points or beads). This will be particularly noted, and further studied to the degree needed to identify chronology and to assess the integrity of any prehistoric archeological deposit. Disturbed deposits (those showing varying

chronology) may not be subject to specialized studies, but the degree of disturbance will be assessed and basic chronological/typological analyses, at minimum, will be conducted. If disturbed deposits represent a single chronological component, the deposits may retain substantial information potential.

Tabulation efforts will focus on study of flaked stone, ground stone, shell and bone artifacts. Typically, data gathered for tabulation includes: artifact type, sorting results (counting, weighing, measuring), raw material identification, provenience, and approximate chronology. Combined data from this analysis will be used to address regional research issues.

Historical Archeological Materials

Should historical archeological artifacts from a significant or potentially significant historical archeological site, deposit, and/or feature be recovered during the testing phase, they will be brought to the archeological consultant's laboratory, cleaned, then sorted, by layer (level) and material type, and labeled with appropriate provenience information. If the artifacts represent a significant or potentially significant archeological resource, artifacts will then be grouped by provenience, and cataloged.

Historical archeological materials from California Register-eligible features will be catalogued following currently accepted functional categories consistent with other relevant projects in order to facilitate comparisons with the results from other contemporary historical archeological sites. The classification of archeological materials, according to function, is based on a model initially developed by South.[52] The system has been refined for many sites throughout the west. Classification schemes are designed to determine functional types represented by the artifacts, and recognize overall patterning in artifact use. While each material type is discussed individually, they are complementary forms of evidence that will be analyzed in comparison to each other to recognize their full information potential.

Data resulting from the laboratory analyses, as well as special studies, will be entered into the appropriate database format. A flexible electronic cataloguing system originally developed by Caltrans will be used.[53] It has particular utility for comparative analysis with results from other historical archeological sites. The resulting database may have further subdivisions within each functional grouping. Additional analytical procedures will be incorporated as appropriate during laboratory processing and as analysis proceeds.

Digital photographs will be taken of artifacts from features that constitute either an important phase or a functional artifact category. Mended artifacts may be photographed. Smaller arrangements of specific classes of items may also be made. Photographs may also be taken of entire features assemblages, and/or archeological contexts group together by functional artifact categories. Some interpretive photography—geared for a more public audience—may also be of value.

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52 South, Stanley, *Method and Theory in Historical Archaeology*. Academic Press, New York, 1977.

53 Van Bueren, Thad, Jack Meyer, and Brian Ramos, *Report on Archaeological Testing for the Broadway-Jackson Interchange Improvement Project in the City of Oakland, California*. Prepared for the Office of Environmental Planning South, District 4, California Department of Transportation, Oakland, CA, 2004.

Reporting

Archeological Testing Results Report

Once archeological testing is complete, ESA will prepare a draft Archeological Testing Results Report to be submitted to the City and project sponsor for review and comment. The report will fully document the results of the archeological testing. It also will include a detailed map of areas tested, any positive and negative findings, and archeological site boundary delineation (if resources are discovered) to the extent possible based on the areas tested. The report will meet the Secretary of the Interior's Standards for Archeological Documentation. The report will present an overview of any archeological deposits, features, and/or artifacts encountered and a description of any material recovered, and how the finds contribute or do not contribute to the significance of the site. These results will inform the recommendations for next steps during the environmental review process. It is anticipated that if a significant deposit or features are encountered and cannot be avoided by the project, archeological data recovery will be required. A final report will address any comments and concerns in response to the draft report and will not be considered final until accepted by the City and project sponsor. Copies of the report and any applicable site forms will be submitted to the City, project sponsor, and NWIC.

Curation

Upon completion of laboratory analyses, if a resource is determined to be significant, the collected materials will be properly prepared for archival storage in accordance with the *Secretary of the Interior's Standards and Guidelines for Archeological Documentation* (48 Federal Register Section 44716) and the California Office of Historic Preservation's (OHP) *Guidelines for the Curation of Archeological Collections*,[54] and a complete catalog of all collected items will be prepared to accompany the collection. Determining what materials will be selected for curation will be based on consideration of research value, practical considerations related to storage, and educational/interpretive value. Selecting objects for discard will follow the guidelines described below. Documentary materials, such as progress reports, photographs, computer files, field notes, other pertinent records, and the final report will also be permanently stored at the curation facility. Copies of final reports and relevant field notes will be printed on acid-free paper for storage.

Once the final report is finished, archeological materials will be transferred to a long-term curation facility. All, or a sample, of archeological materials from the site collected during archeological testing, except for human remains, associated grave goods, and sacred objects (which shall be treated as described above) will be curated. The archeological consultant, in consultation with the City and project sponsor, will establish a curation agreement for permanent curation of all collected material with a local qualified (per OHP *Guidelines for the Curation of Archeological Collections*) curation facility of all archeological material recovered from the site. The materials will be housed with the archeological consultant until they are transferred to a curation facility. The project sponsor will be responsible for the cost of permanent curation.

The David A. Frederickson Archaeological Collections Facility at the Anthropological Studies Center, Sonoma State University, is currently accepting collections from northern California. This curation facility meets standards outlined in the National Park Services' *Curation of Federally Owned and Administered Archeological*

[54] State of California, *Guidelines for the Curation of Archeological Collections*. Prepared by the State Historical Resources Commission, Department of Parks and Recreation, 1993.

Collections (36 CFR 79; available at www.nps.gov/history/archaeology/TOOLS/ 36cfr79.htm). Curation costs will be included in all budgets.

Discard Policy

Archeological investigations have the potential to recover large quantities of artifacts that are difficult to curate and/or that may have limited information potential once the analysis is complete. Government agencies and other researchers recognize this dilemma and have promulgated guidelines for the curation and selective discard of materials from their archeological collections.[55] Such guidelines acknowledge the current problem of finding acceptable curation facilities, and offer the premise that not all materials have equal curation value. The first criterion of permanent curation is research value; that is, the potential of a class or collection of artifacts to provide information important for understanding the past, as defined in the project research design. The second criterion relates to practicality: the ease of storing materials and a consideration of the quantity represented. The last criterion deals with educational value, or the potential of artifacts to contribute to public interpretation. Artifacts from non-significant deposits or features will be discarded once any analyses are complete, or may offered to the City or project sponsor as an interpretive collection. Artifacts or other materials may be discarded if they lack long-term research value, or are from a poor archeological or historical context (i.e., extensively disturbed), in consultation with the City.

[55] State of California, 1993.

ESA

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

memorandum

date	September 24, 2021
to	Patrick Dillmann, Alexandria Real Estate Equities
from	Matthew A. Russell and Paul D. Zimmer, Environmental Science Associates (ESA)
subject	Archeological Testing Results Report for the Alexandria Center for Life Sciences Project, San Carlos, California

Introduction

This memorandum presents an Archeological Testing Results Report (ATRR) for the Alexandria Center for Life Sciences Project (project) in San Carlos, California. Environmental Science Associates (ESA) prepared this document on behalf of the project sponsor, Alexandria Real Estate Equities, to satisfy the requirements of one of the project's anticipated mitigation measures, as more specifically discussed below, to gather more information about the project site's potential to contain cultural resources. This information can be used by the lead agency as it prepares the environmental impact report (EIR) for this project. This ATRR is focused on both the western portion of the project site, which is undergoing active construction at this time, as well as the eastern portion of the project site that is still in use by existing tenants.

The City of San Carlos (City), as the lead agency, prepared an Initial Study (IS) for the project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines (California Code of Regulations Section 15000 et. seq). The IS identified a moderately high potential to impact unrecorded archeological resources and includes Mitigation Measure Culture-1 to address the potential impacts of the project upon archeological resources. The mitigation measure states:

> Prior to ground disturbance, a qualified consultant shall conduct archival research to determine the appropriate locations for cultural or tribal cultural resource (historic/archeological/paleontological/Native American) monitoring during removal of asphalt or concrete, fill, vegetation, or structures. Following the exposure of the original soils, a qualified consultant shall conduct a field inspection and prepare a report containing "next-step" recommendations to be implemented by the project sponsor, if the potential presence of cultural resources in certain locations is considered to be moderate or high based upon the research and field inspection of the uncovered site. Next steps could include additional exploration prior to construction, monitoring of site disturbance by a qualified professional, or no additional action other than that specified in Culture-2 and Culture-3.

ESA prepared an Archeological Monitoring and Testing Plan (AMTP)[1] to: 1) comply with the "archival research" component of the mitigation measure to identify whether there are archeologically sensitive areas within the project site that will warrant archeological monitoring during site demolition activities (removal of asphalt or concrete, fill, vegetation, or structures); and 2) propose an archeological testing plan to guide the "field inspection" component of the mitigation requirement to identify potential archeological resources within the project site. The AMTP provides a project description focused on planned ground disturbance within the project site; summarizes the project's regulatory context; describes the environmental and cultural context in the project vicinity; provides a research design and framework for evaluating the significance of archeological sites that may have been encountered during archeological testing; and outlines an archeological testing program to complete mechanical presence/absence testing for archeological resources on the project site, in compliance with IS Mitigation Measure Culture-1. Pursuant to the AMTP, ESA completed mechanical presence/absence testing for archeological deposits and cultural materials on August 23–25, 2021, in the western portion of the project site, and on September 13, 2021, in the eastern portion of the project site. This ATRR presents the results of the archeological testing program, which did not identify any prehistoric or historical archeological resources on the project site.

This ATRR provides a brief project description that focuses on planned ground disturbance within the project site; outlines the regulatory context; summarizes the predicted archeological sensitivity of the project site; and presents the methods and negative results of an archeological testing program that included mechanical presence/absence testing for archeological resources on both the western and eastern portions of the project site.

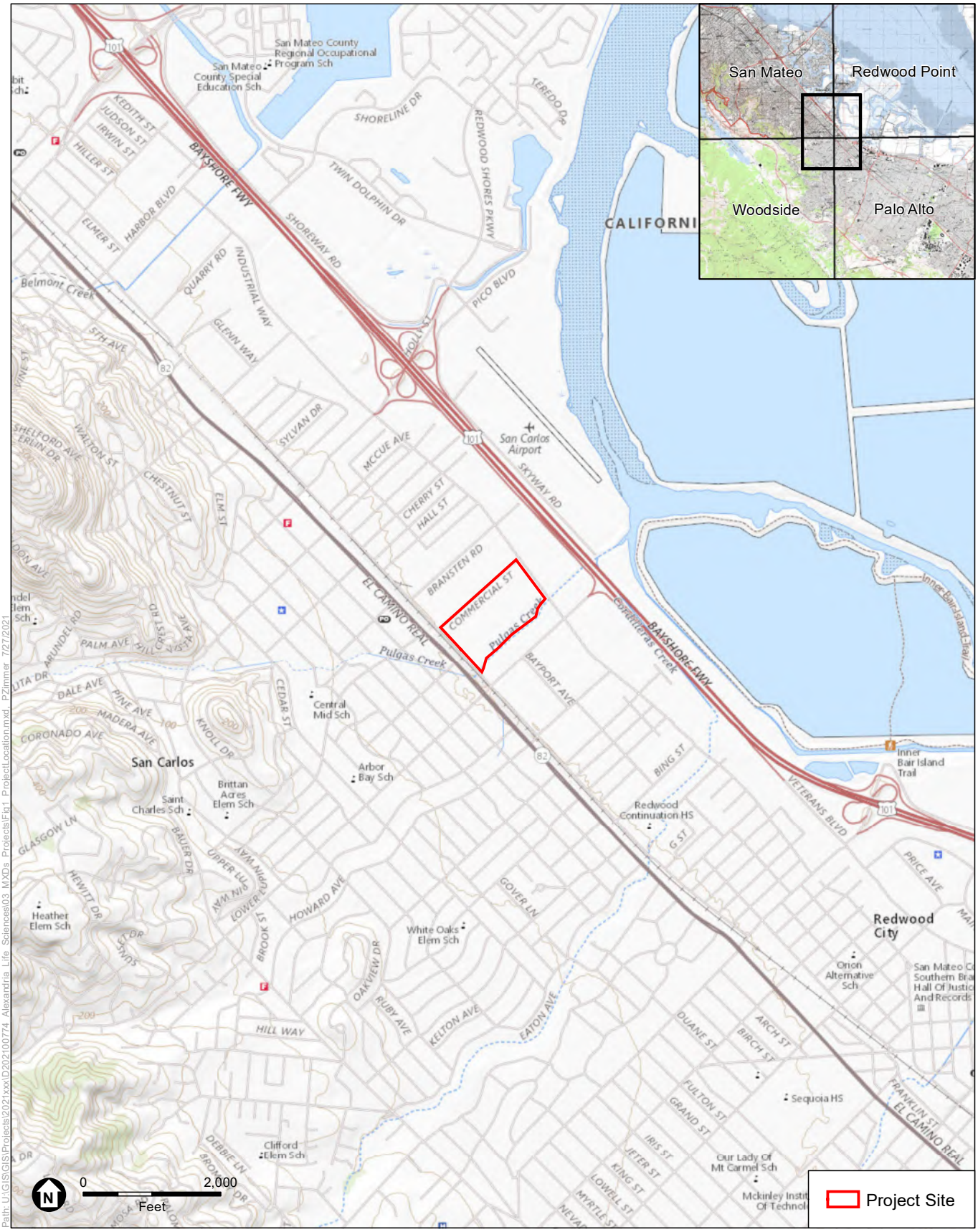
Project Description

The approximately 25.34-acre, irregularly-shaped project site is bounded by Industrial Road to the east, Commercial Street to the north, Old County Road to the west, and Pulgas Creek to the south. The site includes the following addresses: 900, 960, 961, 967 Industrial Road; 1003, 1011 Commercial Street; and 915, 1055 and 1063 Old County Road (Assessor's Parcel Numbers 046-162-010, -210, -270, -280, and -290; and 046-184- 090, -110, -120, -280, -290, and -300) (**Figures 1** and **2**).

The western portion of the project site was developed with multiple buildings and asphalt- and concrete-paved parking areas that were demolished and removed, while the eastern portion of the project site is still in use by existing tenants, but all existing buildings will be demolished in a future phase of construction. The entire project site is relatively level, with general site grades ranging from approximate Elevation 10 to 17 feet, rising from Industrial Road towards Old County Road. Pulgas Creek borders the project site on the southeast side. The creek banks are approximately 6 to 7 feet high, with localized areas up to 10 feet high. The section of Pulgas Creek along the boundary of the project site was improved with concrete sandbag bank protection in 1974.

The project will replace the demolished buildings, as well as the existing buildings still in use on the eastern portion of the project site, with a new life science campus. The new life science campus will include six new office/research buildings (designated B1 through B6), which will be constructed at grade with 4- to 6-foot-thick mat foundations and spread footings. The project will also include two parking garages (designated PG1 and

[1] Russell, Matthew A. and Paul D. Zimmer. *Archeological Monitoring and Testing Plan for the Alexandria Center for Life Sciences Project, San Carlos, California*. Prepared by Environmental Science Associates on behalf of Alexandria Real Estate Equities, 2021.



SOURCE: ESA, 2021; USGS National Map, 2021

Alexandria Center for Life Sciences

Figure 1
Project Location and Vicinity

ESA

SOURCE: ESA, 2021; USGS, 2018

Alexandria Center for Life Sciences

Figure 2
Project Site

ESA

PG2), which will each have one basement level requiring excavations of as much as 9½ feet below ground surface (bgs). Parking garages will be supported on a mat foundation. An at-grade amenities building (designated B7) and amenity area, where up to 13 feet of fill and 2 feet of cut will be required, will be surrounded by B3, B4, B5, and PG2. The project will also include landscaping, open space, surface parking, and bicycle and vehicle access along Pulgas Creek. Finished grades around the campus will generally range in elevation from 14 feet to 23 feet.

The project will be implemented in three phases. In addition to construction of the proposed buildings and outdoor improvements, each phase would include demolition of any remaining structures in that phase area and any adjacent roadway and creek-side improvements. As discussed above, this ATRR covers both the western portion of the project site that is included in the first phase of the project, as well as the eastern portion of the project site that will be developed in a future phase of construction.

Regulatory Context

State Regulatory Framework

The California Environmental Quality Act (CEQA) mandates that all proposed projects that require State or local government agency approval must consider potential project effects upon the environment. Under California State law, effects to significant cultural resources— archeological remains, historic buildings and structures, and tribal cultural resources—must be considered as part of the environmental analysis of a proposed project. Significant archeological resources are termed "historical resources" or "unique archeological resources" under CEQA. Criteria for defining significant archeological resources are stipulated in CEQA (codified at California Public Resources Code [PRC] Section 21000 *et seq*.), as detailed below. For the current project, the City of San Carlos Planning Division is the CEQA lead agency.

CEQA recognizes two types of significant archeological resources: "unique" archeological resources (PRC Section 21083.2) and archeological resources that qualify as "historical resources" (PRC Sections 21084.1; CCR Section 15064.5) and affords certain protections under CEQA to such resources. Historical resources include archeological resources eligible for listing on the California Register of Historical Resources (California Register) or identified "in a local register of historical resources."

To be considered eligible to the California Register, resources must possess physical integrity as well as integrity of setting, and meet at least one of the following criteria (CCR Section 15064.6):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in California's past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A "unique" archeological resource is an object, artifact, or site that:

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

In addition to the above, the California Register has structural and contextual requirements of integrity; that is, the physical characteristics and levels of integrity that individual properties must retain to be capable of yielding specific types and qualities of information. Retention of such characteristics by themselves may not ensure that the property is capable of addressing important research themes (as defined below), but it would indicate that further research is warranted before a definitive determination is made. If a site does not have the basic physical prerequisite requirements, it would not warrant additional consideration and would be determined not eligible for the California Register.

In September 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC to evaluate under CEQA impacts to tribal cultural resources, as well as other requirements. Lead agencies are required to analyze project impacts to tribal cultural resources separately from archeological resources (PRC Section 21074; 21083.09). A tribal cultural resource is defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1. Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Methods to avoid or mitigate impacts to tribal cultural resources are informed through consultation with the tribes that have requested consultation. Mitigation of impacts to tribal cultural resources typically include preservation in place if feasible and, if not feasible, archeological data recovery and public interpretation in consultation with and with the participation of the affected tribes. Projects that are sensitive for prehistoric archeological resources are assumed to be sensitive for tribal cultural resources.

Under CEQA Guidelines, a project would be considered to have a significant impact on unique archeological, and historical resources if it would result in any of the following:

- Cause a substantial adverse change in the significance of an historical resource, as defined in [CCR] Section 15064.5,
- Cause a substantial adverse change in the significance of an archeological resource pursuant to [CCR] Section 15064.5, or
- Disturb any human remains, including those interred outside formal cemeteries.

Under CEQA Guidelines, a project would be considered to have a significant impact on tribal cultural resources if it would result in any of the following:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

California law also protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code [CHSC] Section 7050.5; PRC Section 5097.94 *et seq*.).

If an archeological resource is not a unique archeological, historical, or tribal cultural resource, the effects of the proposed project on those resources shall not be considered a significant effect on the environment, and they need not be considered further in the CEQA process (CCR Section 15064.5[c][4]).

CEQA Archeological Area of Potential Effects

For the purposes of the archeological testing, the horizontal extent of the CEQA Archeological Area of Potential Effects (C-AAPE) was considered the entire project site encompassing 25.34-acres within the legal lot lines of APNs 046-162-010, -210, -270, -280, and -290; and 046-184- 090, -110, -120, -280, -290, and -300. This C-AAPE (project site) encompassed all areas of anticipated ground disturbance, staging areas, access, and work areas associated with the project (see Figure 2). The vertical C-AAPE extended from the existing ground surface to the maximum depth of planned project-related ground disturbance. As described above, the maximum depth of project excavations is for the proposed parking garages, which will extend approximately 9½ feet bgs. On this basis, the vertical C-AAPE was a maximum of 9½ feet bgs.

Archeological Sensitivity

An assessment of the project site's archeological sensitivity is based on the environmental setting, geological context, and cultural setting described in the AMTP;[2] these sections are not reproduced here. ESA conducted a records search of the project site at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) on July 29, 2021 (NWIC File No. 21-0158). The records search included a review of previous studies, records, and maps on file at the NWIC. The records search area consisted of the project site and a surrounding 0.25-mile radius. The records search included a review of the State of California Office of Historic Preservation Built Environment Resources Directory with summary information from the National Register, Registered California State Landmarks, and California Historic Points of Interest, the Archaeological Determinations of Eligibility, and the California Inventory of Historical Resources (March 1976). The results of a

[2] Russell and Zimmer, 2021.

background literature review, including the records search results, determined that no archeological resources are recorded within or adjacent to the project site or within the 0.25-mile records search area.

Based on an assessment of the environmental setting and features associated with recorded prehistoric archeological sites in the San Francisco Bay Area, Native American archeological resources in this part of San Mateo County have been found in areas marginal to the San Francisco bayshore and inland near intermittent and perennial freshwater courses. No archeological sites have been recorded within or adjacent to the project site; however, the project site has not been previously studied for its archeological resource potential. The project site is along the historic bayshore margins of San Francisco Bay and its associated wetland, and adjacent to Pulgas Creek. In addition, the western portion of the project site contains Holocene alluvial fan deposits, a soil type that is generally sensitive for prehistoric archeological resources (**Figure 3**). Given these environmental factors and the ethnographic sensitivity of the area, there is a moderately high sensitivity for unrecorded Native American archeological resources to be within the western portion of the project site, west of the former bay shore. East of the former bay shore, within the former tidal marsh, there is a low sensitivity for prehistoric archeological resources, and a low potential to encounter Native American archeological resources during project implementation.

Based on historic maps, the project site was undeveloped until the late 1940s and early 1950s, when a variety of industrial and commercial facilities were developed and operated until the present. As a result, there is a low sensitivity for significant historical archeological resources to be present on the project site, and a low potential to encounter significant historical archeological resources during project implementation.

Archeological Testing Methods and Results

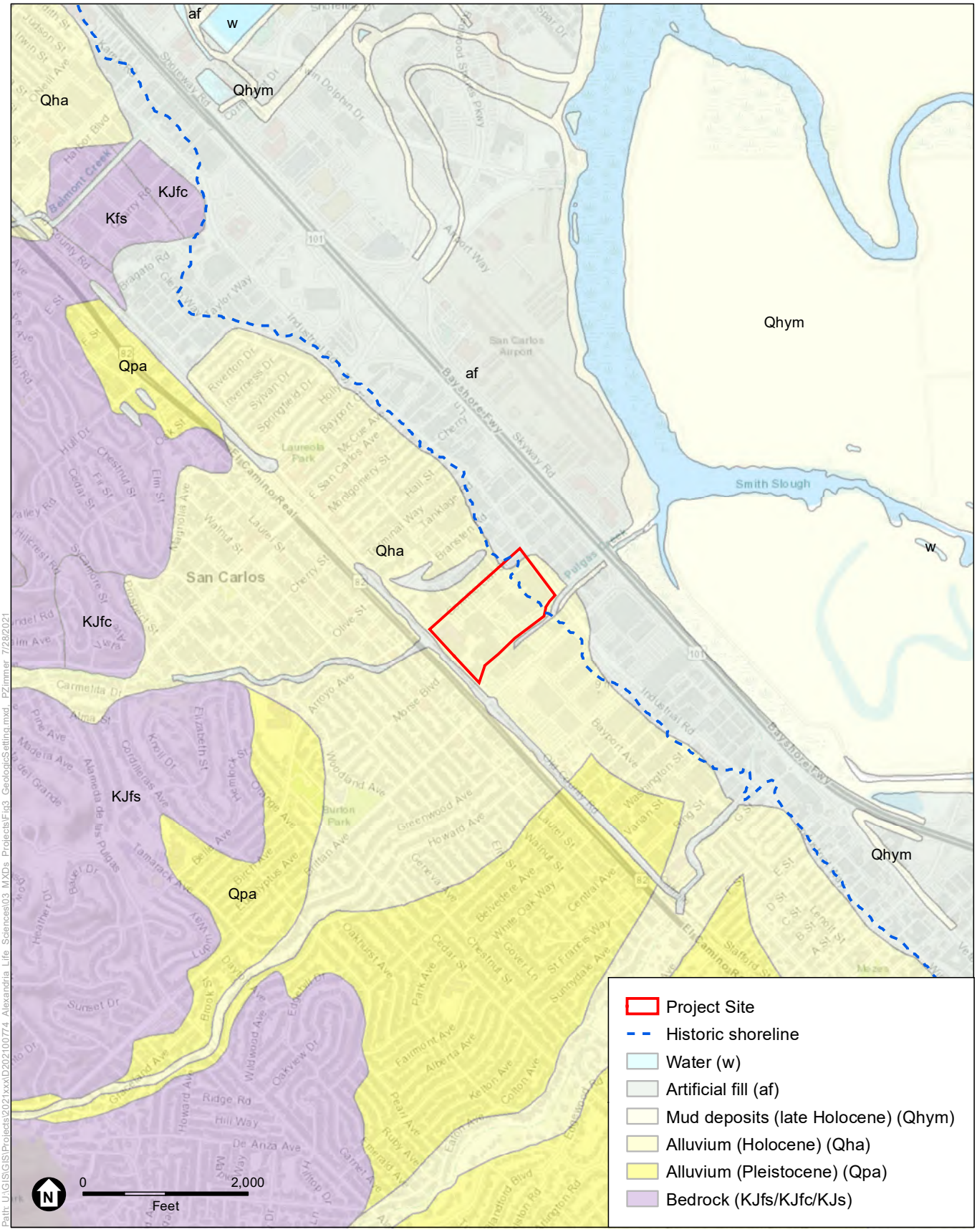
Archeological Testing Methods

Considering the uniform moderately high sensitivity for prehistoric archeological resources to be present throughout the entire project site, archeological testing systematically sampled the entire project site at approximately 50 meter horizontal intervals (**Figure 4**). This testing interval was sufficient to identify the presence of any potential prehistoric archeological sites or deposits. The goal of the testing was to assess the project site for the presence or absence of subsurface prehistoric archeological resources within the vertical C-AAPE, and evaluate potential archeological sites, deposits, and features with respect to their physical integrity and the data requirements of the research themes identified in the AMTP.[3]

Western Portion of the Project Site

Mechanical trenching was used as the most effective testing method on the western portion of the project site. A total of 22 archeological test trenches were completed after existing building demolition and before site preparation, grading, or utility excavation. Trenches were excavated to the maximum depth of project- related ground disturbance associated with underground parking garages, or approximately 10 feet bgs (**Table 1**). Trenching created both vertical and horizontal exposures using an excavator fitted with a flat bladed bucket. At each test location, a 3 to 4-feet-wide trench approximately 6–8 feet long was excavated in successive, shallow layers to avoid impacting cultural deposits or seriously compromising feature associations should any be present. A

[3] Russell and Zimmer, 2021.



SOURCE: ESA, 2021; ESRI, 2021; USGS Scientific Investigations Map 2918

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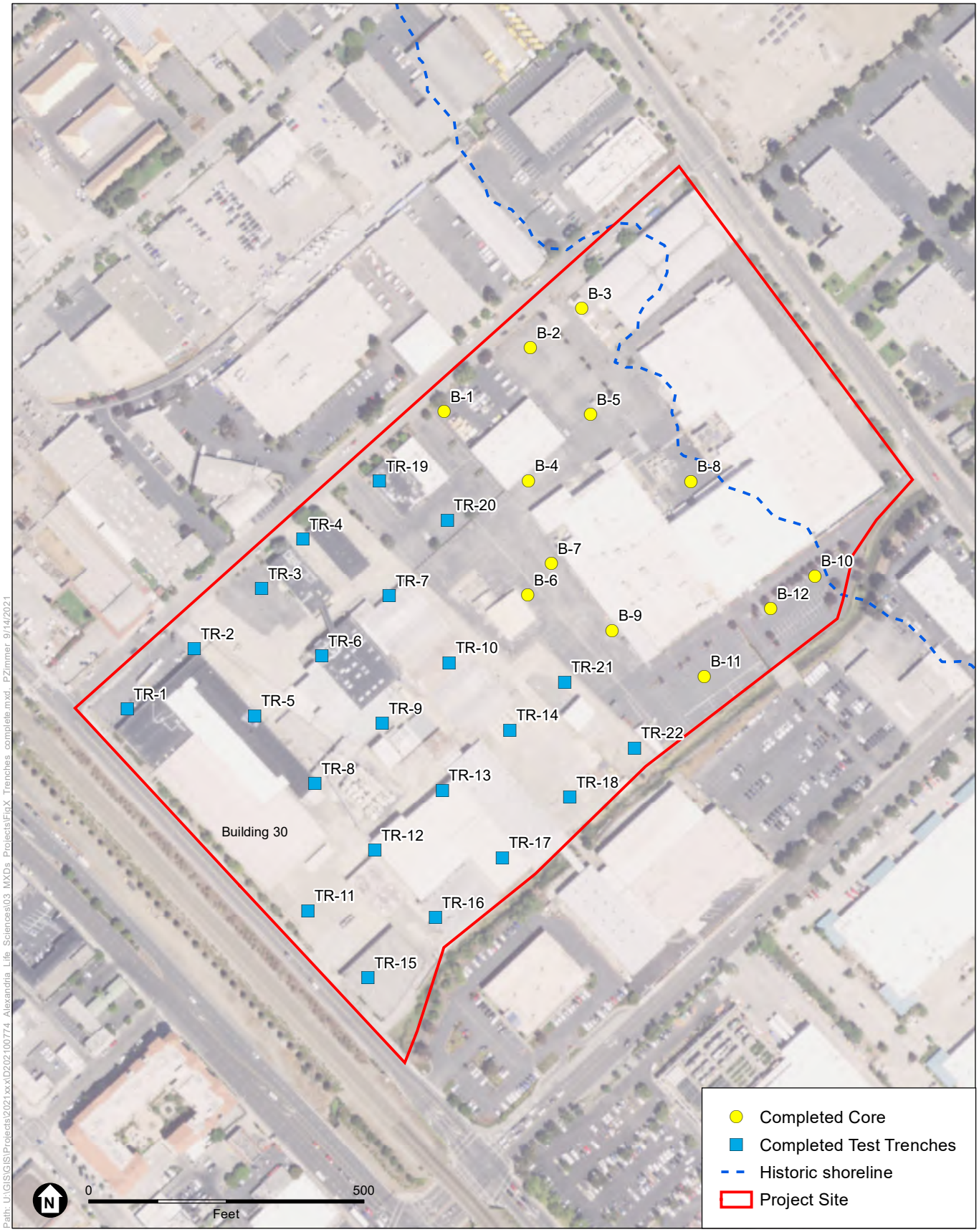
Figure 3
Geological Setting

ESA



SOURCE: ESA, 2021; SFEI, 1998

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Figure 4
Completed Test Trenches and Geoarcheological Cores

ESA

TABLE 1
TEST TRENCH SUMMARY

Location	Horizontal Dimensions (feet)	Trench Depth (feet)
Trench 1	4 x 17	10
Trench 2	4 x 14	10.5
Trench 3	4 x 18	10
Trench 4	4 x 16	11
Trench 5	4 x 16	12
Trench 6	4 x 6	9.5
Trench 7	4 x 8	9.5
Trench 8	4 x 15	10
Trench 9	4 x 8	10
Trench 10	4 x 14	10
Trench 11	4 x 16	11
Trench 12	4 x 15	10
Trench 13	4 x 14	10.5
Trench 14	4 x 15	6*
Trench 15	4 x 15	11
Trench 16	4 x 16	11.5
Trench 17	4 x 15	10.5
Trench 18	4 x 14	9
Trench 19	4 x 16	10
Trench 20	4 x 16	9
Trench 21	4 x 16	10
Trench 22	4 x 15	10

*Trench 14 was located in a former loading dock, so starting point was approximately 4 feet bgs relative to the rest of the trenches.

qualified archeologist meeting the Secretary of the Interior's Professional Qualification Standards for Archeology and knowledgeable at identifying San Francisco Bay Area prehistoric archeological materials directed test trenching operations. All aspects of testing were documented on field notes and field forms.

Eastern Portion of the Project Site

Archeological testing for buried prehistoric archeological resources in the eastern portion of the project site consisted of a geoarcheologist examining cores recovered by a professional drilling subcontractor (see Figure 4). The drilling subcontractor collected 12 geoarcheological core samples with a Geoprobe 3126DT direct-push drill rig advancing 4-foot-long, 2-inch diameter sample tubes (**Table 2**). An archeologist meeting the Secretary of the Interior's Professional Qualifications Standards (SOI PQS) for Archeology, and with a demonstrated expertise in geoarcheology, examined all recovered core samples. Appropriate San Mateo County permits were obtained prior to conducting the investigation, and all core locations were cleared of underground utilities before beginning

TABLE 2
GEOARCHEOLOGICAL CORING SUMMARY

Location	Core Depth (feet)
Core B-1	15
Core B-2	15
Core B-3	15
Core B-4	15
Core B-5	15
Core B-6	15
Core B-7	15
Core B-8	15
Core B-9	15
Core B-10	15
Core B-11	15
Core B-12	15

work. Each core location was given a unique field designation and plotted using a sub-meter accuracy global positioning system (GPS) device.

Mechanical core sampling consisted of a drilling subcontractor advancing 2-inch diameter core samples using a direct push hydraulic rig to obtain a continuous core from the ground surface to approximately 10 feet below ground surface. Each successive push extended 4 feet bgs, and the geoarcheologist opened, inspected, and documented all cores in the field as they were extracted. The geoarcheologist recorded the core stratigraphy to define soil stratigraphy and completed a core log for each sample location to record the overall project site stratigraphy.

The goal of the geoarcheological coring program was to directly examine the subsurface sediments to look for signs of an intact paleosol, prehistoric archeological resources, or other evidence that archeologically sensitive soils were present. To accomplish this goal, the geoarcheologist closely examined the cores to determine if potential paleosols were present that may represent formerly stable and livable ground surfaces. If present, such paleosols can often be identified on the basis of color, structure, horizon development, bioturbation, lateral continuity, and the nature of the upper boundary (contact) with the overlying deposit.[4]

Archeological Testing Results

Western Portion of the Project Site

ESA did not observe any evidence of near-surface or buried prehistoric archeological resources in any of the 22 completed test trenches. Instead, below a shallow, disturbed layer of fill the native soil was, culturally, completely

[4] Byrd, Brian F., Philip Kaijankoski, Jack Meyer, Adrian Whitaker, Rebecca Allen, Meta Bunse, and Bryan Larson, Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California. Prepared by Far Western Anthropological Research Group, Past Forward, Inc., and JRP Historical, Prepared for the City and County of San Francisco Planning Department, San Francisco, CA, 2010.

sterile. The backhoe trenches were sufficiently deep (reaching 9–12 feet bgs) to rule out the presence of prehistoric archeological deposits in the tested locations. Trench logs are presented in **Appendix A**.

Based on observations from test trenching across the parcel, ESA archeologists assembled an overall site stratigraphy. From the street-level ground surface to a depth of approximately 3–4 feet bgs, the project site consisted of sandy clay fill with structural debris (including concrete and metal fragments) that was likely associated with the twentieth century construction and demolition activity on the parcel. The fill layer capped a stratum of intact black to very dark grey clay that extended to 3.5–5.25 feet, where it transitioned to dark yellowish brown clayey sand. Stratigraphy in all 22 excavated trenches was generally uniform, and matched the overall stratigraphy described above. As noted above, ESA did not observe any evidence of near-surface or buried prehistoric archeological resources during trenching.

Eastern Portion of the Project Site

The coring results from 12 geoarcheological cores indicate that stratigraphy in the eastern portion of the project site was consistent with the stratigraphy in the western portion of the project site observed during archeological test trenching. From the street-level ground surface to a depth of approximately 1–3 feet bgs, the project site consisted of sandy clay fill overlying a stratum of intact black to very dark grey clay that extended to approximately 3–5 feet. Below 3–5 feet, it transitioned to dark yellowish brown clayey sands and sandy clays with variable gravel content to the depth of exploration at 15 feet. Stratigraphy in all 12 cores was generally uniform, and matched the overall stratigraphy described above. ESA did not observe any evidence of near-surface or buried prehistoric archeological resources during coring. Coring logs are presented in **Appendix B**.

Archeological Testing Conclusions and Recommendations

In summary, ESA archeologists directed excavation of 22 archeological test trenches and 12 geoarcheological cores to determine the presence or absence of previously unrecorded archeological resources in both the western and eastern portions of the project site (see Figure 4). No evidence of prehistoric or historical archeological resources was observed during testing. Based on the absence of previously identified buried archeological resources in the project site, combined with the negative findings during test trenching and geoarcheological coring, ESA does not recommend any further archeological identification efforts for buried archeological resources, including construction monitoring.

Although unlikely, the inadvertent discovery of archeological resources and/or human remains during project-related ground disturbance cannot be entirely discounted. The following actions are recommended in the event of an inadvertent discovery of archeological resources and/or human remains during project implementation. These actions are consistent with the requirements of anticipated Mitigation Measures Culture-2 and Culture-3.

> **Inadvertent Discovery of Archeological Resources.** If pre-contact or historic-era archeological resources are encountered during project implementation, construction activities within 50 feet shall halt and a qualified archeologist, defined as an archeologist meeting the U.S. Secretary of the Interior's Professional Qualification Standards for Archeology, shall inspect the find within 24 hours of discovery and notify the City of San Carlos (City) of their initial assessment. Pre-contact cultural materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as

hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse.

If the City determines, based on recommendations from a qualified archeologist and a Native American representative (if the resource is pre-contact), that the resource may qualify as a historical resource or unique archeological resource (as defined in CEQA Guidelines Section 15064.5) or a tribal cultural resource (as defined in PRC Section 21080.3), the resource shall be avoided if feasible. Consistent with Section 15126.4(b)(3), this may be accomplished through planning/altering planned construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement.

If avoidance is not feasible, the City shall consult with appropriate Native American tribes (if the resource is pre-contact), and other appropriate interested parties to determine treatment measures to avoid or minimize any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3).

Inadvertent Discovery of Human Remains. In the event of discovery or recognition of any human remains during project-related ground disturbance, Mitigation Measure Culture-3 shall be implemented:

Halt Construction Activity, Evaluate Remains and Take Appropriate Action in Coordination with Native American Heritage Commission. In the event that any human remains are uncovered during site preparation, excavation or other construction activity, all such activity shall cease until these resources have been evaluated by the County Coroner, and appropriate action taken in coordination with the Native American Heritage Commission, in accordance with section 7050.5 of the California Health and Safety Code or, if the remains are Native American, section 5097.98 of the California Public Resources Code.

Appendix A
Trench Logs

ESA

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Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:**	**1**

Methods/Equipment:	Date: 8/25/2021	Location/Coordinates:	
36 inch bladed bucket	Start Time: 07:48	UTM 10S 565915.8 mE 4150980.4 mN	
	End Time: 08:20	Elevation: 16 feet (NAVD88)	Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill	
2			
3		10YR 3/2 sandy clay	
4			
5		10YR 5/6 / 7.5YR 4/6 clay sand with high inclusion content	
6			
7			
8			
9			
10			▽ Approximate groundwater level
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 1 overview

Trench 1 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **2**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/25/2021 Start Time: 08:50 End Time: 09:05	Location/Coordinates: UTM 10S 565953.0 mE 4151013.8 mN Elevation: 15 feet (NAVD88) Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Mottled loose fill	
2			
3		10YR 3/2 clay	← Gradual transition to 10YR 2/2 / 2/1 with depth
4			
5			
6			
7		10YR 5/6 / 7.5YR 4/6 clay sand with high inclusion content	
8			
9			▽ Approximate groundwater level
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 2 overview

Trench 2 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **3**

Methods/Equipment:	Date: 8/25/2021	Location/Coordinates: UTM 10S 565990.3 mE 4151047.2 mN
36 inch bladed bucket	Start Time: 10:10	
	End Time: 10:35	Elevation: 14 feet (NAVD88) — Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Asphalt	
		Road base and clay	
2		10YR 2/1 clay	
3			
4			
5		2.5YR 4/2 sand with high inclusion content	
6			
7			← Decrease in inclusions and increasing clay content with depth
8		10YR 5/6 clay sand with high inclusion content	
9			▽ Approximate groundwater level
10			
		Terminated at 10.0 feet	
11			
12			
13			
14			
15			

Trench 3 overview

Trench 3 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **4**

Methods/Equipment:	Date: 44434	Location/Coordinates:	
36 inch bladed bucket	Start Time: 08:45	UTM 10S 566013.3 mE 4151074.5 mN	
	End Time: 09:05	Elevation: 13 feet (NAVD88)	Total Depth: 11.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Concrete	
		Mixed clay fill	
2		10YR 2/1 clay	
3			
4			
5		10YR 5/4 stiff clay with gravels	
6			
7			
8		10YR 5/4 clayey sand	▽ Approximate groundwater level
9			
10		10YR 5/4 clayey sand with gravels	
11			
12		Terminated at 11.0 feet	
13			
14			
15			

Trench 4 overview

Trench 4 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **5**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/24/2021 Start Time: 13:45 End Time: 13:58	Location/Coordinates: UTM 10S 565986.4 mE 4150976.5 mN Elevation: 19 feet (NAVD88) Total Depth: 12.0 feet

Depth (ft)	Sample	Soil Description	Notes
1			
2		Disturbed mottled fill	← Fill soil has recently been deposited
3			
4			← Original ground surface
5		Disturbed mottled fill	
6			
7			
8		7.5YR 4/6 sandy clay	← Iron inclusions
9			
10		10YR 5/4 / 5/6 sandy clay	
11			
12		10YR 5/6 clay	▽ Approximate groundwater level
13		Terminated at 12.0 feet	
14			
15			

Trench 5 overview

Trench 5 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **6**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/23/2021 Start Time: 08:45 End Time: 09:05	Location/Coordinates: UTM 10S 566023.6 mE 4151009.9 mN Elevation: 14 feet (NAVD88) Total Depth: 9.5 feet

Depth (ft)	Sample	Soil Description	Notes
1		10YR 2/2 clayey sand fill	← Bits of concrete and metal pipe fragments
2			
3			
4		10YR 4/6 clayey sand	← No inclusions
5			
6			
7			
8			
9			▽ Approximate groundwater level
10		Terminated at 9.5 feet	
11			
12			
13			
14			
15			

Trench 6 overview

Trench 6 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **7**

Methods/Equipment:	Date: 8/23/2021	Location/Coordinates: UTM 10S 566060.9 mE 4151043.3 mN	
36 inch bladed bucket	Start Time: 10:30		
	End Time: 10:50	Elevation: 13 feet (NAVD88)	Total Depth: 9.5 feet

Depth (ft)	Sample	Soil Description	Notes
1		Sand fill	
2			
3			
4			
5		10YR 2/1 clay	
6		10YR 4/1 clay	
7			
8		10YR 4/6 clayey sand	
9			
10		Terminated at 9.5 feet	
11			
12			
13			
14			
15			

Trench 7 overview

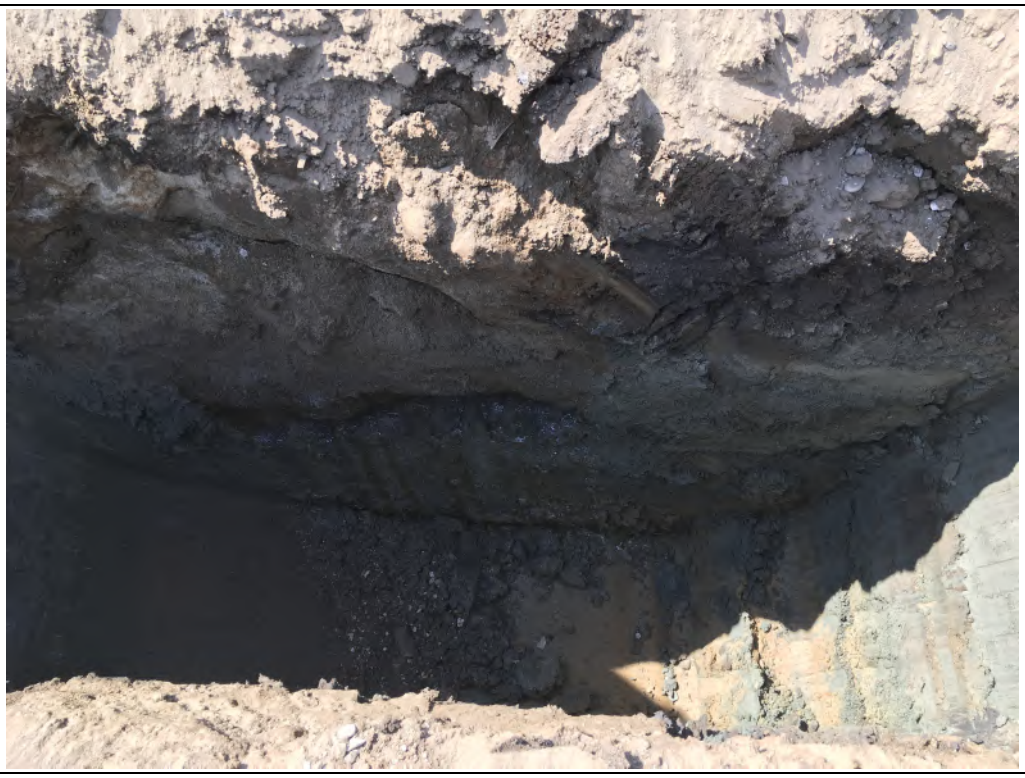
Trench 7 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **8**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/24/2021 Start Time: 12:08 End Time: 12:24	Location/Coordinates: UTM 10S 566019.8 mE 4150939.3 mN Elevation: 15 feet (NAVD88) Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill	
2			
3			
4			
5			← 5GY 4/1 / 6/1 very unstable sand observed in the western side of trench
6		5GY 4/1 clay with pockets of sand	▽ Approximate groundwater level
7			
8			
9			
10		10YR 5/4 sandy clay	
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 8 overview



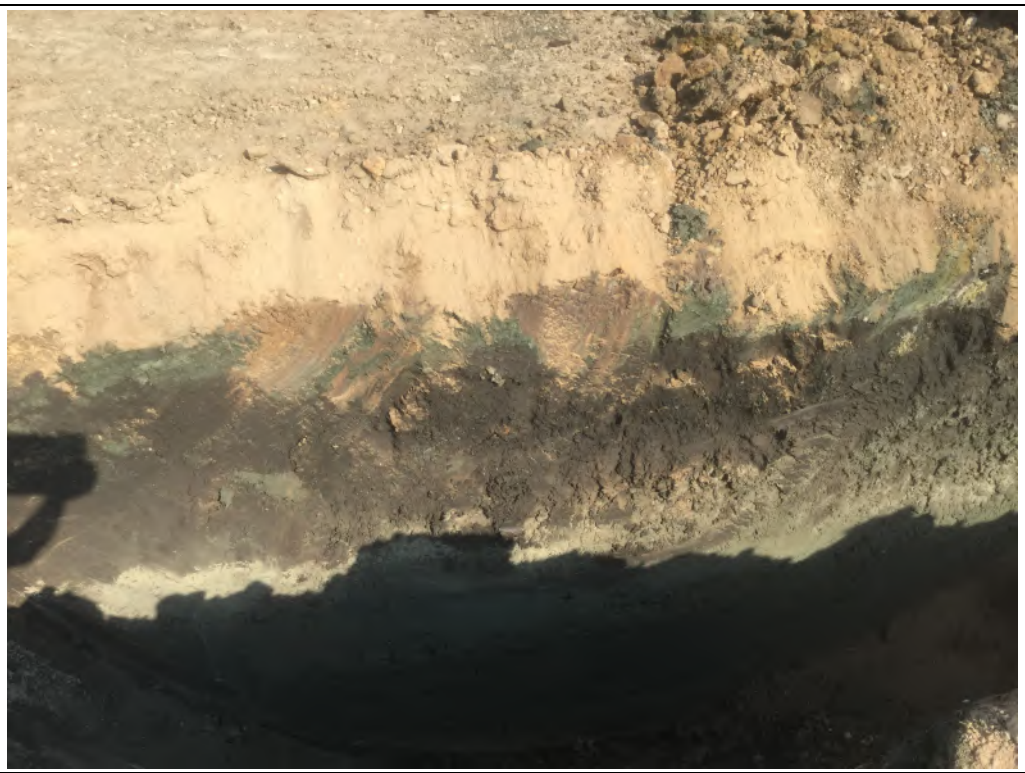
Trench 8 side wall profile

ESA	Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:**	**9**

Methods/Equipment:	Date: 8/23/2021	Location/Coordinates:	
36 inch bladed bucket	Start Time: 09:45	UTM 10S 566057.0 mE 4150972.7 mN	
	End Time: 09:55	Elevation: 14 feet (NAVD88)	Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		10YR 2/2 clayey sand fill	← Concrete and metal fragments
2			
3			
4		7.5YR 5/1 clayey sand	← No inclusions
5			
6			
7			
8			
9			
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 9 overview



Trench 9 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **10**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/23/2021 Start Time: 11:55 End Time: 12:15	Location/Coordinates: UTM 10S 566094.2 mE 4151006.1 mN Elevation: 13 feet (NAVD88) Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill	
2			
3			
4		10YR 2/1 clay	
5			
6		10YR 5/4 / 5/6 clayey sand	
7			← Iron inclusions
8		10YR 5/6 sandy clay	
9			▽ Approximate groundwater level
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 10 overview

Trench 10 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **11**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/24/2021 Start Time: 10:30 End Time: 10:46	Location/Coordinates: UTM 10S 566015.9 mE 4150868.7 mN Elevation: 16 feet (NAVD88) Total Depth: 11.0 feet

Depth (ft)	Sample	Soil Description	Notes
1			
2		Disturbed mottled fill	
3			
4			
5			← Iron inclusions
6		7.5YR 4/6 clayey sand	
7			
8		10YR 5/4 sand with high inclusion content	▽ Approximate groundwater level
9			
10		10YR 5/6 clay	
11			
12		Terminated at 11.0 feet	
13			
14			
15			

Trench 11 overview

Trench 11 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **12**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/24/2021 Start Time: 11:42 End Time: 11:58	Location/Coordinates: UTM 10S 566053.2 mE 4150902.1 mN Elevation: 15 feet (NAVD88) Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill	
2			
3			
4		10YR 6/2 clay	← Sand content increasing with depth
5			
6			
7		10YR 5/6 sandy clay	← Inclusion content increasing with depth
8			
9			Dense iron inclusions
10		10YR 5/6 / 6/1 clay	▽
11		Terminated at 10.0 feet	Approximate groundwater level
12			
13			
14			
15			

Trench 12 overview

Trench 12 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **13**

Methods/Equipment:	Date: 8/24/2021	Location/Coordinates: UTM 10S 566090.4 mE 4150935.5 mN	
36 inch bladed bucket	Start Time: 07:53		
	End Time: 08:03	Elevation: 14 feet (NAVD88)	Total Depth: 10.5 feet

Depth (ft)	Sample	Soil Description	Notes
1		Road base	
2		10YR 3/2 clay	
3		10YR 2/1 clay	
4			
5		5GY 7/1 sandy clay	
6			
7			
8		10YR 5/4 5/6 sandy clay	
9			
10			▽ Approximate groundwater level
11		Terminated at 10.5 feet	
12			
13			
14			
15			

Trench 13 overview

Trench 13 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **14**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/23/2021 Start Time: 12:42 End Time: 12:52	Location/Coordinates: UTM 10S 566127.6 mE 4150968.9 mN Elevation: 10 feet (NAVD88) Total Depth: 6.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		10YR 2/2 clay	
2			
3		10YR 5/4 / 5/6 clayey sand	
4			← Iron inclusions
5			▽ Approximate groundwater level
6		10YR 5/4 sand	← transition from sand to clay
7		Terminated at 6.0 feet	
8			
9			
10			
11			
12			
13			
14			
15			

Trench 14 overview

Trench 14 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **15**

Methods/Equipment:	Date: 8/24/2021	Location/Coordinates: UTM 10S 566049.3 mE 4150831.5 mN	
36 inch bladed bucket	Start Time: 08:33		
	End Time: 08:50	Elevation: 16 feet (NAVD88)	Total Depth: 11.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill	
2		10YR 2/2 clay	
3			
4		10YR 5/4 / 5/6 clayey sand	
5		10YR 6/2 clayey sand	
6			← Iron inclusions
7			
8			← Sand content decreasing with depth
9		10YR 5/4 sandy clay	
10			
11			
12		Terminated at 11.0 feet	
13			
14			
15			

Trench 15 overview

Trench 15 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **16**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/24/2021 Start Time: 08:08 End Time: 08:28	Location/Coordinates: UTM 10S 566086.5 mE 4150864.9 mN Elevation: 15 feet (NAVD88) Total Depth: 11.5 feet

Depth (ft)	Sample	Soil Description	Notes
1		10YR 5/6 disturbed clayey sand	
2			
3		10YR 2/2 clay	
4			
5			
6		10YR 6/2 clayey sand	
7			
8			
9			▽ Approximate groundwater level
10		10YR 5/6 sandy clay	
11			
12		Terminated at 11.5 feet	
13			
14			
15			

Trench 16 overview

Trench 16 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **17**

Methods/Equipment:	Date: 8/24/2021	Location/Coordinates: UTM 10S 566123.8 mE 4150898.2 mN	
36 inch bladed bucket	Start Time: 14:00		
	End Time: 14:18	Elevation: 14 feet (NAVD88)	Total Depth: 10.5 feet

Depth (ft)	Sample	Soil Description	Notes
		Compact road base	
1		10YR 3/2 clay	
2			
3		10YR 2/1 clay	
4			
5		10YR 5/4 sandy clay	
6			
7		10YR 6/2 clay	
8			
9		10YR 5/6 sandy clay	← Iron inclusions
10			
11		Terminated at 10.5 feet	
12			
13			
14			
15			

Trench 17 overview

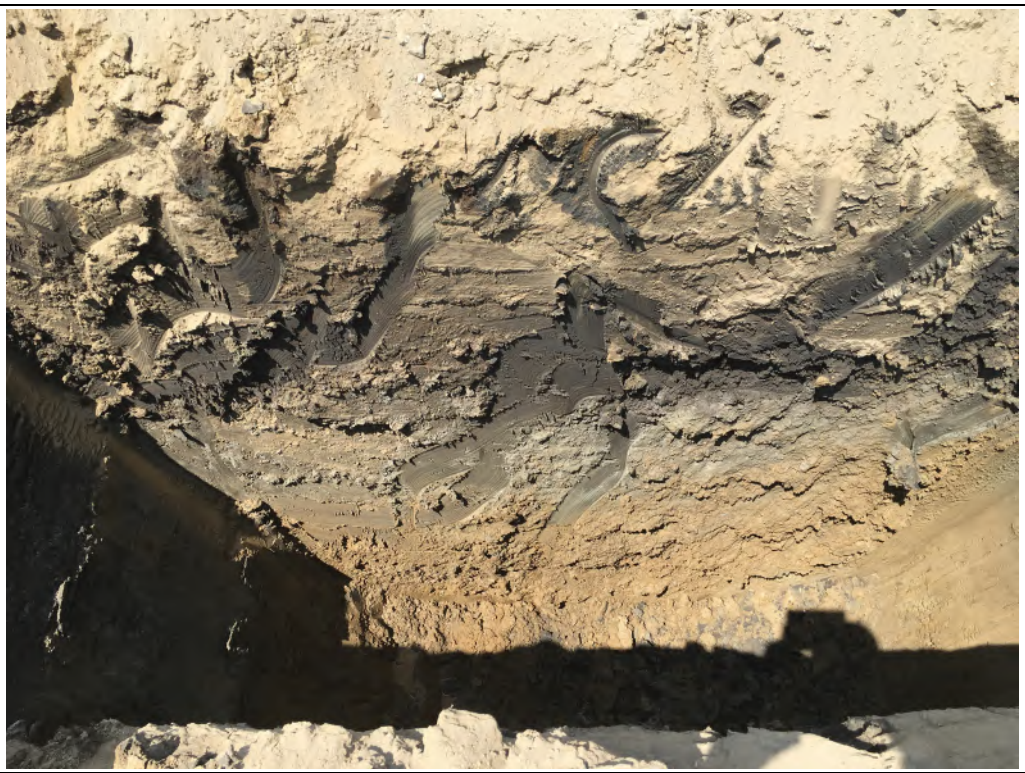
Trench 17 side wall profile

ESA	Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **18**

Methods/Equipment: 36 inch bladed bucket	Date: 8/23/2021 Start Time: 13:07 End Time: 13:22	Location/Coordinates: UTM 10S 566161.0 mE 4150931.6 mN Elevation: 13 feet (NAVD88)	Total Depth: 9.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Loose fill sand	
2		10YR 3/2 clay	
3		10YR 2/1 clay	
4			
5		5GY 7/1 clay	
6			
7			← Iron inclusions
8		10YR 5/6 sandy clay	← Increasing clay content with depth
9			▽ Approximate groundwater level
10		Terminated at 9.0 feet	
11			
12			
13			
14			
15			

Trench 18 overview



Trench 18 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **19**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/25/2021 Start Time: 13:50 End Time: 14:05	Location/Coordinates: UTM 10S 566055.7 mE 4151106.8 mN Elevation: 13 feet (NAVD88) Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Fill sand	
2		10YR 2/1 clay	
3			
4			
5		10YR 3/2 sandy clay	
6			
7		10YR 5/4 / 5/6 clay sand with high inclusion content	← Inclusion content decreasing with depth
8			
9			▽ Approximate groundwater level
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 19 overview

Trench 19 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **20**	
Methods/Equipment: 36 inch bladed bucket	Date: 8/26/2021 Start Time: 08:25 End Time: 08:40	Location/Coordinates: UTM 10S 566093.3 mE 4151085.0 mN Elevation: 13 feet (NAVD88) Total Depth: 9.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Asphalt	
		Road base	
2		10YR 2/1 clay with silt	
3			
4		10YR 3/2 clay with inclusion	
5		10YR 4/2 moderately stiff sandy clay	
6			
7		10YR 4/6 clay with decomposing gravels	
8			▽ Approximate groundwater level
9			
10		Terminated at 9.0 feet	
11			
12			
13			
14			
15			

Trench 20 overview

Trench 20 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **21**

Methods/Equipment:	Date: 8/25/2021	Location/Coordinates:	
36 inch bladed bucket	Start Time: 12:15	UTM 10S 566158.3 mE 4150995.4 mN	
	End Time: 12:40	Elevation: 13 feet (NAVD88)	Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Road base / sand / rock	
2		10YR 2/1 clay	
3			
4			
5		10YR 3/2 clay	
6		10YR 5/4 / 5/6 clayey sand with high inclusion content	
7			
8			▽ Approximate groundwater level
9		10YR 5/6 sandy clay with little to no inclusions	
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 21 overview

Trench 21 side wall profile

ESA

Project Name: Alexandria Center Project Number: D202100774.00 Logged by: DWA	**Log of Trench:** **22**

Methods/Equipment:	Date: 8/25/2021	Location/Coordinates:	
36 inch bladed bucket	Start Time: 13:25	UTM 10S 566196.7 mE 4150958.9 mN	
	End Time: 13:40	Elevation: 13 feet (NAVD88)	Total Depth: 10.0 feet

Depth (ft)	Sample	Soil Description	Notes
1		Disturbed mottled fill with road base	
2		10YR 2/2 clay	
3			
4		10YR 3/2 clay	
5		5GY 4/1 clay	
6			Iron inclusions
7		7.5YR 4/6 sandy clay	
8			
9			
10			
11		Terminated at 10.0 feet	
12			
13			
14			
15			

Trench 22 overview

Trench 22 side wall profile

Appendix B
Coring Logs

ESA

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **1**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566091.3 mE 4151145.2 mN	
Geoprobe 7700/DT22	Start Time: 08:20		
	End Time: 08:40	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
		Asphalt	
1	100%	10YR 5/2 greyish brown sandy clay with gravels (fill)	
2		10YR 2/1 black stiff sandy clay with oxide nodules	
3		10YR 3/1 very dark grey stiff sandy clay with oxide nodules	
4			
5		10YR 4/2 dark greyish brown moderately stiff sandy clay with gravels	
6	100%		
7		10YR 4/4 dark yellowish brown moderately stiff sandy clay with gravels and redox mottling	
8			▽ Approximate groundwater level
9		10YR 4/4 clayey sand with gravels	
10			
11	100%		
12		Gravels with 10YR 4/4 clayey sand	
13			
14		10YR 4/4 clayey sand with gravels	
15		10YR 4/4 stiff clay	
16		Terminated at 15.0 feet	


Upper core
Lower core
Top of core
Bottom of core

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **2**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566139.2 mE 4151180.7 mN	
Geoprobe 7700/DT22	Start Time: 09:10		
	End Time: 09:40	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	100%	Asphalt	
		10YR 5/2 greyish brown sandy clay with gravels (fill)	
2		10YR 2/1 black stiff sandy clay with oxide nodules	
3			
4		10YR 4/2 dark greyish brown moderately stiff sandy clay with gravels	
5			
6	100%		
7			
8			
9		10YR 4/6 dark yellowish brown stiff sandy clay with gravels and redox mottling	▽ Approximate groundwater level
10			
11	100%		
12			
13			
14		Gravels with 10YR 4/4 dark yellowish brown clayey sand	
15			
16		Terminated at 15.0 feet	

ESA	Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **3**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566167.5 mE 4151202.3 mN	
Geoprobe 7700/DT22	Start Time: 11:25		
	End Time: 11:40	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	50%	Concrete	
2		10YR 4/6 dark yellowish brown stiff sandy clay with gravels (fill)	
3			
4		10YR 2/1 black stiff sandy clay with oxide nodules	
5			
6	100%	10YR 4/4 dark yellowish brownstiff sandy clay with sparse gravels	
7			
8			
9			▽ Approximate groundwater level
10			
11	100%	10YR 4/4 stiff sandy clay with redox mottling	
12			
13			
14			
15		10YR 4/6 clayey sand with gravels	
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **4**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates:	
Geoprobe 7700/DT22	Start Time: 10:25	10S 566138.2 mE 4151106.9 mN	
	End Time: 10:40	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	30%	Asphalt	
2		10YR 4/6 dark yellowish brown stiff sandy clay with gravels (fill)	
3			
4			
5		10YR 2/1 black stiff sandy clay with oxide nodules	
6	100%		
7		10YR 4/6 moderately stiff sandy clay with gravels	
8			
9			▽ Approximate groundwater level
10			
11	100%	10YR 4/6 stiff sandy clay with redox mottling and trace gravels	
12			
13			
14			
15			
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **5**	
Methods/Equipment: Geoprobe 7700/DT22	Date: 09/13/2021 Start Time: 09:55 End Time: 10:10	Location/Coordinates: 10S 566172.5 mE 4151143.4 mN Elevation: 10 feet (NADV88) Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	50%	Asphalt	
2		10YR 4/6 dark yellowish brown stiff sandy clay with gravels (fill)	
3			
4			
5		10YR 2/1 black stiff sandy clay with oxide nodules	
6	100%	10YR 4/6 moderately stiff sandy clay with gravels	
7			
8			
9			▽ Approximate groundwater level
10		10YR 4/6 clayey sand with gravels	
11	85%		
12			
13		10YR 4/6 stiff sandy clay with redox mottling and trace gravels	
14			
15			
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **6**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566137.6 mE 4151043.7 mN	
Geoprobe 7700/DT22	Start Time: 14:40		
	End Time: 14:55	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

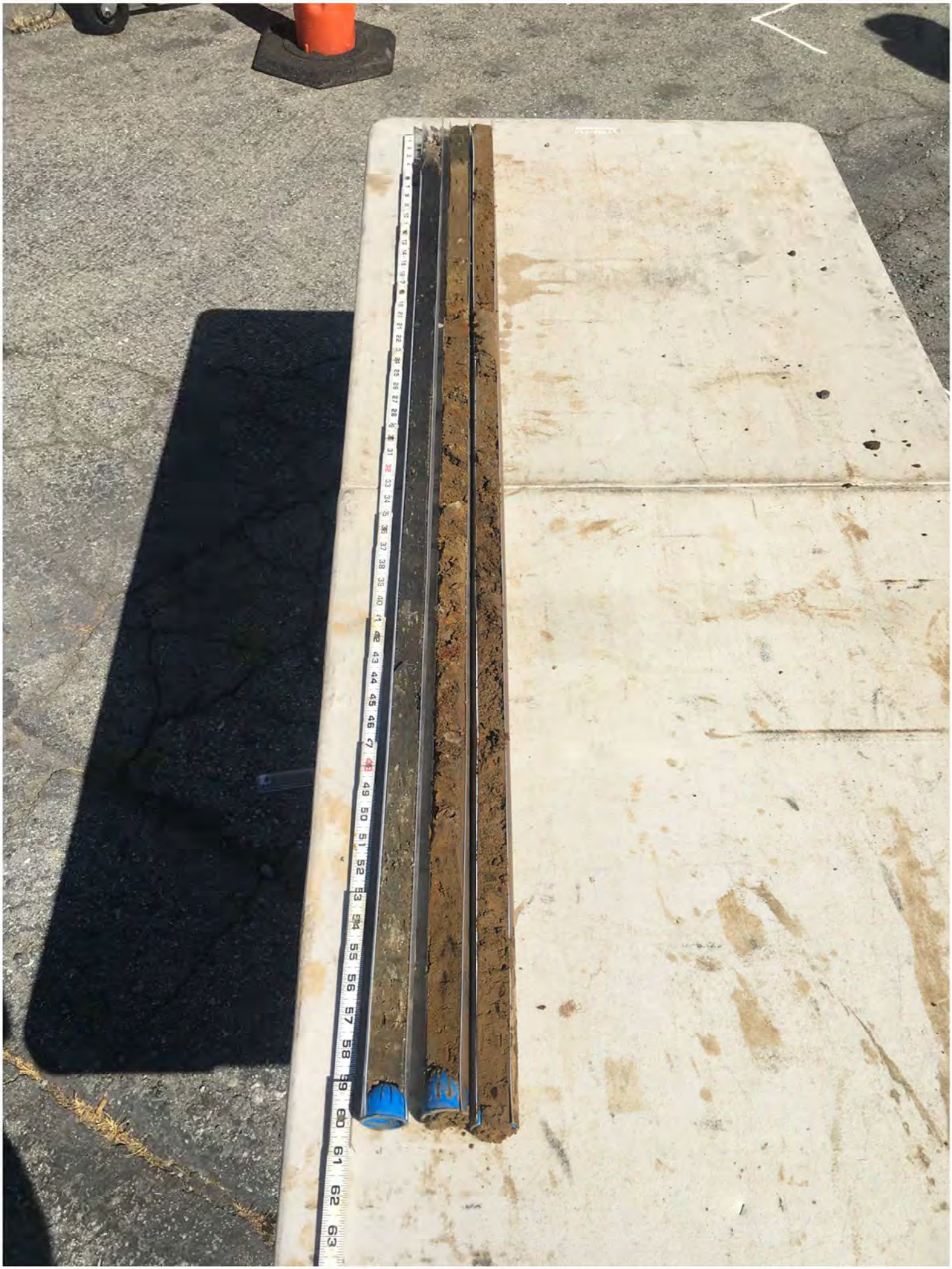
Depth (ft)	Recovery	Soil Description	Notes
1	100%	Asphalt 10YR 3/2 very dark greyish brown stiff sandy clay with gravels (fill)	
2		10YR 2/1 black stiff sandy clay with oxide nodules	
3			
4		10YR 3/2 stiff sandy clay	
5		10YR 5/2 greyish brown stiff sandy clay	
6	80%		
7			
8			
9			▽ Approximate groundwater level
10		10YR 4/6 dark yellowish brown clayey sand with redox mottling	
11	60%		
12			
13			
14		10YR 5/2 clayey sand	
15			
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **7**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566150.9 mE 4151061.0 mN	
Geoprobe 7700/DT22	Start Time: 15:00		
	End Time: 15:15	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
		Asphalt	
1	100%	10YR 2/1 black stiff sandy clay with oxide nodules	
2			
3			
4			
5		10YR 3/2 very dark greyish brown stiff sandy clay	
6	100%	10YR 4/6 dark yellowish brown sandy clay with redox mottling	
7			
8		10YR 4/6 gravelly sandy clay	
9			▽ Approximate groundwater level
10			
11	100%	10YR 4/6 clayey sand with gravels	
12			
13			
14		10YR 4/6 sandy clay with redox mottling	
15			
16		Terminated at 15.0 feet	



ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **8**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566227.9 mE 4151106.4 mN	
Geoprobe 7700/DT22	Start Time: 10:55		
	End Time: 11:10	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	80%	Asphalt	
2		10YR 4/6 dark yellowish brown stiff sandy clay with gravels (fill)	
3			
4		10YR 2/1 black stiff sandy clay with oxide nodules	
5			
6	100%	10YR 3/2 very dark greyish brown sandy clay with oxide nodules	
7			
8			
9		10YR 4/6 moderately stiff sandy clay with gravels	▽ Approximate groundwater level
10			
11	100%		
12			
13			
14		10YR 4/6 clayey sand with gravels	
15			
16		Terminated at 15.0 feet	


LIFETIME

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **9**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566184.3 mE 4151023.8 mN	
Geoprobe 7700/DT22	Start Time: 14:10		
	End Time: 14:25	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	100%	Asphalt	
2		10YR 2/1 black stiff sandy clay with oxide nodules	
3			
4		10YR 3/2 very dark greyish brown stiff sandy clay	
5			
6	100%	10YR 4/6 dark yellowish brown stiff gravelly sandy clay	
7			
8			
9			▽ Approximate groundwater level
10			
11	100%	10YR 4/6 sandy clay with redox mottling and trace gravels	
12			
13			
14			
15			
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **10**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566296.5 mE 4151054.1 mN	
Geoprobe 7700/DT22	Start Time: 12:55		
	End Time: 13:05	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
		Asphalt	
1	75%	10YR 3/2 very dark greyish brown stiff sandy clay with gravels (fill)	
2			
3		10YR 2/1 black stiff sandy clay with oxide nodules	
4			
5		10YR 3/2 sandy clay with sparse gravels	
6	100%		
7			
8			
9		10YR 4/6 dark yellowish brown stiff sandy clay with gravels	▽ Approximate groundwater level
10			
11	100%		
12			
13		10YR 4/6 clayey sand with gravels	
14			
15		10YR 4/6 sandy clay with gravels	
16		Terminated at 15.0 feet	

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **11**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates: 10S 566235.5 mE 4150998.4 mN	
Geoprobe 7700/DT22	Start Time: 13:45		
	End Time: 14:00	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	100%	Asphalt 10YR 3/2 very dark greyish brown stiff sandy clay with gravels (fill)	
2		10YR 2/1 black stiff sandy clay with oxide nodules	
3			
4		10YR 3/2 sandy clay with sparse gravels	
5			
6	70%	10YR 4/6 dark yellowish brown stiff sandy clay with trace gravels	
7			
8		10YR 4/6 clayey sand	▽ Approximate groundwater level
9			
10		10YR 4/6 sandy clay with redox mottling	
11	80%		
12			
13		10YR 4/6 gravelly clayey sand	
14			
15		10YR 4/6 sandy clay with redox mottling	
16		Terminated at 15.0 feet	


LIFETIME

ESA

Project Name: Alexandria Life Sciences Project Number: D20210077400 Logged by: PDZ	**Log of Boring:** **12**

Methods/Equipment:	Date: 09/13/2021	Location/Coordinates:	
Geoprobe 7700/DT22	Start Time: 13:20	10S 566272.3 mE 4151036.1 mN	
	End Time: 13:35	Elevation: 10 feet (NADV88)	Total Depth: 15.0 feet

Depth (ft)	Recovery	Soil Description	Notes
1	80%	Asphalt	
2		10YR 3/2 very dark greyish brown stiff sandy clay with gravels (fill)	
3		10YR 2/1 black stiff sandy clay with oxide nodules	
4		10YR 3/2 sandy clay with sparse gravels	
5			
6	100%	10YR 4/6 dark yellowish brown stiff gravelly sandy clay	
7			
8			▽ Approximate groundwater level
9			
10			
11	100%	10YR 4/6 clayey sand with gravels	
12			
13			
14			
15		10YR 4/6 stiff gravelly sandy clay	
16		Terminated at 15.0 feet