

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: August 1, 2016

MEMO TO: David J. Rehnstrom, Manager of Water Distribution Planning Division

David Rehnstrom

FROM: Xavier J. Irias, Director of Engineering and Construction

XJI

SUBJECT: Approval of Ellsworth Street Alignment for the West of Hills Northern Pipelines Project

I approve implementation of the Ellsworth Street Alignment for the Wildcat Pipeline (Berkeley) portion of West of Hills Northern Pipelines Project (Project) as detailed in the attached Revised Addendum to West of Hills Northern Pipelines Environmental Impact Report (EIR). The District's Board of Directors certified and approved the Project EIR in December 2013, and an addendum was prepared in April 2016. The attached revised addendum was updated to address public concern over possible historical remnants of the Southern Pacific electric cars that ran on Ellsworth Street from 1911 to 1958.

The overall Project involves the construction of four water transmission pipelines to correct existing system deficiencies and improve system reliability. A summary of the environmental impact assessment for the project revisions is presented in the attachment.

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Attachment

cc: Tim McGowan
Stella Tan
Carlton Chan
Marshall McLeod
Marisa Boyce
Chron

**EAST BAY MUNICIPAL UTILITY DISTRICT
REVISED ADDENDUM TO THE WEST OF HILLS NORTHERN PIPELINES
PROJECT ENVIRONMENTAL IMPACT REPORT**

INTRODUCTION

A new pipeline alignment (Ellsworth Street Alignment) is being proposed for a portion of the Wildcat Pipeline (Berkeley) certified in the West of Hills Northern Pipelines Project (Project Environmental Impact Report (EIR) (DOX #2137453 and #2197241). The Ellsworth Street Alignment will run west on Stuart Street from Benvenue Avenue to Ellsworth Street and then north on Ellsworth Street from Stuart Street to Bancroft Way, as shown on Attachment A.

Pursuant to Section 15164 of the 2016 California Environmental Quality Act (CEQA) Guidelines, the lead agency shall prepare an addendum to a previously certified EIR if project changes or additions are necessary, but the changes do not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts as described in CEQA Section 15162. An addendum does not need to be circulated for public review but should be included in the record and supported by substantial evidence.

CONCLUSION

The Wildcat Pipeline (Berkeley) is one of four water transmission pipelines in the certified Project EIR and includes construction of about 8,200 feet of 48-inch pipeline from Nogales Street to Parker Street in the City of Berkeley, as shown on Attachment B. A new pipeline alignment (Ellsworth Street Alignment) was proposed during detailed design and includes construction of about 5,450 feet of 48-inch pipeline from Benvenue Avenue to Bancroft Way, as shown on Attachment A. Staff conducted an evaluation and determined that the new alignment does not result in new significant impacts or cause an increase in the severity of previously identified impacts as presented in the certified Project EIR. The District will implement the same mitigation measures for the Ellsworth Street Alignment that are presented in the Project EIR. No further environmental documentation is required.

PROJECT BACKGROUND

The District's Board of Directors certified and approved the Project EIR in December 2013. The proposed Project includes the construction of four water transmission pipelines as part of the planned system improvements under the West of Hills Master Plan (DOX #1798854). The proposed Project would correct existing transmission and storage operational deficiencies, meet future water demands, improve system reliability and water quality, and improve wintertime redundancy to facilitate facility outages necessary to replace or upgrade aging infrastructure. The four water transmission pipelines are located in the City of Berkeley in Alameda County and the Cities of El Cerrito, Richmond, and San Pablo in Contra Costa County.

The Wildcat Pipeline (Berkeley) Alignment was revised during the project design phase. The Ellsworth Street Alignment was identified to have significant advantages in constructability

while also reducing environmental impacts; the proposed alignment reduces the length of constructed pipeline, the potential tree-removal requirements, the degree of disturbance to existing sidewalks, and the challenges in pipeline connection.

WEST OF HILLS NORTHERN PIPELINES PROJECT CHANGES

The purpose of this addendum is to discuss the changes to the Project and to determine whether these changes generate new impacts or increase the significance of impacts as identified in the Project EIR.

The Wildcat Pipeline (Berkeley), described in the Project EIR, extended westward from Nogales Street on Parkside Drive, The Uplands, and Woolsey Street to Benvenue Avenue and ran northward on Benvenue Avenue to Stuart Street. From Stuart Street, the pipeline turned north on Telegraph Avenue, west on Ward Street, and north on Dana Street, terminating at Parker Street. The alignment is shown as Alternative Alignment (Benvenue Avenue) on Figure 2-6 of the Draft EIR and is shown on Attachment B. The new Ellsworth Street Alignment will extend west on Stuart Street starting from Benvenue Avenue and extend north on Ellsworth Street to Bancroft Way, as shown on Attachment A. The total length of the Wildcat Pipeline (Berkeley) analyzed in the Project EIR will be reduced from 8,200 feet (or 1.5 miles) to 5,450 feet (or 1 mile); the pipeline size (48-inch diameter) and material type (mortar-lined and plastic- or mortar-coated welded steel) will remain the same.

The new Ellsworth Street Alignment will require a tee installation at Ellsworth Street and Bancroft Way instead of a hot tap at Dana Street and Parker Street, as described in the Project EIR, to connect to the existing network pipeline. For a tee installation, valves for a pipeline segment are closed, the pipeline section is dewatered, a segment of the existing pipeline is removed at the desired connection location, and a new pipe tee is installed and connected. The construction duration is expected to be less than 5 weeks, as estimated for the hot tap connection method. In addition, a tee installation will eliminate the need for the overnight construction required by a hot tap connection.

For the new Ellsworth Street Alignment, there is an existing pipeline turnout at Benvenue Avenue and Stuart Street where the new pipeline will be connected. If the existing valve at the pipeline turnout is operational, then no outage of the existing distribution system will be required to make the connection. Otherwise, the existing valve will need to be replaced in a 1-week outage of the existing Wildcat Aqueduct.

In addition, a side connection will be made between the new Ellsworth Street Alignment and the Aqueduct Pressure Zone water distribution pipeline at Carleton Street and Ellsworth Street. This connection will allow the existing Wildcat Aqueduct and the Ellsworth Street Alignment to supply the distribution system of Aqueduct Pressure Zone and facilitate the replacement of a broken 20-inch valve in the distribution system at Dana Street and Parker Street.

As with the alignment identified in the Project EIR, pipeline dewatering pumps may still need to be operated continuously (24 hours per day, 7 days per week) for up to 1 month at some

locations. No new significant impacts will occur due to the potential project construction change nor will any existing impacts become more severe.

ENVIRONMENTAL EVALUATION

The Project EIR evaluated the following environmental factors: aesthetics, air quality, biological resources, cultural resources, energy conservation, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, recreation, and transportation and traffic. The environmental analysis for the Project EIR concluded that certain potential impacts from aesthetics, noise, transportation and traffic, and growth are significant and unavoidable, and the District approved a Statement of Overriding Considerations. The District also approved mitigation measures to avoid or mitigate all other identified potential impacts to a less-than-significant level.

The impacts identified in the Project EIR will remain the same or be reduced since the new Ellsworth Street Alignment will be shorter in length and will remain in a similar geographical area. All mitigation measures identified in the Project EIR to reduce the temporary, construction-related impacts of the Project to a less-than-significant level will be applied to the new alignment as required. The Project EIR also identified mitigation measures to lessen significant and unavoidable impacts, and these mitigation measures will continue to be applied to the new alignment.

The Project change was analyzed relative to the following pertinent environmental factors.

Aesthetics

The potential aesthetic impacts associated with the construction of the proposed Project included tree removal and short-term visual effects from nighttime construction lighting (if required) for the tie-in connections. Similar to the Wildcat Pipeline (Berkeley) proposed in the Project EIR, the Ellsworth Street Alignment will be located underground and would not be visible to the public. The new pipeline and construction corridor would be located to minimize impacts to trees and landscaping; however, construction would require the trimming of the limbs and roots of trees located within the public right-of-way. While construction is proposed to occur during the daytime hours (8 AM to 7 PM) on weekdays, construction of the tie-ins at the ends of each segment may require one 24-hour construction period for each tie-in to accomplish the connection while minimizing service interruptions. Mitigation Measures AES-1 and AES-2, described in the Project EIR (pages 3.2-11 and 3.2-13, respectively), to reduce nighttime lighting and address tree replacement and landscaping, respectively, will be applied to the Ellsworth Street Alignment. No new significant impacts to aesthetics will occur due to the project change nor will any existing significant impacts become more severe.

Air Quality

Air quality impacts for the Project are anticipated only during construction activities. Pollutant emissions and public exposures identified in the Project EIR will remain the same or be reduced

for the Ellsworth Street Alignment since the pipeline is shorter than the previously proposed pipeline. The distance from the Ellsworth Street Alignment to sensitive receptors is provided in Table 1. The new alignment will increase the distance of construction to sensitive receptors at the Claremont Day Nursery and the Alta Bates Hospital to greater than 500 feet and reduce the distance to the Harold E. Jones Child Study Center and Haste Street Child Development Center to 200 feet and 415 feet, respectively.

The same construction methods and mitigation measures, AIR-1a and AIR-1b, detailed in the Project EIR (page 3.3-14) will be used for the Ellsworth Street Alignment to reduce dust and pollutant emissions to less-than-significant levels. No new significant impacts to air quality will occur due to the project change nor will any existing significant impacts become more severe.

TABLE 1
Sensitive Receptors near Ellsworth Street Alignment

Facility	Location	Distance from Ellsworth Street Alignment
Residential Uses	Entire Alignment Except at Telegraph Avenue	Adjacent
Willard Middle School	2425 Stuart Street	Adjacent
Harold E. Jones Child Study Center	2425 Atherton Street	200 feet
The Academy	2722 Benvenue Avenue	275 feet
Haste Street Child Development Center	2339 Haste Street	415 feet
Alta Bates Hospital	2450 Ashby Avenue	>500 feet
Claremont Day Nursery	2845 Woolsey Street	>500 feet

Biological Resources

A biological resources survey of the Ellsworth Street Alignment was performed by Environmental Science Associates (ESA) in August 2015, as presented in Attachment C. No special-status species were observed. There are 88 street trees of 18 common street-tree species (between the sidewalk and the curb) that could be affected by pipeline construction, including 3 blocks that have no street trees. Notably, there are no coast live oaks (heritage trees) along the Ellsworth Street Alignment, there are fewer large-diameter trees than in the alignment approved in the Project EIR, and most blocks of Ellsworth Street have 6 or fewer trees per side.

There are 4 traffic circles along the Ellsworth Street Alignment, some containing trees and shrubs. Three of the traffic circles contain trees – at the intersections of Ellsworth Street and Carleton Street, Parker Street, and Stuart Street. These traffic circles and trees are valued by the neighborhood community and will be avoided to the extent feasible. Where disturbances are required, the traffic circles will be restored to pre-construction conditions to the extent feasible, as described in Mitigation Measure AES-2 (page 3.2-13). No new significant impacts on biological resources will occur due to the project change nor will any existing significant impacts become more severe.

Cultural Resources

ESA reviewed the search radii and results of previous record searches performed for the Project EIR, updated the records search at the Northwest Information Center, and performed a surface survey of the Ellsworth Street Alignment, presented in Attachment C. Based on the survey, there are no known historical resources, archaeological resources, tribal cultural resources, or human remains within the Ellsworth Street Alignment area. As described in Attachment D (a subsequent Cultural Resources Study prepared by ESA), the Ellsworth Street Alignment has a low potential to uncover archaeological or historical resources, including remnants of the Southern Pacific electric “Red Car” line that ran on Ellsworth Street from 1911 to 1958.

As with the Wildcat Pipeline (Berkeley), implementation of Mitigation Measures CUL-1c, CUL-2a through 2d and CUL-3 (pages 3.5-20, 3.5-21 and 3.5-22, respectively) in the Project EIR will be required for the Ellsworth Street Alignment. No new significant impacts on cultural resources will occur due to the project change nor will any existing significant impacts become more severe.

Energy Conservation

Similar to the Wildcat Pipeline (Berkeley) Alignment in the Project EIR, the construction of the Ellsworth Street Alignment will remain under 1 year in duration and will improve the efficiency of the District’s water distribution system, and no mitigations are required. No new significant impacts on energy conservation will occur due to the project change nor will any existing significant impacts become more severe.

Geology and Soils

A review of the United States Geological Survey’s “Areal and Engineering Geology of the Oakland East Quadrangle, California,” prepared by Dorothy H. Radbruch (1969) indicated that the area of the Ellsworth Street Alignment is generally underlain by Quaternary deposits. Quaternary deposits are characterized by unconsolidated sediments which may include stream channel and floodplain deposits, beach sands, broken gravels and glacial drift. These deposits are not expected to include ultramafic or serpentinite rock types, which contain naturally occurring asbestos, along the alignment. In addition, the Ellsworth Street Alignment will not cross an active fault trace and will have low liquefaction and landslide susceptibility, and no mitigations are required. No new significant impacts on geology and soils will occur due to the project change nor will any existing significant impacts become more severe.

Greenhouse Gas Emissions

Similar to the Wildcat Pipeline (Berkeley) Alignment in the Project EIR, the construction of Ellsworth Street Alignment will remain below 1 year in duration and will not generate more carbon dioxide emissions than estimated in the Project EIR. No new significant impacts on greenhouse gas emissions will occur due to the project change nor will any existing significant impacts become more severe.

Hazards and Hazardous Materials

The Ellsworth Street Alignment is located in a similar geographic area to the Wildcat Pipeline (Berkeley) Alignment in the Project EIR. The Ellsworth Street Alignment will not be located on an active hazardous material site or a designated high fire hazard area, will be greater than 10 miles from the Oakland International Airport, will be greater than 2 miles from any private airstrips, and will be located in Alameda County where there are no designated emergency response or evacuation routes.

Unknown hazards within the Ellsworth Street Alignment area will be mitigated as specified in the Project EIR to prevent public and construction staff exposures during construction, operation, and maintenance. Similar to the pipeline proposed in the Project EIR, there are numerous hazardous waste material sites located within a quarter mile of the revised pipeline. The District's Master Specifications, Environmental Requirements – Section 01 35 44, Project Safety Requirements – Section 01 35 24, and Environmental Compliance Manual, as described in the Project EIR Section 3.9.3 for Impact 3.9-1, will be used to eliminate harmful exposure to contamination in soil and groundwater as required.

As described in the Geology and Soils section, the Ellsworth Street Alignment is not located in any areas with known deposits and sediments containing naturally occurring asbestos. If asbestos is encountered, Mitigation Measure HAZ-2, as described in the Project EIR (page 3.9-23), will be implemented to eliminate harmful exposure to asbestos dust as required.

As described in Attachment D (a subsequent Cultural Resources Study prepared by ESA), the Ellsworth Street Alignment has a low potential to uncover remnants of the Southern Pacific electric "Red Car" line that ran on Ellsworth Street from 1911 to 1958. As described in the EIR, hazardous or contaminated materials (including rails and ties) that could be inadvertently discovered will be handled in accordance with the District's Standard Specifications Section 00 72 00, General Conditions, which requires contractors to promptly notify the District, before conditions are disturbed, of material that may be hazardous waste. Also as explained in the EIR, Standard Specifications Section 01 35 44, Environmental Requirements, requires that contaminated materials excavated and/or removed from the construction area shall be disposed of consistent with all applicable local, state, and federal laws and regulations.

Proximity to subsurface utilities, including high-pressure natural gas pipelines, petroleum pipelines, pressurized sewage pipelines, high-voltage electric, fiber optic communication, and major water lines, will not differ significantly from crossings described in the Project EIR. High-priority facilities in the area of the Ellsworth Street Alignment are detailed in Table 2. As with the Wildcat Pipeline (Berkeley), implementation of Mitigation Measures HAZ-1a through 1c (page 3.9-22) in the Project EIR will be required for the Ellsworth Street Alignment. No new significant impacts on hazards or hazardous materials will occur due to the project change nor will any existing significant impacts become more severe.

TABLE 2
High-Priority Facilities near Ellsworth Street Alignment

Utility	Location
PG&E 8-inch gas line	Parallel to alignment in Ellsworth Street on the east side of the road between Bancroft Way and Durant Avenue
PG&E 12-inch gas line	Crosses alignment at the intersection of Haste Street and Ellsworth Street
PG&E 8-inch gas line	Crosses alignment at the intersection of Parker Street and Ellsworth Street

Hydrology and Water Quality

The Ellsworth Street Alignment, like the proposed Wildcat Pipeline (Berkeley) in the Project EIR, is located underground, within the Potter/Derby Creek Watershed bordering the Temescal Creek Watershed and Berkeley sub-area groundwater basin. Similar to the Wildcat Pipeline (Berkeley) Alignment, the Ellsworth Street Alignment remains outside of the tsunami inundation zone and no longer crosses Harwood Creek and the 100- and 500-year flood hazard zones. However, the Ellsworth Street Alignment is located within the inundation zone for the District’s Claremont Reservoir.

Pipeline construction methods, in accordance with the District’s Master Specifications and stormwater permits for sedimentation, erosion, pollutant and treated water discharge, and temporary alteration of drainage patterns, as described in the Project EIR, apply to the Ellsworth Street Alignment. The District’s Leak Response Program would also apply to the Ellsworth Street Alignment in the case of a pipeline rupture. No new significant impacts on hydrology and water quality will occur due to the project change nor will any existing significant impacts become more severe.

Noise

Similar to the Wildcat Pipeline (Berkeley) Alignment in the Project EIR, the Ellsworth Street Alignment will be located primarily in 2-lane residential streets carrying low levels of traffic. Mitigation measures, as described in the Project EIR, will be implemented to reduce significant and unavoidable noise impacts during construction for the Ellsworth Street Alignment. Vibration impacts will be mitigated to less-than-significant levels. Since the Ellsworth Street Alignment will be shorter than the Wildcat Pipeline (Berkeley) Alignment in the Project EIR, the duration of construction is anticipated to be less than the time period described in the Project EIR.

The revised distance to sensitive receptors is provided in Table 1. The revised pipeline location will increase the distance of construction to sensitive receptors at the Claremont Day Nursery and the Alta Bates Hospital to greater than 500 feet and reduce the distance to the Harold E. Jones Child Study Center and Haste Street Child Development Center to 200 feet and 415 feet, respectively.

As with the proposed Wildcat Pipeline (Berkeley) in the Project EIR, implementation of Mitigation Measures NOI-1, NOI-2, and NOI-3 (pages 3.11-25 and 3.11-34, respectively) in the Project EIR, which establish time limits, administrative measures, source controls, and provisions for nighttime construction to reduce noise impacts, will be required for the Ellsworth Street Alignment. In addition, implementation of Mitigation Measure NOI-4 (page 3.11-39), which establishes vibration thresholds and monitoring to prevent cosmetic damage to structures, will also be required for the Ellsworth Street Alignment. No new significant impacts on noise and vibration will occur due to the project change nor will any existing significant impacts become more severe.

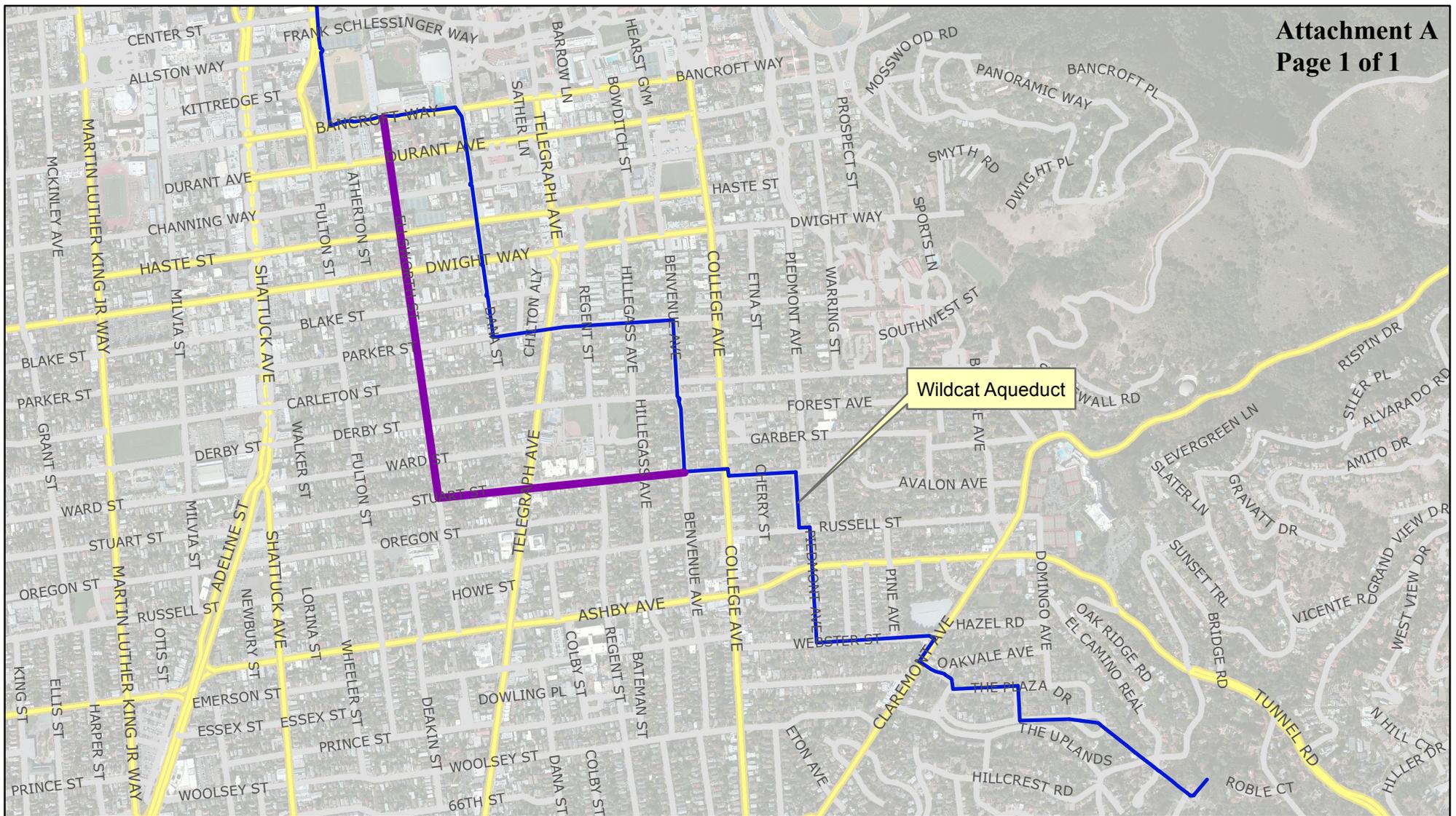
Recreation

There are no public recreational resources adjacent to the Ellsworth Street Alignment, and it is not located adjacent to the narrow greenbelt between The Uplands and Parkside Drive. No new significant impacts on recreation will occur due to the project change nor will any existing significant impacts become more severe.

Transportation and Traffic

W-Trans reviewed the Ellsworth Street Alignment and assessed the potential transportation impacts associated with the change, as presented in Attachment C. Based on the review, there would be no new significant impacts or any more severe significant impacts than reported in the Project EIR. Of note, the significant impact at the Claremont Avenue/Hillcrest Road/Brookside Drive intersection (not on the Ellsworth Street Alignment) would not occur, and Mitigation Measure TRA-1a (page 3.13-19), Intersection Traffic Control, would not be required. In addition, although there are AC Transit bus lines on Telegraph Avenue and Bancroft Way (on the Ellsworth Street Alignment), there is no need to relocate those bus lines or their bus stops, and Mitigation Measure TRA-3a (page 3.13-35), Notification of Transit Changes, would not be required for the Ellsworth Street Alignment (though the mitigation measure would continue to apply to the other pipeline segments). As with the Wildcat Pipeline (Berkeley), implementation of Mitigation Measures TRA-2a through 2d (pages 3.13-33-34) in the Project EIR will be required for the Ellsworth Street Alignment. No new significant impacts on transportation and traffic will occur due to the project change nor will any existing significant impacts become more severe.

- Attachments: A – Ellsworth Street Alignment Plan
B – Wildcat Pipeline (Berkeley) Plan
C – ESA and W-Trans Ellsworth Street Alignment Evaluation
D – Supplement to Cultural Resources Study for the Ellsworth Street Alignment



Legend

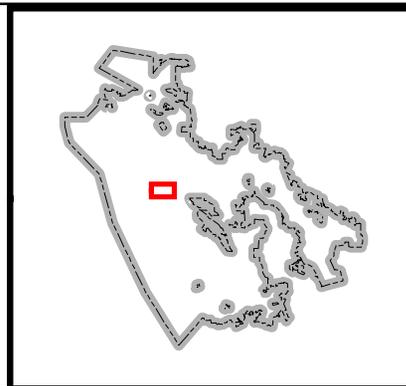
 Ellsworth Street Alignment

 Wildcat Aqueduct

Street

 Major Road

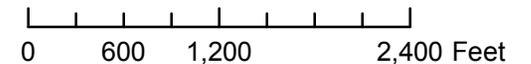
 Local or Rural Road



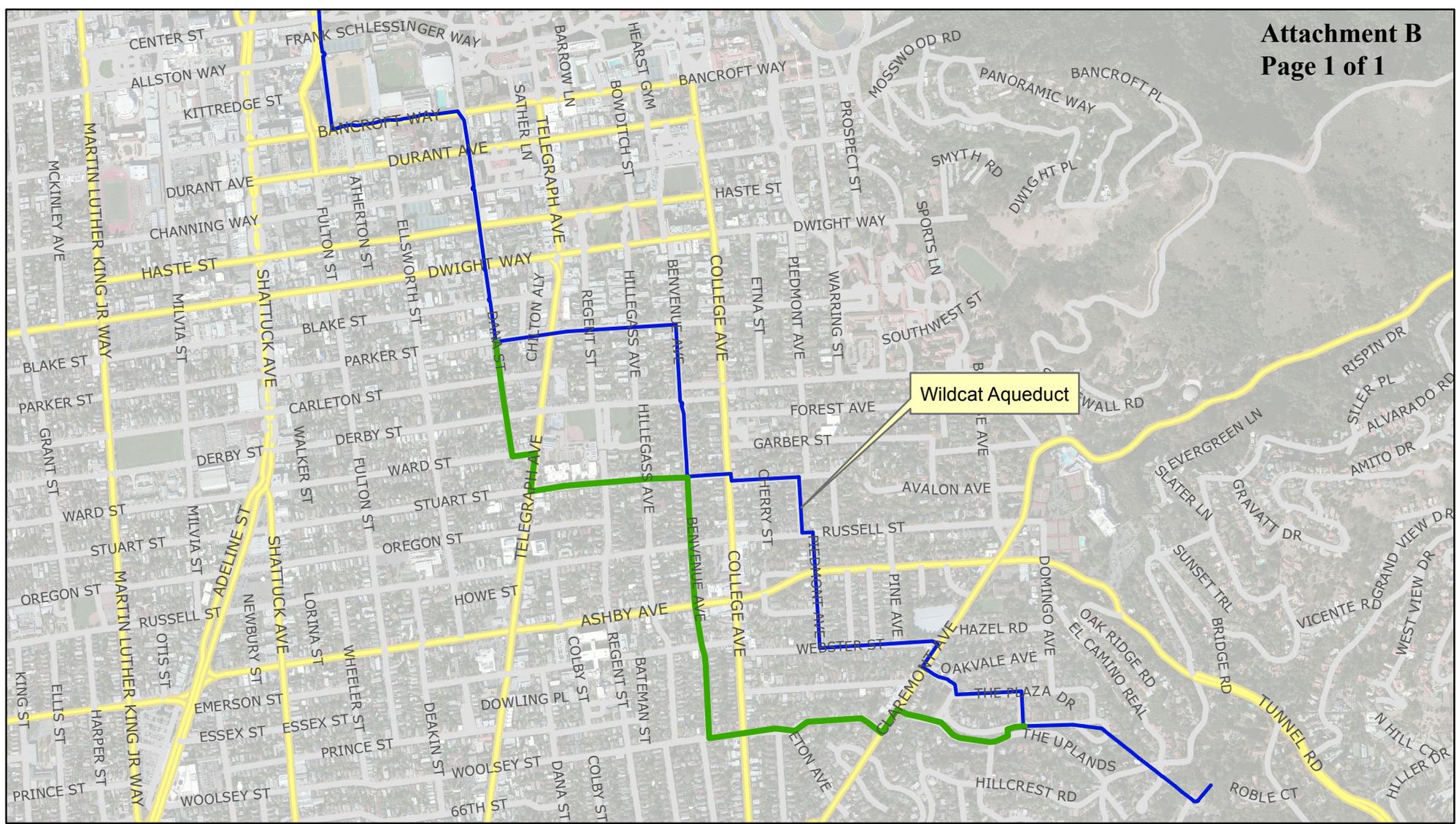
Ellsworth Street Alignment Plan

Date Created: March 22, 2016

Author: Stella Tan



1 inch = 1,200 feet

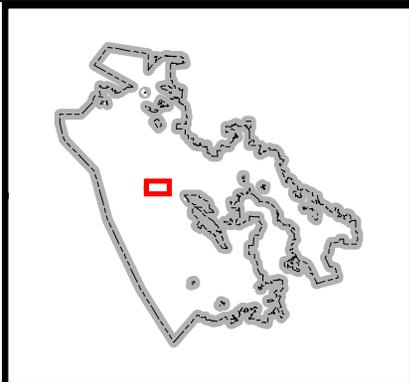


Legend

- Wildcat Pipeline (Berkeley)
- Wildcat Aqueduct

Street

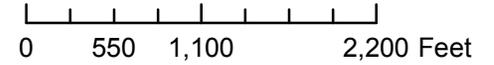
- Major Road
- Local or Rural Road



Wildcat Pipeline (Berkeley) Plan

Date Created: March 22, 2016

Author: Stella Tan



1 inch = 1,200 feet



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Memorandum

date March 15, 2016
to Timothy McGowan, EBMUD
from Jill Hamilton, Meryka Dirks
subject Ellsworth Street Alignment Studies, West of Hills Northern Pipelines

1. Introduction

The EBMUD West of Hills Northern Pipelines (WOHNP) Environmental Impact Report (EIR) was completed in October 2013. Since that time, EBMUD has initiated design on the Wildcat Pipeline (Berkeley). These studies have identified problems for pipeline siting of the preferred alternative evaluated in the EIR. EBMUD is considering a new pipeline alignment, the Ellsworth Street Alignment, as shown on the revisions to EIR Figure 2-6, attached.

ESA and its subconsultant, W-Trans, have performed site visits and technical review of potential transportation, biological resources, and cultural resources impacts along the Ellsworth Street Alignment in accordance with our proposal to EBMUD dated September 2, 2015. The purpose of these studies was to evaluate whether the proposed project changes would have any new significant impacts not discussed in the previous EIR or whether significant impacts previously examined would be substantially more severe than reported in the previous EIR. This memorandum and supporting attachments present the findings of this additional environmental review.

2. Transportation Studies

W-Trans reviewed the proposed change to the pipeline alignment and assessed the potential transportation impacts associated with the change. **Attachment A** presents the results of the transportation study. Based on these findings, there would be no new significant impacts or any more severe significant impacts than reported in the previous EIR. Of note, the significant impact at the Claremont Avenue / Hillcrest Boulevard / Brookside Drive intersection (not on the new pipeline alignment) would not occur, and Mitigation Measure TRA-1a (Intersection Traffic Control) would not be required. In addition, although there are AC Transit bus lines on Telegraph Avenue and Bancroft Way (on the proposed pipeline alignment), there would no need to relocate those bus lines or their bus stops, and Mitigation Measure TRA-3a (Notification of Transit Changes) would not be required for the new pipeline alignment (though it would continue to apply to the other pipeline alignments).

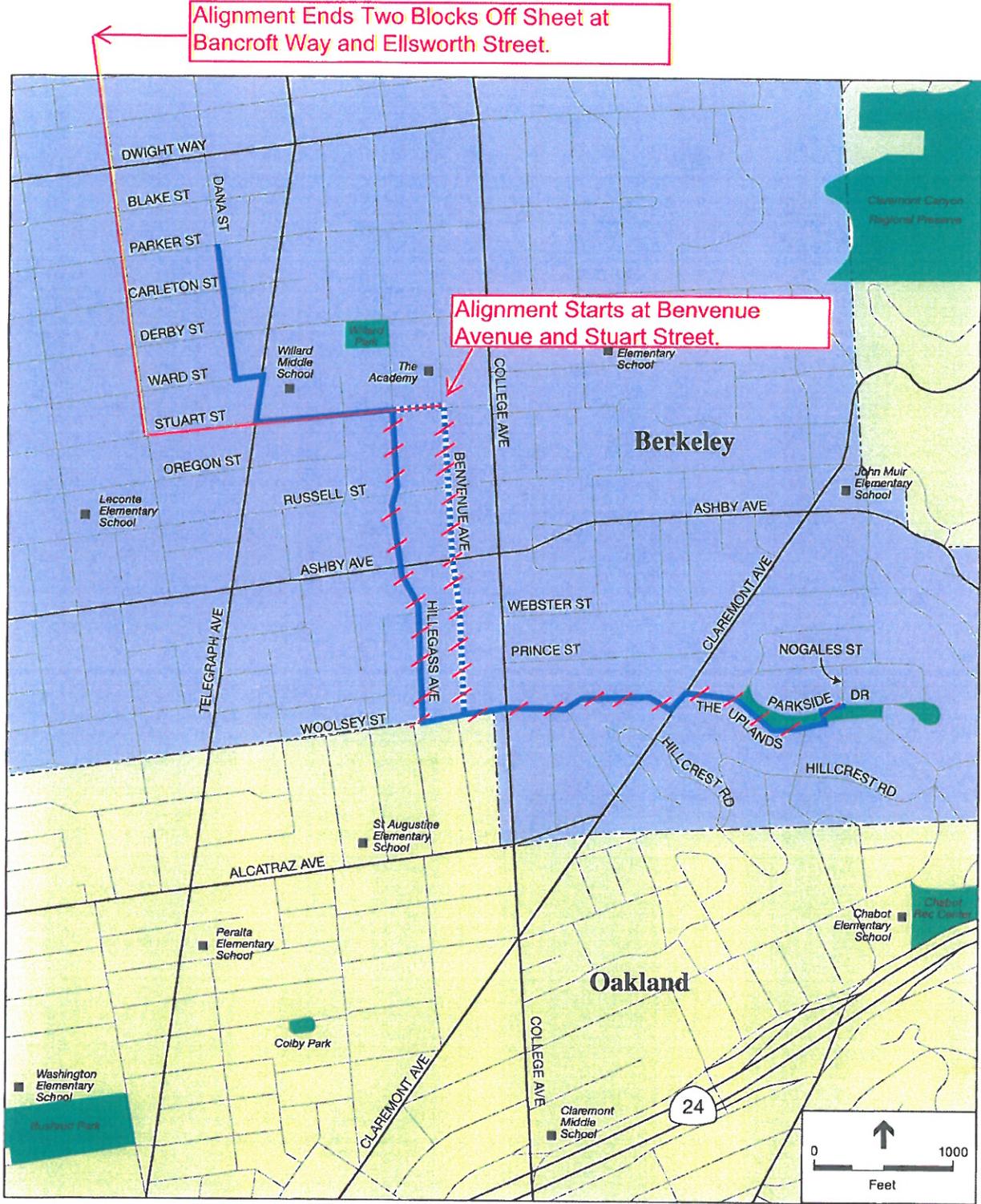
3. Cultural Resources

ESA reviewed the search radii and results of previous record searches performed for the WOHNP EIR, updated the records search at the Northwest Information Center, and performed a surface survey of the Ellsworth Street Alignment. **Attachment B** presents the results of the cultural resources study. Based on these findings, there are no known historical resources, archaeological resources, tribal cultural resources, or human remains within the Ellsworth Street study area. Therefore, there would be no new significant impacts. Project impacts on cultural

resources for the Ellsworth Street alignment would remain less than significant with implementation of EIR mitigation measures for the inadvertent discovery of archaeological resources and human remains.

4. Biological Resources

ESA performed a biological resources survey of the Ellsworth Street alignment, presented in **Attachment C**. No special-status species were observed. There are 88 street trees of 18 common street tree species (between the sidewalk and the curb) that could be affected by pipeline construction, including three blocks that have no street trees. Notably, there are no coast live oaks (heritage trees) along the alignment. Overall, there would be no new impacts or significantly more severe impacts on biological resources associated with the Ellsworth Street alignment.



- Wildcat Pipeline (Berkeley)
- - - Alternative Alignment (Benvenue Ave)

SOURCE: ESA

EBMUD West of Hills Northern Pipelines . 211488

Figure 2-6
Wildcat Pipeline (Berkeley)



Memorandum

Date: March 15, 2016 **Project:** EBM001
To: Ms. Jill Hamilton **From:** Dalene J. Whitlock
 ESA **dwhitlock@w-trans.com**
Subject: Environmental Analysis for the Proposed Change in Alignment for the Wildcat Pipeline in Berkeley

As requested, W-Trans has reviewed the proposed change to the Wildcat Pipeline alignment through Berkeley and assessed the potential impacts associated with this change.

Project Description

The pipeline alignment as previously evaluated ran along Dana Street south from Parker Street, turned east at Ward Street, turned south at Telegraph Avenue, proceeded east along Stuart Street, went south along Hillegass Avenue (or alternatively Benvenue Avenue), and finally ran east along Woolsey Street and The Uplands to Nogales Street. The currently proposed alignment is much shorter; it begins at Bancroft Way where it runs south along Ellsworth Street, turns east along Stuart Street and terminates at Benvenue Avenue.

The current and previous alignments are shown graphically in a red-lined version of Figure 2-6 from the EIR, a copy of which is attached.

Existing Conditions

The current alignment uses a segment of Stuart Street that was included in the analysis for the project's EIR, but extends further west along Stuart Street and then Ellsworth Street to Bancroft Way. Data regarding the two streets that were not previously affected was gathered, and is presented in Table 1 in a format that mirrors Table 3.13-1 in the DEIR.

Table 1 – Characteristics of Roadways in the Project Area

Roadway Segment	No. of Lanes/ Road Width ^a	Traffic Volumes ^b	Bike Lanes	On-Street Parking Permitted ^c	Public Transit Lines?
Bancroft Way At Ellsworth Street	Three lanes (50 feet)	9,300 vpd	No	Yes, both sides (Metered) ^d	Yes
Ellsworth Street Bancroft Way to Stuart Street	Two lanes (36 feet)	3,350 vpd	No	Yes, both sides (RPP Zone I/J)	No
Stuart Street Ellsworth Street to Benvenue Avenue	Two lanes (36 feet)	1,950 vpd	No	Yes, both sides (RPP Zone B/J)	No

^a Roadway widths (curb-to-curb) are presented in approximate feet.

^b Existing traffic volume represents average daily traffic (ADT); vpd = vehicles per day

^c RPP = residential parking permit (City of Berkeley only). Unrestricted = no residential parking permit required.

^d Metered = Two hour parking 9 a.m.-6 p.m. Monday through Saturday, no residential parking permit required.

Impact Analysis

Impact 3.13-1: Closure of travel lanes during project construction would temporarily reduce roadway capacity and increase traffic delays on area roadways, causing temporary and intermittent conflicts with all modes of travel, but the effects would be of short duration and limited in magnitude.

Most of the Wildcat Pipeline (Berkeley) is located along residential streets in the city of Berkeley. Because the residential streets are narrow (i.e. from 28 to 36 feet wide) and the pipeline construction requires approximately 25 to 30 feet of the street width, these streets would be closed during construction hours on a block-by-block basis because there will not be adequate room to safely progress traffic through the work zone. It is not, however, assumed that Bancroft Way would need to be closed; rather it is assumed that during the tie-in at least one lane of traffic could be maintained at all times. Through traffic would be detoured around closed segments on Ellsworth and Stuart Streets. The volume of traffic that would be detoured is indicated in Table 2, which represents an update to Table 3.13-4 in the DEIR.

Table 2 – Characteristics of Roadways in the Project Area

Roadway Segment	Traffic Volumes	Detoured Volumes	Detour Route
Bancroft Way At Ellsworth Street	9,300 vpd	0 vpd	N/A
Ellsworth Street Bancroft Way to Stuart Street	3,350 vpd	2,700 vpd	Bancroft Way; Fulton St; Stuart St
Stuart Street Ellsworth Street to Benvenue Avenue	1,950 vpd	1,577 vpd	Ellsworth St.; Derby St.; College Ave.

The operational analysis as detailed for Impact 3.13-1 in the DEIR for the Wildcat Pipeline in Berkeley is irrelevant except as it refers to Intersection #2, Telegraph Avenue/Stuart Street; the remaining study intersections will no longer be affected by the project. As a result of the change in alignment, Mitigation Measure TRA-1a, which is associated with work at Claremont Avenue/Hillcrest Boulevard/Brookside Drive and shown below, would no longer be applicable.

Mitigation Measure TRA-1a: Use of Flagger

A flagger shall be deployed at the Claremont Avenue/ Hillcrest Boulevard/Brookside Drive intersection to control westbound traffic during the p.m. peak period. This would minimize the impact of the pipeline installation project.

Similarly, projected impacts to other streets along the previously proposed alignment and alternative alignment would be irrelevant, and text referring to impacts on Dana Street, Ward Street, Hillegass Avenue, Benvenue Avenue, Woolsey Street, and The Uplands can be ignored.

Because the alignment changes proposed would result in a similar operation at the intersection of Telegraph Avenue/Stuart Street and because operation at this location was projected to be LOS B with the project, it is reasonable to conclude that the project as changed would have a similar *less-than-significant* impact at this intersection.

Ms. Jill Hamilton

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March 15, 2016

Work on Ellsworth Avenue would be expected to proceed in a manner similar to what was proposed for Dana Street, and as indicated in the EIR for Dana Street, the impacts on traffic operation on these streets would be expected to be *less-than-significant*.

Given the width of Bancroft Way, it is assumed that traffic will be maintained at all times, though it may be limited to one lane. While this will result in some additional delays, based on the analysis performed for other similar situations along other pipeline routes evaluated in the EIR, it is anticipated that the change in operation will be limited and the impact *less-than-significant*.

Although the impact is anticipated to be less-than-significant, it is noted that constructing this tie-in during school and university breaks as described in the EIR would be desirable.

Impact 3.13-2: Project construction would potentially have a significant impact on access, including access for emergency vehicles (applies to all pipelines).

During construction of the Wildcat Pipeline, Telegraph would remain open with traffic routed around the work area. All other segments would be closed for the pipeline construction and have traffic detoured during construction hours. Local residents would be permitted access to their residence. Barricades would be used for the road closure, which can easily be removed for emergency vehicle access. The impact on emergency vehicle access therefore would be *less-than-significant*.

Impact 3.13-3: The proposed project would not substantially increase hazards due to a design feature or incompatible uses (applies to all pipelines).

The road closures and lane channelization utilizing standard traffic control schemes would not result in any hazardous conditions for traffic. Barricades with mounted construction area signs would be used for the road closures at Bancroft Way, Ellsworth Street, and Stuart Street. Construction cones would be used to demarcate the construction work zone crossing Telegraph Avenue. The impact on traffic safety is therefore expected to be *less-than-significant*.

Impact 3.13-4: Project construction would not substantially limit access to adjacent roadways and land uses due to construction within roadways (applies to all pipelines).

The following mitigation measures were identified for application to the streets along the previous alignment. These same measures would, however, become applicable to Ellsworth Street and Bancroft Way.

Mitigation Measure TRA-2a: Advance Notification of Construction

Residents and business owners located within 300 feet of project construction will be notified in advance of activities requiring road closures about the estimated schedule and duration of the activity. EBMUD shall also send emails to individuals on the Project's mailing list to update them prior road closures.

Mitigation Measure TRA-2b: Road Blocks and Trenches

Road blocks shall be removed and open trenches covered at the end of the work day on a daily basis to provide access to residents. However, a portion of the parking zones will be retained for the storage of construction equipment on a daily basis.

Mitigation Measure TRA-2c: Sidewalk Access

Sidewalk access shall be maintained on one side of the street during construction.

Mitigation Measure TRA-2d: Alternate Parking Solutions for Residents

In the city of Berkeley where their Residential Preferential Parking Program restricts street parking, EBMUD will request the City of Berkeley to provide temporary parking permits for residents to park in other nearby parking permit zones during construction and EBMUD will, where feasible, work with the

Ms. Jill Hamilton

Page 4

March 15, 2016

owners of parking facilities near the pipeline alignments to provide day-time parking for residents affected by construction.

Implementation of these measures would reduce impacts on Ellsworth Street and Stuart Street to a *less-than-significant* level.

Impact 3.13-5: Project construction would not substantially impair access to alternative transportation facilities (public transit, bicycle, or pedestrian facilities), although it would temporarily decrease the performance of such facilities (applies to all pipelines).

The Wildcat Pipeline (Berkeley) would not directly affect bicycle or transit facilities along Ellsworth Street or Stuart Street because these roadways are not designated bicycle or transit routes. Pedestrian access would not be affected as at least one sidewalk would be accessible for pedestrian traffic during construction, and pedestrians would be able to walk past the pipeline construction area to cross the roadway at locations where there are no construction activities. Because the estimated rate of pipeline installation is 80 to 200 feet per day, pedestrians would not have to walk more than one or two blocks to get around the construction zone.

Telegraph Avenue has Class II bicycle lanes, which would be encroached upon during the crossing at Stuart Street. The proposed traffic control plan indicates use of temporary “share the road signs” along Telegraph Avenue, but for the modified alignment these signs would instead be used only at locations where bicycles must move into the adjacent travel lane to cross Telegraph Avenue through the construction zone.

Telegraph Avenue (Lines 1 and 1R) and Bancroft Way (Lines F, 49, 51B and 52) serve AC Transit bus lines. The travel time for transit through the construction zone is expected to increase due to temporary closures of travel lanes. Although the buses would be slowed by the lane reduction, the extent to which the roadway is affected is minimal, and the bus lines would not require rerouting to other roads. This would be a temporary inconvenience to bus riders, but would not be considered a *significant* impact.

Mitigation Measure TRA-3a, which is associated with relocation of bus lines and bus stops along the pipeline route, would no longer be applicable to the Wildcat Pipeline (Berkeley) and should be eliminated from that pipeline. The measure would continue to apply to the other pipeline alignments.

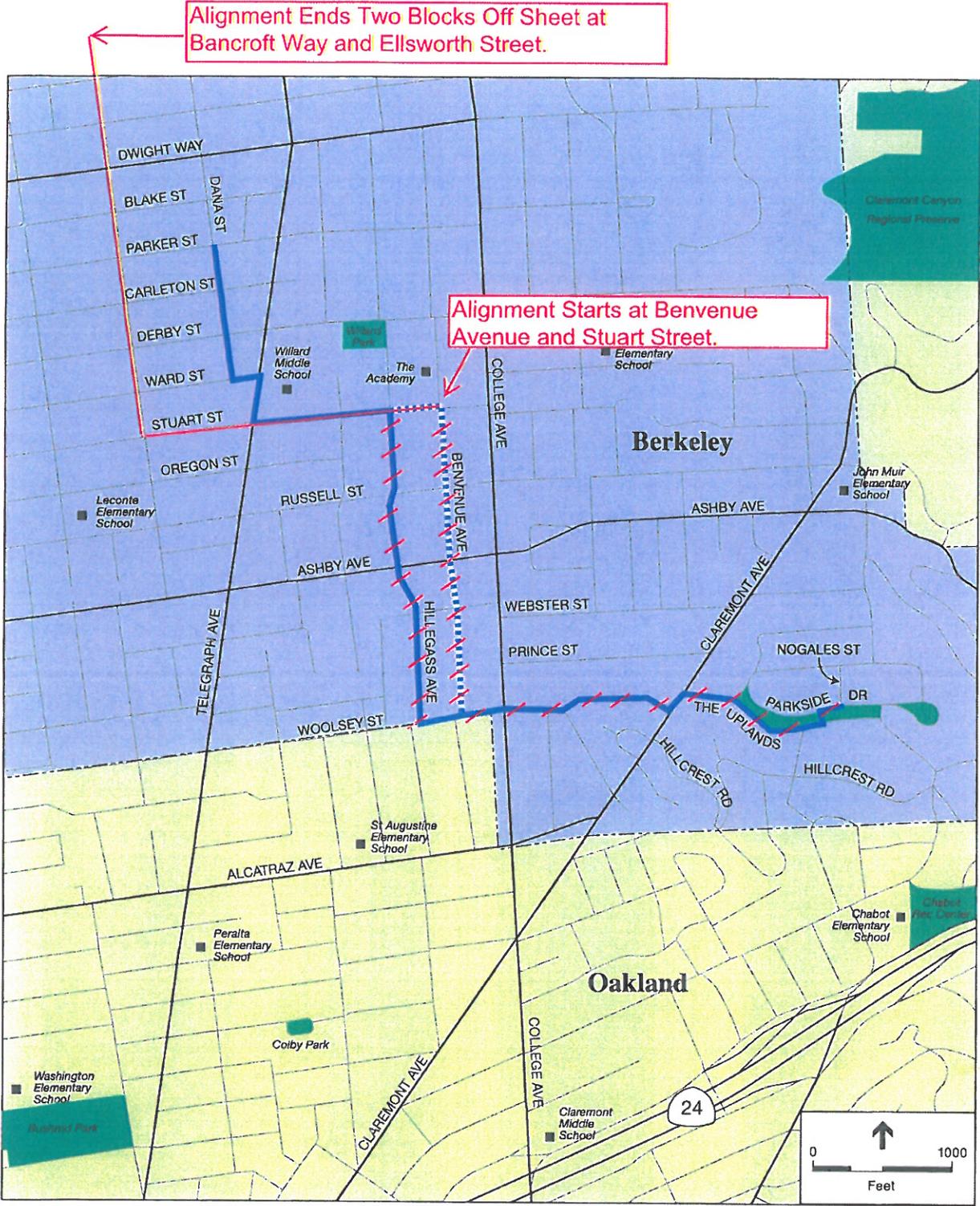
Mitigation Measure TRA-3a: Notification of Transit Changes

EBMUD will coordinate with AC Transit to provide the notification to transit patrons. EBMUD will provide AC Transit with 14 days' notice of bus stop closures. AC Transit will communicate alternate bus stop locations to their customers.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

DJW/sb/EBM001.M1

Attachments: Figure 2-6, Wildcat Pipeline (Berkeley), red-line version



SOURCE: ESA

EBMUD West of Hills Northern Pipelines . 211488

Figure 2-6
Wildcat Pipeline (Berkeley)



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memorandum

date March 15, 2016

to East Bay Municipal Utility District

from Heidi Koenig M.A. RPA, Environmental Science Associates

subject Final Cultural Resources Study for the West of Hills Northern Pipelines Project Wildcat Berkeley Ellsworth Street Alternative Alignment (ESA Project #D211488)

Introduction

Environmental Science Associates (ESA) has completed a cultural resources study for the West of Hills Northern Pipelines Project (WOHNP Project) Wildcat Berkeley Ellsworth Street Alternative Alignment (Ellsworth Street Alternative). This memorandum documents the methods and findings of the study, which included background research and a surface survey to supplement the original analysis provided in the *West of Hills Northern Pipelines Project, East Bay Municipal Utility District, Contra Costa and Alameda Counties, Cultural Resources Survey Report* completed by ESA in 2013. **Figure 1** shows the Ellsworth Street Alternative and the regional location.

This study complies with the requirements of the California Environmental Quality Act (CEQA) as well as the National Historic Preservation Act (NHPA). Heidi Koenig, M.A., Cultural Resources Management, Registered Professional Archaeologist (RPA), with 15 years of archaeological experience throughout California, completed this study. She meets the Secretary of the Interior's Professional Qualifications Standards for archaeologist. Rebecca Allen PhD., RPA, with over 25 years of experience in California cultural resources studies, reviewed the memorandum.

Project Description

The Ellsworth Street Alternative is 5,450 feet long (**Figure 2**). The proposed pipe is 48 inches in diameter. The eastern terminus of the proposed alignment is at the intersection of Benvenue Avenue and Stuart Street, where the pipeline would connect to an existing pipeline. The pipeline will continue west on Stuart Street and turn north on Ellsworth Street. The western terminus of the proposed alignment is at the intersection of Ellsworth Street and Bancroft Way, where the pipeline would connect to an existing pipeline.

Construction Methods

The pipeline construction technique would be the open trench (also known as "cut and cover") technique. Open trench construction involves:

- Sawcutting the pavement
- Excavating a trench
- Removing and stockpiling the soils
- Installing the pipeline
- Backfilling the trench
- Repaving

A minimum construction corridor width of 30 feet would be needed to accommodate pipe storage and to allow trucks and equipment access along the trench. In some areas where the pipeline would need to be installed at greater depth to avoid other utilities, a wider trench and construction easement of up to 40 feet would be required.

Area of Potential Effects

As defined in the NHPA implementing regulations (36 CFR 800.16[d]), the Area of Potential Effects (APE) is defined as:

...the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking [36 CFR 800.16(d)].

The APE is synonymous with the CEQA project area used for analysis in the environmental documentation.

Consistent with the APE for the WOHNP Project, the APE for the Ellsworth Street Alternative includes all areas where ground-disturbing activities would occur, including work, access, and staging areas. Because design plans have not yet been finalized and the precise location of pipeline construction within the roadway has not been determined, the horizontal APE includes the entire right-of-way from curb to curb, averaging 40 feet wide. In addition, the depth of pipeline installation has not yet been determined; therefore a maximum depth of 20 feet below ground surface will be designated as the vertical APE.

Similarly, the location of air valves has not yet been determined, but they will be located immediately adjacent to pipeline alignments. The APE for each air valve is the area of disturbance (2.5 feet by 1.5 feet) as well as a 20-foot radius to accommodate work areas. Construction staging will be provided within roadways directly adjacent to the pipeline routes and is included in the horizontal APE.

As discussed in the Noise and Vibration Technical Report prepared for the WOHNP Project,¹ proposed construction activities could result in vibration levels that have the potential to damage fragile structures, including those qualifying as historical resources or historic properties. This potential impact would be reduced to a less-than-significant level with implementation of Mitigation Measure NOI-4, Vibration Limits, which stipulates that construction practices would be utilized that do not generate vibration levels at the closest structures above protective thresholds identified by the Federal Transit Authority (FTA, 2006). Specifically, a threshold of 0.5 in/sec Peak Particle Velocity (PPV) is identified to protect damage in all residential and commercial buildings.

¹ ESA, Orion Environmental Associates, and Wilson, Ihrig, & Associates, West of Hills Northern Pipeline Project, East Bay Municipal Utility District, Final Noise and Vibration Technical Report. Prepared for East Bay Municipal Utility District. November 2012.

Cultural History

The cultural resources study completed for the WOHNP Project provides a prehistoric context, a review of archaeological research in the vicinity, an ethnographic overview, and historical background text.²

Background Research

ESA completed a records search at the Northwest Information Center of the California Historical Resources Information System on March 6, 2012 (File No. 11-0971) that was updated on September 30, 2015 (File No. 15-0510). Previous surveys, studies, and archaeological site records were reviewed. Records were also examined in the Historic Property Data File for Alameda County, which contains information on locations of recognized historical significance including those evaluated for listing in the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), the California Inventory of Historic Resources, California Historic Landmarks, and California Points of Historical Interest. The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or adjacent to the Project area and a 1-mile radius; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and evaluation of cultural resources.

ESA contacted the Native American Heritage Commission (NAHC) for the WOHNP Project, requesting a search of the sacred lands files and a list of local Native Americans who might have knowledge of cultural resources in the area. The NAHC identified no sacred lands within or near the WOHNP Project APE. The NAHC also identified individuals and organizations as Native American contacts for Alameda County. ESA sent a contact letter to each Native American individual or organization listed on the NAHC contact list who might have additional information or concerns about the proposed project. No response was received.

Study Results

Results of the records search indicate that there are no previously recorded archaeological or architectural resources in the Ellsworth Street Alternative APE or within a ½-mile radius. The nearest cultural resources are two prehistoric shellmounds located over 1.5 miles to the west nearer to the historic San Francisco Bay shoreline.

ESA archaeologist Paul Zimmer completed a surface survey of the Ellsworth Street Alternative APE on October 18, 2015. The entire APE was paved with very limited surface visibility. Mr. Zimmer examined areas adjacent to the APE that provided some ground exposure (such as landscaped areas). Soil primarily consisted of artificial fill or landscaping materials. The survey effort did not identify cultural resources, including prehistoric or historic-era archaeological resources.

Recommendations

Historical Resources

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, object, or district (including landscapes)

² ESA, West of Hills Northern Pipeline Project, East Bay Municipal Utility District, Cultural Resources Survey Report. Prepared for East Bay Municipal Utility District. May 2013.

listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion will focus on architectural and structural resources. Archaeological resources, including archaeological resources that are potentially historical resources according to Section 15064.5, are addressed below.

Background research indicates that there are no known historical resources in the Ellsworth Street Alternative APE. The proposed project would have no impact to historical resources and no mitigation is required.

Archaeological Resources

Based on the records search and survey results, the Ellsworth Street Alternative has a low potential to uncover archaeological resources. While unlikely, the inadvertent discovery of archaeological resources cannot be entirely discounted. Impacts to archaeological resources would be potentially significant. In the event that archaeological resources are encountered during ground disturbing activities the following mitigation measure from the West of Hills Northern Pipelines Project Environmental Impact Report (EIR) would reduce impacts to a less-than-significant level.

Mitigation Measure CUL-1c: Inadvertent Discovery of Cultural Resources.

Following implementation of CUL-1b, if prehistoric or historic-period cultural materials that were not identified and studied in the Archaeological Research Design and Treatment Plan (ARDTP) are unearthed during ground-disturbing activities, all work will halt within 100 feet of the find until a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric 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 and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the lead agency and appropriate Native American representative, will implement actions outlined in the ARDTP.

Tribal Cultural Resources

CEQA Section 21074.2 requires the lead agency to consider the effects of a project on tribal cultural resources. As defined in Section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources.

Background research and information provided by the NAHC indicate that there are no known tribal cultural resources in the Ellsworth Street Alternative APE. ESA has not received further information from contacted tribes that would suggest that tribal cultural resources are present within the APE. The proposed project would have no impact to tribal cultural resources and no mitigation is required.

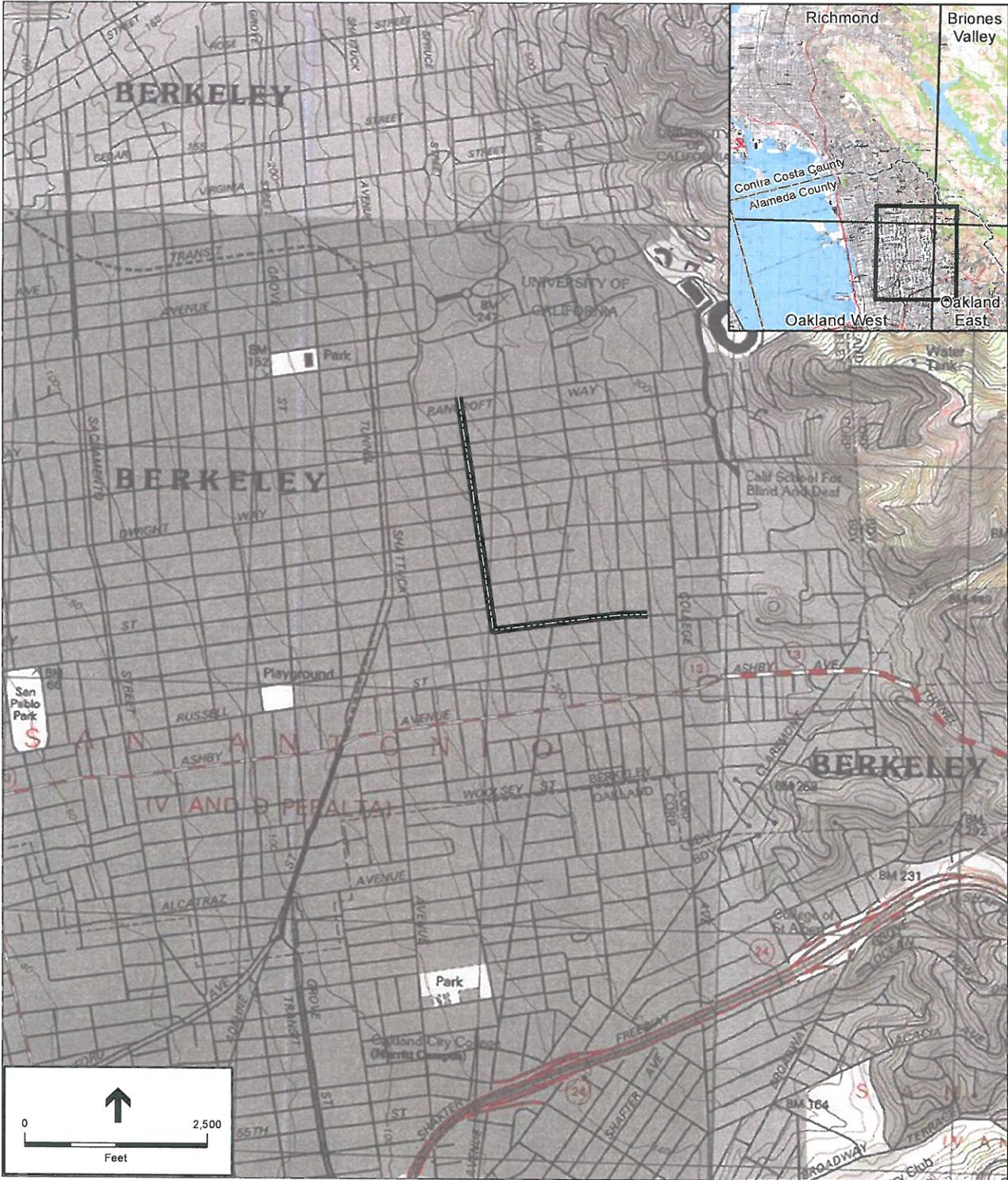
Human Remains

There is no indication that the Ellsworth Street Alternative APE has been used for burial purposes in the recent or distant past. While unlikely, the inadvertent discovery of human remains cannot be entirely discounted. Impacts to human remains would be potentially significant. In the unlikely event of the discovery of human remains during project construction, the following mitigation measure from the West of Hills Northern Pipelines Project EIR may reduce impacts to a less-than-significant level.

Mitigation Measure CUL-3: Inadvertent Discovery of Human Remains.

If potential human remains are encountered, all work will halt within 100 feet of the find and EBMUD will be contacted. EBMUD will contact the county coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the NAHC. As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

FIGURES



SOURCE: USGS Richmond, Briones Valley, Oakland West, and Oakland East 7.5' quadrangles

EBMUD West of Hills Project. 211488

Figure 1
Project Location and Vicinity



SOURCE: USGS Richmond, Briones Valley,
Oakland West, and Oakland East 7.5' quadrangles

EBMUD West of Hills Project. 211488

Figure 2a
Area of Potential Effects



SOURCE: USGS Richmond, Briones Valley,
Oakland West, and Oakland East 7.5' quadrangles

EBMUD West of Hills Project. 211488

Figure 2b
Area of Potential Effects



SOURCE: USGS Richmond, Briones Valley,
Oakland West, and Oakland East 7.5' quadrangles

EBMUD West of Hills Project. 211488

Figure 2c
Area of Potential Effects



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memorandum

date September 24, 2015
to Julie Moore
from Chris Rogers
subject Tree Survey, Ellsworth Street Alignment

On August 27, 2015, I conducted a survey of street trees on the Ellsworth Street between Stuart Street and Bancroft Way, and one block of Stuart Street between Telegraph Avenue and Ellsworth Street. All trees between the curb and sidewalk were included. The total tree count is 88 trees of 18 species; all trees are standard street trees in the City of Berkeley.

Overall, the route is no more constrained than what I looked at before, and possibly less so due to a lower number of large diameter trees. Of the eleven blocks on the Ellsworth alignment, there are three whole blocks on Ellsworth (Stuart to Carleton) that have no street trees at all. Most blocks of Ellsworth have six or fewer trees per side. There are a few large diameter trees, but fewer than on the Benvenue Street alignment that was previously surveyed. There are no coast live oaks subject to the City of Berkeley tree protection ordinance No. 6,905-N.S.

Street trees located along the Ellsworth Street alignment present no potential for new significant biological resource impacts as compared to those identified in EBMUD's West of Hills Northern Pipelines Project Draft EIR (May 2013). The possibility of nesting birds in street trees is similar to the alignments evaluated in the DEIR, though the comparatively smaller number of trees and smaller size of the trees in the Ellsworth Street alignment provide fewer opportunities for nesting birds than on those alignments.



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memorandum

date June 16, 2016

to East Bay Municipal Utility District

from Heidi Koenig M.A. RPA, Environmental Science Associates
 Katherine Anderson, M.A., Environmental Science Associates

subject Supplement to Cultural Resources Study for the Ellsworth Street Alignment (ESA Project #D211488)

Introduction

Environmental Science Associates (ESA) has completed a supplement to the cultural resources study for the West of Hills Northern Pipelines Project (WOHNP Project) Wildcat Pipeline (Berkeley) Ellsworth Street Alignment to address the Key System and Southern Pacific electric railways described in the Downtown Berkeley Historic Resources Reconnaissance Survey¹. This memorandum documents the methods and findings of the study, which included background research to supplement the original analysis provided in the *West of Hills Northern Pipelines Project, East Bay Municipal Utility District, Contra Costa and Alameda Counties, Cultural Resources Survey Report* completed by ESA in 2013 and the *Final Cultural Resources Study for the West of Hills Northern Pipelines Project Wildcat Berkeley Ellsworth Street Alternative Alignment* memorandum completed by ESA on March 15, 2016. **Figure 1** shows the Ellsworth Street Alignment and the regional location.

This supplement complies with the requirements of the California Environmental Quality Act (CEQA) as well as the National Historic Preservation Act (NHPA). Heidi Koenig, M.A., Cultural Resources Management, Registered Professional Archaeologist (RPA), with 15 years of archaeological experience throughout California, completed this study. She meets the Secretary of the Interior's Professional Qualifications Standards for archaeologist. Katherine Anderson, who has an M.A. in Public History, completed the historic-era review. Katherine meets the Secretary of Interior's Professional Qualification Standards for architectural historian. Rebecca Allen PhD., RPA, with over 25 years of experience in California cultural resources studies, reviewed the memorandum.

¹ Architectural Resources Group (ARG), City of Berkeley Downtown Area Plan Historic Resource Evaluation. Prepared for Lamphier-Gregory Urban Planning & Environmental Analysis. November, 2008.

Cultural History

The historic context in the Downtown Berkeley Historic Resources Reconnaissance Survey² describes the Key System and Southern Pacific electric railways that operated in Berkeley from 1903 to 1960, including a line on Ellsworth Street in the Area of Potential Effects (APE). The Key System began as the San Francisco, Oakland, and San Jose Railway, incorporated in 1902, under the ownership of Francis Marion “Borax” Smith. Electric cars, in groupings of eight or more, and painted bright orange to match the ferry, ran from Shattuck and University Avenues, on a ferry across the San Francisco Bay, to the foot of Market in San Francisco. The line established Berkeley as a commuter suburb of San Francisco and Oakland. The success of the Key System prompted the Southern Pacific Railway to also construct a system of street railway lines throughout Berkeley beginning in 1909. In 1911, Southern Pacific spent one million dollars converting all of its steam trains to the electric “Red Car” line. Steam trains were abandoned and the new “Red Cars” began to run along Shattuck Avenue, with new lines on Ellsworth (including the APE) and in North Berkeley. The opening of the Bay Bridge in 1936 resulted in the abandonment of ferry service by the Key System and the Southern Pacific Company in 1939. Local streetcars were discontinued in 1948, followed by commuter trains in 1958.

Background Research

Refer to the *Final Cultural Resources Study for the West of Hills Northern Pipelines Project Wildcat Berkeley Ellsworth Street Alternative Alignment* memorandum completed by ESA on March 15, 2016 for background research completed for the West of Hills Northern Pipelines Project. ESA also reviewed documents to develop context for the Key System including the City of Berkeley Designated Landmarks (updated April 2015), the Downtown Berkeley Historic Resources Reconnaissance Survey from August 2007, the Map of Oakland and Vicinity from 1912.

Study Results

The Northwest Information Center (NWIC) does not have information on the Key System or Southern Pacific electric street car lines. The City of Berkeley’s historic landmark list does not include these specific street car lines or any other rail lines.³ There is also no visible evidence of the electric “Red Car” line that ran on Ellsworth Street from 1911 to 1958; the tracks and ties appear to have been removed.

Recommendations

Historical Resources

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, object, or district (including landscapes) listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or

² Architectural Resources Group (ARG), Downtown Berkeley Historic Resources Reconnaissance Survey. Prepared for Lamphier-Gregory Urban Planning & Environmental Analysis. August 2007.

³ City of Berkeley (Berkeley), City Landmarks, Updated April 2015. Available on line at http://www.ci.berkeley.ca.us/uploadedFiles/Planning_and_Development/Level_3_-_LPC/COB_Landmarks_updated%20April%202015.pdf. Accessed April, 2016.

cultural annals of California. The following discussion will focus on architectural and structural resources. Archaeological resources, including archaeological resources that are potentially historical resources according to Section 15064.5, are addressed below.

Background research indicates that there are no known historical resources in the Ellsworth Street Alignment APE. There are no visible remnants of the electric “Red Car” line that ran on Ellsworth Street. Based on projects completed within the road right of way throughout Berkeley and the Bay Area it is not likely that rails and ties are preserved below the pavement. Typically, rails and ties were systematically removed when a rail line was decommissioned prior to repaving for use of automobiles. As part of the conversion to committed vehicular use, streets were widened and lights, signals, and signs were installed.⁴ Finally, rail ties and lines or other associated remnants would provide limited additional information beyond what is already known about the rail line through other historical documentation. The proposed project would have no impact to historical resources and no mitigation is required.

Archaeological Resources

Based on the records search and survey results, the Ellsworth Street Alignment has a low potential to uncover archaeological or historical resources, including remnants of the electric “Red Car” line that ran on Ellsworth from 1911 to 1958. While unlikely, the inadvertent discovery of cultural resources cannot be entirely discounted. Impacts to cultural resources would be potentially significant. In the event that cultural resources are encountered during ground disturbing activities the following mitigation measure from the West of Hills Northern Pipelines Project Environmental Impact Report (EIR) would reduce impacts to a less-than-significant level.

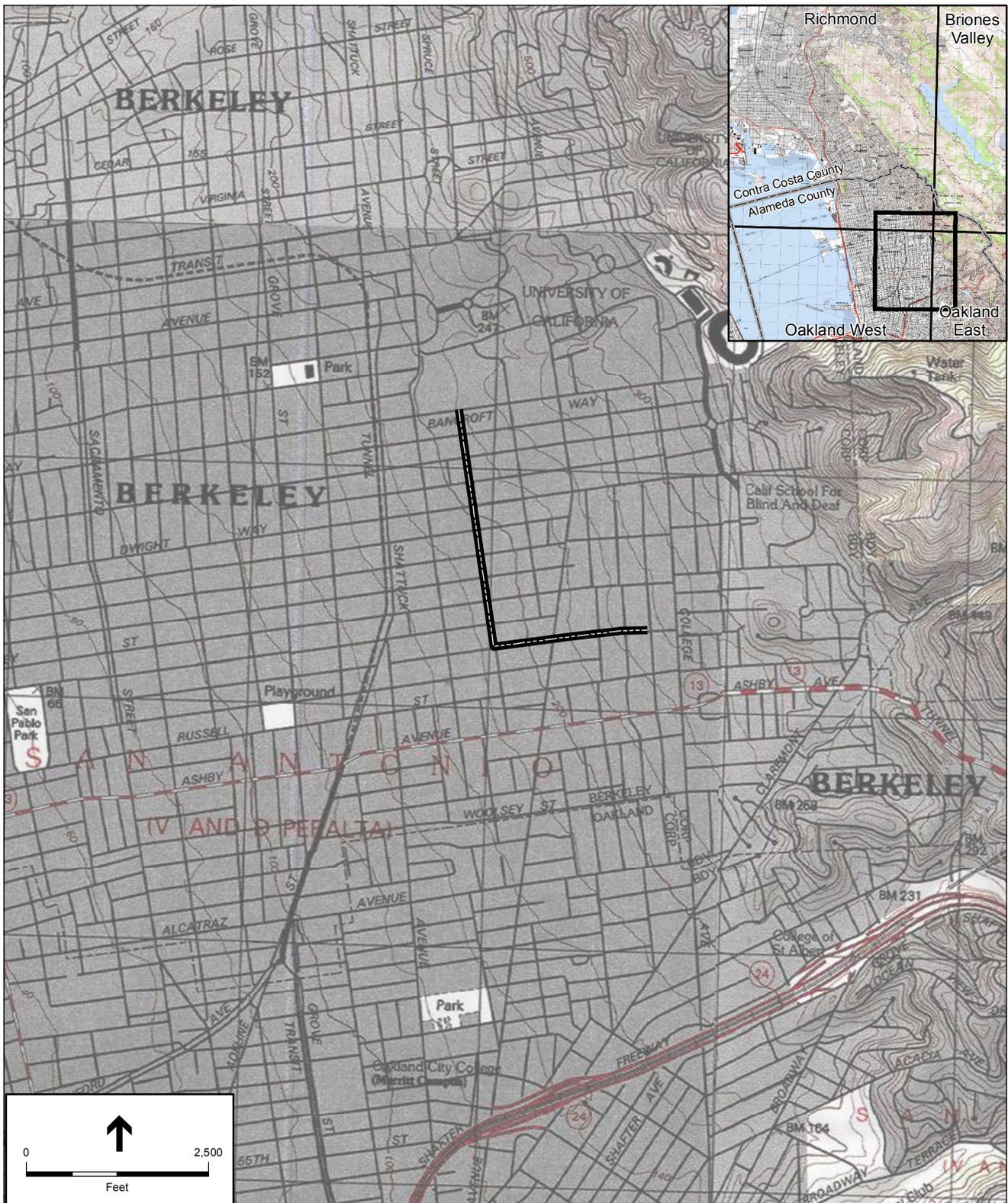
Mitigation Measure CUL-1c: Inadvertent Discovery of Cultural Resources.

Following implementation of CUL-1b, if prehistoric or historic-period cultural materials that were not identified and studied in the Archaeological Research Design and Treatment Plan (ARDTP) are unearthed during ground-disturbing activities, all work will halt within 100 feet of the find until a qualified archaeologist, defined as one meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric 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 and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the lead agency and appropriate Native American representative, will implement actions outlined in the ARDTP.

If remnants of the historic-era street car line such as rails or ties are unearthed, Mitigation Measure CUL-1c will apply and procedures described in the ARDTP will be implemented to properly manage the cultural resources. Hazardous or contaminated materials including rails and ties will be handled in accordance with EBMUD Contract Specifications Section 00 72 00, General Conditions, and Section 01 35 44, Environmental Requirements.

⁴ Looking Back at Berkeley. A Pictorial History of a Diverse City. 51. As cited in ARG, 2008.

FIGURES



SOURCE: USGS Richmond, Briones Valley,
Oakland West, and Oakland East 7.5' quadrangles

EBMUD West of Hills Project. 211488
Figure 1
Project Location and Vicinity