Tracing the Alhambra Wash: Past, Present, and Future

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LA254 Rivers and Cities Term Paper
UC Berkeley, spring 2021
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Final Draft

Abstract

Large-scale channelization of Los Angeles water courses in the 20th century led to the invisibility of water in today's highly urban, infrastructural landscape. Though channels were built to protect the population from flood risks, they do not provide a long-term solution for flood control, and they disconnect the population from their landscape and local ecology. Revealing local waterways to the public in thoughtful ways may reconnect people to the land's ecological history and inform future land use decisions for a more resilient future. With this goal in mind, I frame this paper within the context of a lesser-known tributary in the San Gabriel Valley region of Los Angeles County: the Alhambra Wash. I trace the history, existing conditions, and potential interventions for the wash with the aim of building stronger cognitive connections between the local community and their waterway.

Introduction

In highly urban Los Angeles, water systems are camouflaged. The dynamic rivers that shaped Los Angeles County, along with the complex network of tributaries that fed them, are now buried or channelized. Few residents would believe that the region was once a hydrologically rich landscape. However, revealing these invisible waterways to the public in thoughtful ways can reconnect people to the land's ecological history and inform future land use decisions that benefit both social and natural priorities.

While the Los Angeles River receives the most attention among rivers in the region, I chose to follow a smaller and lesser-known waterway: the Alhambra Wash in the San Gabriel Valley. The Alhambra Wash is a channelized tributary of the Rio Hondo River which generally runs southeast from the City of Alhambra to the Whittier Narrows, where the Rio Hondo meets the San Gabriel River (*Attachment 1: Map of the Alhambra Wash*). This paper begins with a brief overview of Los Angeles County's social and ecological history and basic information about the Alhambra Wash. Following this context, I share observations about existing conditions based on field work along the Alhambra Wash. Finally, I conclude with ideas for revealing the channel to the public as a way to spark curiosity around its existence.

Methods

The crux of this research relies on field visits to the Alhambra Wash conducted on March 19, 2021 and March 26, 2021. The first visit entailed a 6.5-mile walk along the length of the Alhambra Wash (*Attachment 2: Map of the Alhambra Wash Walk*). The second further investigated the point where the Alhambra Wash meets the Rio Hondo River. Additionally, I conducted a literature review of relevant articles on regional urban and ecological history of Los Angeles, various perspectives on restoration of channelized rivers, and technical reports about current efforts for the Alhambra Wash. I also reviewed

historical United States Geological Survey maps of the area dating as early as 1894 (*Attachment 3: Maps of the Alhambra Wash Through the Years*).

This paper does not attempt to offer solutions for the broad, complicated issue of Southern California's aging flood control system. Rather, I discuss how the invisibility of Alhambra Wash disconnects people to natural processes in the landscape and obscures the imminent flooding risks due to failing infrastructure. Proposed interventions do not aim to solve structural flood control issues, but to reveal the channel to the public as an educational opportunity and starting point for change.

One major limitation of this paper is the assumption that the community does not currently have a meaningful relationship to the Alhambra Wash. This assumption is based on anecdotal evidence from fellow San Gabriel Valley residents. Further investigation of this research would require a community survey to better understand the community's true relationship to the channel and the residents' visions for the stream, if any.

Regional Context and History

Prior to its rapid urbanization since the late 19th century, Los Angeles was historically a vast wetland with powerful, dynamic rivers. The San Francisco Estuary Institute reports that in the late 19th century, the San Gabriel Valley "was dominated by a network of shallow stream channels flowing through deep alluvial deposits. During major flood events stream flow would routinely overflow the channels and spread across the alluvial fan. These systems were highly dynamic with the flow alternating between several established courses following major storms." (Stein, Dark, Longcore, Hall, Beland, Grossinger, Casanova, and Sutula 2007). The historical riparian corridor around the Whittier Narrows, at the confluence of the Alhambra Wash and Rio Hondo River, consisted of "willow woodlands, wet meadows, perennial freshwater wetlands, streams, floodplain, and significant riparian area" (Stein et al. 2007).

Urbanization dramatically altered the Los Angeles region since the late 19th century. Booming agricultural and transportation industries led to sharp population growth and expansive development in floodplains of the Los Angeles Basin, thereby increasing vulnerability to dangerous flooding events. Though the floods of the 1860s-1890s were powerful, there was relatively little development to be affected. It was the destruction from the 1914 flood which propelled a comprehensive master plan for flood prevention and control (Orsi 2004). Despite this deluge, which caused over ten million dollars' worth of damage, the region's population rose 180 percent between 1914 and 1930 (Orsi 2004).

Bureaucracy and political contentions initially hindered cohesive efforts to address the apparent flooding problem. This changed with the devastating floods of 1934 in Los Angeles County, which incurred dozens of fatalities, and 1938, which killed over 100 people. In response, the Flood Control District and the U.S. Army Corps of Engineers would spend nearly two billion dollars over the next three decades "to erect more substantial protections along the rivers, an endeavor that produced one of the largest public works projects in world history and remade the hydraulic landscape of Los Angeles" (Orsi 2004). At the time, mass channelization offered a solution to move dangerous waters away from cities and into the ocean as quickly as possible. This undertaking irrevocably reshaped the region, giving current-day Los Angeles its form as a paved metropolis.

The San Francisco Estuary Institute estimates that since the 1870s, the Whittier Narrows area has lost 83% palustrine areas and 76% riverine areas, largely as a result of these flood control systems and proliferated floodplain development encouraged by the flood protection structures (Stein et al. 2007).

The Alhambra Wash: Overview

The Alhambra Wash is a tributary to the Rio Hondo River and belongs to the Los Angeles River watershed, according to the Los Angeles County Department of Public Works. Roughly 5.5 miles long, the Alhambra Wash spans across several municipalities, including the County of Los Angeles and the

cities of Rosemead, San Gabriel, and Alhambra. The Los Angeles Flood Control District and U.S. Army Corps of Engineers maintain different segments of the concrete-lined channel.

As a humble waterway between the prominent Los Angeles and San Gabriel Rivers, the Alhambra Wash has few resources dedicated to its history. Historical maps from 1894 to 1966 show that the wash remained in essentially the same location throughout that time span. However, the surrounding area changed drastically. Based on technical drawings from Los Angeles County Department of Public Works, the wash was channelized in 1937-38, with some segments completed later in 1949 and 1958. From California mission era to the 1860s, the wash bore the name "San Gabriel" and "Dry Wash of Mission Creek" (Bowman 1947). Today, the county identifies the wash by ID numbers 26-D3, 80/12, 80/14, 80/8, 80/1, and 26-FD36.

In more recent news, several capital projects for the Alhambra Wash have been completed or are currently planned. In 2020, the City of San Gabriel completed a bridge replacement project at the intersection of Del Mar Avenue and the Alhambra Wash. Prior to its replacement, the bridge was 83 years old and "classified as structurally deficient and functionally obsolete due to the condition of the steel structure" (City of San Gabriel 2018). Also in 2020, the Safe Clean Water Program awarded $300,000 for the City of San Gabriel's Vincent Lugo Park Stormwater Capture Feasibility Study that will analyze potential diversions of stormwater runoff from the Alhambra Wash to configurations of bioswales and other storage systems at Vincent Lugo Park (Hernandez 2020). The Safe Clean Water Program is currently considering a $2.6 million project called Alhambra Wash Dry-Weather Diversion project which aims to treat runoff from the wash and improve water quality (Christoffels 2021).

The Walk

To gain a first-hand understanding of the Alhambra Wash, its existing conditions, and its surroundings, I walked the entire length of the waterway (*Attachment 4: Photos Along the Wash*). Given the intense

development around the Alhambra Wash, which itself does not conform to the street grid, it is impossible to walk along the channel's extent without trespassing. I met it as closely as possible on public streets.

I began my 6.5-mile walk at the southern end of the Alhambra Wash. Reaching the point where the tributary meets the Rio Hondo requires traveling along a narrow strip of unkempt land between the concrete channel and the chain-link fence of a golf course. The concrete outer walls of the channel in this area are roughly eight feet above ground and showcase graffiti works. Though I felt like I was trespassing on my first visit, which prevented me from reaching the confluence, I later learned that the narrow pathway is in fact a public trail called the Rio Hondo River Walnut Grove Connector, maintained by the Los Angeles County Department of Parks and Recreation. After returning to street level and walking north on Walnut Grove Avenue, I caught my first view of the Alhambra Wash. A steady stream of water flowed slowly down the channel, carrying the light rain from earlier in the week.

Along my walk, I observed how tightly the Alhambra Wash weaves between residences, underneath streets and parking lots, and along elementary and high schools. It runs beside Southern California Edison's corporate campus and high-voltage power lines. As it breaks the street grid, it creates dead-end streets and becomes a backyard feature for hundreds of homes. At most of its access points, the channel is blocked off by aging chain link fences.

North of the 10 Freeway, at the intersection of Del Mar Avenue and Valley Boulevard, the area adjacent to the channel transitions from residential to denser commercial. The Alhambra Wash flows beneath a vast parking lot for 99 Ranch of San Gabriel Square, as well as Hilton Hotel. A few yards away, a new hotel is under construction. Not two blocks north of this, however, the area returns to residential. For the first time since the start of my walk at Whittier Narrows, this segment of the wash by McKinley Elementary School and Vincent Lugo Park offers public access to walk alongside the channel.

Just upstream of Vincent Lugo Park, the channel is wedged between Alhambra Golf Course, San Gabriel High School, and Alhambra City Yard. This stretch of the channel is once again inaccessible to the public. According to Google Maps, Mission Road marks the upstream-most extent of Alhambra Wash. However, historical maps, technical drawings, and satellite imagery suggest a continuation of the wash, so I continued to trace the channel northward. The surroundings of the wash in this upscale neighborhood are noticeably more vegetated.

A week after my first walk, I investigated the confluence of the Alhambra Wash and the Rio Hondo River, located about a half-mile southeast from Walnut Grove Avenue (*Attachment 5: Alhambra Wash/Rio Hondo River Confluence*). At this point, the channel breaks from its highly engineered form and dissolves into a "naturalized" and unstructured zone. The water flows into a small lake with wildlife swimming atop. Unfortunately, as I traveled further downstream, I noticed the water was polluted, putrid, and full of trash.

Discussion and Approaches to "Restoration"

The immediate finding from my visits was that the entire extent of the Alhambra Wash, except for its convergence with the Rio Hondo, is substantially surrounded by urban development and impermeable surfaces. The second was that no one engaged with it whatsoever. I observed people walking past it and driving over it but paying no attention to it.

Rendering the Alhambra Wash "visible" to the public could achieve two things. The first is to highlight potential flood risks from its channelization. While flood risk conditions may appear stable for the time being, this stability cannot persist indefinitely due to the potential of extreme weather events that may overwhelm the channel's capacity, as well as the threat of structural failure as the aging channel deteriorates.

The local community may already have some awareness of flooding risk – in the 1990s, public schools played a safety video by the Los Angeles County Department of Public Works called “No Way Out” to demonstrate the dangers of playing in the flood control channels (Stone, accessed 2021). However, few people may realize how vulnerable they are to flooding given their proximity to the channel. This important public safety issue must be raised, especially as the Alhambra Wash channel, at almost 90 years old, deteriorates in condition.

The second reason for revealing the channel is to inspire a meaningful relationship between people and water in the landscape. If people begin to learn about their community’s ecological history and water courses, they might be inspired to implement more resilient solutions for moving water through their cities. The channel might be reimagined so that the Alhambra Wash serves more ecological and social benefits than it does currently.

In densely developed Los Angeles, complete “restoration” of waterways would be impractical or outright infeasible. Indeed, contemporary views of channel restoration reject the notion of a return to an idealized ecological past of rivers in the region. David Fletcher argues that the future of the urban river must acknowledge its current state as a “freakish” living ecology or “freakology” – “an infrastructural ecology, opportunistic and emergent, that lives off human excess, with many of its values and functions unknown or misunderstood” (Fletcher 2008). Similarly, writers di Palma and Robinson advise against a return to the “natural” river, concluding that “[…] rather than seeking to ‘solve’ or ‘redeem’ the river, or to force or fix it into an idealized image of revitalization, it may be best […] to understand it as an incessantly responsive ‘40-year art work,’ with epic civic and environmental repercussions” (di Palma and Robinson 2018).

Given the challenging physical constraints of the Alhambra Wash and surrounding urbanization, “cognitive connectivity” through art and design might be the first approach to revealing the Alhambra

Wash. Rachel May defines cognitive connectivity as "the acknowledgement that humans are integral components of ecosystems" (May 2006). As May eloquently writes: "The first step towards healthy urban rivers, then, is to restore connectivity between human behavior and the very idea of natural hydrological processes, around our homes, on our streets, in our parks. Given the vast ingenuity humans have put into taming and controlling rivers over the past millennia, the possibilities are enormous if people can now become inspired to find equally creative ways to coexist with river systems" (May 2006). Eco-revelatory design, which uses art and design to remind people "of their day-to-day role in ecological processes," facilitates cognitive connectivity (May 2006). This approach emphasizes education as a tool for connecting with urban river ecological processes and can be a powerful conversation starter for reimagining the Alhambra Wash.

Revealing the Alhambra Wash and Other Future Possibilities

A simple and effective way to reveal the Alhambra Wash in the everyday landscape is to trace it with paint (*Attachment 7: Possible Interventions: Paint*). Painting the wash as it passes under major street intersections or large swathes of parking lots can easily pique curiosity and bring attention to the waterway. Precedents of this type of intervention include *The Blue Road* by Henk Hofstra in the Netherlands. This artwork covers a road that is 1000 meters long and eight meters wide with striking, bright blue paint, indicating that waterway that used to run there (King, accessed 2021). Another example is the Ghost Arroyos project, which "reveals forgotten, invisible waterways of San Francisco" such as historic Hayes Creek that once passed below Market Street (Schlickman, accessed 2021).

Another eco-revelatory design idea is to decorate the utilitarian chain link fences that guard the wash with captivating artworks (*Attachment 8: Possible Interventions: Decorating Fences*). For a cohesive piece, an artist could take advantage of the linear nature of the wash to share a sequential narrative on

fences along the channel. As an example, fences at accessible moments on the wash could feature historical maps of the tributary, revealing how the landscape changed over time.

Looking beyond art and design as a starting point to spark curiosity around the Alhambra Wash, it is possible to imagine the stream's potential to serve as a network of much-needed open space in the densely settled region. Along the wash, I observed adjacent vacant and underutilized lots that could be converted for such purposes (*Attachment 8: Alhambra Wash as Potential Open Space Network*). As available space in this highly urbanized area becomes increasingly rare, more open space for recreation or ecological restoration can be highly beneficial for both people and wildlife. This future vision for the Alhambra Wash can fulfill a societal need for green space and reconnect people with the landscape in a tangible way.

Conclusion

Though water was once a conspicuous feature of the Los Angeles region, and sometimes a destructive force, it is now hidden as part of an infrastructural network of artificial channels. Such is the case with the Alhambra Wash, a channelized tributary to the Rio Hondo River. The invisibility of the wash both obscures potential flood risks and disconnects the community with the landscape. On the basis of public safety alone, the public should become aware of the channel, and where flooding might occur if underground culverts are plugged with shopping carts, tree limbs, or other debris. However, revealing the wash might also inspire surrounding communities to act on a more resilient environmental future that reconnects people to the important ecological processes they are a part of. Given the highly urban nature along the Alhambra Wash, restoration of the channel to its original state as a perennial stream within a green riparian corridor is not feasible. Nonetheless, innovative interventions through art and design can introduce moments of discovery and reveal history for those who pass by.

Works Cited

Bowman, J. 1947. The Names of the Los Angeles and San Gabriel Rivers. The Quarterly: Historical Society of Southern California. 29: 92-99 pp. https://doi.org/10.2307/41168127. Accessed 12 Apr 2021.

"Bridge Replacement Project: San Gabriel, CA - Official Website." *Bridge Replacement Project | San Gabriel, CA - Official Website*, City of San Gabriel, www.sangabrielcity.com/779/Del-Mar-AvenueAlhambra-Wash-Bridge. Accessed

Christoffels, M. San Gabriel Valley Council of Governments. 2021. Alhambra Wash Dry-Weather Diversion Feasibility Study Report. 4 pp.

Di Palma, Vi and Robinson, A. 2018. Willful Waters. Places Journal. https://doi.org/10.22269/180508. Accessed 14 Mar 2021.

Fletcher, D. 2008. Flood Control Freakology: Los Angeles River Watershed in Projective Ecologies. C. Reed and N. Lister, eds. Harvard University Graduate School of Design, Cambridge. 262-279 pp.

Hall, W.H. 1888. Irrigation in California (Southern): the field, water-supply and works, organization and operation in San Diego, San Bernardino and Los Angeles Counties, Sacramento, California. 480 pp.

Hernandez, C. City of San Gabriel. 2020. Vincent Lugo Stormwater Capture Feasibility Study, Technical Resource Summary. 4 pp.

King, Jason. "The Blue Road." *Landscape Urbanism*, 15 Jan. 2010, landscapeandurbanism.blogspot.com/2010/01/blue-road.html. Accessed 13 Apr 2021.

LA County Flood Control System, Los Angeles County Department of Public Works, apps.gis.lacounty.gov/dpw/m/?viewer=fcs. Accessed 11 Mar 2021.

"Bridge Replacement Project: San Gabriel, CA - Official Website." *Bridge Replacement Project | San Gabriel, CA - Official Website*, City of San Gabriel, www.sangabrielcity.com/779/Del-Mar-AvenueAlhambra-Wash-Bridge.

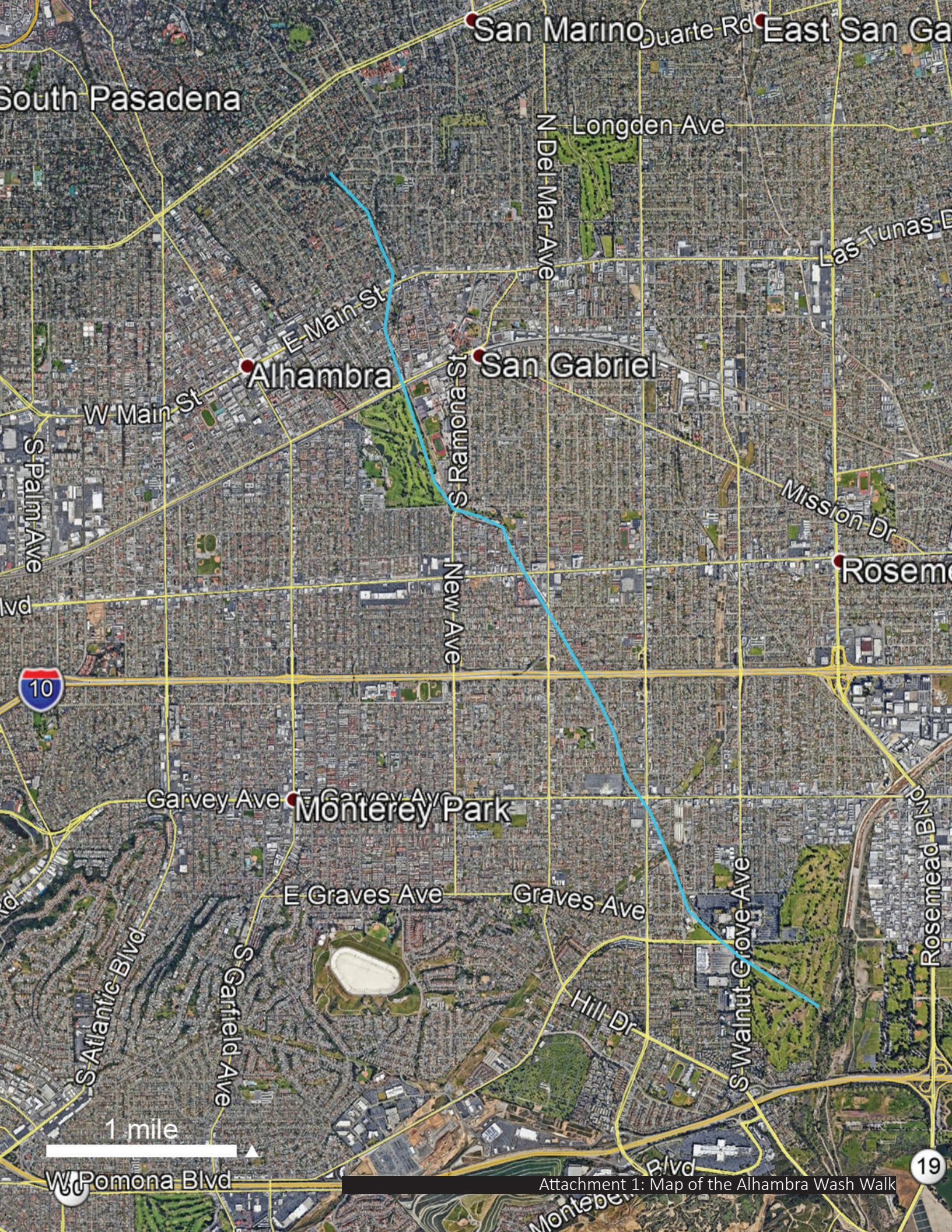
May, R. 2006. Connectivity in urban rivers: Conflict and convergence between ecology and design, Syracuse. Technology in Society 28: 477-488 pp.

Orsi, J. 2004. Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles, Berkeley and Los Angeles. 36, 98-101 pp.

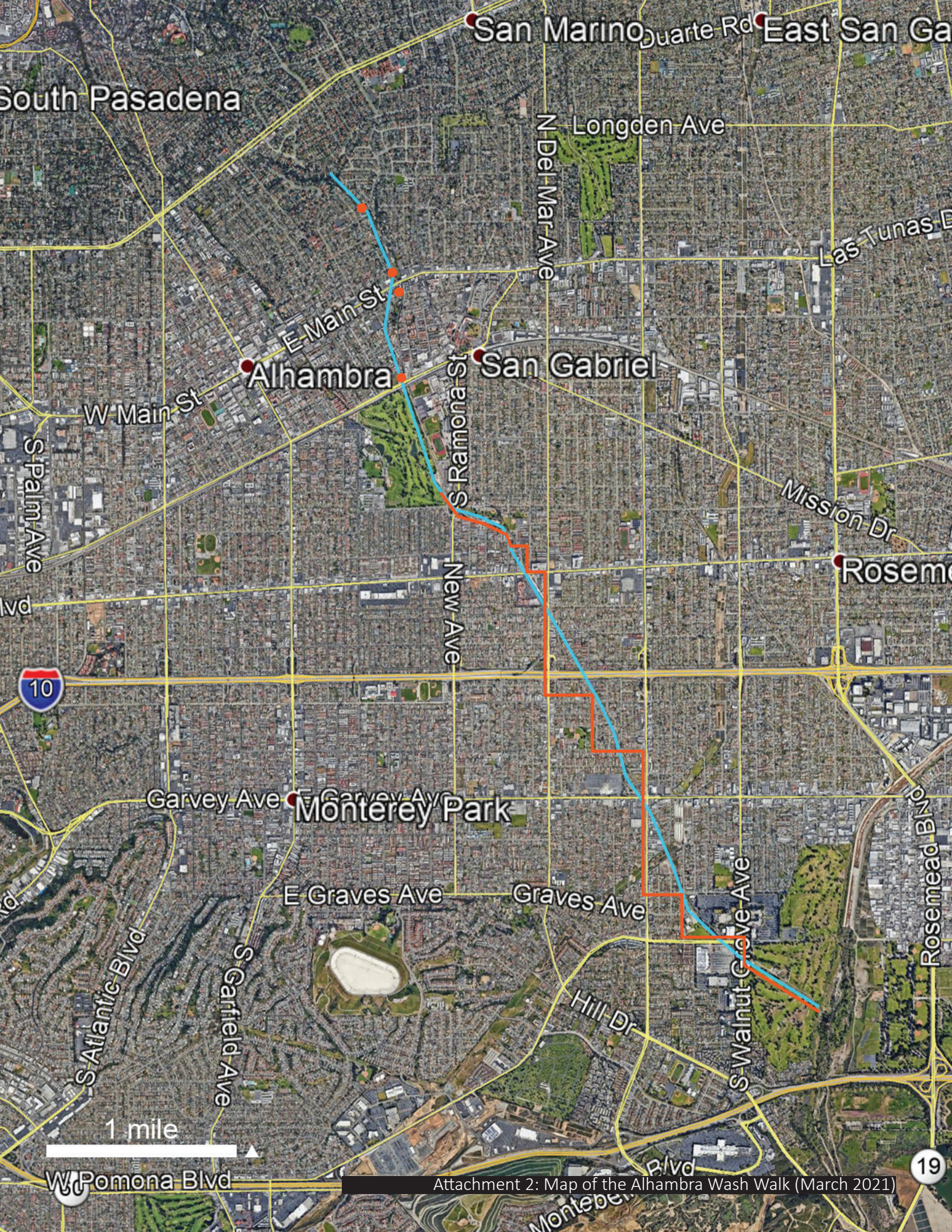
Schlickman, Emily. "About the Project." *Ghost Arroyos*, 2021, ghostarroyos.com/about. Accessed 13 Apr 2021.

Stein, D. Dark, S. Longcore, T. Hall, N. Beland, M. Grossinger, R. Casanova and J. Sutula, M. 2007. Historical Ecology and Landscape Change of the San Gabriel River and Floodplain. Southern California Coastal Water Research Project Technical Report #499. v pp.

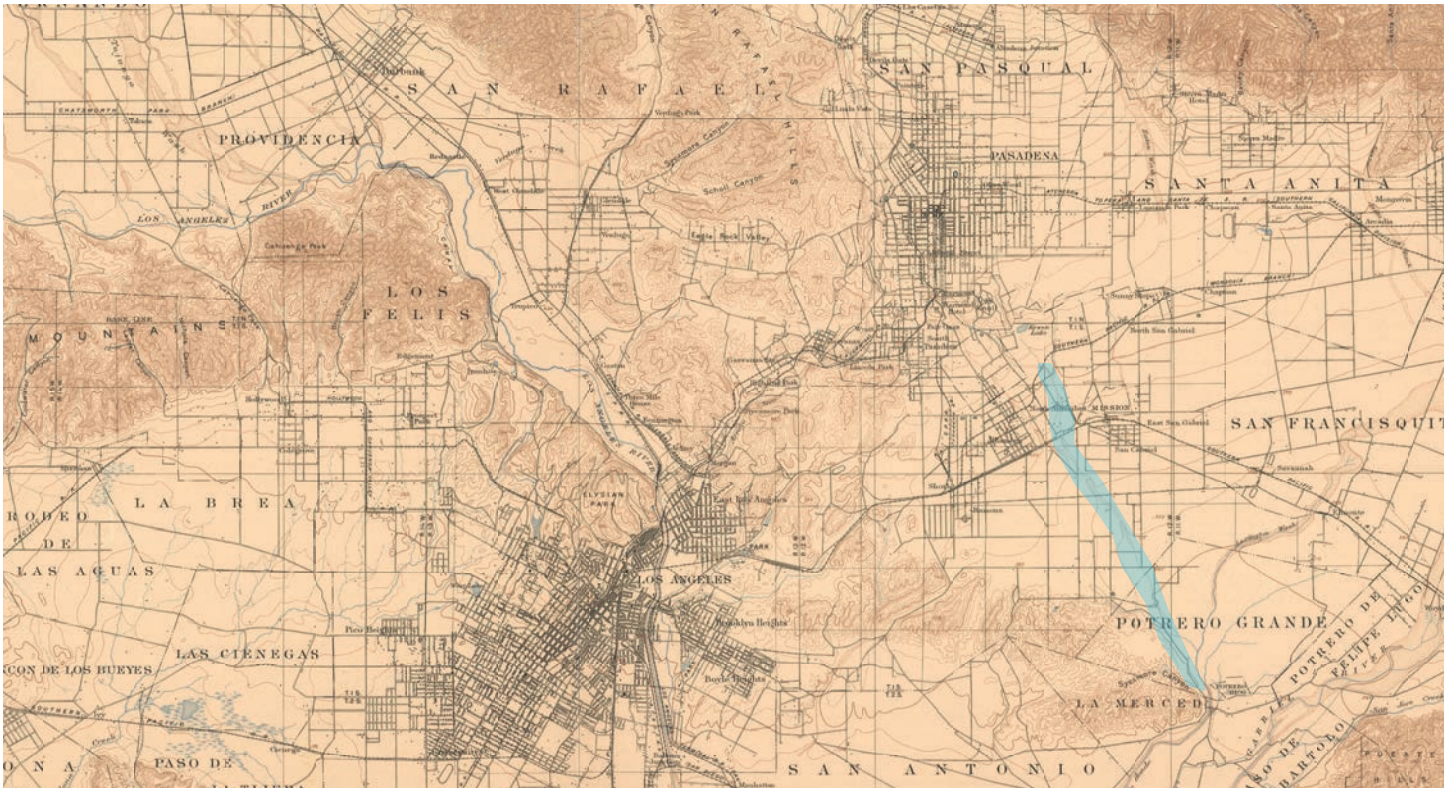
Stone, David. *YouTube*, Los Angeles County Department of Public Works, 1993, www.youtube.com/watch?v=QDEbj3ve8Ds.



Attachment 1: Map of the Alhambra Wash Walk



Attachment 2: Map of the Alhambra Wash Walk (March 2021)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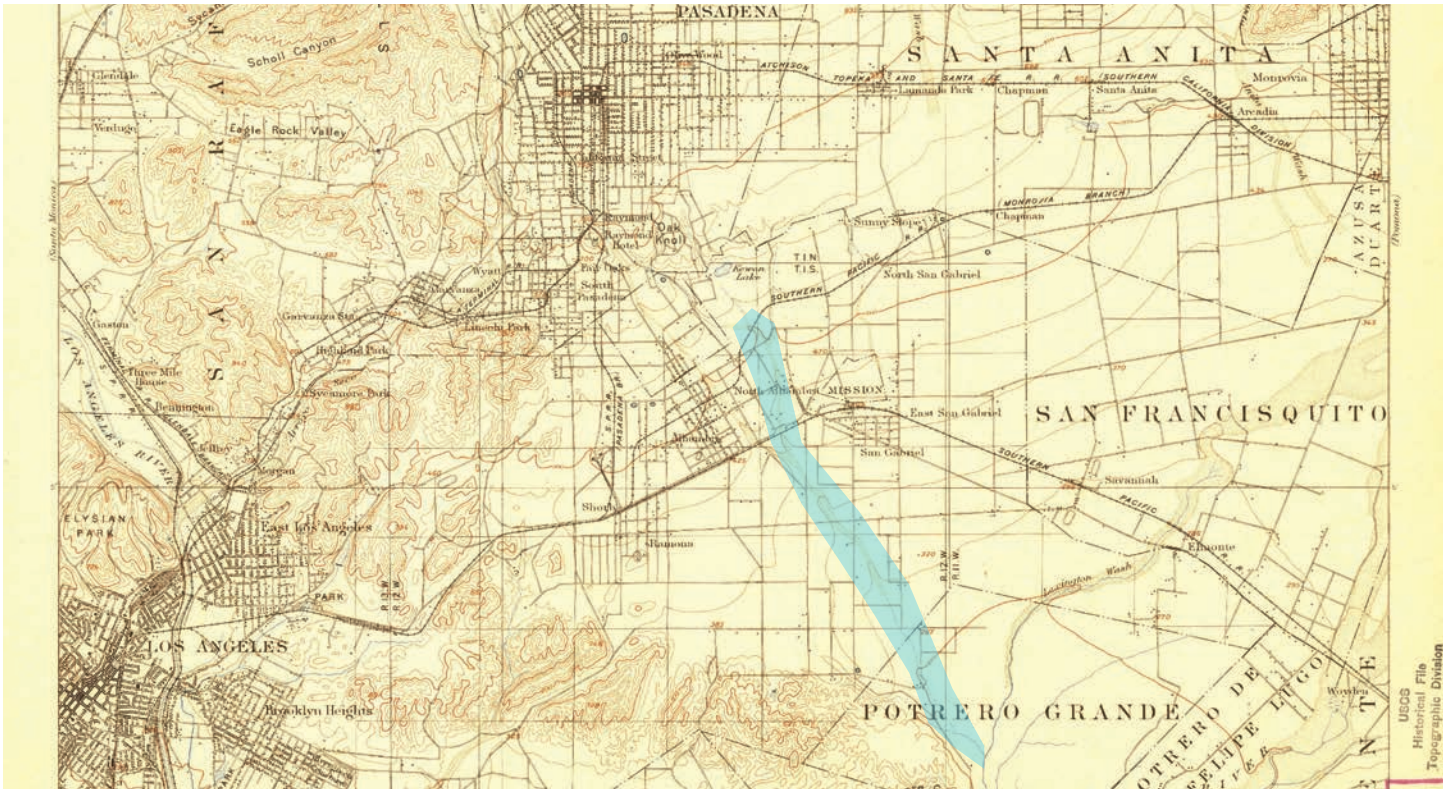
SAN PASQUAL
PROVIDENCIA
PASADENA
SANTA ANITA
LOS FELIS
MOUNTAINS
LOS ANGELES RIVER
LA BREA
ROBEO DE LAS AGUAS
LAS CIENEGAS
LOS ANGELES
POTRERO GRANDE
LA MERCED
SAN ANTONIO
PASO DE
1894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Scholl Canyon
Eagle Rock Valley
Glendale
Verdugo
Monrovia
Arcadia
Chapman
Santa Anita
Sunny Slope
North San Gabriel
Raymond Hotel
Oak Knoll
South Pasadena
Hellman Park
Sycamore Park
Three Mile House
Pennington
Morgan
East Los Angeles
ELYSIAN PARK
LOS ANGELES
Brooklyn Heights
MISSION
East San Gabriel
San Gabriel
SAN FRANCISQUITO
Savannah
Ehrente
POTRERO GRANDE
LOS ANGELES RIVER
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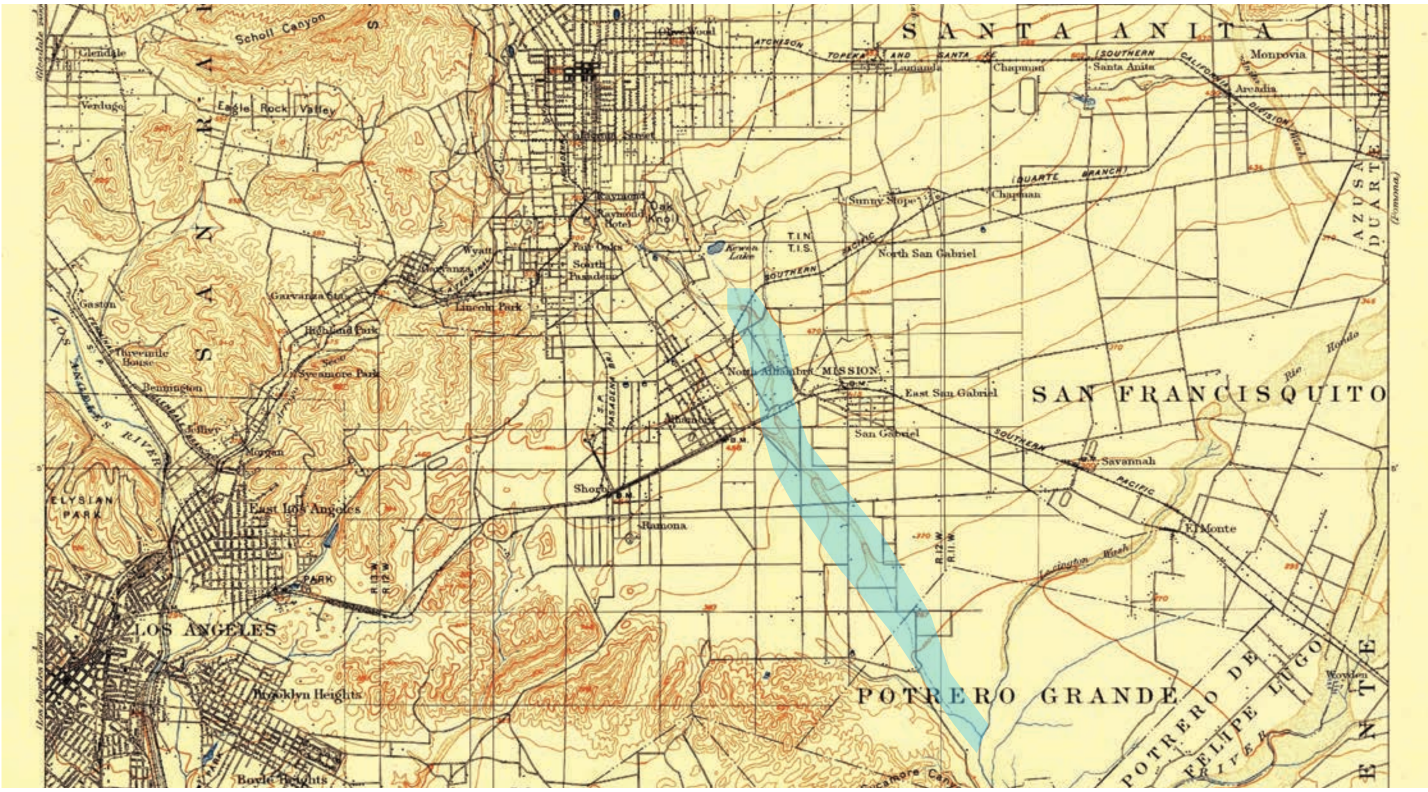
MONROVIA BRANCH
USGS Historical File Topographic Division
1896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Glendale
Eagle Rock Valley
Sunny Slope
North San Gabriel
SAN FRANCISQUITO
East San Gabriel
San Gabriel
Savannah
El Monte
Garvanza
Lincoln Park
Highland Park
Sycamore Park
ELYSIAN PARK
East Los Angeles
LOS ANGELES
Brooklyn Heights
Boyle Heights
Ramona
POTRERO GRANDE
POTRERO DE FELIPE LUGO
AZUSA DUARTE
1900


SAN GABRIEL
East San Gabriel
Savanna
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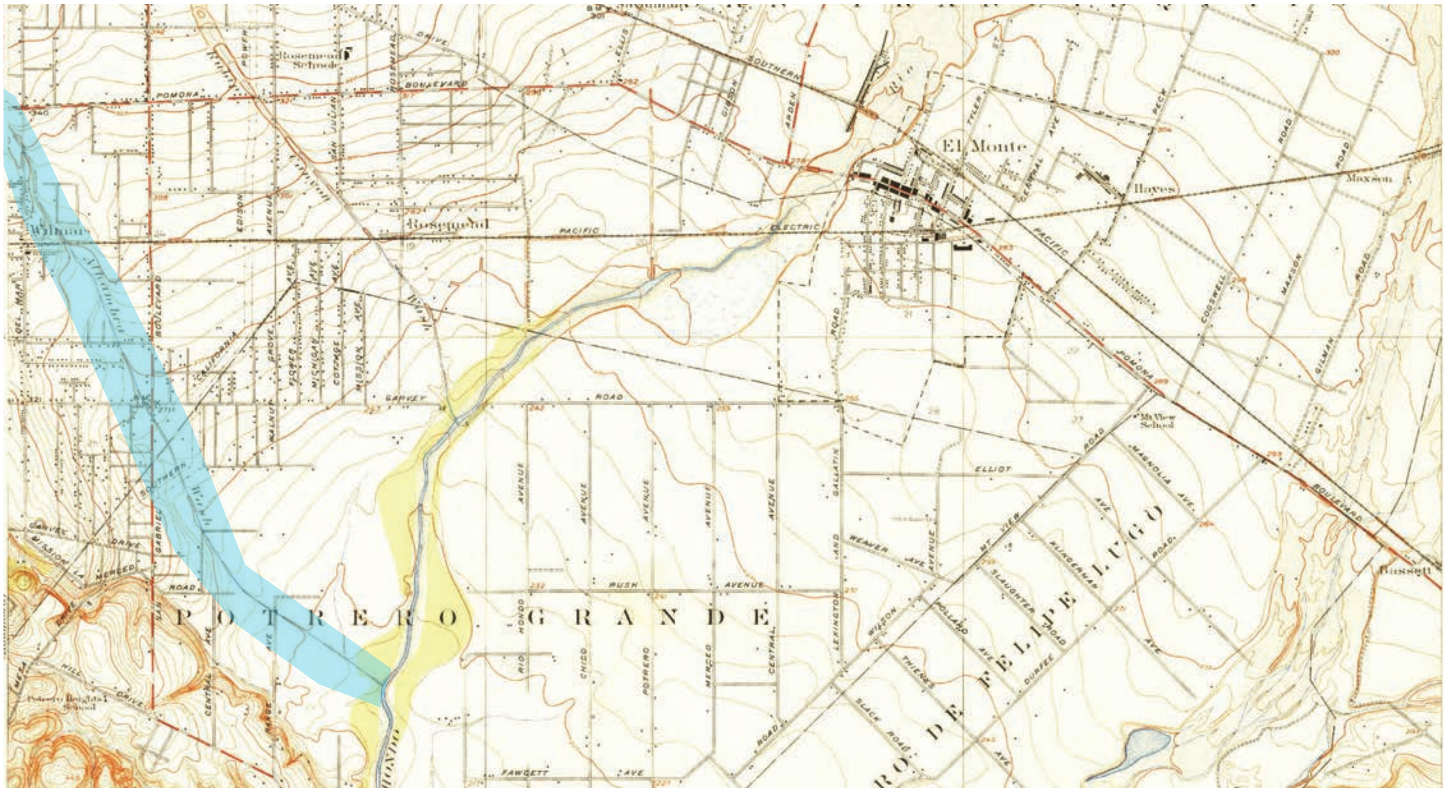
ELECTRIC
PACIFIC
Hayes
Maxson
Rosemead
POTRERO GRANDE
LUGO
1923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Hayes
Maxson
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Wilmar
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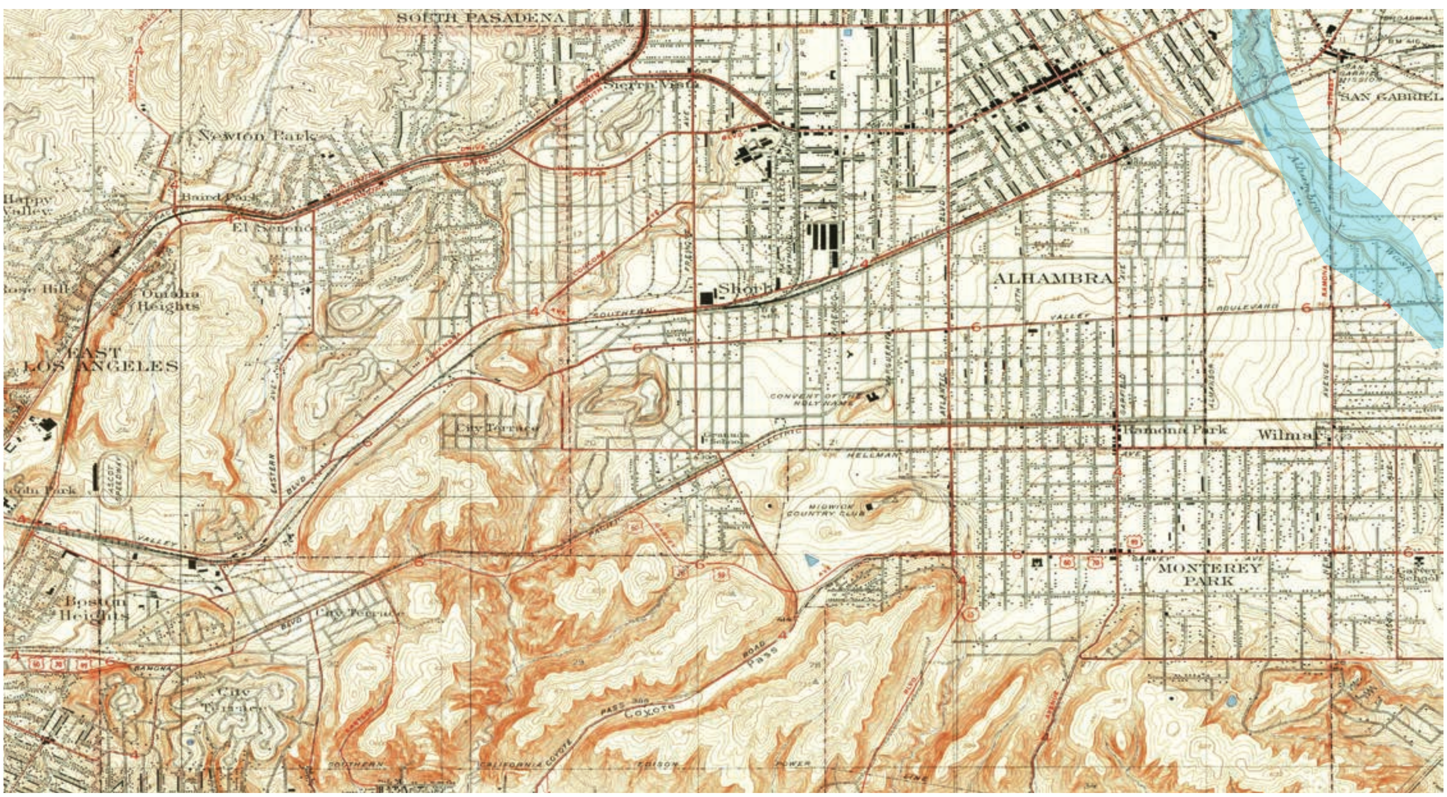
GARVEY ROAD
RUSH AVENUE
POMONA BOULEVARD

1926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Sierra Vista
Newton Park
Happy Valley
Rose Hill
Omaha Heights
EAST LOS ANGELES
ALHAMBRA
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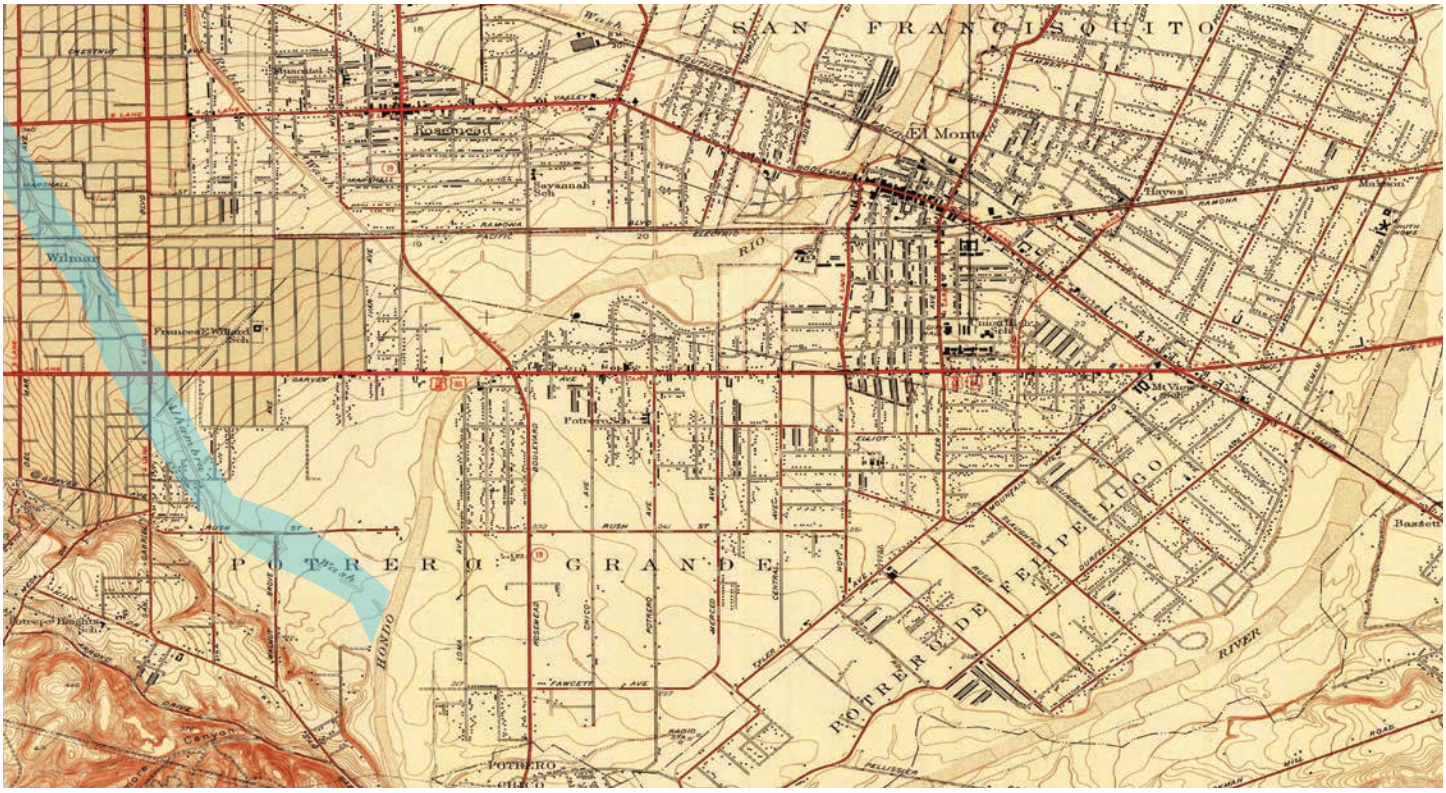
City Terrace
Ramona Park
Wilmar
MIDWICK COUNTRY CLUB
MONTEREY PARK
Boston Heights
Coyote Pass

1926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El Monte
Rosemead
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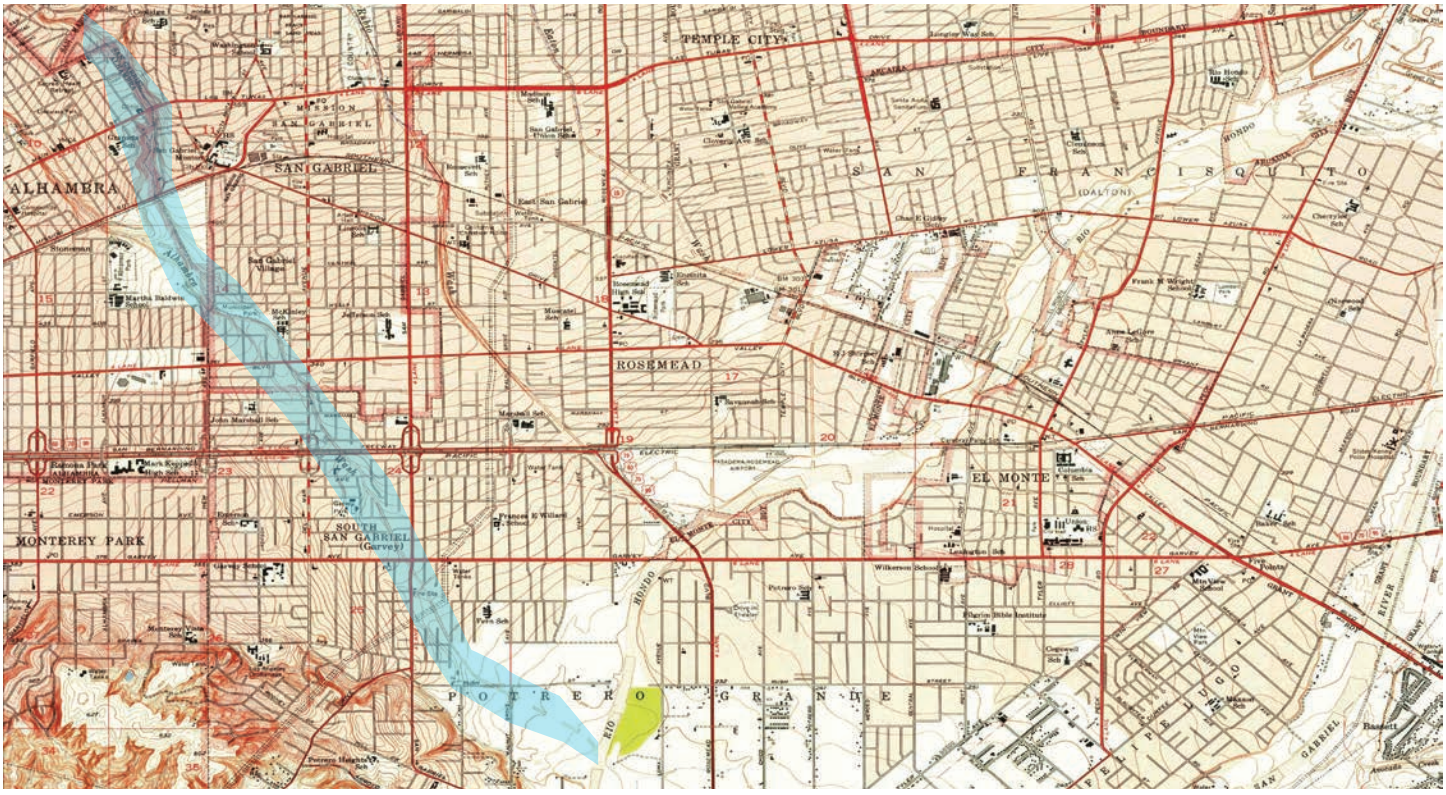
RIO HONDO
RIVER
Potrero Sch
POTRERO
1948


TEMPLE CITY
SAN GABRIEL
ALHAMBRA
SAN FRANCISQUITO
(DALTON)
ROSEMEAD
EL MONTE
MONTEREY PARK
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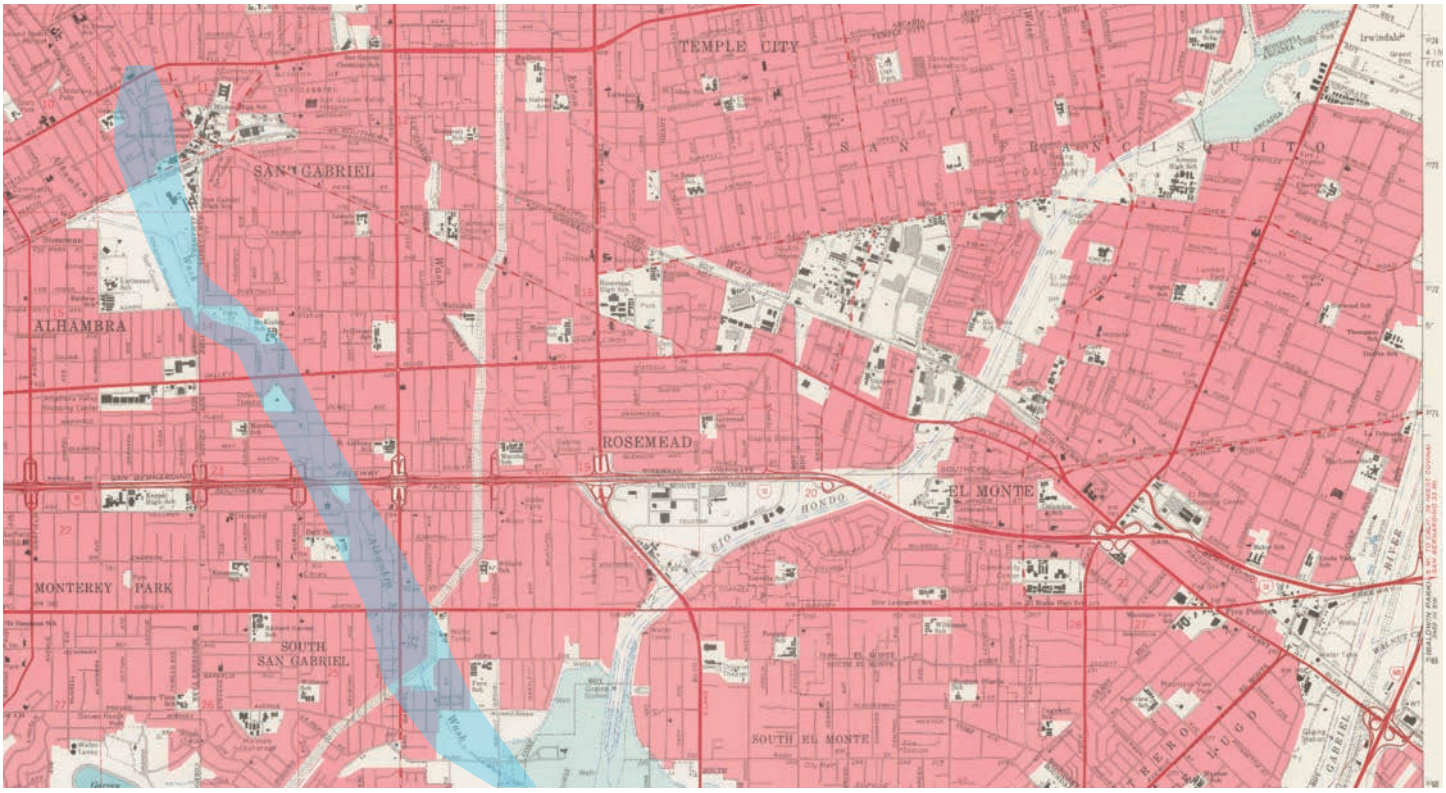
POTRERO GRANDE
RIO HONDO
RIVER
1953


TEMPLE CITY
SAN GABRIEL
ALHAMBRA
ROSEMEAD
EL MONTE
MONTERREY PARK
SOUTH SAN GABRIEL
SOUTH EL MONTE
1966





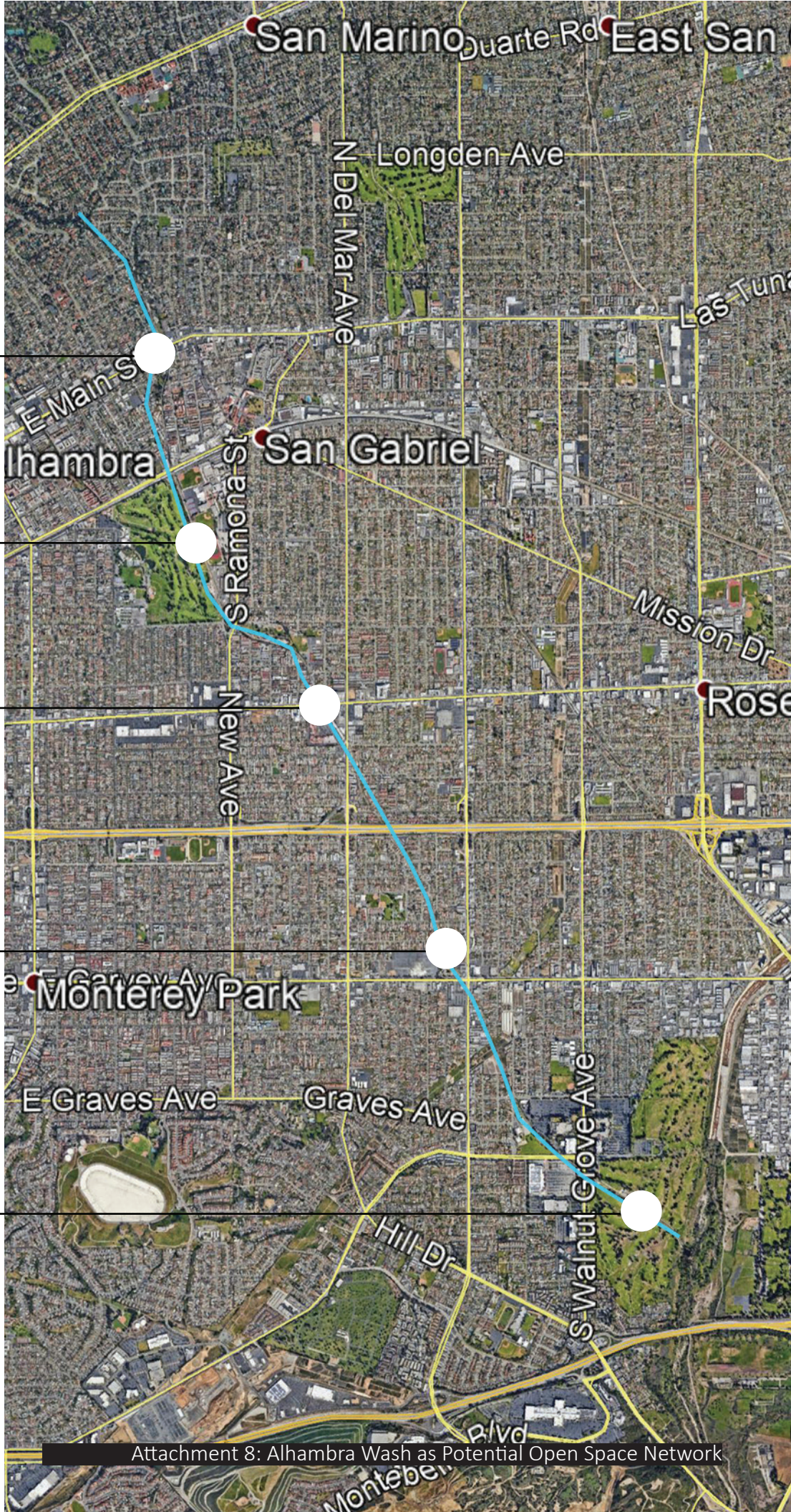




Attachment 4: Photos Along the Wash (March 2021)

Attachment 5: Alhambra Wash/Rio Hondo River Confluence


NO DUMPING
THIS DRAINS TO OCEAN
TO REPORT ILLEGAL DUMPING CALL
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
1-888-CLEAN LA
1-888-253-2652



Attachment 8: Alhambra Wash as Potential Open Space Network