Appendix G4

Hydrology and Water Quality Study

This page intentionally left blank

HYDROLOGY AND WATER QUALITY STUDY FOR PURE WATER SOUTHERN CALIFORNIA

Job Number 19622

April 4, 2024

RICK™
ENGINEERING COMPANY

HYDROLOGY AND WATER QUALITY STUDY

FOR

PURE WATER SOUTHERN CALIFORNIA

Job Number 19622

_____

Jayne Janda-Timba
R.C.E. #70649
Exp. 06/25

Prepared for:

The Metropolitan Water District of Southern California

Prepared by:

Rick Engineering Company
Water Resources Division
5620 Friars Road
San Diego, California 92110-2596
(619) 291-0707

April 4, 2024

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

AWP Facility	Advanced Water Purification Facility
Basin Plan	Los Angeles Basin Plan
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CWA	Clean Water Act
DDW	Division of Drinking Water
DPR	Direct Potable Reuse
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HU	Hydrologic Unit
HUC	Hydrologic Unit Code
IGP	Industrial General Permit
IWDP	Industrial Wastewater Discharge Permit
Joint Treatment Site Improvements	Proposed Warren Facility modifications, AWP Facility, DPR treatment facilities at the Joint Treatment Site, and Workforce Training Center
LACPW	Los Angeles County Department of Public Works
MCL	Maximum Contaminant Level
MS4	Municipal Separate Storm Sewer System
Metropolitan	The Metropolitan Water District of Southern California
NAL	Numeric Action Level
NEL	Numeric Effluent Limitations
NPDES	National Pollutant Discharge Elimination System
PDF	Program Design Feature
Pure Water	Pure Water Southern California
QSD	Qualified SWPPP Developer
Regional Board	Los Angeles Regional Water Quality Control Board
Sanitation Districts	Los Angeles County Sanitation Districts
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TNAL	TMDL Numeric Action Level
USEPA	United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WTC	Workforce Training Center

1.0 INTRODUCTION

This technical report assesses surface hydrology, water quality conditions, and potential impacts resulting from the implementation of the Pure Water Southern California (Pure Water) project.

Proposed components to implement Pure Water include modifications to the existing Los Angeles County Sanitation Districts (Sanitation Districts) A.K. Warren Water Resource Facility (Warren Facility), a new full-scale Advanced Water Purification (AWP) Facility, direct potable reuse (DPR) treatment facilities, pipelines, pump stations, service connections, groundwater recharge improvements, and operation, maintenance, and ancillary facilities, as needed. This report addresses components for which sufficient information is available at this time to conduct a project-level analysis. These components include: the proposed Warren Facility modifications, AWP Facility, DPR treatment facilities at the AWP Facility site; and a Workforce Training Center (WTC) (collectively referred to as the Joint Treatment Site improvements); and a backbone pipeline and its appurtenances. The layout of the Joint Treatment Site Improvements can be seen in Figure 1-1 below.

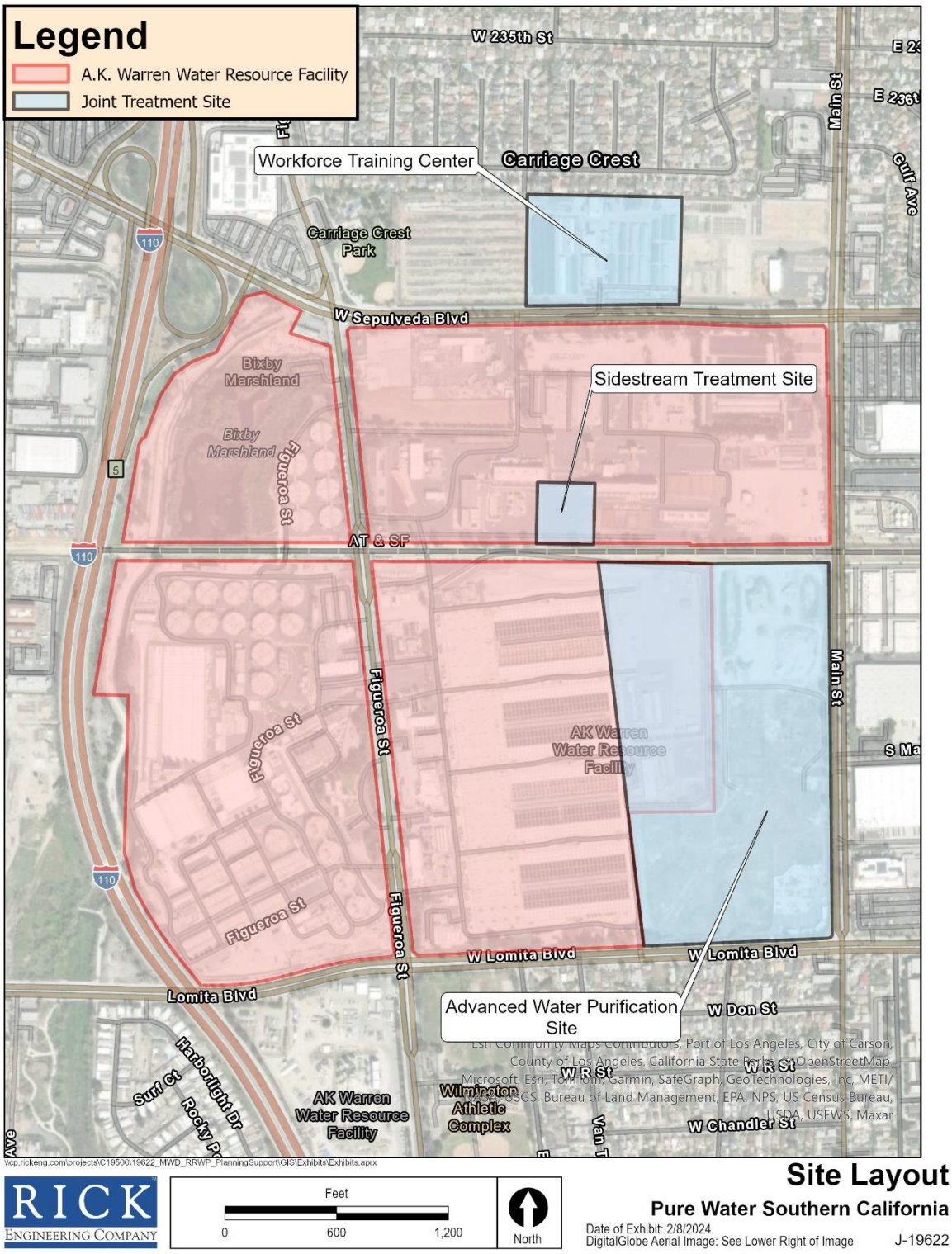


Figure 1-1. Site Layout

The backbone pipeline would extend approximately 39 miles from the AWP Facility to the existing San Gabriel Canyon Spreading Grounds in the city of Azusa. The southern 25 miles would be 7-foot-diameter pipe, and the northern 14 miles would be 9-foot-diameter pipe. Appurtenant facilities would include air-release and vacuum valves, blow-off structures, access ways, isolation valves, discharge connections and meters, pump wells, and other necessary appurtenances.

The assessments were performed using the readily available information obtained from applicable resources, planning, and guidance documents. The assessments were performed pursuant to the California Environmental Quality Act (CEQA) Guidelines, California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387, and will be included in the overall Pure Water Environmental Impact Report. Groundwater recharge and marine discharge studies were conducted separately and are not discussed or analyzed in this report.

2.0 ENVIRONMENTAL SETTING

The general surface water hydrology and water quality conditions of the Pure Water area are based on a review of available data for the region, including Geographic Information System (GIS) data, watershed plans and reports, and the *Los Angeles Regional Water Quality Control Board Basin Plan* (Basin Plan), dated 2014.

Local Surface Water Hydrology

The local surface water hydrology discussion of the backbone conveyance pipeline has been divided into the southern, central, and northern segments. These three segments are defined as: (1) southern segment starting at the AWP Facility and ending at Artesia Boulevard; (2) central segment starting at Artesia Boulevard and ending at Washington Boulevard; and (3) northern segment starting at Washington Boulevard and ending at the San Gabriel Canyon Spreading Grounds. These three segments can be seen in Figure 2-1.

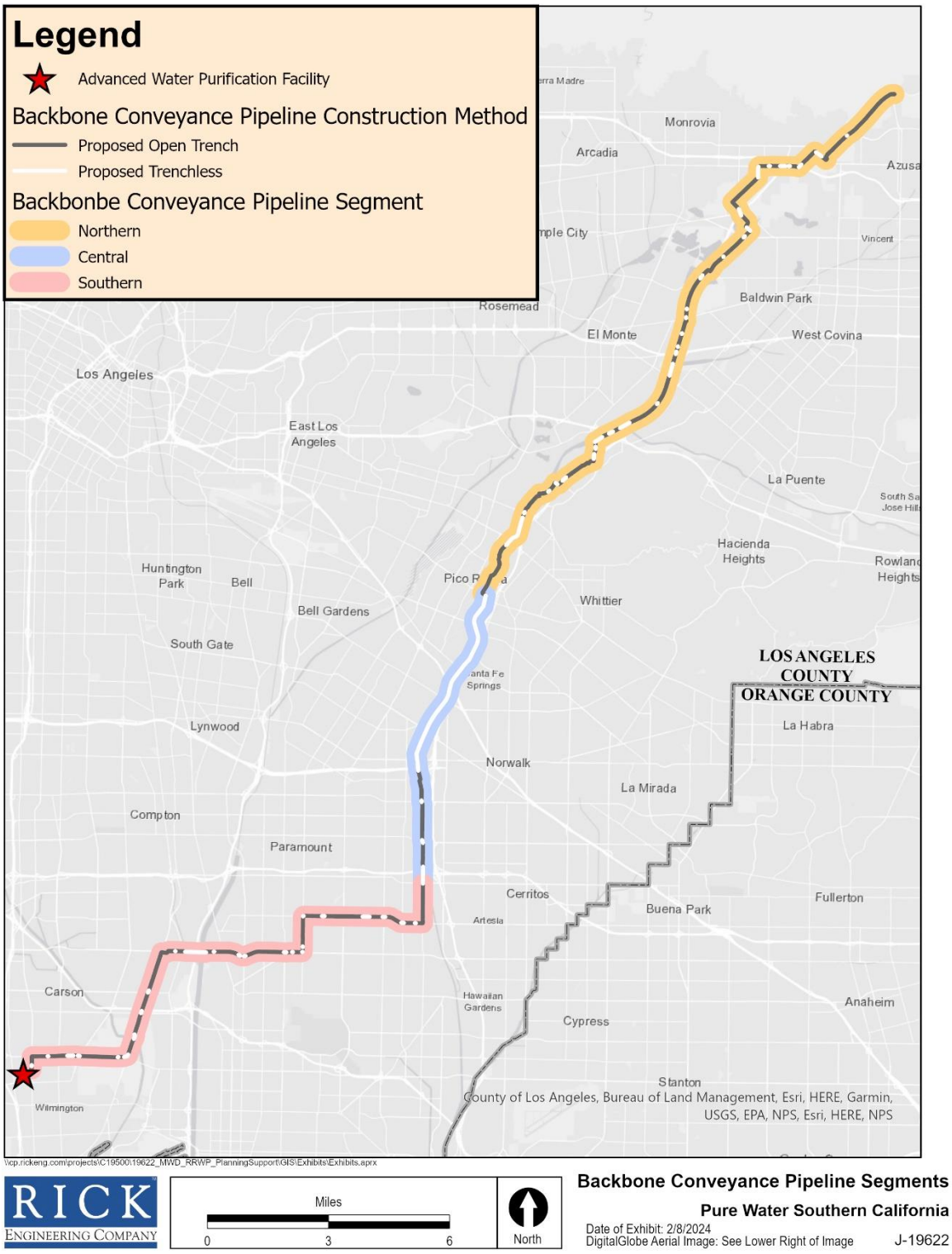


Figure 2-1. Backbone Conveyance Pipeline Segments

The proposed location of the AWP Facility is within the Joint Treatment Site and is currently an undeveloped property. Stormwater runoff within this area gravity flows to the Panama Avenue Drain through a 14-inch diversion pipe or surface flows to inlets that tie into the Panama Avenue Drain. Stormwater in the Panama Avenue Drain flows to the Wilmington Drain Flood Control Channel and eventually drains to Machado Lake.

The southern segment of the proposed backbone conveyance pipeline follows street rights-of-way and developed areas (impervious surface). This segment of the alignment includes major road and drainage crossings, including Sepulveda Boulevard, Dominguez Channel, Interstate 405, Carson Street, Compton Creek, Interstate 710, Los Cerritos Channel, and the Los Angeles River where trenchless construction methods are proposed. The southern segment of the alignment also includes trenchless construction crossings at railroad tracks and Los Cerritos Channel.

The central segment of the alignment also follows street rights-of-way and developed areas (impervious surface) and would use a combination of open trench and trenchless construction methods, including a potential tunnel between Interstate 105 and Washington Boulevard. As the alignment follows the San Gabriel River, the alignment traverses pervious surfaces. Crossings that would require trenchless construction methods include concrete open channels, State Route 91, Alondra Boulevard, Rosecrans Avenue, and areas along the San Gabriel River. Local surface water hydrology in the area of the proposed open trench construction methods along San Gabriel River generally consists of sheet flow directed into the river.

The northern segment of the alignment continues to follow the San Gabriel River with open trench construction methods, except for various crossings including San Jose Creek, Walnut Creek, Interstate 10, Ramona Boulevard, Los Angeles Street, San Gabriel River, Interstate 605, and Interstate 210. Local surface water hydrology in the area of the proposed open trench construction methods along San Gabriel River generally consists of sheet flow directed into the river.

The typical rainfall pattern in developed areas is rainfall on pervious and impervious areas that results in the generation of runoff. Runoff from roofs, driveways, hardscape, and landscape areas is typically conveyed to the adjacent local street through downspouts, swales, area drains, curb and gutter, and sidewalk underdrains. Once in the street, runoff is conveyed into the curb and gutter and to the nearest curb inlet. Curb inlets are located either at sump locations or at on-grade locations. In the design of streets, on-grade curb inlets are located so that surface street flow would be intercepted and conveyed into a subsurface local storm drain system so that surface conveyance complies with the applicable local drainage ordinance related to dry lane criteria. Dry lane criteria generally requires that one lane of travel in each direction is not inundated. Runoff in the subsurface local storm drain is conveyed down-gradient to either a major flood control system or a receiving water. In this study, a receiving water is considered any natural creek, stream, river, or lined or unlined engineered channel. Major flood control systems eventually discharge to a receiving water.

Watersheds

The Los Angeles Regional Water Quality Control Board (Regional Board) encompasses ten Watershed Management Areas (WMAs), which generally consists of a single large watershed within which exist smaller subwatersheds that are tributary to the mainstem river. Watersheds in the strictest sense are geographic areas draining into a river system, ocean, or other body of water through a single outlet and include the receiving waters. They are usually bordered, and separated from, other watersheds by mountain ridges or other naturally elevated areas. Pure Water facilities traverse the Alamitos Bay-San Pedro Bay, Dominguez Channel, Lower Los Angeles River, Lower San Gabriel River, San Jose Creek, Walnut Creek, and Rio Hondo watersheds. These watersheds can be seen in Figure 2-2.

Figure 2-2. Regional Board Watersheds

These smaller watersheds are within the following Los Angeles County watersheds. The *Los Angeles County General Plan Update Draft Environmental Impact Report* (2014), describes these watersheds as follows:

Dominguez Channel and Los Angeles Harbor

The Dominguez Watershed spans 133 square miles of southwest Los Angeles County, extending from just north and east of Los Angeles International Airport at its north end to Los Angeles Harbor in the Community of Wilmington in the City of Los Angeles at its south end, where the Dominguez Channel ends. Most of the watershed is in the Los Angeles Basin; the watershed also encompasses north-facing slopes of the Palos Verdes Hills. The Dominguez Channel, the primary drainage channel in the watershed, extends 15 miles from the City of Hawthorne to Los Angeles Harbor.

Los Angeles River Watershed

The Los Angeles River Watershed spans 830 square miles of western, central, and southern Los Angeles County and some small areas of eastern Ventura County. The watershed extends from the San Gabriel Mountains on the northeast, to the Santa Susana Mountains and Santa Monica Mountains on the northwest and west, respectively, and extends south to the mouth of the Los Angeles River in the City of Long Beach. The watershed includes all of the San Fernando Valley, much of central Los Angeles, and parts of south Los Angeles. The Los Angeles River, the primary stream in the watershed, extends 48 miles from the confluence of Bell Creek and the Arroyo Calabasas in the southwest San Fernando Valley to the Pacific Ocean at the City of Long Beach.

San Gabriel River Watershed

The San Gabriel River Watershed spans 905 square miles of east-central and southeast Los Angeles County and part of northwest Orange County. The watershed extends from the San Gabriel Mountains on the north, encompasses the east half of the San Gabriel Valley, the Puente Hills, and much of the southeast Los Angeles Basin, and extends south to the mouth of the San Gabriel River in the City of Seal Beach on the Orange County-Los Angeles County boundary. The Los Angeles River, the primary stream in the watershed, extends about 61 miles from the San Gabriel Mountains to the ocean.

Floodplains

A 100-year flood event is a flood that has a 1 in 100 probability of being equaled or exceeded in any given year. The 100-year flood is the standard used by most federal and state agencies and the National Flood Insurance Program as the standard for floodplain management. Several Pure Water facilities would cross areas located within a 100-year floodplain (Attachment 1). Flood hazard areas are generally coincident with the courses of rivers and streams and include some coastal areas.

Tsunami and Seiche Hazard Areas

A tsunami is a giant sea wave generated by earthquakes, landslides, or volcanic activity that displaces a relatively large volume of water in a very short period. Seiches are defined as oscillations in a land-locked body of water due to seismic shaking or changes in atmospheric pressure. The proposed Pure Water facilities are not in proximity to the Pacific Ocean and large lakes. Tsunami Hazard Areas are identified on California's Department of Conservation website. At its closest point, the Joint Treatment Site and backbone conveyance pipeline are approximately one mile from the tsunami hazard area. Tsunami hazard areas near the Pure Water facilities can be seen in Attachment 2.

Water Quality

Region-specific water quality regulations are contained in the Regional Board's Basin Plan. Pure Water is within the boundary of the Regional Board and is subject to these regulations. The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters (Regional Board 2014). The proposed backbone conveyance pipeline intersects nine 12-digit HUCs (Hydrologic Unit Codes) that can be seen in Attachment 3. Table 1 presents the nine HUCs and associated Basin Plan beneficial uses that Pure Water facilities traverse, and the State Water Resources Control Board (SWRCB) defines the beneficial uses as follows:

MUN (Municipal and Domestic Supply): Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

IND (Industrial Service Supply): Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

PROC (Industrial Process Supply): Includes uses of water for industrial activities that depend primarily on water quality.

AGR (Agricultural Supply): Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

GWR (Ground Water Recharge): Includes uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

FRSH (Freshwater Replenishment): Includes uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

NAV (Navigation): Includes uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

POW (Hydropower Generation): Includes uses of water for hydropower generation.

COMM (Commercial and Sport Fishing): Includes the uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

WARM (Warm Freshwater Habitat): Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

COLD (Cold Freshwater Habitat): Includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

EST (Estuarine Habitat): Includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

MAR (Marine Habitat): Includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

WILD (Wildlife Habitat): Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

RARE (Rare, Threatened, or Endangered Species): Includes uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

MIGR (Migration of Aquatic Organisms): Includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.

SPWN (Spawning, Reproduction, and/or Early Development): Includes uses of water that support high quality habitats suitable for reproduction, early development and sustenance of marine fish and/or cold freshwater fish.

SHELL (Shellfish Harvesting): Includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial, or sport purposes.

WET (Wetland Habitat): Uses of water that support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or

wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.

REC-1 (Contact Water Recreation): Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.

REC-2 (Non-contact Water Recreation): Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Table 1. Beneficial Uses

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
180701060701	LOS ANGELES COUNTY COASTAL STREAMS	Bixby Slough	P*									E				E	E				E	I	I
		Machado Lake	P*									E				E	E				E	E	E
180701060102	DOMINGUEZ CHANNEL WATERSHED	Dominguez Channel Estuary (Ends at Vermont Ave.)[c,w]							P		E			E	E	E	Ee	Ef	Ef			P	E
180701050402	LOS ANGELES RIVER WATERSHED	Los Angeles River Estuary (Ends at Willow St.)[c,w]		E					E		E			E	E	E	Ee	Ef	Ef	P	E	Ps	E
		Los Angeles River Reach 1 (Estuary to Carson St.)	P*	P	P		E					E			E	E	E	P	P	Ps			
		Compton Creek	P*				E					E				E					E		
		Los Angeles River Reach 2 (Carson St. to Rio Hondo Reach 1)	P*	P			E					E				P							

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
	LOS ANGELES COUNTY COASTAL FEATURE	Los Angeles River Estuary[c,w]		E					E		E			E	E	E	Ee	Ef	Ef	P	E	E	E
180701060702	LOS CERRITOS CHANNEL WATERSHED	Los Cerritos Wetlands[c]							E		E			E		E	Ee	Pf	Pf	E	E	E	E
		Los Cerritos Channel Estuary (Ends at Anaheim Rd.)[c]		E					E		E			E	E	E	Ee	Ef	Ef	E		Es	E
		Sims Pond	P*									P				E					E	P	E
		Los Cerritos Channel	P*									I				E						P	I
		Colorado Lagoon									E	P				E				E		E	E
	LOS ANGELES COUNTY COASTAL FEATURE	Alamitos Bay		E					E		E			E	E	E	E			E	E	E	E
		Los Cerritos Wetlands[c]							E		E			E		E	Ee	Pf	Pf	E	E	E	E

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
		Los Cerritos Channel Estuary[c]		E					E		E			E	E	E	Ee	Ef	Ef	E		E	E
		San Gabriel Estuary[c,w]		E					E		E			E	E	E	Ee	Ef	Ef	P		E	E
		Long Beach Marina									E				E		E			E		P	E
		Public Beach Areas							E		E				E		E		P			E	E
		All other Areas									E				E		E			P		P	E
18070106060 6	SAN GABRIEL RIVER WATERSHED	El Dorado Lakes	P*									P				E					E	E	E
		San Gabriel River Estuary (Ends at Wil low St.)[c,w]		E					E		E			E	E	E	Ee	Ef	Ef	P		E	E
		San Gabriel River Reach 1 (San Gabriel River Estuary to Firestone Blvd.)	P*									P				P						Em	E

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
		San Gabriel River Reach 2 (Firestone Blvd. to Whittier Narrows Dam)	P*	P	P		I					I				E	E					Em	E
	LOS ANGELES COUNTY COASTAL FEATURE	San Gabriel Estuary[c,w]		E					E		E			E	E	E	Ee	Ef	Ef	P		E	E
180701060502	SAN GABRIEL RIVER WATERSHED	San Jose Creek Reach 1 (San Gabriel River Reach 3 to Temple Ave.)	P*				I					I				E						Pm	I
180701060601	SAN GABRIEL RIVER WATERSHED	San Gabriel River Reach 3 (Whittier Narrows Dam to San Jose Creek)	P*				I					I				E						Im	I
		San Gabriel River Reach 3 (San Jose Creek to Ramona Blvd.)	P*				I					I				E						Im	I
		San Gabriel River Reach 4 (Ramona Blvd. to Santa Fe Dam)	P*				I					I				E						Im	I

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
		Santa Fe Flood Control Basin	P*				I					I				E					E	P	I
	UPPER SAN GABRIEL RIVER TRIBUTARIES	San Gabriel River Reach 5 (Santa Fe Dam to Huntington Dr.)	P*				I					I				E						Im	I
		San Gabriel River Reach 5 (Huntington Dr. to Van Tassel Canyon)	E	E	E	E	E					E	E			E	E					E	E
		San Gabriel River Reach 5 (Van Tassel canyon to San Gabriel Reservoir)	E	E	E	E	E					E	E			E			E		E	E	E
180701060402	SAN GABRIEL RIVER WATERSHED	Walnut Creek Wash	P*				I					I				E					E	Im	I
		Big Dalton Canyon Creek	P*				I					I				E					E	I	I
		Big Dalton Wash	P*				I					P				P						Pm	I
		Mystic Canyon	P*				I					I				E						I	I
		Big Dalton Reservoir	P*				E					E				E						Px	E
		Little Dalton Wash	P*				I					P				P						Pm	I
		Little Dalton Canyon Creek	P*				I					I				E					E	I	I

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
		San Dimas Wash (lower) (Big Dalton wash to Ham Canyon)	P*				I					I				E	E					Im	I
		Puddingstone Reservoir	E*			E	E					E	E			E	E					E	E
		Live Oak Wash	E*				I	I				I				E						I	I
		Live Oak Creek	E*				I	I				I				E						I	I
		Live Oak Reservoir	E*				E	E				E				E						E	E
		Puddingstone Wash	E*				I					I				E						Im	I
		Marshall Creek and Wash (Puddingstone Reservoir to Via Arroyo)	E*				I					I				E						Im	I
		Marshall Creek and Wash (above Via Arroyo)	E*				I	I				I				E	E				E	Im	I

Table 1. Beneficial Uses (continued)

12 Digit HUC	HU	Waterbody	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC-1	REC-2
		Emerald Creek And Wash	E*				I	I				I				E						Im	I

E: Existing beneficial use. P: Potential beneficial use. I: Intermittent beneficial use.

* Asterisked MUN designations are designated under SWRCB Resolution No. 88-63 and SWRCB Resolution No. 89-03.

C: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands Table (2-4) of the Basin Plan.

E: One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting

F: Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

K: Public access to reservoir and its surrounding watershed is prohibited by Los Angeles County Department of Public Works (LACPW).

M: Access prohibited by LACPW in the concrete-channelized areas.

S: Access prohibited by LACPW.

U: This reservoir is covered and thus inaccessible.

W: These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.

X: Owner prohibits entry.

General Note: The letter designation for each footnote was not changed from source document (Los Angeles Regional Water Quality Control Board. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties,* 2014). Only a portion of source document data is presented here, and thus not all footnotes are included (e.g., a and b are not used in this table).

The following information was retrieved from the SWRCB 2020-2022 California Integrated Report 303(d) list and identifies which listed pollutants have an associated United States Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) of the waterbodies listed in Table 1. During final engineering, Attachment H of the Construction General Permit (CGP) will need to be complied with throughout the project limits, as applicable.

Table 2. Downstream Waterbodies with USEPA Approved TMDLs

Water Body	Pollutant	USEPA TMDL Approved Date
Machado Lake (Harbor Park Lake)	ChemA	3/20/2012
	Chlordane (tissue)	3/20/2012
	DDT (tissue)	3/20/2012
	Dieldrin (tissue)	3/20/2012
	Algae	3/11/2009
	Ammonia	3/11/2009
	Eutrophic	3/11/2009
	Odor	3/11/2009
	Trash	3/6/2008
Los Angeles River Estuary (Queensway Bay)	Chlordane	3/23/2012
	DDT (sediment)	3/23/2012
	Trash	7/24/2008
Los Angeles River Reach 1 (Estuary to Carson Street)	Trash	7/24/2008
	Cadmium	12/22/2005
	Copper, Dissolved	12/22/2005
	Lead	12/22/2005
	Zinc, Dissolved	12/22/2005
	Ammonia	3/18/2004
	Nutrients (Algae)	3/18/2004
	Indicator Bacteria	3/23/2003
	pH	1/1/2003
Compton Creek	Copper	10/29/2008
	Zinc	10/29/2008
	Trash	7/24/2008
	Lead	12/22/2005
	pH	3/18/2004
Los Angeles River Reach 2 (Carson to Figueroa Street)	Indicator Bacteria	3/23/2012
	Trash	7/24/2008
	Copper	12/22/2005
	Lead	12/22/2005
	Ammonia	3/18/2004
	Nutrients (Algae)	3/18/2004

Table 2. Downstream Waterbodies with USEPA Approved TMDLs (continued)

Water Body	Pollutant	USEPA TMDL Approved Date
Colorado Lagoon	Chlordane	7/28/2011
	DDT (Dichlorodiphenyltrichloroethane)	7/28/2011
	Dieldrin	7/28/2011
	Lead	7/28/2011
	PAHs (Polycyclic Aromatic Hydrocarbons)	7/28/2011
	PCBs (Polychlorinated biphenyls)	7/28/2011
	Toxicity	7/28/2011
	Zinc	7/28/2011
San Gabriel River Estuary	Indicator Bacteria	6/14/2016
	Copper	3/27/2007
El Dorado Lakes	Algae	3/26/2012
	Ammonia	3/26/2012
	Copper	3/26/2012
	Eutrophic	3/23/2012
	Lead	3/23/2012
	Mercury (tissue)	3/23/2012
	pH	3/23/2012
San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam	Lead	3/27/2007
San Jose Creek Reach 1 (SG Confluence to Temple St.)	Indicator Bacteria	6/14/2016

Groundwater

Groundwater is defined as water that exists underground in saturated zones beneath the land surface. Aquifers are bodies of porous rock or sediment saturated with groundwater that transmit and yield significant quantities of water. Los Angeles County contains 21 groundwater basins in the coastal plain and valleys, which accounts for most of the Los Angeles region's supply of fresh water. Areas of high groundwater may result in construction challenges, such as required groundwater treatment, dewatering, and associated regulatory permitting requirements along the backbone conveyance pipeline. Dewatering is not anticipated during construction of the Joint Treatment Site improvements. This report addresses surface water impacts to groundwater. Other groundwater impacts, such as using purified water to recharge the groundwater basins, are outside the scope of this report. Los Angeles County groundwater basins near Pure Water can be seen in Attachment 4.

3.0 REGULATORY FRAMEWORK

This section includes a list and description of potential permits that may be required for Pure Water. Required permits would be determined and obtained through coordination with the applicable regulatory agencies during design of the proposed facilities.

Federal

Clean Water Act

The Federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the USEPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to end all pollutant discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters. The CWA sets water quality standards for all contaminants in surface waters and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA funded the construction of sewage treatment plants across the county and recognized the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant (except dredge or fill material) into waters of the United States. Under the CWA, an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States must provide the federal agency with a Section 401 certification. The certification, made by the state in which the discharge originates, declares that the discharge will comply with applicable provisions of the CWA, including water quality standards. A state's water quality standards specify the designated use of a stream or lake (e.g., for water supply or recreation), pollutant limits necessary to protect the designated use, and policies to ensure that existing water uses will not be degraded by pollutant discharges (USEPA 1972). Section 404 of the Clean Water Act is addressed separately in the Biological Technical Report.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), Division 7 of the California Water Code, is the basic water quality control law for California. The Porter-Cologne Act established the SWRCB as the state agency with the primary responsibility for the coordination and control of water quality, water pollution, and water rights. This Act also established the regional boards to implement and enforce the CWA and state-adopted water quality control plans. Most of Los Angeles County falls within the jurisdiction of the Regional Board (Region 4).

Each regional board is responsible for water quality control planning within its region, including a basin plan.

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

The Regional Board has jurisdiction over the coastal drainages between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line. The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (i) identifies beneficial uses for surface and ground waters; (ii) includes the narrative and numerical water quality objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy; and (iii) describes implementation programs and other actions that are necessary to achieve the water quality objectives established in the Basin Plan. In combination, beneficial uses and their corresponding water quality objectives are called Water Quality Standards (Regional Board 2014). Federal law [Section 303(d) of the CWA] requires that states identify all waterbodies that are impaired and do not meet attainment standards after technology-based limits are implemented. For waters on the 303(d) impaired list, the states are required to develop TMDLs and incorporate the TMDLs as effluent limits in National Pollutant Discharge Elimination System (NPDES) permits. The California Porter–Cologne Act also requires that the TMDLs be included in the Basin Plan Water Quality Objectives.

Water quality objectives set by the Regional Board are intended to (i) protect the public health and welfare and (ii) to maintain or enhance water quality in relation to the designated existing and potential beneficial uses of the water. Water quality objectives are achieved through Waste Discharge Requirements and other programs outlined in Chapter 4 of the Basin Plan.

Table 3 presents the water quality objectives for the surface water drainage areas that the Pure Water traverses. Surface water quality objectives established within the Basin Plan have been approved by the USEPA as federal water quality standards that are subject to the protections and enforcement provisions established under the CWA.

Table 3. Water Quality Objectives for Surface Waters in the Pure Water Area

Watershed/ Stream Reach	TDS (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Boron[c] (mg/L)	Nitrogen[d] (mg/L)	SAR[e] (mg/L)
Dominguez Channel	no waterbody-specific objectives[f]					
Los Angeles River						
Los Angeles River between Figueroa Street and Los Angeles River Estuary (Willow Street). Includes Rio Hondo below Santa Ana Freeway Only[h]	1500	350	190[k]	g	8	g
San Gabriel River						
San Gabriel River-Between Morris Dam and Ramona Blvd.	450	100	100	0.5	8	g
San Gabriel River and tributaries-between Ramona Blvd. and Valley Blvd.	750	300	150	1.0	8	g
San Gabriel River-between Valley Blvd. and Firestone Blvd. Includes Whittier Narrows Flood Control Basin, and San Jose Creek-downstream 71 Freeway only	750	300	180[k]	1.0	8	g
San Gabriel River-Between Firestone Blvd. and San Gabriel River Estuary (downstream from Willow Street) Includes Coyote Creek	no waterbody-specific objectives[f]					

c. Where naturally occurring boron results in concentrations higher than the stated objective, a site-specific objective may be determined on a case-by-case basis.

d. Nitrate-nitrogen plus nitrite-nitrogen (NO3-N + NO2-N). The lack of adequate nitrogen data for all streams precluded the establishment of numerical objectives for all streams.

e. Sodium adsorption ratio (SAR) predicts the degree to which irrigation water tends to enter into cation-exchange reactions in soil. SAR = Na+/((Ca++ + Mg++)/2)1/2.

f. See Footnote f Table below.

g. Agricultural supply is not a beneficial use of the surface water in the specified reach.

h. Rio Hondo spreading grounds are located above the Santa Ana Freeway.

k. These objectives were updated through a Basin Plan amendment adopted by the Regional Board on January 27, 1997 (Resolution No. R97-02) and went into effect on February 26, 1998.

Table 3. Water Quality Objectives for Surface Waters in the Pure Water Area (continued)

Footnote f Table					
Recommended Objective (mg/L)	Beneficial Use Categories				
	MUN (Drinking Water Standards)[1]	PROC	AGR	AQ LIFE*(Freshwater)	GWR
TDS	500 (USEPA secondary)	50-1500[2,7,9]	450-2000[2,3,6]	N/A	Limits based on groundwater basin objectives and/or beneficial uses
Chloride	250 (USEPA secondary Maximum Contaminant Level [MCL])	20-1000[2,9]	100-355[2,3,8]	230 (4-day ave. continuous conc.) [4]	Limits based on groundwater basin objectives and/or beneficial uses
Sulfate	400-500 (USEPA proposed MCL)	20-300[2,9]	350-600[2,8]	N/A	Limits based on groundwater basin objectives and/or beneficial uses
Boron		N/A	0.5-4.0[2,6,8]	N/A	Limits based on groundwater basin objectives and/or beneficial uses
Nitrogen	10 (USEPA MCL)	N/A	N/A	N/A	Limits based on groundwater basin objectives and/or beneficial uses

References: 1) CFR § 141, et seq., 2) McKee and Wolf, 1963, 3) Ayers and Westcot, 1985, 4) USEPA, 1988, 5) Water Pollution Control Federation, 1989, 6) USEPA, 1973, 7) USEPA, 1980, 8) Ayers, 1977, 9) USEPA, 1986.

* Aquatic life includes a variety of Beneficial Uses including WARM, COLD, SPWN, MIGR and RARE.

Statewide General NPDES/Waste Discharge Requirements (WDR)

General Permit for Discharges of Storm Water Associated with Construction and Land Disturbance Activities (SWRCB Order No. 2022-0057-DWQ): The General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, or CGP) regulates discharges of stormwater associated with construction activity to waters of the United States in order to avoid and minimize water quality impacts attributable to such activities. The reissued permit was adopted on September 8, 2022, and became effective as of September 1, 2023, by the SWRCB. The CGP covers projects that disturb one or more acres of land surface, or that are part of a common plan of development that disturbs more than one acre of land surface. The CGP also covers linear underground and overhead projects, which include conveyance facilities and pipelines. Construction activity subject to this permit includes, but is not limited to, clearing, grading, excavation, stockpiling, demolition, and other land disturbance activities.

The CGP requires dischargers obtain permit coverage by submitting permit registration documents which consist of a Notice of Intent, including Risk Level determination, site drawings and maps, a Stormwater Pollution Prevention Plan (SWPPP), plans or supporting documentation for compliance with post-construction requirements, and annual fees. The SWPPP for the site must include identification of all pollutants, their sources, and control mechanisms, a description of best management practices (BMPs) implemented at the site to reduce or eliminate stormwater pollution, a description of the site's spill and leak prevention and response plan and the construction site monitoring program that describes methods and procedures for monitoring discharges in accordance with the CGP. SWPPPs must be developed and implemented by qualified individuals with appropriate credentials and training, as defined by the SWRCB (SWRCB 2022).

The reissued CGP includes the requirement for permanent post-construction BMPs that manage stormwater runoff rates to match pre-construction project site hydrology, and to sustain and ensure the physical structure and biological integrity of aquatic ecosystems in the receiving waters. This "runoff reduction" approach is analogous in principle to low impact development and is proven to protect watersheds and waterbodies from hydrologic-based adverse changes and pollution impacts associated with the post-construction landscape. The reissued CGP incorporated requirements for TMDLs, including Numeric Action Levels (NALs) and Numeric Effluent Limitations (NELs).

NPDES General Permit for Storm Water Discharges Associated with Industrial Activities (SWRCB Order No. 2014-0057-DWQ, as amended on August 4, 2015, and November 6, 2018): The SWRCB adopted the Industrial General Permit (IGP) applicable to certain categories of industrial activity. The Sanitation Districts operate the existing Warren Facility (which includes the Sidestream Treatment Site) and maintain coverage under the IGP. The current Warren Facility IGP coverage is limited to the area of the existing Warren Facility and does not include the proposed AWP Facility. The AWP Facility would be operated by The Metropolitan Water District of Southern California (Metropolitan), and therefore Metropolitan would obtain IGP coverage for the AWP Facility, which would require preparation of new permit registration documents including a new

SWPPP specifically for the AWP Facility. The IGP requires stormwater dischargers to: eliminate unauthorized non-stormwater discharges; develop and implement an Industrial SWPPP; implement BMPs; conduct monitoring; compare monitoring results to NALs, TMDLs, TMDL numeric action level (TNALs), and NELs; perform appropriate exceedance response actions when NALs and TNALs are exceeded (see below for further explanation); and certify and submit all permit registration documents. Changes under the current IGP (amended on November 6, 2018, and in effect as of July 1, 2020) incorporated requirements for TMDLs, including TNALs and NELs. The 2018 amendment also allows dischargers to implement an optional Compliance Option in Attachment I as a means of complying with the IGP. The Compliance Options involve implementing BMPs with the effective capacity to capture and use, infiltrate, and/or evapotranspire authorized non-stormwater sources, defined in IGP Section IV, and stormwater associated with industrial activities produced up to and during the 85th percentile, 24-hour precipitation event based upon local, historical precipitation data and records.

General Waste Discharge Requirements for Discharges from Drinking Water Systems to Surface Waters (SWRCB Order No. 2014-0194-DWQ, NPDES No. CAG140001): This order provides regulatory coverage for short-term or seasonal planned and emergency (unplanned) discharges resulting from a water purveyor's essential operations and maintenance activities undertaken to comply with the federal Safe Drinking Water Act, the California Health and Safety Code, and the SWRCB's Division of Drinking Water permitting requirements for providing reliable delivery of safe drinking water. This permit does not currently cover any type of purified water discharges; therefore, an Individual NPDES Permit from the Regional Board would need to be obtained for pipeline dewatering. To obtain coverage under this permit, a water purveyor must submit a Notice of Intent to the Regional Board, implement a monitoring and reporting program, and agree to notify the Regional Board and Municipal Separate Storm Sewer System (MS4) operator immediately of any unplanned or emergency discharges and describe the corrective measures taken. The Notice of Intent must include information on the locations, frequency, and duration of planned discharges and must comply with standard provisions.

Policy For Water Quality Control for Recycled Water and Amendments - Resolution No. 2018-0057 (Recycled Water Policy): The purpose of the Division of Drinking Water (DDW) Recycled Water Policy is to encourage the safe use of recycled water from wastewater sources that meet the definition in California Water Code Section 13050(n), in a manner that implements state and federal water quality laws and protects public health and the environment. The Recycled Water Policy provides direction to the regional boards, proponents of recycled water projects, and the public regarding the methodology and appropriate criteria for the SWRCB and the regional boards to use when issuing permits for recycled water projects. The Recycled Water Policy describes the circumstances under which permittees may enroll under statewide SWRCB Order WQ 2016-0068-DDW (described in the next paragraph) or choose an alternate permitting mechanism, such as a master recycling permit. The intent of statewide water reclamation requirements for recycled water use is to expedite the permitting of recycled water projects.

Water Reclamation Requirements for Recycled Water Use (SWRCB Order No. 2016-0068-DDW)*:* This SWRCB adopted order establishes standard conditions for recycled water use and

conditionally delegates authority to an Administrator to manage a Water Recycling Program and issue Water Recycling Permits to recycled water users. This General Order permits non-potable reuse of treated municipal wastewater. Non-potable uses that may be permitted include landscape irrigation, crop irrigation, dust control, industrial/commercial cooling, decorative fountains, etc. Order No. 2016-0068-DDW does not cover direct or indirect potable uses.

Regional

NPDES/Waste Discharge Requirements and Conditional Waivers

On July 23, 2021 the Regional Board issued *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for MS4 Discharges within the Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2021-0105, NPDES Permit No. CAS004004* (2021 Phase I MS4 Permit) to the 85 incorporated cities and the unincorporated areas within Los Angeles County, Los Angeles County Flood Control District, Ventura County Watershed Protection District, Ventura County, and 10 incorporated cities within Ventura County. Metropolitan is currently not listed as a co-permittee under the 2021 Phase I MS4 Permit.

On July 1, 2013, the SWRCB adopted the *NPDES General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, Order No. 2013-0001-DWQ* (2013 Phase II MS4 Permit). Metropolitan is currently not listed as a designated traditional or non-traditional facility under the 2013 Phase II Permit.

On September 13, 2018, the Regional Board adopted the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2018-0125, NPDES Permit No. CAG994004.* This order is intended to authorize discharges of treated or untreated groundwater generated from permanent or temporary dewatering operations or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits. Discharges from facilities to waters of the United States that do not cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any applicable state or federal water quality objectives or cause acute or chronic toxicity in the receiving water are authorized discharges in accordance with the conditions set forth in this order.

Industrial Wastewater Discharge Permit

Industrial wastewater is defined as all wastewater from any manufacturing, processing, institutional, commercial, or agricultural operation, or any operation where the wastewater discharged includes significant quantities of waste of non-human origin. Any business in Los Angeles County wanting to discharge industrial wastewater to the sanitary sewer must obtain an Industrial Wastewater Discharge Permit (IWDP), which is issued jointly by LACPW and the Sanitation Districts. LACPW must first approve the permit application package and then it is forwarded to the Sanitation Districts for review and approval. The Sanitation Districts may also charge a sewer connection fee based on the proposed discharge and baseline entitlement.

4.0 IMPACTS

Program Design Features (PDF)

HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan. The contractor will prepare and implement site-specific SWPPPs in accordance with the requirements of the SWRCB, the CGP, and the Construction BMP Online Handbook developed by California Storm Water Quality Association (CASQA). The SWPPP will identify BMPs to eliminate/reduce non-storm water discharges to storm systems and other U.S. waters, prevent construction pollutants from contacting storm water, limit erosion and sediment transport, and keep products of erosion and pollutants from moving offsite.

HYD-PDF-2: Industrial General Permit Storm Water Pollution Prevention Plan. Metropolitan will prepare and implement a site-specific SWPPP for the AWP Facility in accordance with the IGP obtained for the site. The IGP requires stormwater dischargers to: eliminate unauthorized non-stormwater discharges; develop and implement an Industrial SWPPP; implement BMPs; conduct monitoring; compare monitoring results to NALs, TMDLs, TNALs, and NELs; perform appropriate exceedance response actions when NALs and TNALs are exceeded; and certify and submit all permit registration documents.

Significance Criteria

Appendix G of the *CEQA Guidelines* lists criteria to determine the significance of impacts related to hydrology and water quality. This section will analyze impacts based on two project components: the backbone conveyance pipeline (including appurtenances), and Joint Treatment Site improvements. As discussed earlier, potential impacts related to groundwater recharge and marine discharge are not included in this report.

Would the project:

Criterion 4.0-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Backbone Conveyance Pipeline and Appurtenances

Construction of the backbone conveyance pipeline and appurtenances would have the potential to result in erosion of excavated soils and temporarily stockpiled soils, which may affect water quality downstream. In the event of heavy rain, stormwater that passes through the construction site may carry away pollutants into local stormwater collection systems and downstream receiving waters or directly into an adjacent natural drainage/receiving waters and impact water quality. Please note in the context of this study, local stormwater collection systems include curb and gutter, inlets, storm drains, and collection channels.

Pure Water is subject to the CGP because its construction would disturb more than one acre of land. Pure Water would implement program design feature HYD-PDF-1: Construction

General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features above.

In accordance with the CGP, Pure Water would include the implementation of a SWPPP and associated control measures which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation. Backbone conveyance pipeline construction would occur over multiple reaches and may require multiple SWPPPs. Backbone conveyance pipeline and appurtenance construction would potentially generate sediment from sites and stockpiles. Construction across the San Gabriel River and other major concentrated flow conveyances would be constructed via trenchless methods to minimize the potential for adverse effects. Development of a SWPPP would include a pollutant source assessment and evaluation of whether there are other historical/legacy pollutants that exist at the site being developed. For sediment, various construction BMPs could be implemented including, but not limited to, soil stabilization (hydroseed or bonded fiber matrix), fiber rolls, silt fences, construction entrances, and good housekeeping practices. The CGP may require post-construction BMPs to reduce runoff and pollutants in stormwater discharges that are reasonably foreseeable after all construction has been completed. If the development of the SWPPP determines the presence of historical or legacy pollutants at the site, then the SWPPP would identify appropriate measures (e.g., active treatment system) so that discharges from the site would be protective of downstream receiving waters.

Final engineering construction documents would include construction considerations at locations where open trenches would cross curb and gutter, local storm drain, or major flood control systems with each requiring a different approach. For curb and gutter, the SWPPP would be drafted with procedures directing the project to restore the conveyance capacity of the curb and gutter in either a diversion pipe or by restoring the function of the curb and gutter with trench plates when rain is forecasted. Trench plates installed flush with the pavement would allow the majority of, if not all, surface runoff to reach the curb and gutter. Any water entering the trench through the trench plate would be minor and not be expected to mobilize pollutants. At locations where open trenches cross local storm drain systems, the plan would include appropriate measures to protect-in-place the existing storm drain system, such as shoring, bracing, and/or temporary reinforcement of the storm drain pipes. Where the proposed backbone conveyance pipeline would cross major flood control systems, trenchless construction methods are proposed. Additionally, in areas where open trench construction is proposed within roadways and parallel to curb and gutter, the preparation of final engineering construction documents would include analyses to estimate the surface conveyance width of flow, and if the width would extend into the proposed open trench, then the SWPPP would be drafted with procedures directing the project to restore the conveyance capacity roadway geometry by installing trench plates over the trench when rain is forecasted.

It is anticipated that the construction of the backbone conveyance pipeline and appurtenances would encounter groundwater based on the potential for groundwater to be

shallow (i.e., less than five feet below ground surface) in the low-lying areas near rivers, creeks, and recharge facilities. Coordination with LACPW Recharge Operations may help reduce localized groundwater mounding and thus reduce dewatering requirements around recharge facilities during periods of construction. During the design process, a detailed geotechnical and hydrogeologic investigation would be done to determine the groundwater depth, dewatering requirements, and groundwater quality along the backbone conveyance pipeline alignment route. Dewatering and treatment requirements would be determined, including level of treatment and discharge locations (i.e., Sanitation Districts' sanitary sewer or stormdrain/receiving waterbody) for treated dewatering flow. It is anticipated that dewatering would be accomplished mainly through dewatering pumps located in the pipe trench during construction and in some cases may require wellpoint dewatering methods. Permitting would be obtained for all dewatered discharge locations. Final engineering plans and contractor specifications would require the contractor to obtain all required permits as needed, including NPDES, Sanitation Districts, and LACPW permits. If discharging via a stormwater conveyance system, then a permit from LACPW is also required (in addition to the NPDES permit). After construction, periodic inspections and maintenance of the backbone conveyance pipeline and appurtenances, such as pipe or appurtenance repairs and/or replacement, would require dewatering. Dewatering for this scenario would require compliance with the CGP if applicable (i.e., greater than one acre of disturbance for the maintenance) and/or obtaining coverage under a NPDES permit if discharging to the storm drain or an IWDP through the LACPW and Sanitation Districts for discharging to the sanitary sewer. Dewatering and treatment requirements would be determined, including discharge locations, for treated dewatering flow. All appropriate permits, including NPDES permits and LACPW/Sanitation Districts permits, would be obtained for all dewatered discharge locations.

The temporary excavation to install the backbone conveyance pipeline would be backfilled so that existing grades and elevations would be restored. The surface would be stabilized through replacement of paving or vegetation, or other means as applicable to the location to minimize the potential for erosion.

The backbone conveyance pipeline would involve minor additions of impervious cover at the surface in association with ancillary facilities such as access ways. The addition of impervious cover has the potential to increase runoff volume, generate water column pollutants in the runoff from the impervious area, and may result in the generation of pollutants downstream (e.g., increase in runoff flow rate and volume has the potential to increase degradation of downstream natural drainage system and increase in the sediment load). However, it is anticipated that impacts, if any, would be minor due to the small amounts of impervious cover that would be added.

Based on the proposed approach described above, the construction and operation of the backbone conveyance pipeline and associated ancillary facilities would not have the potential to substantially degrade surface or groundwater quality.
Through compliance with applicable regulatory requirements, such as the CGP, construction and operation of the backbone conveyance pipeline and appurtenances would not violate

any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Joint Treatment Site Improvements

Construction of the Joint Treatment Site improvements could result in erosion of excavated soils and temporarily stockpiled soils, which may affect water quality downstream. In the event of heavy rain, if concentrated stormwater flow was allowed to pass through an active construction site without appropriate construction BMPs, it could transport chemicals and sediment into the local stormwater collection systems and downstream receiving waters and impact water quality.

Pure Water is subject to the CGP and would obtain permit coverage under the CGP, because construction would disturb more than one acre of land. In accordance with the CGP, Pure Water would include the implementation of a SWPPP and associated control measures that may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation. The CGP may also require that post-construction pollution control measures be implemented. Metropolitan and Sanitation Districts will evaluate the need to implement measures to reduce stormwater pollutants to comply with the CGP.

In accordance with the IGP, as applicable, a SWPPP would be required for the Joint Treatment Site improvements to identify the potential pollutants of concern along with the appropriate source control, site design, and structural BMPs to be implemented so that the improvements would be protective of the downstream receiving waters. The selection and design of applicable BMPs would be pursuant to the CASQA *California Storm Water Best Management Practices Handbook for Construction* (CASQA, 2023), and CASQA's *Industrial and Commercial Best Management Practice Handbook* (CASQA, 2019) (CASQA's BMP handbooks). Once implemented, the BMPs would be maintained by the Joint Treatment Site.

A Qualified SWPPP Developer (QSD) would be needed to develop a SWPPP in accordance with the CGP to identify the appropriate construction BMPs to minimize erosion and sedimentation. The contractor would be required to implement the SWPPP, including the installation and maintenance of construction BMPs for the duration of construction through project closeout (i.e., Notice of Termination), such as requiring vegetation establishment of 70 percent or greater in applicable areas.

During final engineering, the post construction BMPs would be governed by the CGP to identify applicable source control, site design, and structural BMPs, if needed, to minimize the potential for pollutants in stormwater runoff leaving the Joint Treatment Site. If needed, the BMPs would be implemented during the project construction and maintained by the Joint Treatment Site following construction.

In addition to the above-mentioned measures, the AWP Facility would require IGP coverage during future operations for all industrial areas. Pure Water would implement program

design feature HYD-PDF-2: Industrial General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Metropolitan intends to pursue implementation of the On-Site Compliance Option included in the Attachment I of IGP for the AWP Facility. Stormwater diversion systems would be incorporated into the proposed design of the AWP Facility to capture and divert industrial stormwater runoff produced up to and during the 85th percentile, 24-hour precipitation event on a daily basis (based on local historical precipitation records). Captured stormwater would be conveyed to wet wells, pumps stations, or settling basins and diverted to the treatment system of the Joint Treatment Site. Backup valves, pumps, and other features would be provided to divert the stormwater to the storm drain if an extreme storm event occurred and overwhelmed the sewer. This approach would be consistent with criteria listed in the IGP of which has been drafted to guide projects to develop in a manner that would be protective of the downstream receiving waters. The IGP requires sampling and evaluation of discharges from the AWP Facility. A discharger implementing the On-Site Compliance Option and all applicable requirements of the IGP is deemed in compliance with the IGP discharge prohibitions (Section III.C), effluent limitations (Section V.C.), and receiving water limitations (Section VI). The discharger shall ensure that all influent entering the infiltration BMPs meets applicable MCL criteria for industrial pollutants at the facility.

Through compliance with applicable regulatory requirements, such as the CGP and IGP, construction and operation of the Joint Treatment Site improvements would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Criterion 4.0-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Pure Water would result in an increase in groundwater supplies through recharge to groundwater basins and thus would support sustainable groundwater management. Activities and facilities related specifically to groundwater recharge are being addressed at the program level in the current environmental review process. This technical report focuses specifically on components being addressed at the project level.

Backbone Conveyance Pipeline and Appurtenances

It is anticipated that the construction of the backbone conveyance pipeline and appurtenances would encounter groundwater based on the potential for groundwater to be shallow (i.e., less than five feet below ground surface) in the low-lying areas near rivers, creeks, and recharge facilities. Coordination with LACPW Recharge Operations may help reduce localized groundwater mounding and thus reduce dewatering requirements around recharge facilities during periods of construction. If groundwater is encountered, it would require dewatering during construction. During the design process, a detailed geotechnical

and hydrogeologic investigation would be done to determine the groundwater depth, dewatering requirements, and groundwater quality along the backbone conveyance pipeline alignment route. Dewatering and treatment requirements would be determined including discharge locations for treated dewatering flow. It is anticipated that dewatering would be accomplished mainly through dewatering pumps located in the pipe trench during construction and in some cases may require wellpoint dewatering methods. Permitting would be obtained for all dewatered discharge locations. Preparation of final engineering plans would be required to follow Metropolitan's Section 02140 Dewatering Specifications, which would require obtaining permits as needed, including NPDES, Sanitation Districts, and LACPW permits.

Based on the temporary nature and limited extent of such potential dewatering activities, there would be no associated impacts related to the drawdown or depletion of local groundwater resources. Pipeline appurtenances would only contribute a minor amount of additional impervious surface features, which would not meaningfully reduce groundwater recharge. Attempts have been made to keep the backbone conveyance along and/or outside the perimeter of existing groundwater recharge facilities to avoid impact to existing groundwater recharge capacity. Segments of the backbone conveyance may be located within existing groundwater recharge facilities; however, considering the small width of the pipe and associated trench backfill in comparison to the overall recharge facilities, it is anticipated that any associated reduction in infiltration capacity would be minor. Accordingly, Pure Water would not result in impacts related to the reduction of local or regional infiltration and associated groundwater recharge capacity.

Compliance with applicable regulatory and other standard design requirements, such as Metropolitan's Section 02140 Dewatering Specifications, the Regional Board's *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties*, and applicable CGP and IWDP requirements would ensure backbone conveyance pipeline and appurtenances construction and operation would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin.

Joint Treatment Site Improvements

According to the Sanitation Districts' *Vapor Extraction/Air Sparging and Groundwater Monitoring Report – Second Half of 2023 Former Fletcher Oil and Refining Company Site 24721 Main Street, Carson, CA SCP No. 0451A: Site ID No. 2040074; Geotracker No. SL373422445*, dated February 8, 2024, groundwater at the Joint Treatment Site ranged from 40.12 to 53.46 below ground surface during a groundwater monitoring event that took place from November 13-14, 2023. Excavation is not proposed to reach this depth, and groundwater is not expected to be encountered during the construction of this facility. It is not anticipated that dewatering would be necessary at the Joint Treatment Site.

The Joint Treatment Site improvements would result in additional impervious area, which could potentially interfere with groundwater recharge by reducing infiltration to the substrata. During final engineering, the post construction BMPs would be governed by the CGP to identify applicable source control, site design, and structural BMPs, if needed, to minimize the potential for pollutants in stormwater runoff leaving the Joint Treatment Site. If needed, the BMPs would be implemented during the project construction and maintained by the Joint Treatment Site following construction. In addition to the above-mentioned measures, the AWP Facility would require IGP coverage during future operations for all areas except employee parking lots and the education center/amphitheater, which are non-industrial. Metropolitan intends to pursue implementation of the On-Site Compliance Option included in Attachment I of the IGP at the AWP Facility. Stormwater diversion systems would be incorporated into the proposed design of the AWP Facility to capture and divert industrial stormwater runoff produced up to and during the 85th percentile, 24-hour precipitation event on a daily basis based on local historical precipitation records. Captured stormwater would be conveyed to wet wells, pumps stations, or settling basins and diverted to the treatment system of the Joint Treatment Site. Backup valves, pumps, and other features would be provided to divert the stormwater to the storm drain if an extreme storm event occurred and overwhelmed the sewer. This approach would be protective of the downstream receiving waters. The IGP requires sampling and evaluation of discharges from the AWP Facility. A discharger implementing the On-Site Compliance Option and all applicable requirements of the IGP is deemed in compliance with the IGP discharge prohibitions (Section III.C), effluent limitations (Section V.C.), and receiving water limitations (Section VI). Based on the above-described measures, including the BMPs that would be implemented during the project construction and maintained by the Joint Treatment Site, the associated potential impacts would be less than significant.

Criterion 4.0-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

i) result in substantial erosion or siltation onsite or offsite?

Backbone Conveyance Pipeline and Appurtenances

Backbone conveyance pipeline and pipeline appurtenance construction would result in ground disturbance and generate temporary stockpiles of soil materials. In accordance with the CGP, the project would include the development and implementation of a SWPPP, including associated control measures, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Backbone conveyance pipeline construction would occur over multiple reaches and require multiple SWPPPs.

Trenchless technology would be used to avoid open trenching across the San Gabriel River and other major drainages, which would minimize the potential for erosion and sedimentation. Trenchless technology would also result in ground disturbances and generate temporary stockpiles at the sending and receiving portals of whichever trenchless technology is utilized. In accordance with the CGP, these areas would also require the development and implementation of a SWPPP, including associated control measures, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation.

The final engineering construction documents would include construction considerations at locations where open trenches would cross curb and gutter, local storm drain, and/or City or County Flood Control District-maintained storm drain systems, as described under Criterion 4.0-1. Following construction, the area would be returned to its pre-project condition with minimal potential to result in erosion and sedimentation.

During normal operation, pipeline appurtenances would anticipate low quantities of water that could be released to hardened surfaces, in areas not susceptible to erosion, or at a rate and volume that would not result in erosion. The final engineering design would include an analysis of drainage patterns downstream of pipeline appurtenances and ensure discharged water is appropriately conveyed into an area where infiltration would occur. Emergency overflow from infiltration areas would be conveyed onto roads and/or storm drain infrastructure and not over pervious areas susceptible to erosion.

Following backbone conveyance pipeline construction, as part of pipeline initiation into service and at times of maintenance (i.e., opening pipeline for segment/component inspection/repair/replacement), the appurtenances may be used to dewater sections of the pipeline and release large quantities of water. This operation would require a plan to perform releases, in a controlled flowrate, to either storm drains or receiving water and would require coordination and coverage under an Individual NPDES Permit or CGP, if available at the time of discharge, through the Regional Board or SWRCB. In the case of removing large amounts of sediment from the pipe (e.g., initial cleaning/blow off of system), this would require that sediment be collected in a mobile tank/container and properly disposed of offsite, such as at a landfill.

Compliance with applicable regulatory requirements, such as the CGP, and the implementation of trenchless construction methods in most drainages would ensure that backbone conveyance pipeline and appurtenances construction and operation would not result in substantial erosion or siltation onsite or offsite.

Joint Treatment Site Improvements

Construction of the Joint Treatment Site improvements would result in ground disturbance and generate temporary stockpiles of soil materials. In accordance with the CGP and IGP, the project would include the development and implementation of a SWPPP, including associated control measures, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation during construction. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features.

Following construction, the area would be either impervious or landscaped with minimal potential for erosion and sedimentation.

Compliance with applicable regulatory requirements, such as the CGP and IGP, as applicable, would ensure that Joint Treatment Site construction and operation would not result in substantial erosion or siltation onsite or offsite.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

Backbone Conveyance Pipeline and Appurtenances

Backbone conveyance pipeline and pipeline appurtenance construction and operation would not result in a significant amount of impervious area added to the site and would return areas to original topographic conditions, and therefore the construction of the backbone conveyance pipeline and pipeline appurtenances would not increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.

Joint Treatment Site Improvements

Final engineering design would be required to comply with the CGP and the IGP, which would require SWPPP documents that identify the applicable source control, site design, and structural BMPs that would be implemented at the site. Implementation of the Joint Treatment Site improvements would be required to follow local drainage ordinances, including the preparation of a drainage study to evaluate the impact to drainages resulting from proposed impervious areas, preparation of a comparison of pre- and post-project peak flow rates, and an assessment of whether detention is required to mitigate peak flows.

In addition to the above-mentioned measures, the AWP Facility would require IGP coverage during future operations for all industrial areas. Pure Water would implement program design feature HYD-PDF-2: Industrial General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Metropolitan intends to pursue implementation of the On-Site Compliance Option of the alternative Compliance Options included in the IGP at the AWP Facility. Stormwater diversion systems would be incorporated into the proposed design of the AWP Facility to capture and divert industrial stormwater runoff produced up to and during the 85th percentile, 24-hour precipitation event on a daily basis based on local historical precipitation records. Captured stormwater would be conveyed to wet wells, pumps stations, or settling basins and diverted to the treatment system of the Joint Treatment Site. Backup valves, pumps, and other features would be provided to divert the stormwater to the storm drain if an extreme storm event occurred and overwhelmed the sewer. This approach would be protective of the downstream receiving waters. The IGP requires sampling and evaluation of discharges from the AWP Facility. A discharger implementing the On-Site Compliance Option and all applicable requirements of the IGP is deemed in compliance with the IGP discharge prohibitions (IGP Section III.C), effluent limitations (IGP Section V.C.), and receiving water limitations (IGP Section VI).

Compliance with applicable regulatory requirements, including as CGP and IGP requirements, would ensure that Joint Treatment Site improvements construction and operation would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Backbone Conveyance Pipeline and Appurtenances

Construction of the backbone conveyance pipeline and appurtenances would not add significant impervious areas, and therefore, it would have no impact on creating runoff which would exceed the capacity of existing or planned stormwater drainage systems. During construction of the backbone conveyance pipeline, the potential sources of pollutant runoff would be minimized through the development and implementation of a SWPPP, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation. Backbone conveyance pipeline construction would occur over multiple reaches and require multiple SWPPPs.

Post project, the area would be returned to its pre-project condition with no increase in flows and minimal potential to result in erosion and sedimentation.

Compliance with applicable regulatory requirements, such as the CGP, would ensure that backbone conveyance pipeline and appurtenances construction and operation would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features.

Joint Treatment Site Improvements

Construction of the Joint Treatment Site improvements would result in ground disturbance and generate temporary stockpiles of soil materials. In accordance with the CGP and IGP, the project would include the development and implementation of a SWPPP, including associated control measures, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, and other measures to minimize erosion and sedimentation. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Therefore, compliance with a SWPPP and proper BMPs would prevent sources of polluted runoff.

During final engineering, the post construction BMPs would be governed by the CGP to identify applicable source control, site design, and structural BMPs, if needed, to minimize the potential for pollutants in stormwater runoff leaving the Joint Treatment Site. If needed, the BMPs would be implemented during the project construction and maintained by the Joint Treatment Site following construction.

Final engineering of the Joint Treatment Site improvements would include preparing a hydrologic analysis of the pre-project and post-construction conditions in support of proposing a site layout and grading design that would not substantially alter drainage patterns. The hydrologic analysis would compare peak flow rates of the pre-project and post-project conditions. If it is required to not impact downstream infrastructure or natural drainage systems, appropriate design features to provide flow mitigation would be incorporated. The hydrologic analysis would be presented in a project drainage study that would be part of the final engineering construction documents. This would ensure that Joint Treatment Site construction and operation would not contribute runoff water which would exceed the capacity of stormwater drainage systems.

In addition to the above-mentioned measures, the AWP Facility would require IGP coverage during future operations for all industrial areas. Pure Water would implement program design feature HYD-PDF-2: Industrial General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Metropolitan intends to pursue implementation of the On-Site Compliance Option included in Attachment I of the IGP at the AWP Facility. Stormwater diversion systems would be incorporated into the proposed design

of the AWP Facility to capture and divert industrial stormwater runoff produced up to and during the 85th percentile, 24-hour precipitation event on a daily basis based on local historical precipitation records. Captured stormwater would be conveyed to wet wells, pumps stations, or settling basins and diverted to the treatment system of the Joint Treatment Site. Backup valves, pumps, and other features would be provided to divert the stormwater to the storm drain if an extreme storm event occurred and overwhelmed the sewer. This approach would be protective of the downstream receiving waters. The IGP requires sampling and evaluation of discharges from the AWP Facility. A discharger implementing the On-Site Compliance Option and all applicable requirements of the IGP is deemed in compliance with the IGP discharge prohibitions (IGP Section III.C), effluent limitations (IGP Section V.C.), and receiving water limitations (IGP Section VI).

Compliance with applicable regulatory requirements, such as the CGP and IGP, would ensure that Joint Treatment Site construction and operation would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

iv) impede or redirect flood flows?

Backbone Conveyance Pipeline and Appurtenances

Trenchless technology would be used to avoid temporarily impeding or redirecting flood flows at the San Gabriel River, as well as major streams and creeks. An analysis would be conducted during final engineering design to identify areas of proposed open trenching where concentrated flows would occur. Measures to restore concentrated flow conveyance function would be implemented during construction. This may include the installation of temporary pipes and/or by redirecting flows around construction work to the downstream existing storm drain system. Final engineering would include preparing a SWPPP that is drafted for concentrated flow conveyance locations that details the measures to be implemented to temporarily restore hydraulic conveyance capacity to each location and the storm event thresholds that would trigger implementation. Backbone conveyance pipeline construction would occur over multiple reaches and require multiple SWPPPs. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. At the completion of construction, open trenching areas and portals for trenchless methods would be returned to pre-project conditions to restore hydraulic function in areas where flows are conveyed in a manner that would not impede or redirect flood flows.

Joint Treatment Site Improvements

Existing ground elevations at the Joint Treatment Site range from 28 to 43 feet relative to mean sea level. Water from the northern portion of the site drains offsite to the east. Water from the southern portion of the site drains northwest to a low point onsite where water collects and then flows offsite at two points: (1) the southwest corner of the property and (2) the east side of the property. During construction, drainage patterns would be similar, and disturbed areas would drain into sediment traps. In the post-project condition, drainage patterns would be similar to existing conditions, and if it is determined that it is necessary during final engineering, detention measures would be implemented to mitigate peak flows to pre-project values. Based on the site elevations and current drainage patterns that would be generally maintained through proper final engineering design, the Joint Treatment Site improvements construction and operation would not impede or redirect flood flows.

Criterion 4.0-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Backbone Conveyance Pipeline and Appurtenances

As seen in Attachment 1, the backbone conveyance pipeline would cross the FEMA 100-year floodplain at multiple locations including the Dominguez Channel, Compton Creek, Los Angeles River, and San Gabriel River. These crossings would be conducted using trenchless construction methods, which would minimize the potential impacts related to flood hazards. During construction of the backbone conveyance pipeline, the potential sources of pollutant runoff would be minimized through the development and implementation of a SWPPP, which may include covering of stockpiles, stabilization of disturbed slopes, check dams, proper storage of hazardous materials onsite, proper location of staging and other areas, and other measures to minimize erosion and sedimentation. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. Compliance with the SWPPP would lower the risk of releasing pollutants.

The final engineering construction documents would need to include construction considerations at locations where open trenches would cross curb and gutter, local storm drain, or Los Angeles County Flood Control District maintained storm drain pipes or channels, as described under Criterion 4.0-1.

Although the backbone conveyance pipeline would be located underground, there is a risk that future floods could expose the backbone conveyance pipeline through scour if buried at too shallow a depth. The final design would consider these depths and associated design measures to minimize the possibility of pipe exposure due to scouring.

The location of proposed backbone conveyance pipeline within a floodplain would not necessarily expose adjacent properties or the public to greater flood hazards than currently exist; however, exposure of proposed facilities to flooding could result in facility malfunction or failure and/or interruption in service. In the event of backbone conveyance pipeline failure, the local area may be subject to flooding. Final engineering design would include measures to account for potential fault displacement hazards. Operational procedures would be in place to respond to backbone conveyance pipeline failure to minimize the risk of flooding. Additionally, instrumentation and operational procedures would be in place so that leaks or ruptures are detected and isolated to minimize the risk of flooding due to a backbone conveyance pipeline failure. Compliance with applicable design features as described above and regulatory requirements, as well as implementation of a SWPPP, would ensure that backbone conveyance pipeline and appurtenances construction and operation would not risk release of pollutants due to project inundation.

The backbone conveyance pipeline and pipeline appurtenances construction sites are not within tsunami or seiche zones. The backbone conveyance pipeline alignment begins over two miles away from the coastline, with elevations ranging between 42 feet and 760 feet near the Joint Treatment Site and the San Gabriel Canyon spreading grounds, respectively. There are no major lakes or reservoirs near the backbone conveyance pipeline that put it at risk of seiches. The backbone conveyance pipeline alignment does not fall within the Tsunami Hazard Area identified on California's Department of Conservation website. Therefore, Pure Water would not result in a risk of pollutant release due to project inundation from flood hazard, tsunami, or seiche.

Joint Treatment Site Improvements

The Joint Treatment Site is not within flood hazard, tsunami, or seiche zones. The Joint Treatment Site is over 2 miles away from the coastline and is at approximately 42 feet in elevation, making it safe from tsunamis. The Joint Treatment Site also does not fall within the Tsunami Hazard Area identified on California's Department of Conservation website. There are no major lakes or reservoirs near the Joint Treatment Site that put it at risk of seiches. Therefore, the Joint Treatment Site improvements would not result in a risk of pollutant release due to inundation from flood hazard, tsunami, or seiche.

Criterion 4.0-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Backbone Conveyance Pipeline and Appurtenances

Backbone conveyance pipeline and pipeline appurtenance construction would potentially generate sediment from sites and stockpiles. Backbone conveyance pipeline construction would occur over multiple reaches and require multiple SWPPPs. Development of a SWPPP would include evaluation of whether there are other historical/legacy pollutants that exist at the site being developed. For sediment, various construction BMPs would be implemented

including, but not limited to, soil stabilization (hydroseed or bonded fiber matrix), fiber rolls, silt fences, construction entrances, and good housekeeping practices. If the development of the SWPPP determines the presence of historic or legacy pollutants at the site, then the SWPPP would identify appropriate measures (e.g., use of an active treatment system to allow discharges that are below Basin Plan water quality objectives) so that discharges from the site are protective of downstream receiving waters. Therefore, backbone conveyance pipeline and pipeline appurtenance construction would not obstruct implementation of a water quality control plan. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. By implementing a SWPPP, the potential for pollutants to be generated during construction would be minimized, which would not obstruct implementation of a Water Quality Control Plan.

The final engineering construction documents would need to include construction considerations at locations where open trenches would cross curb and gutter, local storm drain, or County Flood Control District-maintained storm drain pipes or channels, as described under Criterion 4.0-1.

Dewatering may be required within pits for the trenchless reaches and open trenching areas to facilitate construction activities; however, dewatering activities would be for temporary durations and at a very small scale relative to the overall groundwater basins. Post-construction areas would be restored to pre-project conditions, which would allow for infiltration and recharge of groundwater to occur where applicable.

Post-project, the area would be returned to its pre-project condition with minimal potential for erosion and sedimentation.

Compliance with applicable regulatory requirements, such as the CGP requirements, would ensure that backbone conveyance pipeline and appurtenances construction and operation would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Joint Treatment Site Improvements

The CGP and the IGP prohibit the discharge of pollutants above applicable limits from entering the stormwater system through urban and stormwater runoff. In accordance with the requirements of these permits, as applicable, preparation of SWPPP documents to identify the potential pollutants of concern along with the appropriate source control, site design, and structural BMPs intended to be protective of downstream receiving waters would be implemented for the Joint Treatment Site improvements. Pure Water would implement program design feature HYD-PDF-1: Construction General Permit Storm Water Pollution Prevention Plan, as described under Program Design Features. The selection and design of applicable BMPs would be pursuant to CASQA's BMP handbooks (CASQA, 2019 and 2023). Once implemented, the BMPs would be maintained by the Joint Treatment Site.

Therefore, by implementing the SWPPP the potential for pollutants to be generated post-construction would be minimized and would not obstruct implementation of a water quality control plan.

Compliance with applicable regulatory requirements, such as the CGP and IGP, would ensure that Joint Treatment Site construction and operation would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.0 REFERENCES

Association of Environmental Professionals. *2024 CEQA Statute and Guidelines*. 2024.

California State Water Resources Control Board. *2020-2022 California Integrated Report*. 2022.

California State Water Resources Control Board. *General Waste Discharge Requirements for Discharges from Drinking Water Systems to Surface Waters, Order WQ 2014-0194-DWQ*. 2014.

California State Water Resources Control Board. *NPDES General Permit for Stormwater Discharges Associated with Industrial Activities, Order WQ 2014-0057 DWQ, as amended by Order WQ 2015-0122-DWQ & Order WQ 2018-0028-DWQ*. November 2018.

California State Water Resources Control Board. *NPDES General Permit for Stormwater Discharges Associate with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ.* 2022.

California State Water Resources Control Board. *Porter-Cologne Water Quality Control Act.* January 2024.

California State Water Resources Control Board. *Water Reclamation Requirements for Recycled Water Use, Order WQ 2016-0068-DDW.* 2016.

California Stormwater Quality Association. *California Storm Water Best Management Practices Handbook for Construction.* 2023.

California Stormwater Quality Association. *Industrial and Commercial Best Management Practice Handbook.* 2019.

California State Water Resources Control Board. NPDES General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, Order No. 2013-0001-DWQ. 2013.

County of Los Angeles. *Los Angeles County Code*. December 2022.

County of Los Angeles. *Los Angeles County General Plan Update Draft EIR.* June 2014.

Los Angeles County Sanitation Districts. *Vapor Extraction/Air Sparging and Groundwater Monitoring Report – Second Half of 2023 Former Fletcher Oil and Refining Company Site 24721 Main Street, Carson, CA SCP No. 0451A: Site ID No. 2040074; Geotracker No. SL373422445*. February 2024.

Los Angeles Regional Water Quality Control Board. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.* September 2014.

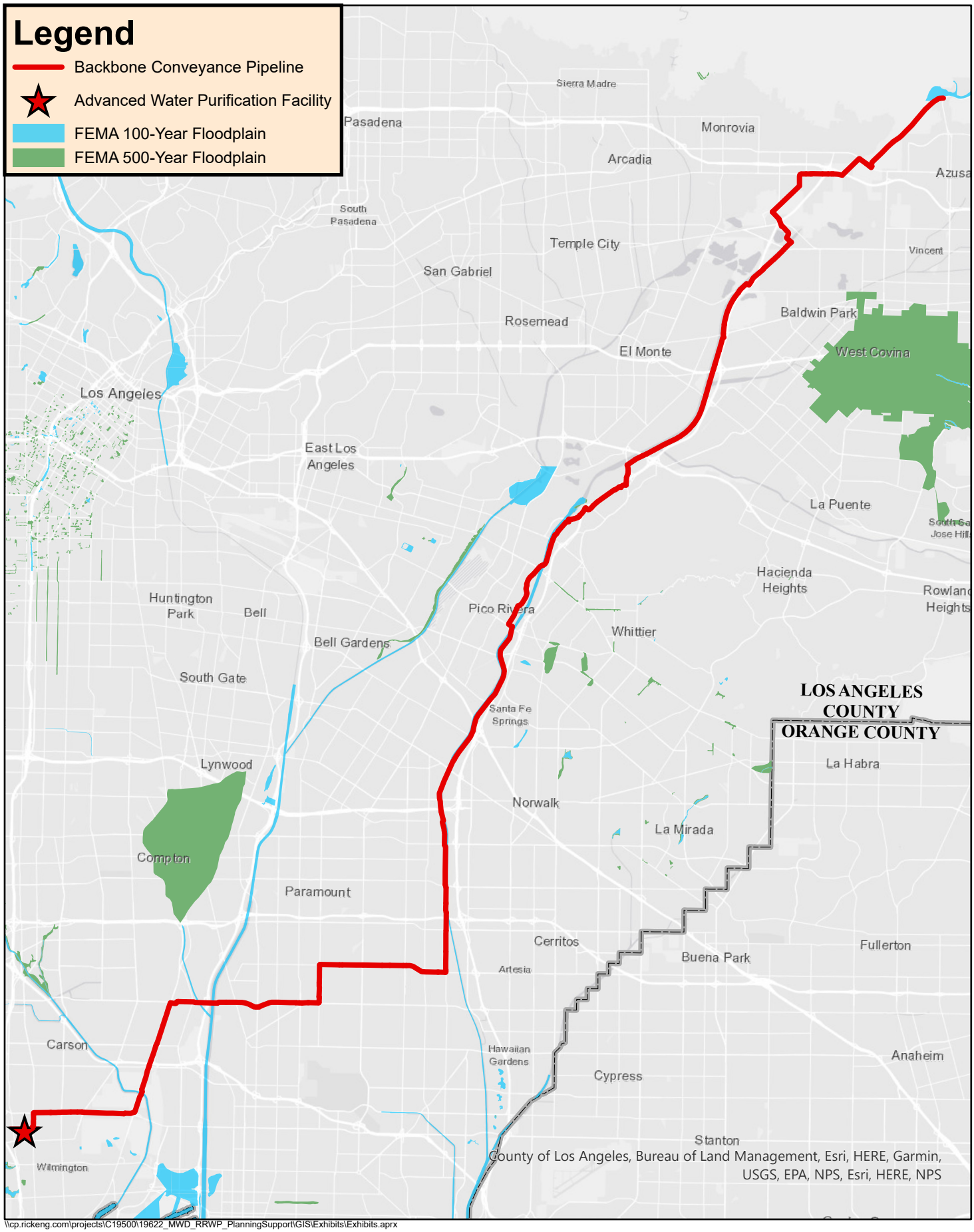
Los Angeles Regional Water Quality Control Board. *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2021-0105, NPDES Permit No. CAS004004.* 2021.

Los Angeles Regional Water Quality Control Board. *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2018-0125, NPDES Permit No. CAG994004.* 2021.

USEPA. *Clean Water Act.* 1972.

Attachment 1

FEMA Floodplain Exhibits



\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

Miles
0 3 6

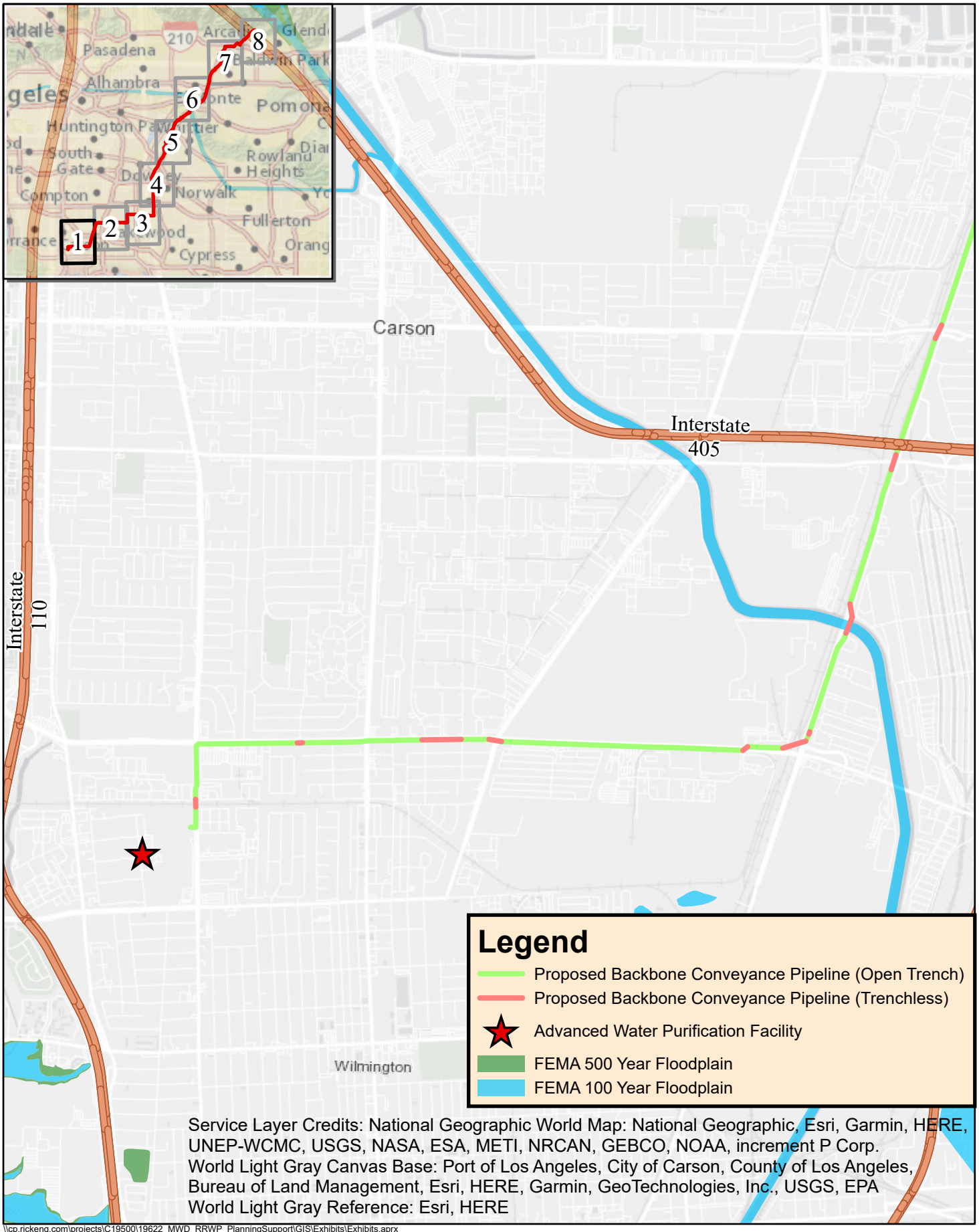
North

FEMA Floodplain Index - Exhibit 1

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: Port of Los Angeles, City of Carson, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

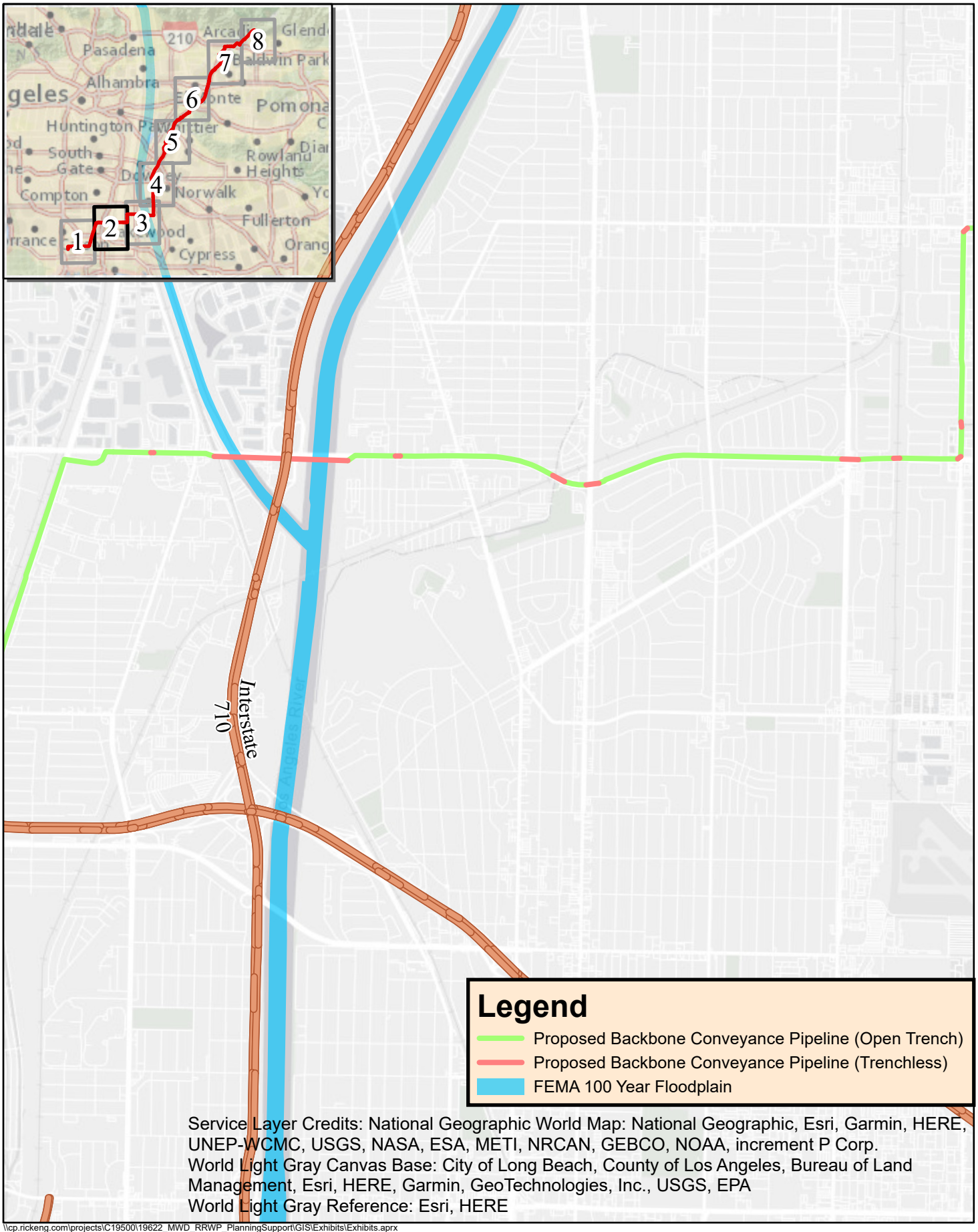
Miles
0
1
North

FEMA Floodplain - Exhibit 1.1

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

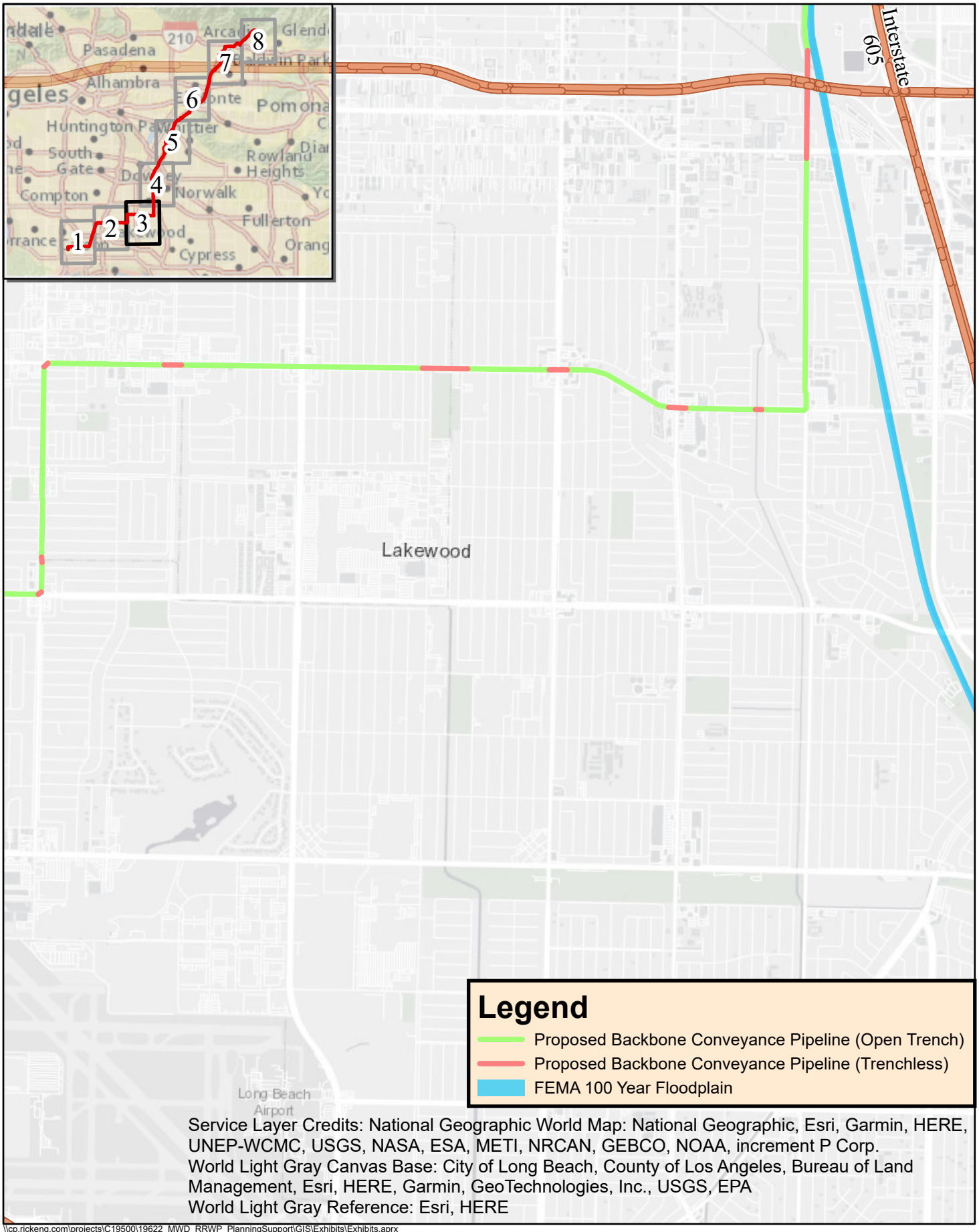
Miles
0
1
North

FEMA Floodplain - Exhibit 1.2

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

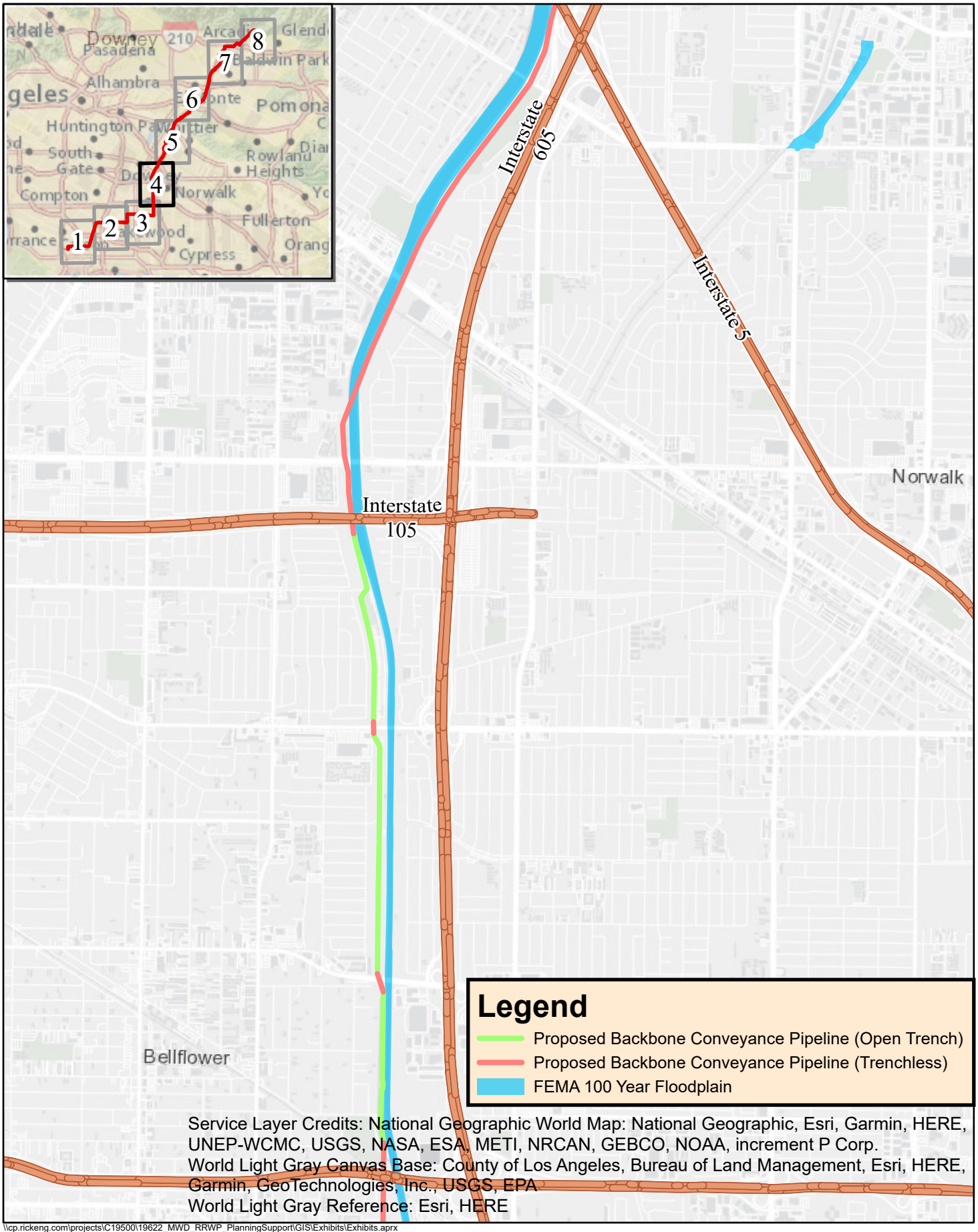
Miles
0
1
North

FEMA Floodplain - Exhibit 1.3

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

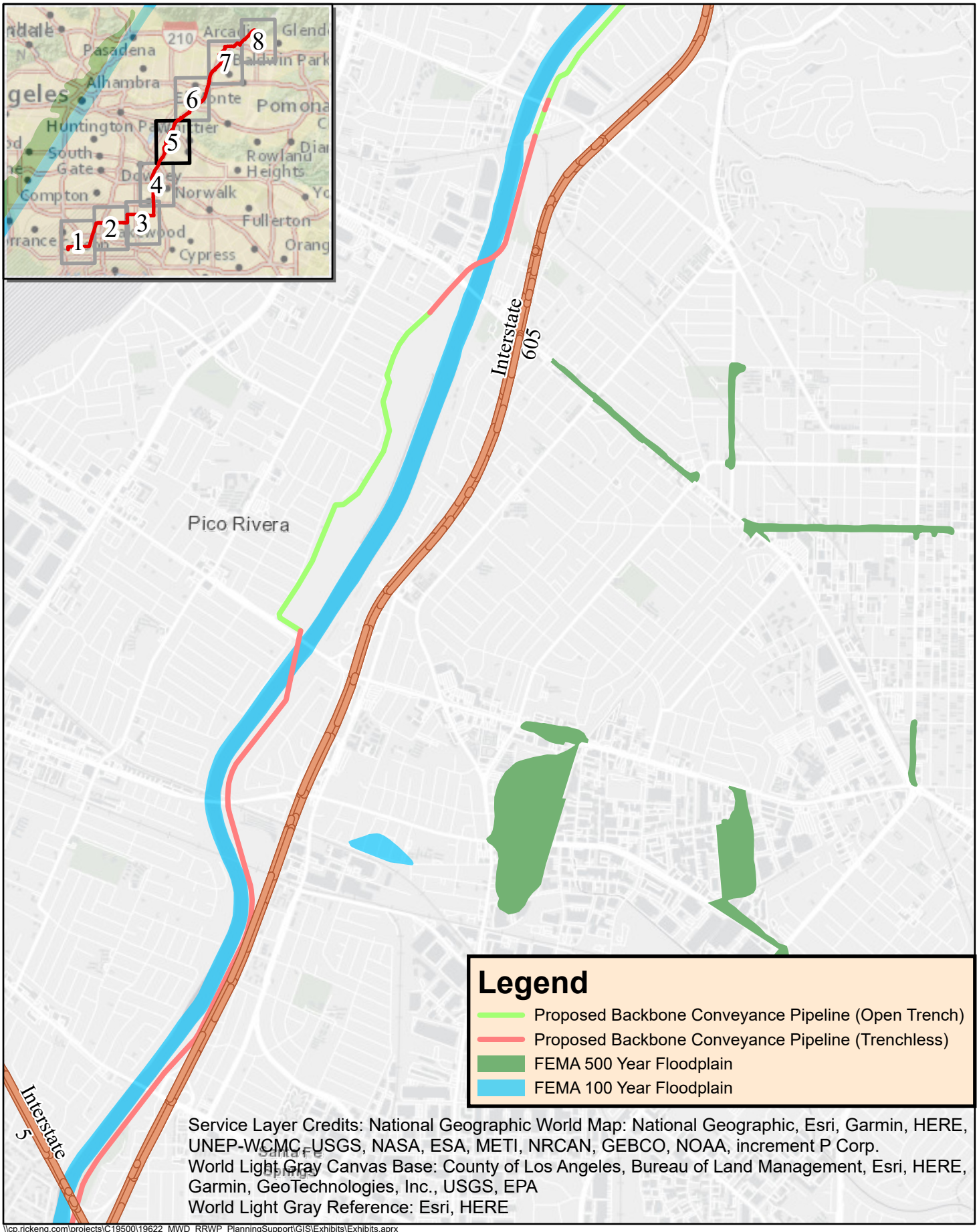
Miles
0
1
North

FEMA Floodplain - Exhibit 1.4

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

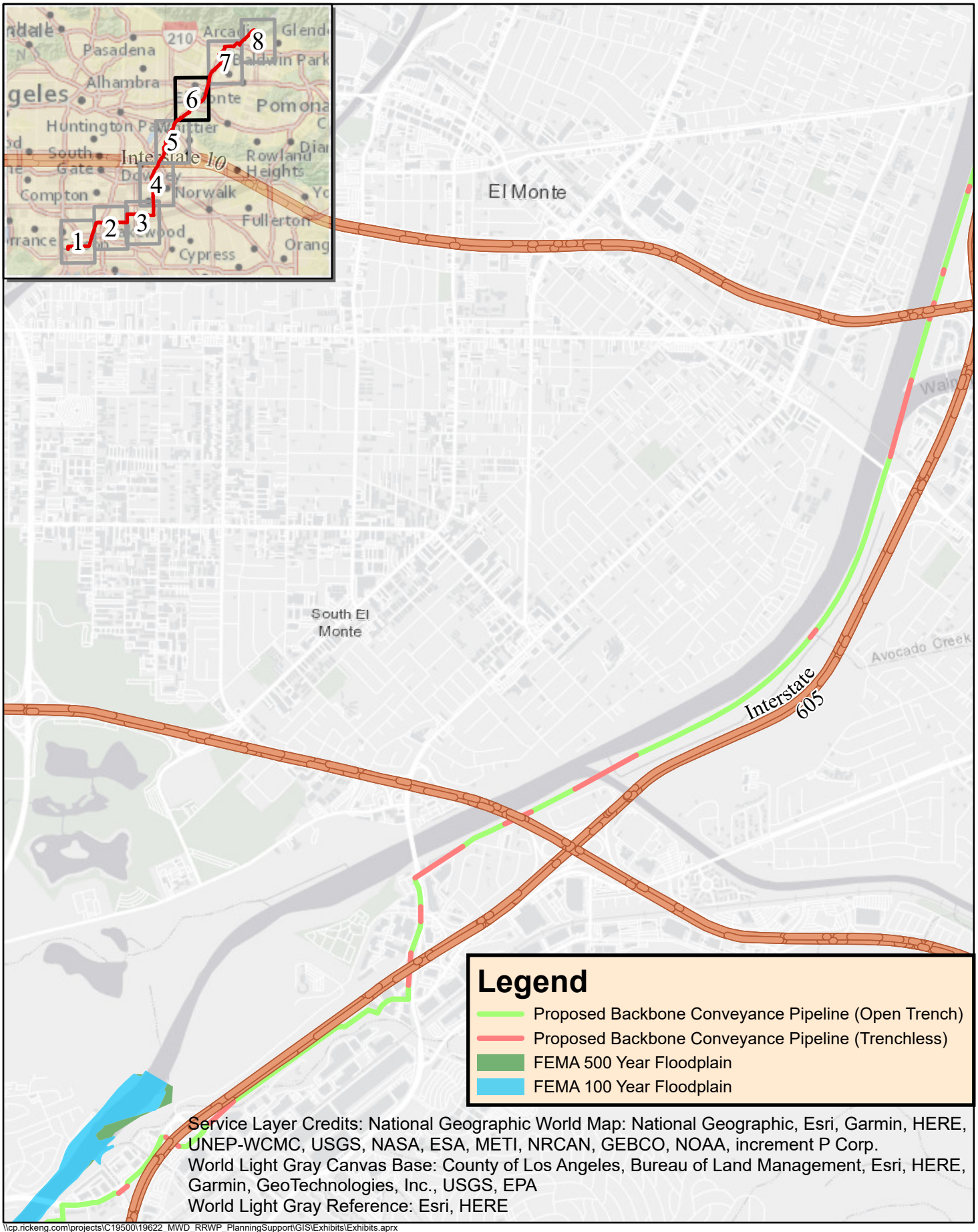
Miles
0
1
North

FEMA Floodplain - Exhibit 1.5

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

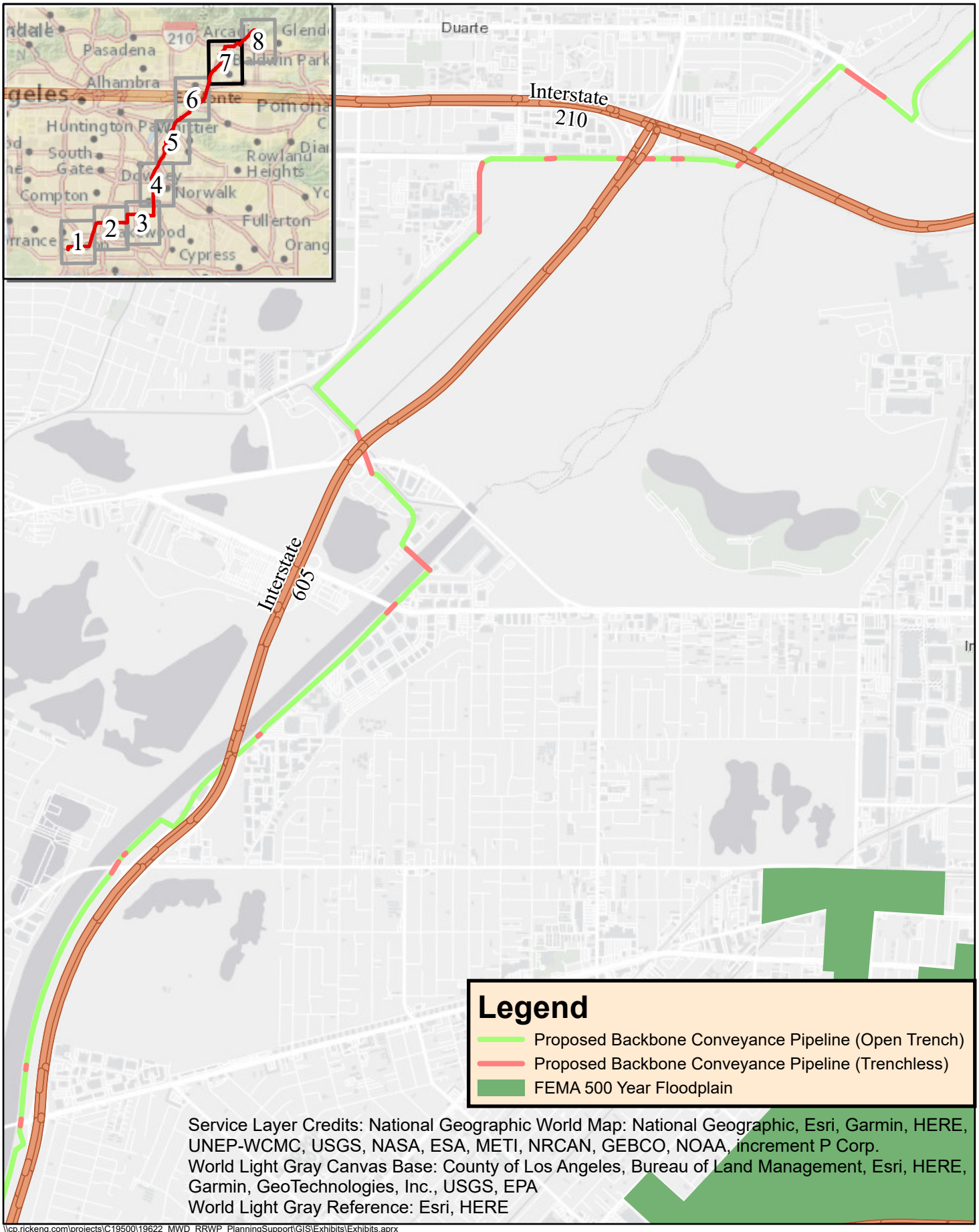
Miles
0
1
North

FEMA Floodplain - Exhibit 1.6

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

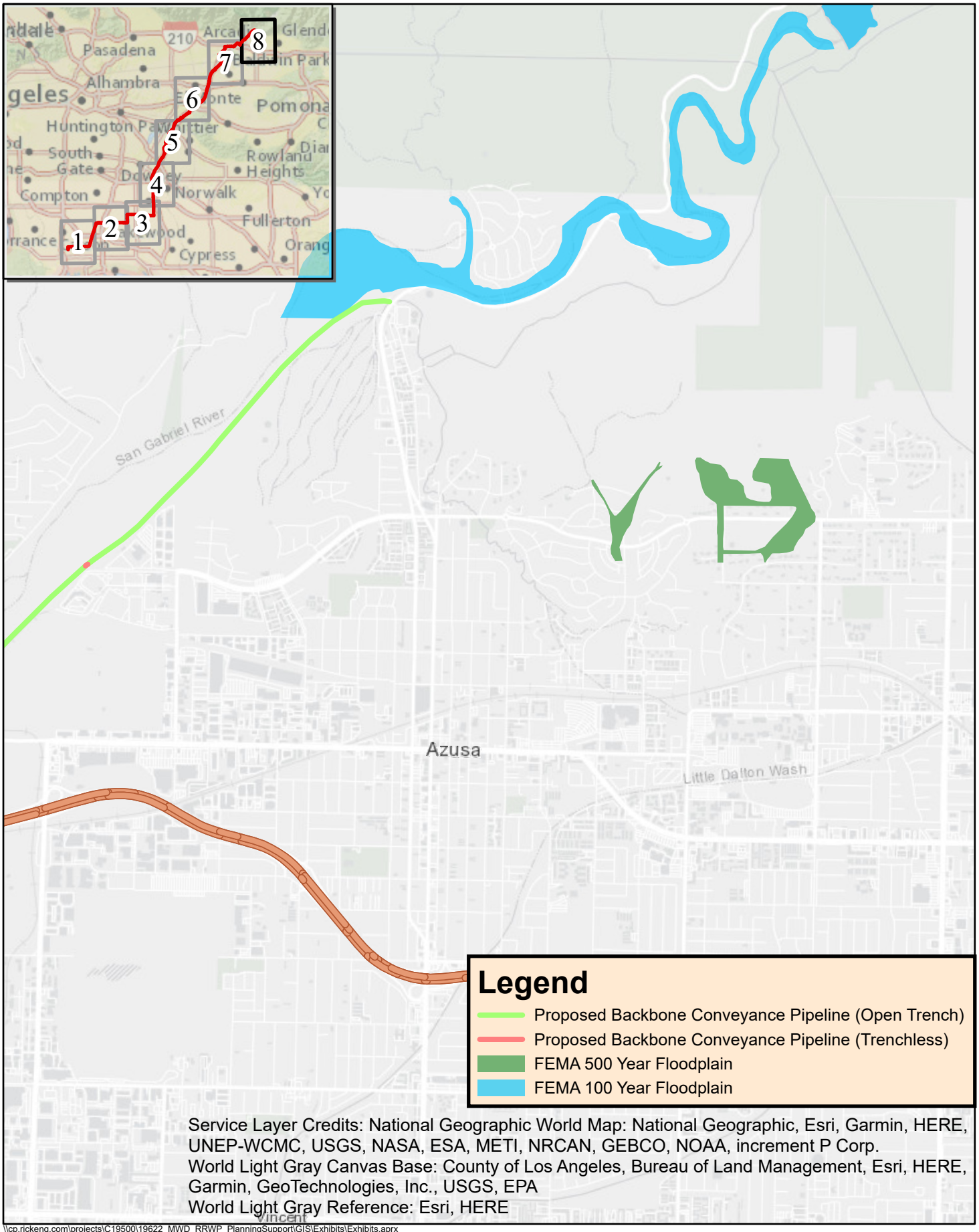
Miles
0
1
North

FEMA Floodplain - Exhibit 1.7

Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622



Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Light Gray Canvas Base: County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
World Light Gray Reference: Esri, HERE

\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

Miles
0
1
North

FEMA Floodplain - Exhibit 1.8

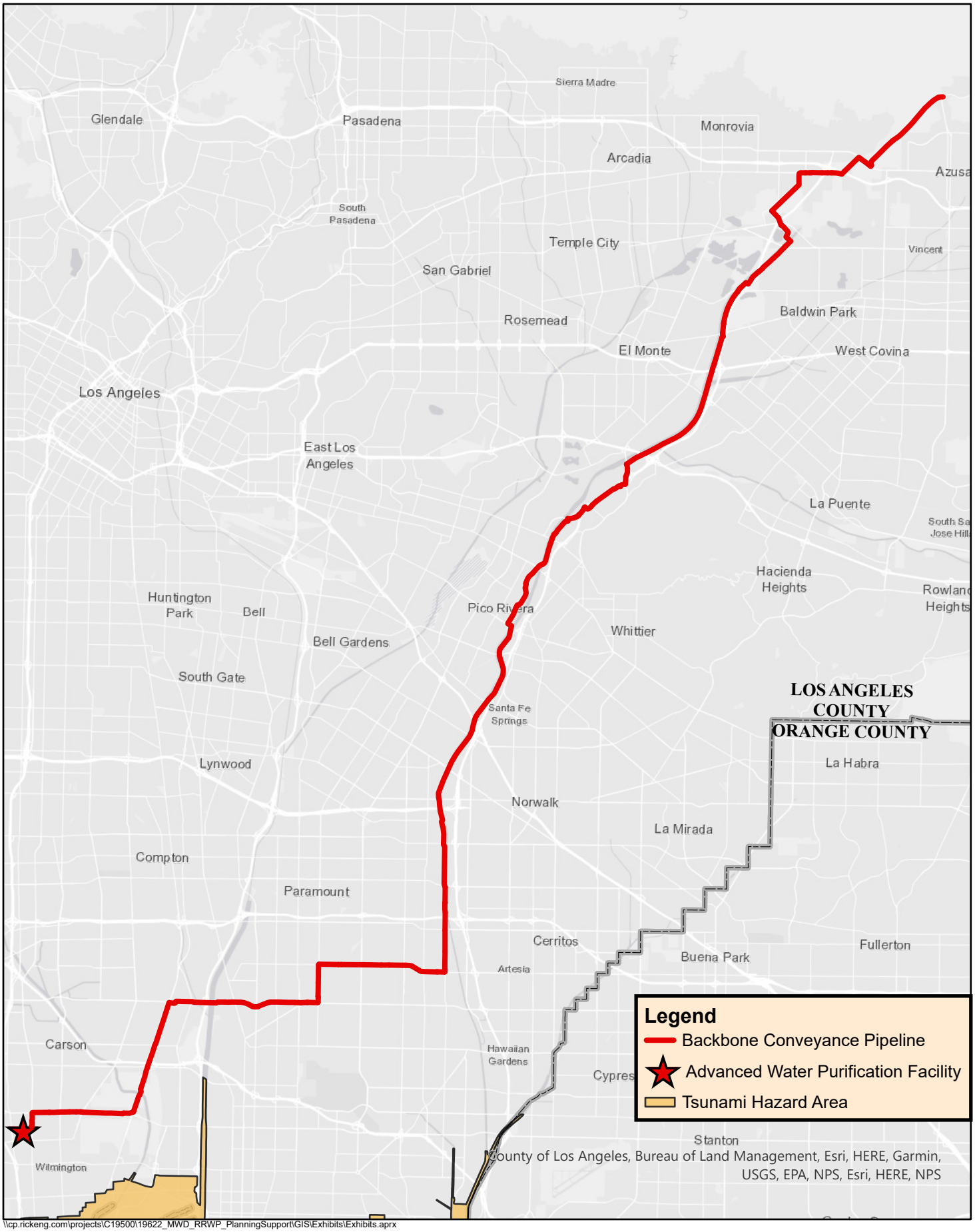
Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622

Attachment 2

Tsunami Hazard Areas



\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

Miles
0 3 6
North

Attachment 2 - Tsunami Hazard Area

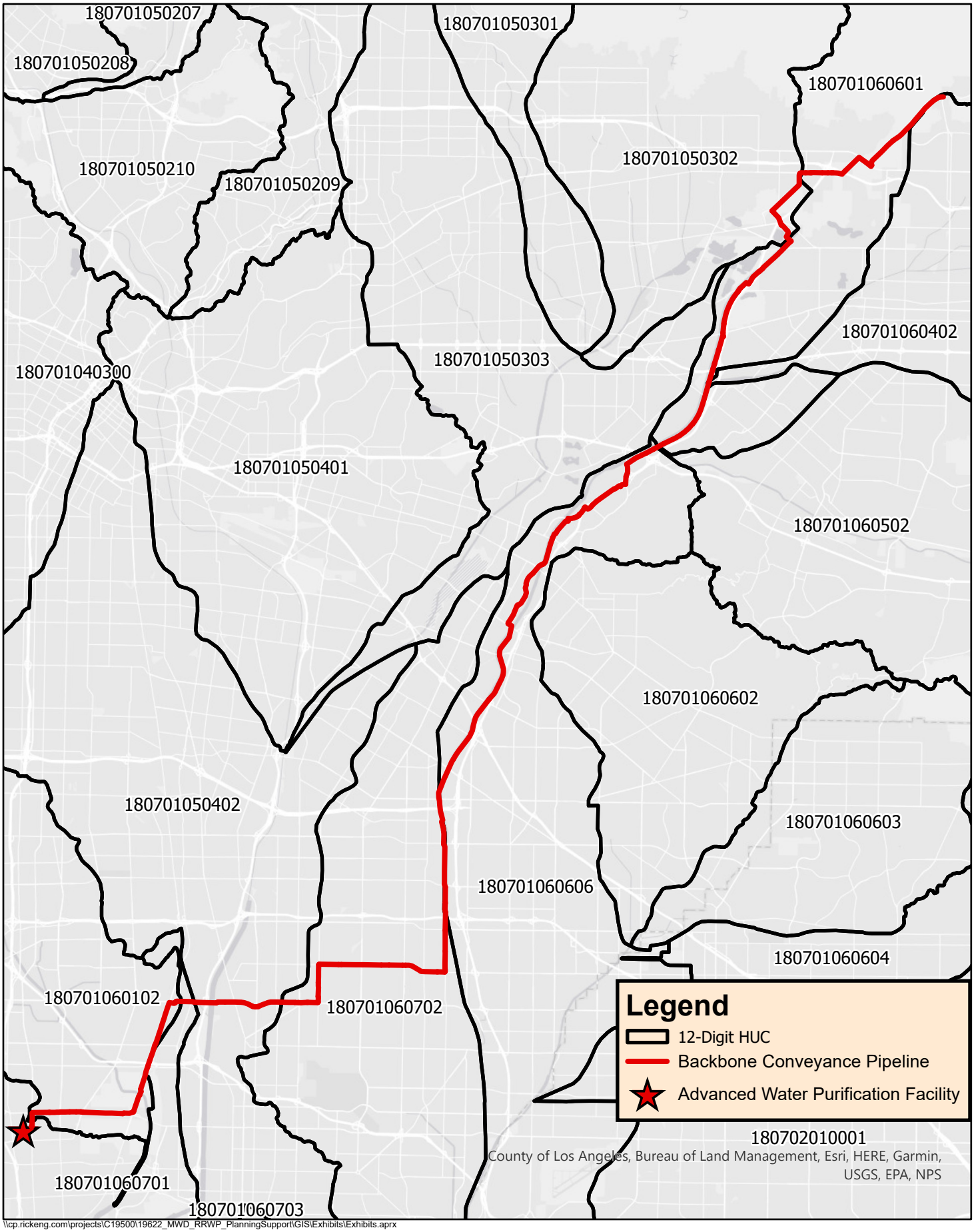
Pure Water Southern California

Date of Exhibit: 2/8/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622

Attachment 3

Hydrologic Unit Codes



\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

Miles
0 3 6
North

Attachment 3 - 12 Digit HU

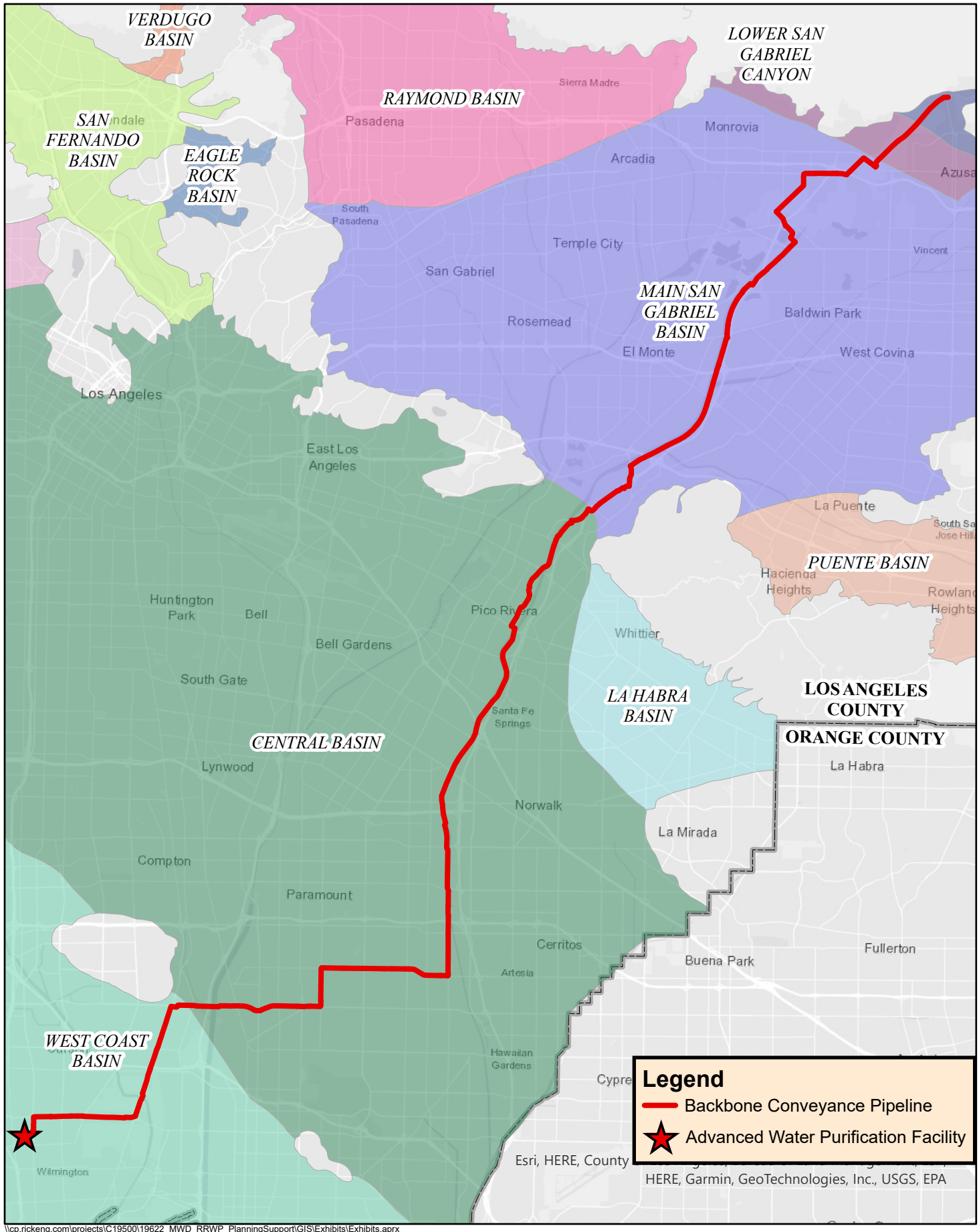
Pure Water Southern California

Date of Exhibit: 2/9/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622

Attachment 4

Regional Groundwater



\\cp.rickeng.com\projects\C19500\19622_MWD_RRWP_PlanningSupport\GIS\Exhibits\Exhibits.aprx

RICK ENGINEERING COMPANY

Miles
0 3 6
North

Attachment 4 - Groundwater Basins

Pure Water Southern California

Date of Exhibit: 2/7/2024
DigitalGlobe Aerial Image: See Lower Right of Image

J-19622