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<b><u>Submittal Type:</u></b>	GEO_REPORT
<b><u>Report Title:</u></b>	Work Plan for Destruction of Well GMW-O-15, SFPP Norwalk Pump Station - Norwalk, CA
<b><u>Report Type:</u></b>	Well Destruction Workplan
<b><u>Report Date:</u></b>	1/31/2022
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<b><u>Organization Name:</u></b>	CH2M HILL
<b><u>Username:</u></b>	DJABLON1
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January 31, 2022

Attention: Mr. Paul Cho  
California Regional Water Quality Control Board, Los Angeles Region  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, California 90013

Project Name: SFPP Norwalk Pump Station  
Project Number: KMNW1H22

Subject: Work Plan for Destruction of Well GMW-O-15, SFPP Norwalk Pump Station - Norwalk, CA

Dear Mr. Cho,

This work plan was prepared by Jacobs Engineering Group Inc. (Jacobs), on behalf of Kinder Morgan, Inc. (Kinder Morgan) for the destruction of remediation well GMW-O-15, which is part of the SFPP Norwalk Pump Station (Site) groundwater monitoring well network. This well is located along the southern block wall within the 15-acre parcel of the property at 15306 Norwalk Boulevard in Norwalk, California. Figure 1 shows the location of the Site. Figure 2 shows the location of the well.

## 1. Background

Well GMW-O-15 was installed in 1994 as part of the groundwater monitoring, total fluid extraction (TFE) and soil vapor extraction (SVE) well networks at the Site. Well GMW-O-15 is constructed of 4-inch-diameter, Schedule 40 polyvinyl chloride (PVC) casing and was completed to a depth of 50 feet below ground surface (bgs). The well is screened from 20 to 50 feet bgs. Well construction details are provided in Table 1, and a copy of the boring log is included as Attachment A. The wellhead is flush-mounted within a steel vault.

Table 1. Well Construction Details

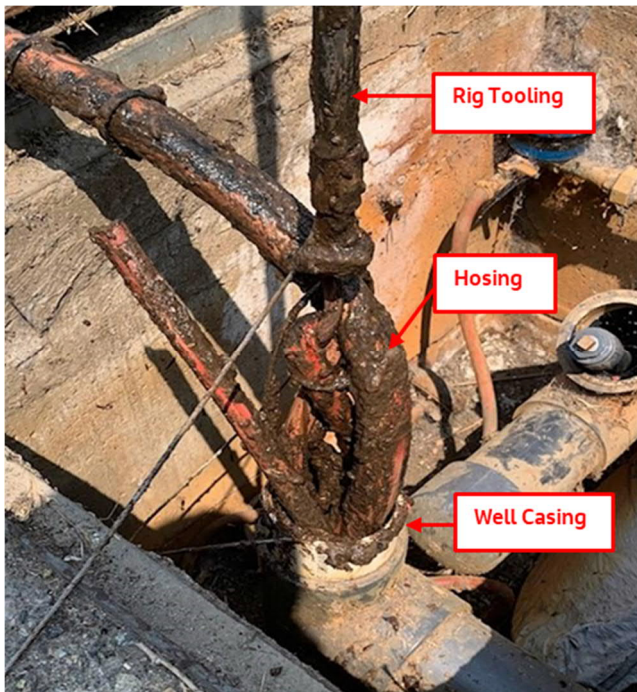
Well ID	Well Diameter	Borehole Diameter	Boring Depth	Well Depth	Top of Screen	Bottom of Screen	Screen Length
	(inches)	(inches)	(ft bgs)	(ft bgs)	(ft bgs)	(ft bgs)	(ft)
GMW-O-15	4.0	12.0	50.00	50.00	20.00	50.00	30.00

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Well GMW-O-15 has been used for groundwater monitoring and remediation since it was installed. Kinder Morgan has sampled the well semiannually since April 2010, in accordance with the *Revised Groundwater Sampling and Analysis Plan, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. (CH2M HILL, 2013). In the second quarter of 2021, during a routine well inspection, inspection personnel discovered that the total fluids extraction pump installed in the well was lodged in place and could not be removed from the well for maintenance. Since this discovery, multiple attempts to remove the pump and associated hoses failed, including several attempts by Kinder Morgan technicians, one attempt by a licensed drilling contractor (August 17, 2021), and one attempt by a licensed civil construction contractor (October 12, 2021), using various methods. Photograph 1 shows the driller attempting to remove the pump and hoses from the well using a Smeal pump hoist rig.

Photograph 1: Condition of Well GMW-O-15



The pump is currently stuck in place and resides above the water level within the well casing. Because the well and pump can no longer be accessed or maintained, this well has been deemed unusable and suitable for destruction. Groundwater was last sampled from this well on November 6, 2020. The well was last used for TFE on February 23, 2021, and for SVE on October 12, 2021, as described in previous quarterly remediation progress reports.

Kinder Morgan does not recommend replacing well GMW-O-15 because it is redundant to adjacent TFE/SVE and monitoring well GMW-36, which is located 50 feet to the west, and SVE and monitoring well GMW-O-16, which is located 50 feet to the east, as shown on Figure 2. Moreover, since the activation of horizontal biosparge well BS-02 in May 2021 (and expansion of the southeastern vertical SVE well network in December 2019), all three of these wells have exhibited a



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significant decreasing trend in dissolved-phase volatile organic compounds. The most recent benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations in GWM-O-15 and GMW-36 were nondetect (November 2020 and May 2021, respectively) and all BTEX concentrations were nondetect in GMW-O-16 in May 2021 except for xylenes (1.8 parts per billion), as presented in the *First Semiannual 2021 Groundwater Monitoring Report* (Jacobs, 2021).

## 2. Planned Well Destruction Activities

Well GMW-O-15 will be destroyed using hollow-stem auger drilling technology in accordance with California Department of Water Resources Bulletin 74-90 – California Well Standards (DWR, 1991) and Los Angeles County Department of Public Health (LACDPH) requirements for well decommissioning (LACDPH, website accessed January 2022). In addition, a well destruction permit from the LACDPH will be obtained. The well will be destroyed by over drilling to approximately 2 feet below the bottom of the well (50 feet bgs) and backfilled with neat cement.

The following additional activities will be performed:

- Notify Underground Service Alert and clear the area around GMW-O-15 with geophysics to identify any potential underground utilities in the vicinity of the well.
- Mobilize drilling equipment and support truck to the Site.
- Decontaminate all equipment before and after use at the well location.
- Perform a subsurface utility clearance by removing soil immediately adjacent to the well casing down to 5 feet below grade using a vacuum truck and conduct air monitoring per the South Coast Air Quality Management District rule 1166.
- Dispense neat cement down the auger flights following over drilling of the well. “Mushroom cap” the well borehole to allow the cement to spill out from the borehole above the vault floor. Backfill the vault void to ground surface with neat cement.
- Containerize the investigation-derived waste consisting of soil cuttings, well materials, and decontamination water in 55-gallon drums or in roll-off bins pending disposal by Kinder Morgan.

## 3. Report Preparation

Kinder Morgan will submit a well destruction report that documents the completion of the work described in this letter. The report will include an introduction and a description of the well destruction methods. The report will be submitted to LACDPH and the Los Angeles Regional Water Quality Control Board (RWQCB) and uploaded to the RWQCB GeoTracker database.

## 4. Schedule

Kinder Morgan has tentatively scheduled the field activities described herein to start in February 2022, or upon RWQCB approval of this work plan. Kinder Morgan will notify the RWQCB 7 days prior to starting field activities.

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## 5. References

California Department of Water Resources (DWR). 1991. *Bulletin 74-90, California Well Standards*.

CH2M HILL (CH2M). 2013. *Revised Groundwater Sampling and Analysis Plan*.

Jacobs Engineering Group Inc. (Jacobs). 2021. *First Semiannual 2021 Groundwater Monitoring Report*.

Los Angeles County Department of Public Health (LACDPH). n.d. *Requirements for Well Construction/Decommissioning*. Accessed January 2022.

[www.publichealth.lacounty.gov/eh/docs/ep\\_dw\\_decommission\\_req.pdf](http://www.publichealth.lacounty.gov/eh/docs/ep_dw_decommission_req.pdf)

## 6. Closing

If you have any questions regarding this work plan, please contact Eric Davis/Jacobs at (404) 323-1600 or Mr. Court Reece/Kinder Morgan at (346) 237-1505.

Yours sincerely



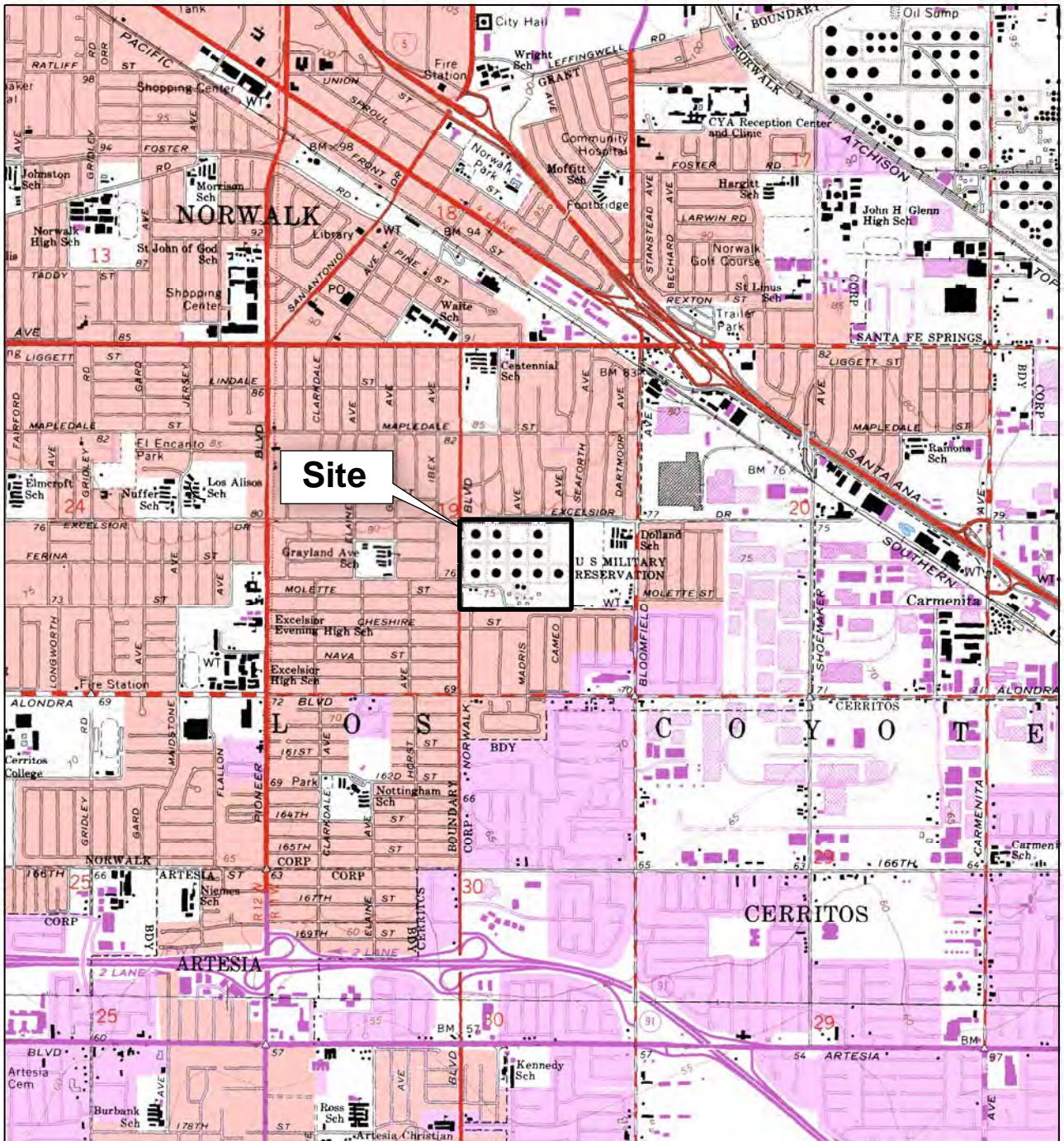
Eric Davis, P.G.  
Senior Project Manager  
(404) 323-1600  
[eric.davis@jacobs.com](mailto:eric.davis@jacobs.com)

Copies to: Mr. Court Reece, Kinder Morgan, Inc.  
File

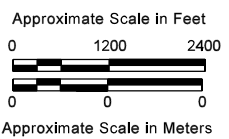
### Attachments:

Figure 1. Site Location Map  
Figure 2. Well Location Map  
Attachment A. Boring Log

Figures



Site

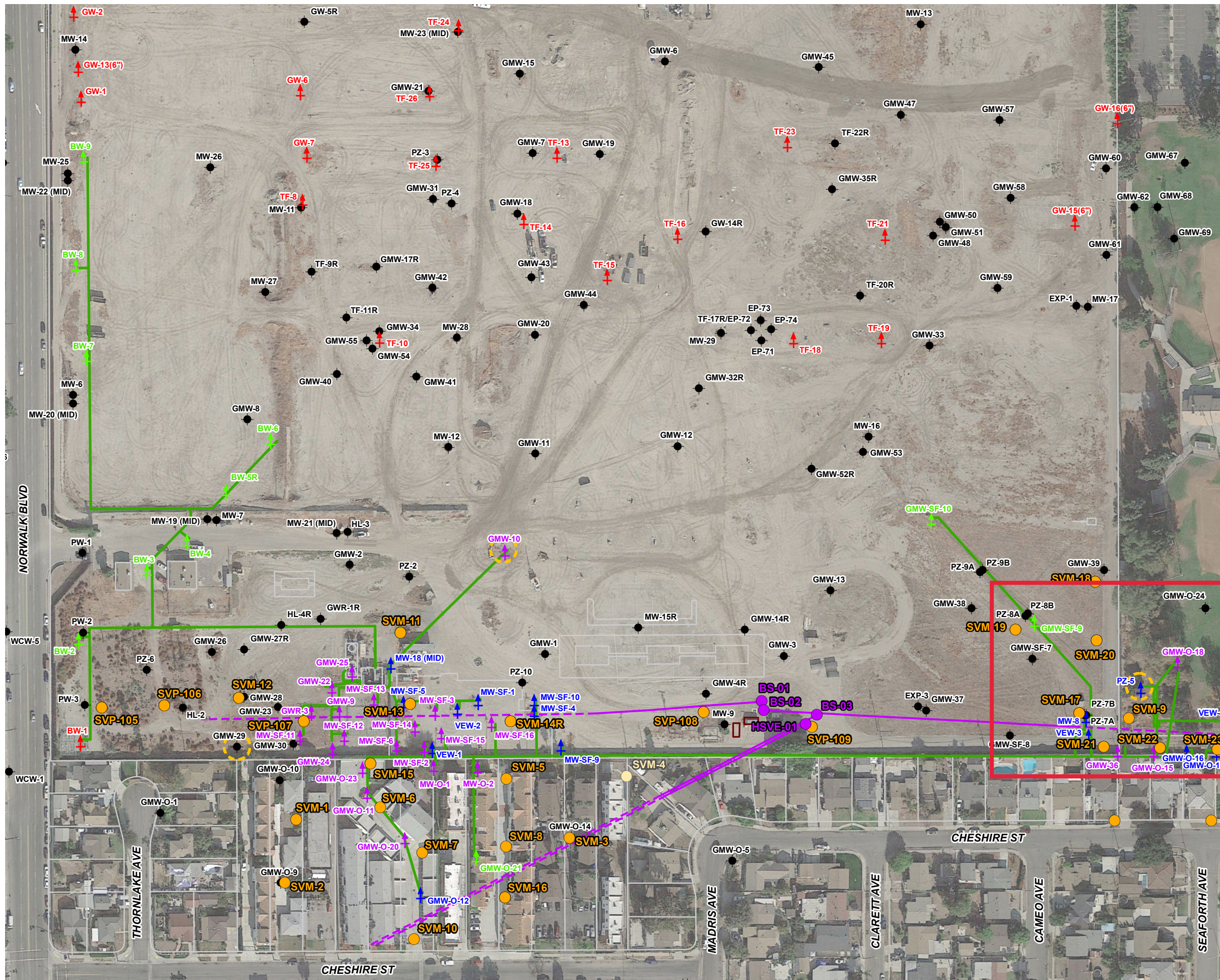


SITE LOCATION MAP  
 DEFENSE FUEL SUPPORT POINT NORWALK  
 Norwalk, California

By: Jacobs Staff      Date: July 12, 2018      Project No: 704383

**Jacobs**      Figure 1

BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP  
 LOS ALAMITOS 1964, CALIFORNIA, PHOTO-REVISED 1981.  
 WHITTIER 1965, CALIFORNIA, PHOTO-REVISED 1981.



- LEGEND**
- Soil Vapor Probe/Soil Vapor Monitoring Probe
  - Destroyed Soil Vapor Probe/Soil Vapor Monitoring Probe
  - Horizontal Biosparge Well Entry Point
  - Existing Groundwater Monitoring Well
  - ⊕ Existing Remediation Well
  - ⊕ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
  - ⊕ Kinder Morgan Soil Vapor Extraction Wells
  - ⊕ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
  - Kinder Morgan Remediation Piping Layout (Above Ground and Below Ground)
  - Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
  - Air Compressor System
  - Wells with Increasing Dissolved Phase Trends. All Other Wells Illustrate Stable or Decreasing Dissolved Phase Trends

Imagery Source:  
Google Earth December 3, 2017.

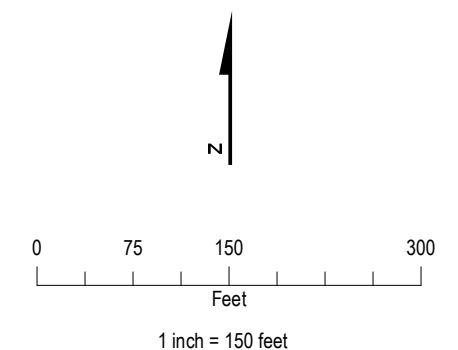


Figure 2. Well Location Map  
SFPP Norwalk Pump Station  
Norwalk, California

\\DC1VS01\GIS\PROJ\KINDERMORGAN\NORWALK\MAPFILES\2020\FIGURE\_2\_REMEDIATION\_SYSTEM\_LAYOUT.MXD AESPEJO 10/26/2020



Attachment A  
Boring Log



GROUNDWATER  
TECHNOLOGY

# Drilling Log

Monitoring Well **GMW-0-15**

Project DFSP-NORWALK Owner DFSP  
 Location 15306 Norwalk Blvd, Norwalk, CA Proj. No. 830011095  
 Surface Elev. \_\_\_\_\_ Total Hole Depth 50 ft. Diameter 12 in.  
 Top of Casing \_\_\_\_\_ Water Level Initial 27 ft. Static -- ft.  
 Screen: Dia 4.0 in. Length 30 ft. Type/Size 0.02 in.  
 Casing: Dia 4.0 in. Length 20 ft. Type Sch 40 PVC  
 FW Material 2/12 Sand Rig/Core CME45/Mod. CA. Split Spoon  
 Drill Co. AGR Drilling Method Hollow Stem Auger  
 Driller Jim Miles Log By Qiang Lu Date 4/19/94 Permit # N/A  
 Checked By Gary Prange License No. RG 5730

See Site Map  
For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ x Recovery	Graphic Log	USCS Class.	Description
							(Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2							
0							
2							
4							
6		30	GMW015-5'	4 5 6			Poorly graded SAND: Brown, 100% fine sand; damp, medium dense, no odor.
8							
10		30	GMW015-10'	3 3 3		SP	Poorly graded SAND: Dark brown, 100% fine sand, trace of silt; damp, loose, faint hydrocarbon odor.
12							
14		2,000	GMW015-15'	2 2 3			Poorly graded SAND: Gray-brown, 100% fine sand; damp, loose, moderate hydrocarbon odor.
16							
18							
20		>10K	GMW015-20'			SM	Silty SAND: Brown, 85% fine sand, 15% silt; damp, loose, strong hydrocarbon odor.
22							
24						SP	



Project DFSP-NORWALK Owner DFSP  
 Location 15306 Norwalk Blvd, Norwalk, CA Proj. No. 830011095

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ x Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	
24	[Well Completion Diagram]	>10K	GMW015-25'	[Graphic Log]	SP	Poorly graded SAND: Brown, 100% sand; product saturated, loose, very strong hydrocarbon odor.  <i>Groundwater encountered 4/19/94</i>	
26							
28							
30			GMW015-30'	1000	[Graphic Log]	ML	SILT with Sand: Brown, 85% silt, 15% fine sand; water saturated, medium dense, moderate hydrocarbon odor.
32							
34							
36		4500	GMW015-35'	[Graphic Log]		Poorly graded SAND: Brown, 100% fine sand; water saturated, strong hydrocarbon odor. Encountered caving problem, grab sample collected from auger.	
38							
40		>10K	GMW015-40'	[Graphic Log]	SP	Poorly graded SAND: Brown, 100% fine sand; water saturated, strong hydrocarbon odor, grab sample only.	
42							
44			GMW015-45'	[Graphic Log]		Poorly graded SAND: Same as above.	
46		1500					
48			GMW015-50'	[Graphic Log]		Poorly graded SAND: Same as above.	
50							
52						Ended boring at 50 ft. Sampled to 50 ft. Groundwater encountered at approximately 27 feet. Well set to 50 feet. Soil cuttings and purged water placed in labeled 55-gallon drums, sealed, and left temporarily on site pending disposal. All percentages are approximate.	
54							
56							