



Public Works Commission
September 8, 2022
La Brea Project Updates



City of Beverly Hills LCW-1 Construction Update



LCW-1 Equipping



Interior Piping with Alternative Valves



LCW-1 Equipping



Interior Plumbing and Electrical



LCW-1 Equipping



Building Exterior



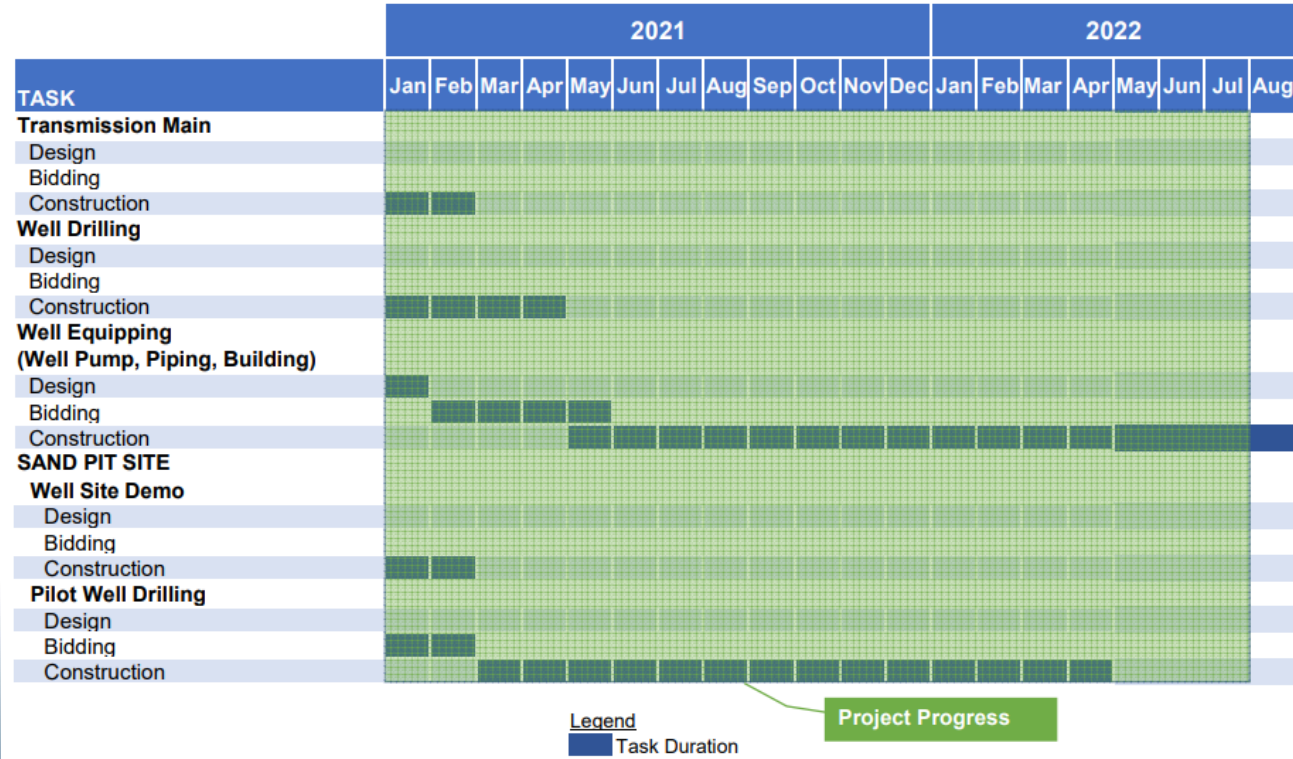
LCW-1 Equipping



Parking Lot Striping



La Brea Subarea Development Project Timeline





La Brea LCW-1 Startup/Testing

- Contractor Startup / Testing Plan in Development
 - ✓ Mechanical
 - ✓ Electrical
 - ✓ PLC / SCADA Testing
- La Brea Transmission Main Flushing
 - ✓ Bac-T and HPC sampling
- LCW-1 WTP Hydraulic, PTW Water Quality, and Operational Testing
- LCW-1 Title 22 Sampling Requirements (Initial & Final)
- DDW Site visit upon completion



City of Beverly Hills LCW-1 Water Quality Update



LCW-1 Water Quality Update

Analyte	Units	Regulatory Levels	Detection Limit for Purposes of Reporting (DLR)	LCW-1 Ongoing Sampling (limited analytes)	LCW-1 Ongoing Sampling (limited analytes)	LCW-1 Ongoing Sampling (limited analytes)	LCW-1 Ongoing Sampling (limited analytes)	LCW-1 Ongoing Sampling (limited analytes)	LCW-1 Post-Construction Title 22 Sampling
				Well Blend	Well Blend	Well Blend	Well Blend	Well Blend	Well Blend
				5/9/2022	2/24/2022	11/3/2021	9/16/2021	4/29/2021	11/2/2020
				Reporting to MDL	Reporting to MDL	Reporting to MDL	Reporting to MDL	Reporting to MDL	Reporting to MDL
General Physical Properties									
Apparent Color	ACU	15 (S)	None	ND (< 3.0)	ND (< 3.0)	ND (< 3.0)	3.0	ND (< 3.0)	ND (< 3.0)
Odor	TON	3 (S)		2	2	2	2	1	4
General Mineral Analytes and Others									
Total Dissolved Solids (TDS)	mg/L	500, 1,000, 1,500 ⁽¹⁾ (S)	None	670	660	640	670	650	650
Selected Inorganic Analytes									
Arsenic, Total	µg/L	10 (P)	2	ND (< 0.21)	ND (< 0.21)	ND (< 0.060)	ND (< 0.060)	ND (< 0.060)	0.10J
Iron, Total		300 (S)	None	26	29	44	220	44	54
Manganese, Total		50 (S) & 500 (NL)	None	16	16	17	30	19	22
Selected Organic Analytes									
Surfactants (MBAS; Foaming Agents)	mg/L	0.5 (S)	None	0.072J	0.016J	ND (< 0.014)	0.028J	ND (< 0.014)	0.051J
1,4-Dioxane	µg/L	1 (NL)	None	ND (< 0.085)	ND (< 0.085)	ND (< 0.085)	ND (< 0.085)	ND (< 0.085)	0.022J
Methyl tert-butyl ether (MTBE)		5 (S) & 13 (P)	3	0.66	0.58 (Also detected in trip blank [0.12J])	0.79	0.65	0.65	0.35J

No PFAS compounds have been detected in LCW-1.

Yellow shading indicates analyte/measurement was in exceedance of the maximum contamination level or notification level.

Green shading indicates the analyte/measurement was ND above the limit shown.

Blue shading indicate the analyte/measurement was reported with a "J-flag", (detected below the MRL, but above the MDL).

MRL = Method Reporting Limit
 MDL = Method Detection Limit
 DLR = Detection limit for Reporting
 ND = Not Detected



City of Beverly Hills Sand Pit Site Update



Anthony Hicke, Principal Groundwater Geologist

Richard C. Slade & Associates LLC

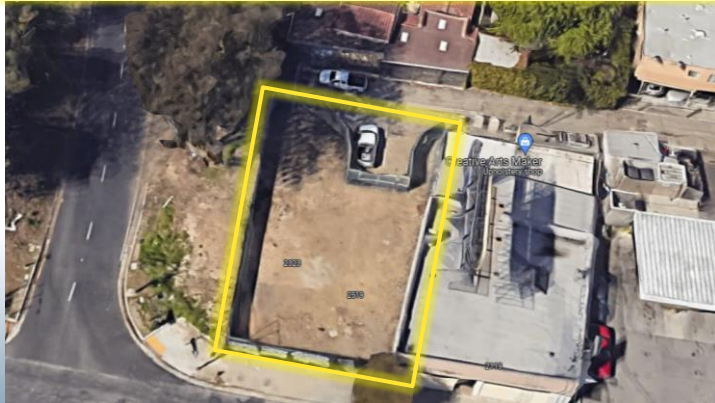
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Sand Pit Site



- City of Beverly Hills property within the City of Los Angeles
- Ultimate goal is to construct a production well and deliver water to Foothill Treatment Plant
- Project previously presented to DDW in May 2020 and Oct. 2020
- Nested Monitoring Well Constructed and Sampled in March 2022



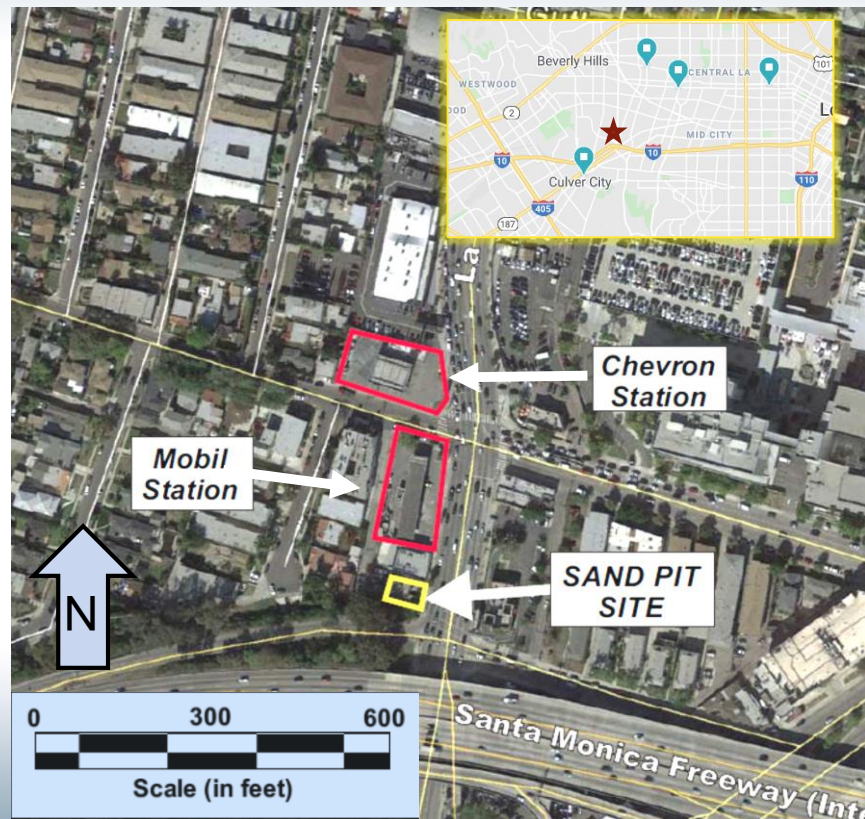


Sand Pit Site-Nearby Contam.

Mobil (closed Jan 2020)

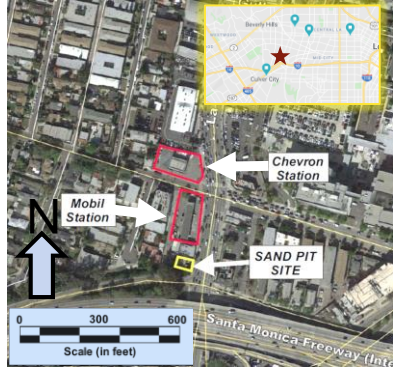
Chevron (closed Oct 2019)

- “Low Risk Closures” by RWQCB
- GW contamination exists at both sites (some above MCL)
- None of the Mobil MWs were deeper than 50 ft – but now all destroyed

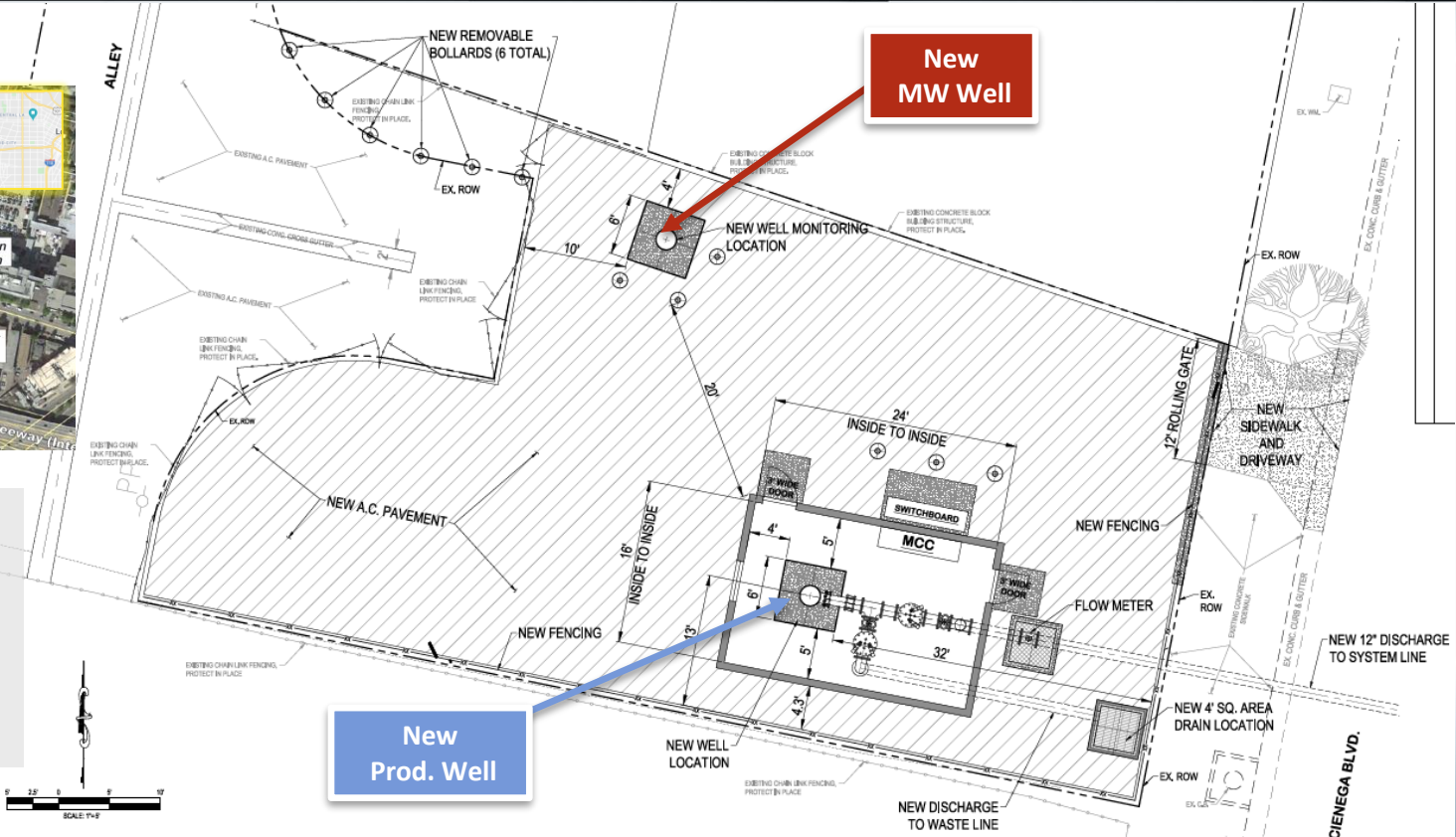




Conceptual Site Layout



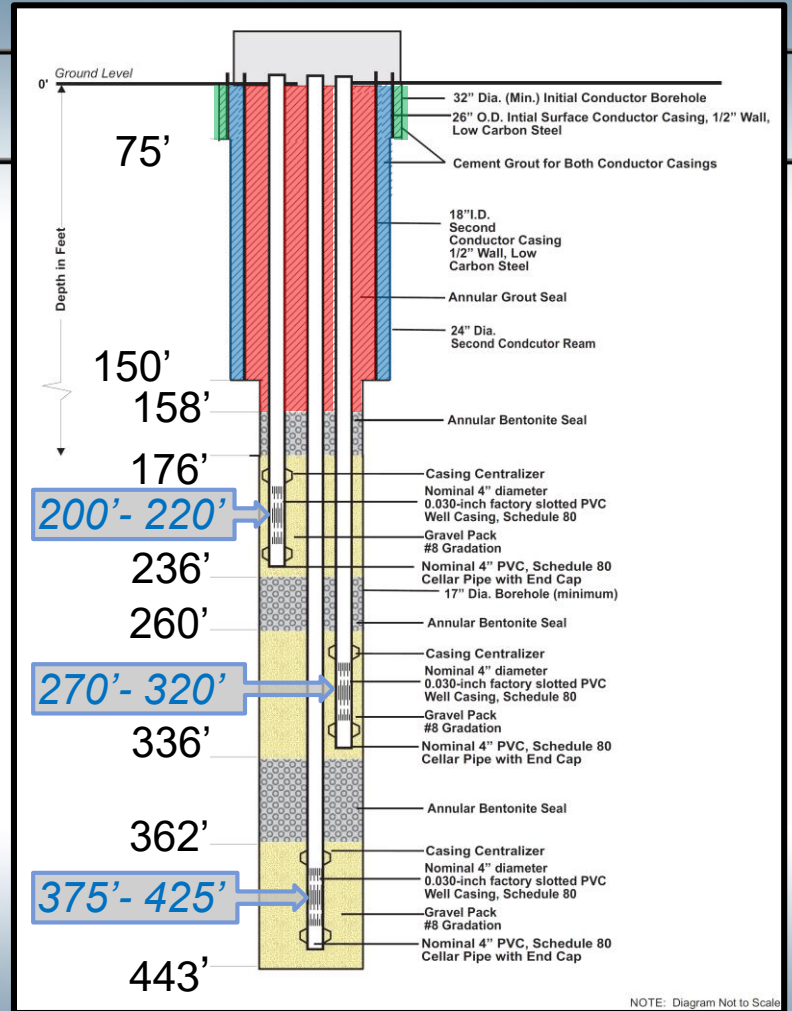
Small site limits well placement options





Nested MW

- Two telescoping conductor casings were cemented in place first
 - Helped to preclude cross contamination from shallow zones while drilling
 - Drilling fluid was cleared from borehole after each conductor was set in place
 - Similar approach used by RCS in a nearby city
- Individual casings are separated by bentonite seals
- Wellhead is below grade





WQ Analyses – Gen Min/Phys

Analyte	Units	Maximum Contaminant Level (MCL)	SPMW-D	SPMW-M	SPMW-S
			375 - 425 ft bgs	270 - 320 ft bgs	200 - 220 ft bgs
			3/22/2022	3/17/2022	3/15/2022
			Reporting to MDL	Reporting to MDL	Reporting to MDL
General Physical Properties					
Specific Conductance	µS/cm	900, 1,600, 2,200 ⁽¹⁾ (S)	1,100	1,200	910
pH	units	6.5 to 8.5 (S)	8.2	8.2	8.2
Apparent Color	ACU	15 (S)	15	ND (< 3.0)	ND (< 3.0)
Odor	TON	3 (S)	1	1	2
Turbidity	NTU	5 (S)	1.2	0.341	0.253
General Mineral Analytes and Others					
Total Dissolved Solids (TDS)	mg/L	500, 1,000, 1,500 ⁽¹⁾ (S)	630	800	550
Total Organic Carbon (TOC)		None	3.4	1.2	4.1
Total Suspended Solids (TSS)		None	ND (< 4.4)	ND (< 4.4)	ND (< 4.4)
Total Hardness as CaCO ₃ (Calculated)		None	220	460	220
Calcium, Total		None	48	100	52
Calcium, Dissolved		None	50	100	50
Magnesium, Total		None	24	50	21
Magnesium, Dissolved		None	25	49	20
Potassium, Total		None	7.3	4.3	4.1
Potassium, Dissolved		None	7.6	4.2	4.0
Sodium, Total		None	140	80	120
Sodium, Dissolved		None	140	80	110
Alkalinity as CaCO ₃		None	330	250	240
Bicarbonate Alkalinity as HCO ₃ (Calculated)		None	400	310	290
Carbonate as CO ₃ (Calculated)		None	3.0	ND (< 2.0)	3.0
Chloride		250, 500, 600 ⁽¹⁾ (S)	140	77	52
Sulfate		250, 500, 600 ⁽¹⁾ (S)	19	290	160
Fluoride		2 (P)	0.37	0.31	0.50
Nitrate as NO ₃ (Calculated)		44.3 (P [Calculated]) (10 as N)	0.41J (H1)	ND (< 0.11)	ND (< 0.044)

D = Deep
M = Middle
S = Shallow



WQ Analyses – Inorganics

Analyte	Units	Maximum Contaminant Level (MCL)	SPMW-D	SPMW-M	SPMW-S	
			375 - 425 ft bgs	270 - 320 ft bgs	200 - 220 ft bgs	
			3/22/2022	3/17/2022	3/15/2022	
			Reporting to MDL	Reporting to MDL	Reporting to MDL	
Antimony, Total	µg/L	6 (P)	0.96J	0.43J	0.17J	
Antimony, Dissolved			0.99J	0.45J	0.17J	
Arsenic, Total		10 (P)		5.8	3.3	5.1
Arsenic, Dissolved				5.6	3.0	5.0
Barium, Total		1,000 (P)		45	160	130
Barium, Dissolved				45	160	130
Boron, Total		1,000 (NL)		360	130	280
Boron, Dissolved				370	130	270
Cadmium, Total		5 (P)		ND (< 0.029)	ND (< 0.029)	ND (< 0.029)
Cadmium, Dissolved				ND (< 0.029)	ND (< 0.029)	ND (< 0.029)
Chlorate		800 (NL)		ND (< 1.3)	ND (< 1.3)	ND (< 1.3)
Chromium, Total		50 (P)		0.93J	0.72J (B4)	ND (< 0.51)
Chromium, Dissolved				0.84J (BM)	0.99J (BM)	ND (< 0.51)
Chromium, Hexavalent		None		ND (< 0.0090)	ND (< 0.0090)	0.028
Copper, Total		1,000 (S) & 1,300 (ACL)		1.6J	0.37J	0.42J
Copper, Dissolved				1.2J	ND (< 0.36)	0.37J
Iron, Total		300 (S)		76	6.2J	44
Iron, Dissolved				44	ND (< 2.6)	24
Lead, Total		15 (ACL)		0.047J	ND (< 0.046)	0.10J
Lead, Dissolved				ND (< 0.046)	ND (< 0.046)	0.11J
Manganese, Total		50 (S) & 500 (NL)		47	38	84
Manganese, Dissolved				48	38	84
Mercury, Dissolved		2 (P)		ND (< 0.020)	ND (< 0.020)	0.020J
Nickel, Total		100 (P)		0.87J	1.9J	0.86J
Nickel, Dissolved				0.88J	1.8J	0.98J
Selenium, Total		50 (P)		1.6J	ND (< 0.26)	ND (< 0.26)
Selenium, Dissolved				1.6J	ND (< 0.26)	ND (< 0.26)

D = Deep
M = Middle
S = Shallow



WQ Analyses – Organics/PFAS

Analyte	Units	Maximum Contaminant Level (MCL)	SPMW-D	SPMW-M	SPMW-S	
			375 - 425 ft bgs	270 - 320 ft bgs	200 - 220 ft bgs	
			3/22/2022	3/17/2022	3/15/2022	
			Reporting to MDL	Reporting to MDL	Reporting to MDL	
1,4-Dioxane	µg/L	1 (NL)	0.034J	ND (< 0.018)	0.037J	
tert-Butyl alcohol (TBA; t-Butyl Alcohol; Tertiary b		12 (NL)	ND (< 0.88)	1.2J	ND (< 0.88)	
Carbon Disulfide		160 (NL)	ND (< 0.085)	ND (< 0.085)	ND (< 0.085)	
Carbon Tetrachloride		0.5 (P)	ND (< 0.087)	ND (< 0.087)	ND (< 0.087)	
Di(2-Ethylhexyl)phthalate (DEHP)		4 (P)	ND (< 0.15; Q5)	ND (< 0.15; BM)	ND (< 0.15)	
N-nitroso-diethylamine (NDEA)		0.01 (NL)	0.0032 (B)	ND (MDL Not Reported; B)	ND (MDL Not Reported; B)	
Toluene		150 (P)	1.0	0.13J	0.69	
Nonhalogenated Organics by 8015/8015B (TPH)		None	60 (see below)	10,010 (see below)	ND (see below)	
Diesel Range Organics (DRO; C13-C22)			ND (< 33)	9,600	ND (< 35)	
Oil Range Organics (ORO; C23-C32)			60 (B)	410	ND (< 35)	
Total Trihalomethanes (THMs)		80 (P)	ND (< 0.062)	ND (< 0.062)	ND (< 0.062)	
Bromodichloromethane		(Total Trihalomethanes)	ND (< 0.12)	ND (< 0.12)	ND (< 0.12)	
Per- and Polyfluorinated Alkyl Substances (PFAS) by EPA 537.1						
N-ethyl Perfluorooctanesulfonamidoacetic acid		µg/L	None	0.00080J	ND (< 0.00042)	ND (< 0.00042)
Perfluorohexanesulfonic acid (PFHxS)	None		0.00084J	ND (< 0.00032)	0.00038J	
Perfluorohexanoic acid (PFHxA)	0.00070J		0.00058J	0.00062J		
Perfluorooctanesulfonic acid (PFOS)	0.0065 (NL)		0.00084J	ND (< 0.00043)	ND (< 0.00043)	

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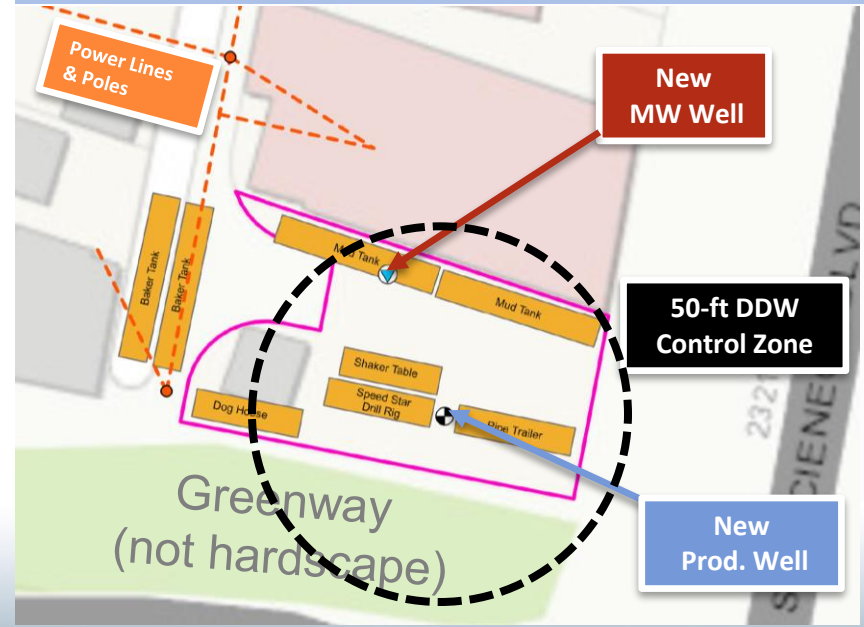


Challenging Construction Layout – 2 wells

Current Site Status



Possible Construction Layout



50-ft control zone extends outside of the property boundaries onto Cal-Trans greenway



Sand Pit Site Update Summary

- A three-completion nested monitoring well was constructed and sampled in March 2022
- General minerals/physical and metals detected at expected concentrations
- Various “J-Flag” organics and PFAS detections in all zones
- TPH detections in middle and deep zones



Sand Pit Site Update Summary

- Future production well has one feasible location onsite - cannot be moved
- 50-foot control zone extends outside of property boundary



Sand Pit Site Options

- Option 1: Do nothing; Abandon the site
- Option 2: Conduct WQ analyses periodically to determine extent of WQ constituents
 - Met with DDW on August 9, 2022 for input
 - Develop WQ baseline for DDW & pre-treatment



Planned Future Work

- Perform additional sampling of Nested MW immediately (3 months after construction) and again in an additional 3 months, 6 months, and 9 months).
- Monitor water levels for changes over time
 - (transducer equipment to be installed this month)



City of Beverly Hills

La Cienega Park Wells



La Cienega Park Wells

- IWRMP GW projects identified to increase local supply
- Two shallow GW wells in the La Brea Subarea underlying City-owned La Cienega Park
- Lower yielding wells (200 to 300 gpm) with similar water quality to LCW-1
- Reviewing design proposal & final SOW by staff



Questions?



Site Photo for Reference

