



**Former Fort Ord
Monterey County
California**

Groundwater Cleanup Update
February 2024

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Ahtna

Definitions

ACL – Aquifer Cleanup Level, the cleanup goal for a COC in groundwater

Aquifer – a body of rock or soil that is sufficiently permeable for groundwater to flow and serve as a water source

Aquitard – a body of less permeable rock or soil between aquifers that retards the flow of water between the aquifers

COC – chemical of concern

CT – carbon tetrachloride, primary COC at OUCTP

Groundwater – all water under the ground, not water on the surface (rivers, lakes, etc.)

Groundwater Divide – a boundary between groundwater basins; groundwater flows away from a groundwater divide

MNA – monitored natural attenuation

OU – Operable Unit, discrete portion of remedial response that manages migration, or eliminates or mitigates a pathway of exposure

PCE – tetrachloroethene, primary COC at Sites 2/12

Plume – area of aquifer or unsaturated zone in which COCs are present at concentrations greater than cleanup levels

SGCL – Soil Gas Cleanup Level, the cleanup goal for a COC in soil gas

TCE – trichloroethene, primary COC at OU2

Unsaturated Zone – the portion of the subsurface above the water table

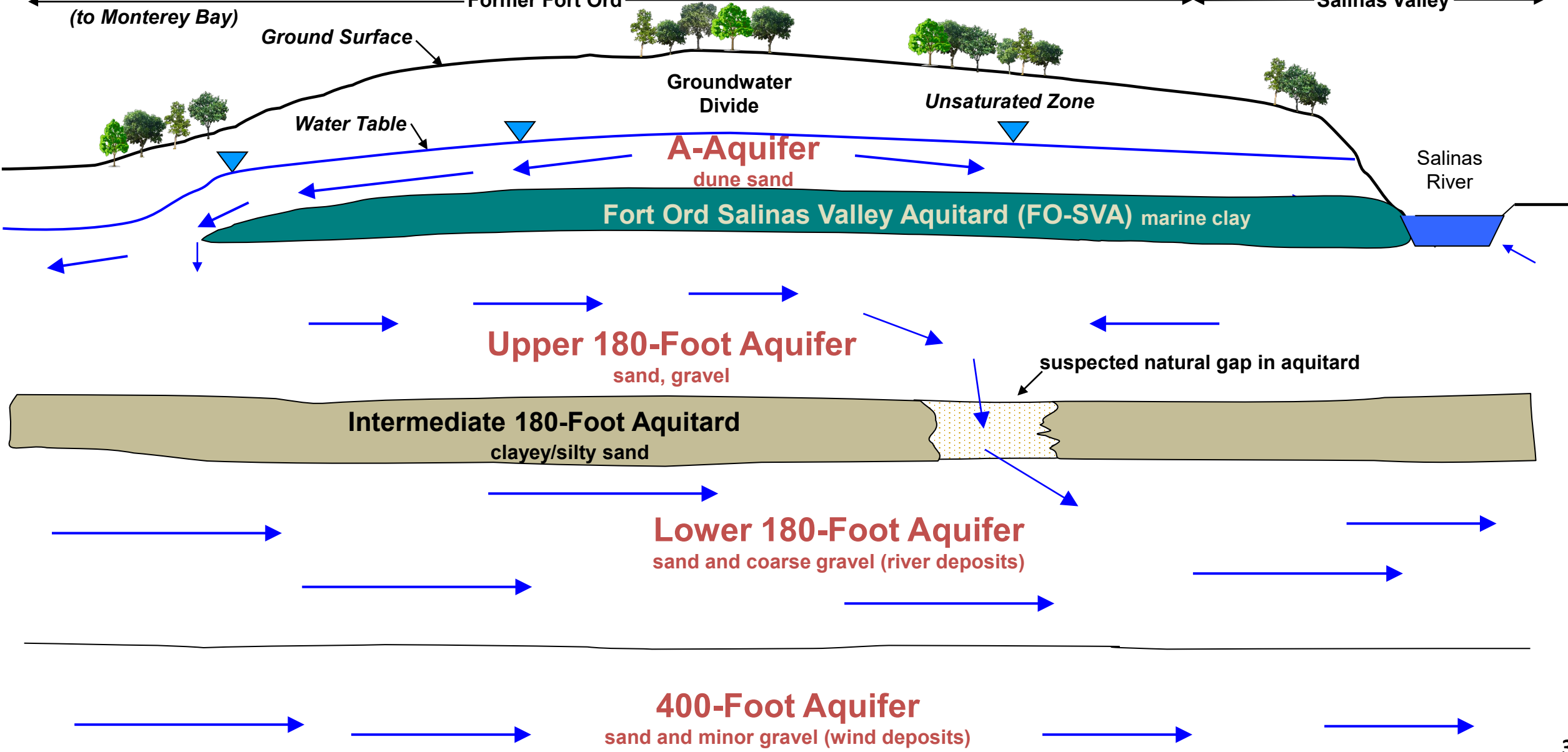
Water Table – depth below ground surface at which groundwater is found (at the top of the saturated zone)

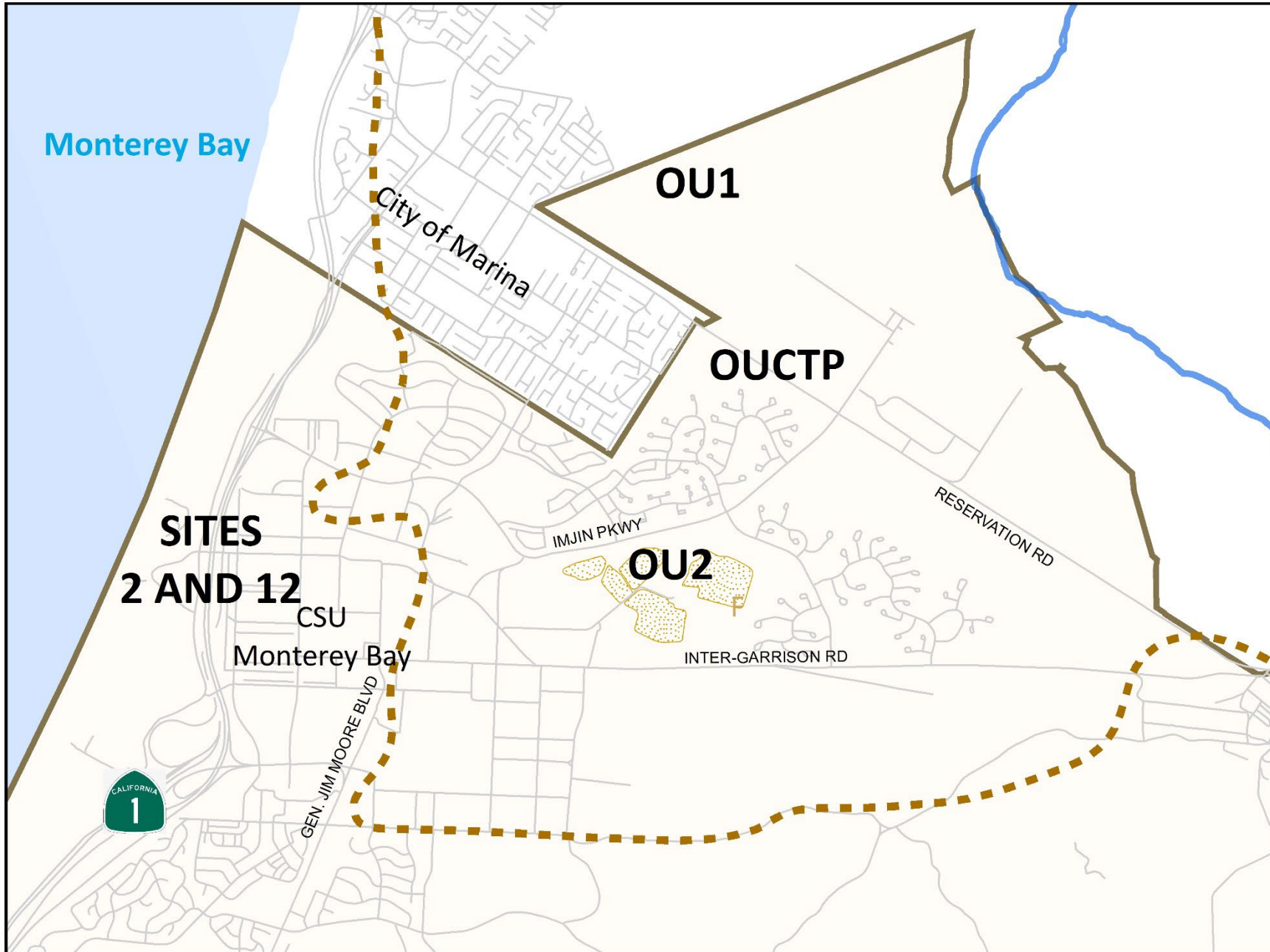


Interpretive Geologic Cross Section






for northern Fort Ord

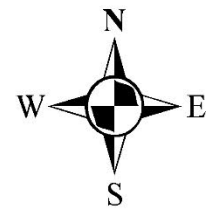
West (to Monterey Bay) Former Fort Ord Salinas Valley East





EXPLANATION

-  Approximate edge of the Fort Ord-Salinas Valley Aquitard (FO-SVA)
-  Roads
-  Approximate extent of landfill areas (Areas B through F)
-  Salinas River
-  Former Fort Ord boundary

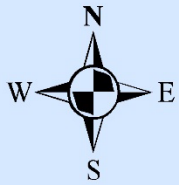


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Date: 1/24/2024

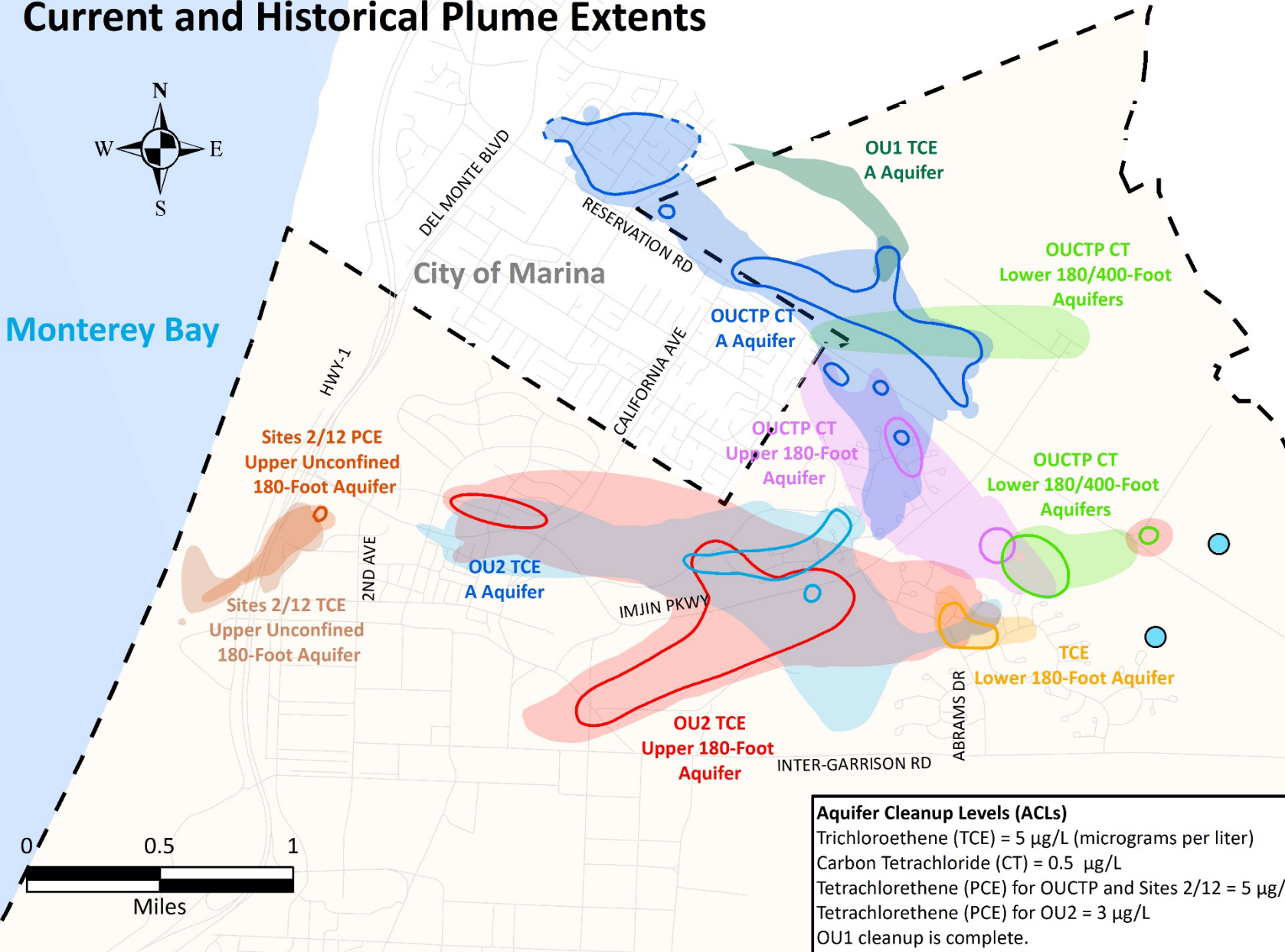


Current and Historical Plume Extents



Monterey Bay

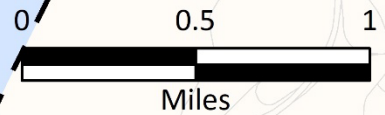
City of Marina



EXPLANATION

- MCWD Production well Well
- Former Fort Ord Boundary
- September 2023 Plume Extent "Current"**
- OU2 TCE A-Aquifer
- OU2 TCE Upper 180-Foot Aquifer
- OUCTP CT A-Aquifer
- OUCTP CT Upper 180-Foot Aquifer
- OUCTP CT Lower 180/400-Foot Aquifers
- Site 12 PCE Upper 180-Foot Unconfined Aquifer
- TCE Lower 180-Foot Aquifer
- Maximum Historical Plume Extent "Before"**
- OU1 A-Aquifer (TCE)
- OU2 A-Aquifer (TCE)
- OU2-Upper 180-Foot Aquifer (TCE)
- OUCTP A-Aquifer (CT)
- OUCTP Upper-180-Foot Aquifer (CT)
- OUCTP Lower 180/400-Foot Aquifers (CT)
- TCE Lower 180-Foot Aquifer
- Sites 212 Unconfined Upper 180-Foot Aquifer (PCE)
- Sites 212 Unconfined Upper 180-Foot Aquifer (TCE)

Aquifer Cleanup Levels (ACLs)
 Trichloroethene (TCE) = 5 µg/L (micrograms per liter)
 Carbon Tetrachloride (CT) = 0.5 µg/L
 Tetrachlorethene (PCE) for OUCTP and Sites 2/12 = 5 µg/L
 Tetrachlorethene (PCE) for OU2 = 3 µg/L
 OU1 cleanup is complete.



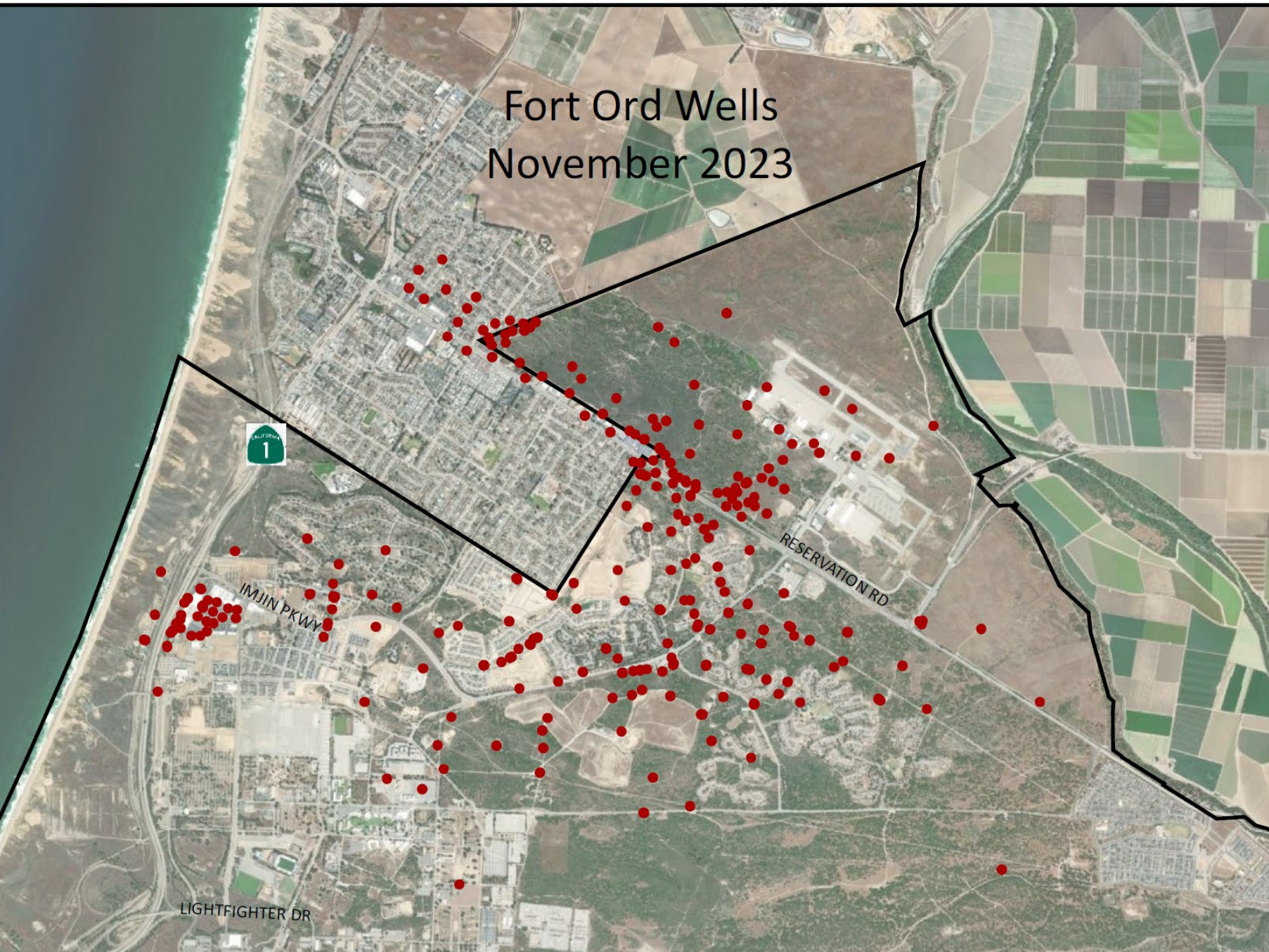
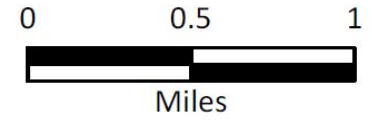
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Fort Ord Wells November 2023

EXPLANATION

- Groundwater Monitoring Wells
- ⊕ Former Fort Ord Boundary

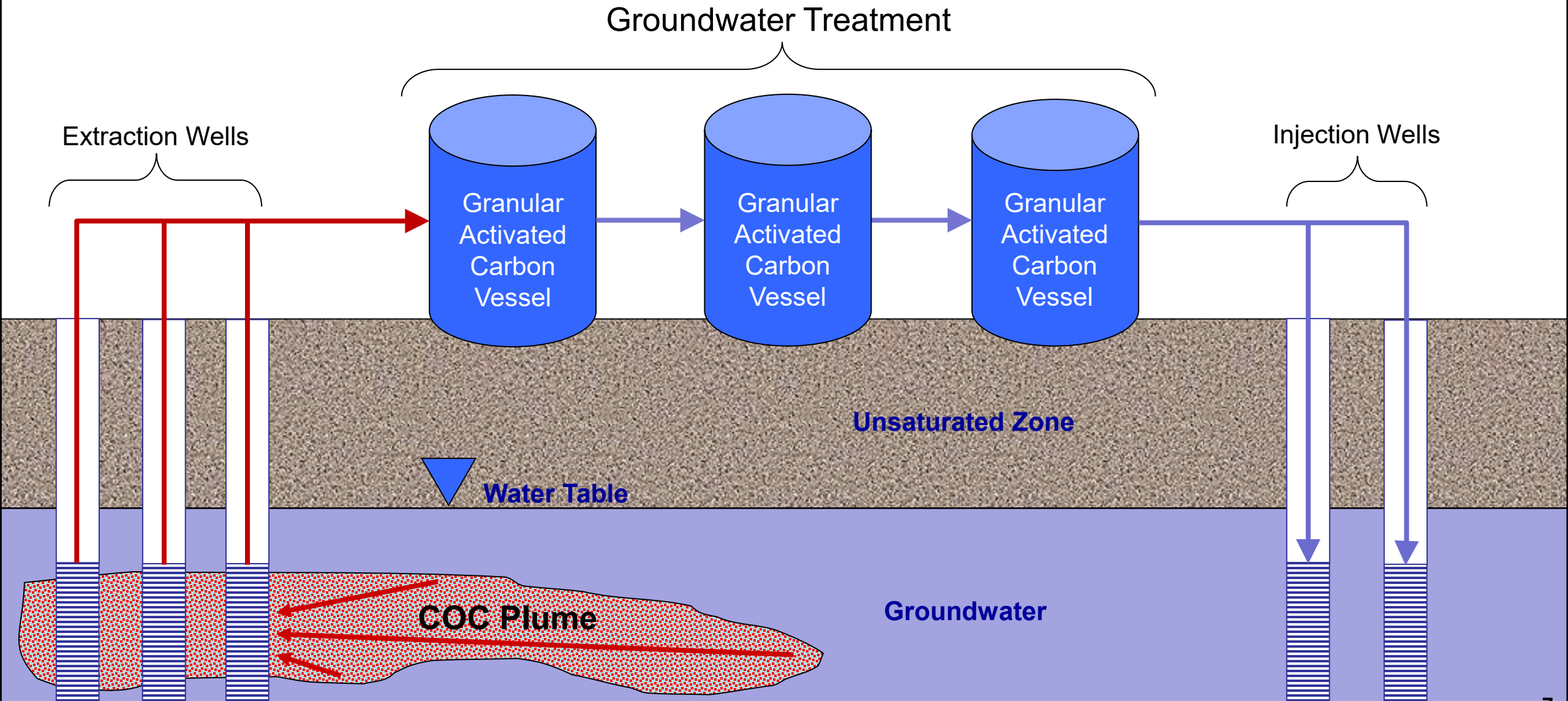


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Groundwater Extraction and Treatment Systems Schematic



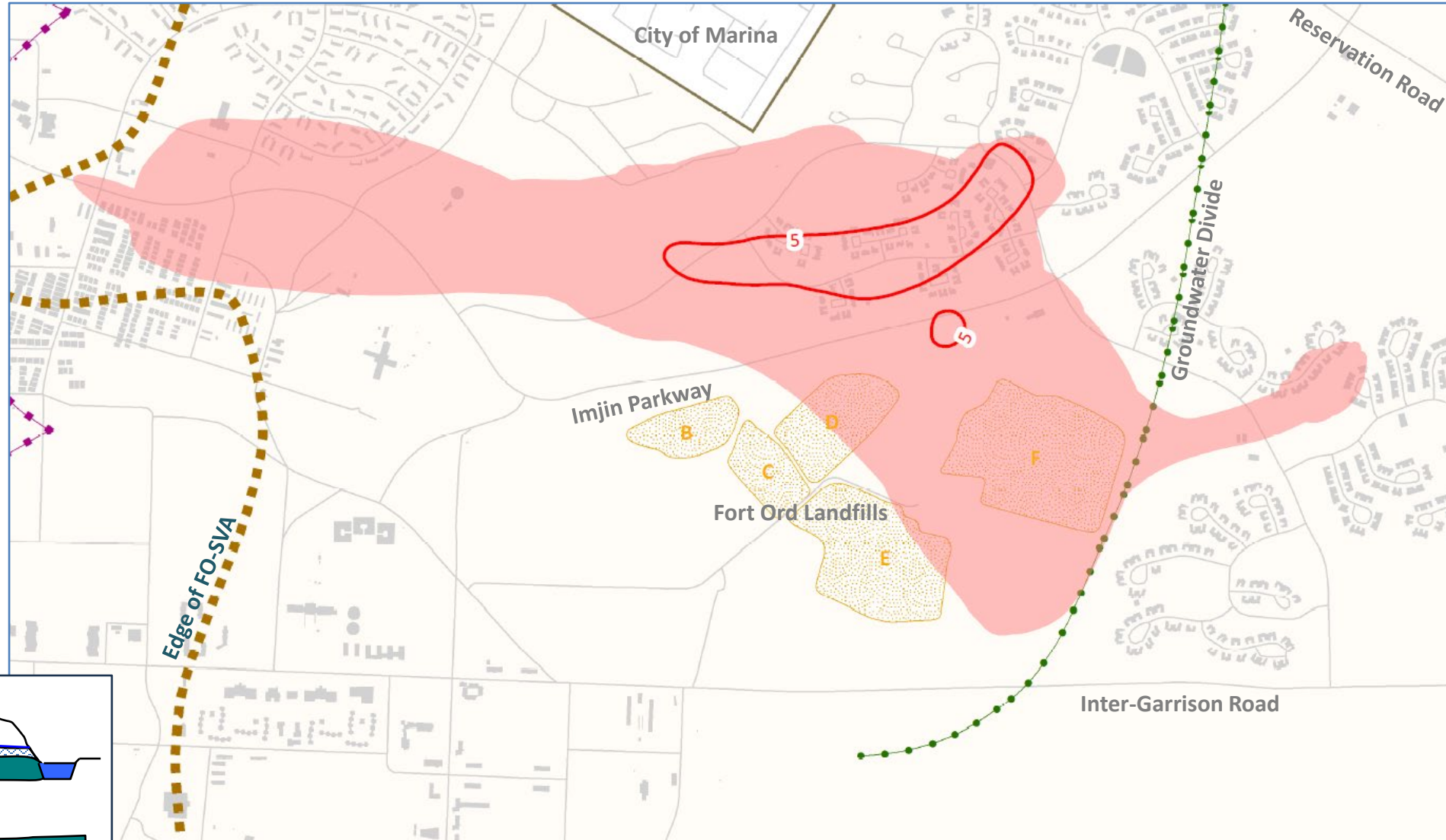
Groundwater Extraction and Treatment System Status

as of December 31, 2023

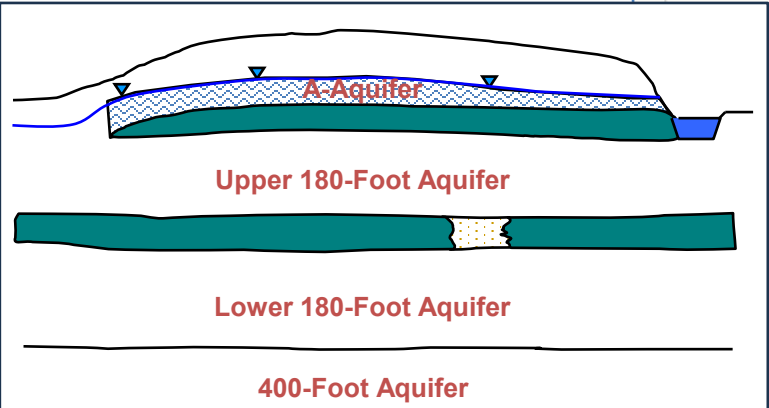
	OU2/OUCTP*	Sites 2/12
Treatment started	October 1995	April 1999
Gallons treated	9.827 billion	2.354 billion
Pounds of contaminants removed	981	498
Gallons of contaminants removed	77	39
Aquifers treated	A-Aquifer Upper 180-Foot Aquifer	Upper 180-Foot Aquifer

*The OUCTP remedy for the Upper 180-Foot Aquifer is connected to the OU2 groundwater treatment plant.

OU2 A-Aquifer



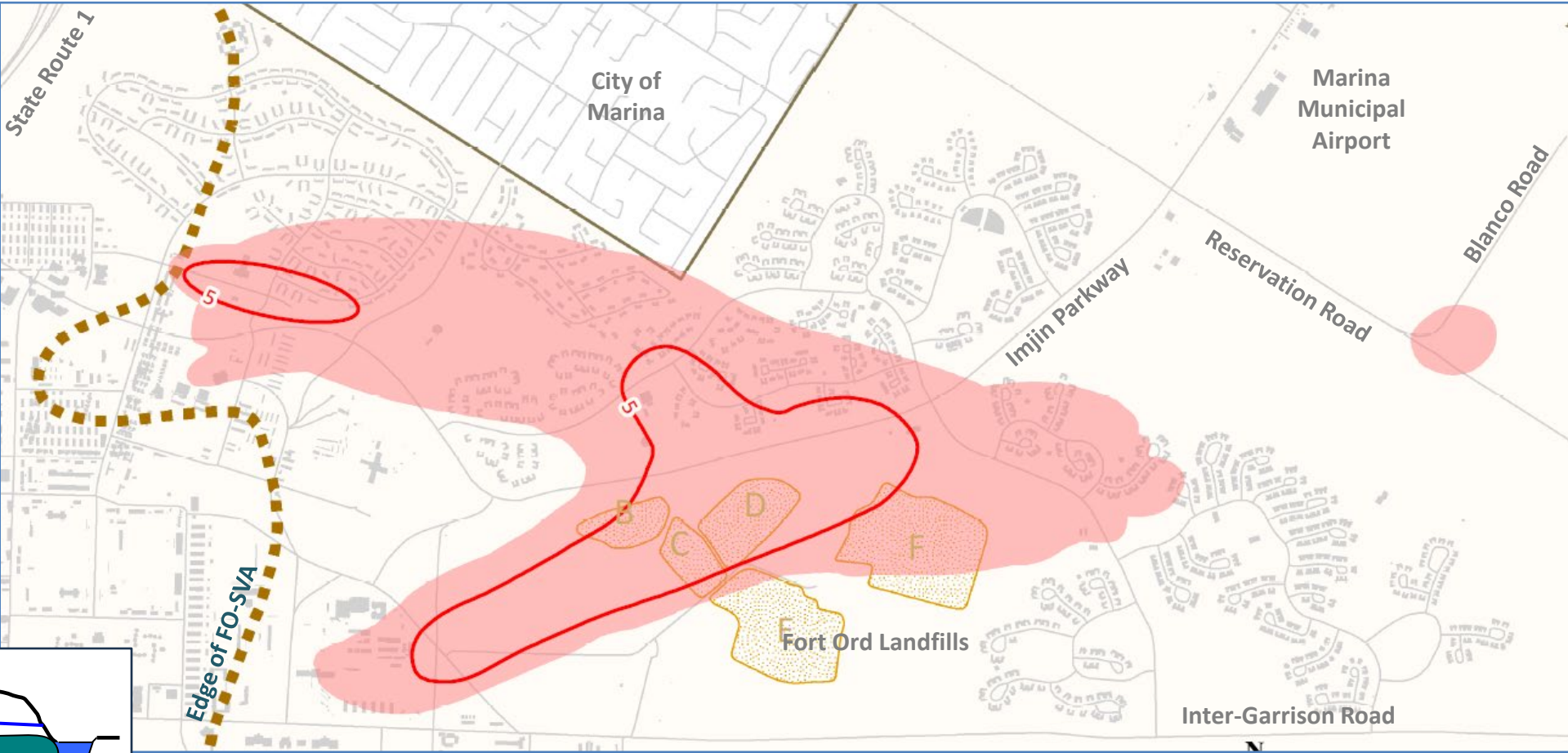
Remedy: Groundwater Extraction and Treatment 1995 to present



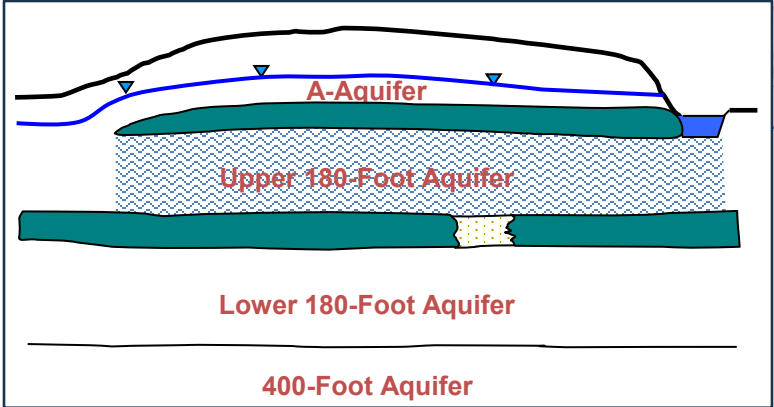
Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

- 5 — 3Q2023 Trichloroethene (TCE) plume extent
- 5 — Historical maximum TCE plume extent

OU2 Upper 180-Foot Aquifer



Remedy: Groundwater Extraction and Treatment
1995 to present



Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

- 5 — 3Q2023 Trichloroethene (TCE) plume extent
- 5 — Historical maximum TCE plume extent

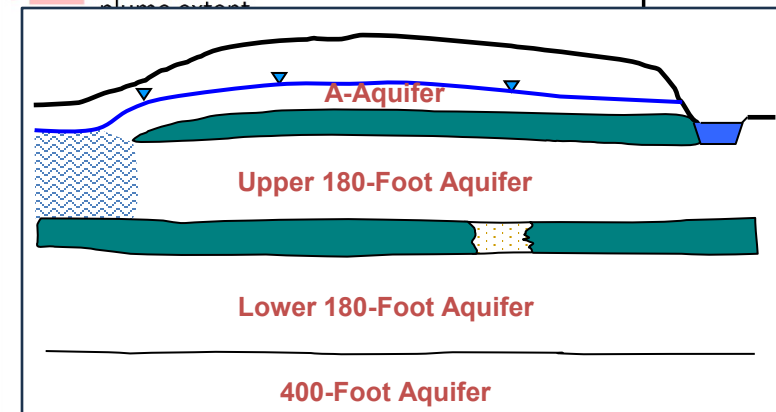
Sites 2 and 12 Upper 180-Foot Aquifer

Remedy: Groundwater
Extraction and Treatment
1999 to present



EXPLANATION

- Roads
 - Facilities
 - - - Approximate edge of Fort Ord - Salinas Valley Aquitard (FO-SVA)
 - ▭ Former Fort Ord boundary
- Chemicals of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in micrograms per liter ($\mu\text{g/L}$).**
- 5 3Q2023 tetrachloroethene (PCE) plume extent
 - 5 Historical maximum PCE plume extent
 - 5 Historical maximum trichloroethene (TCE) plume extent

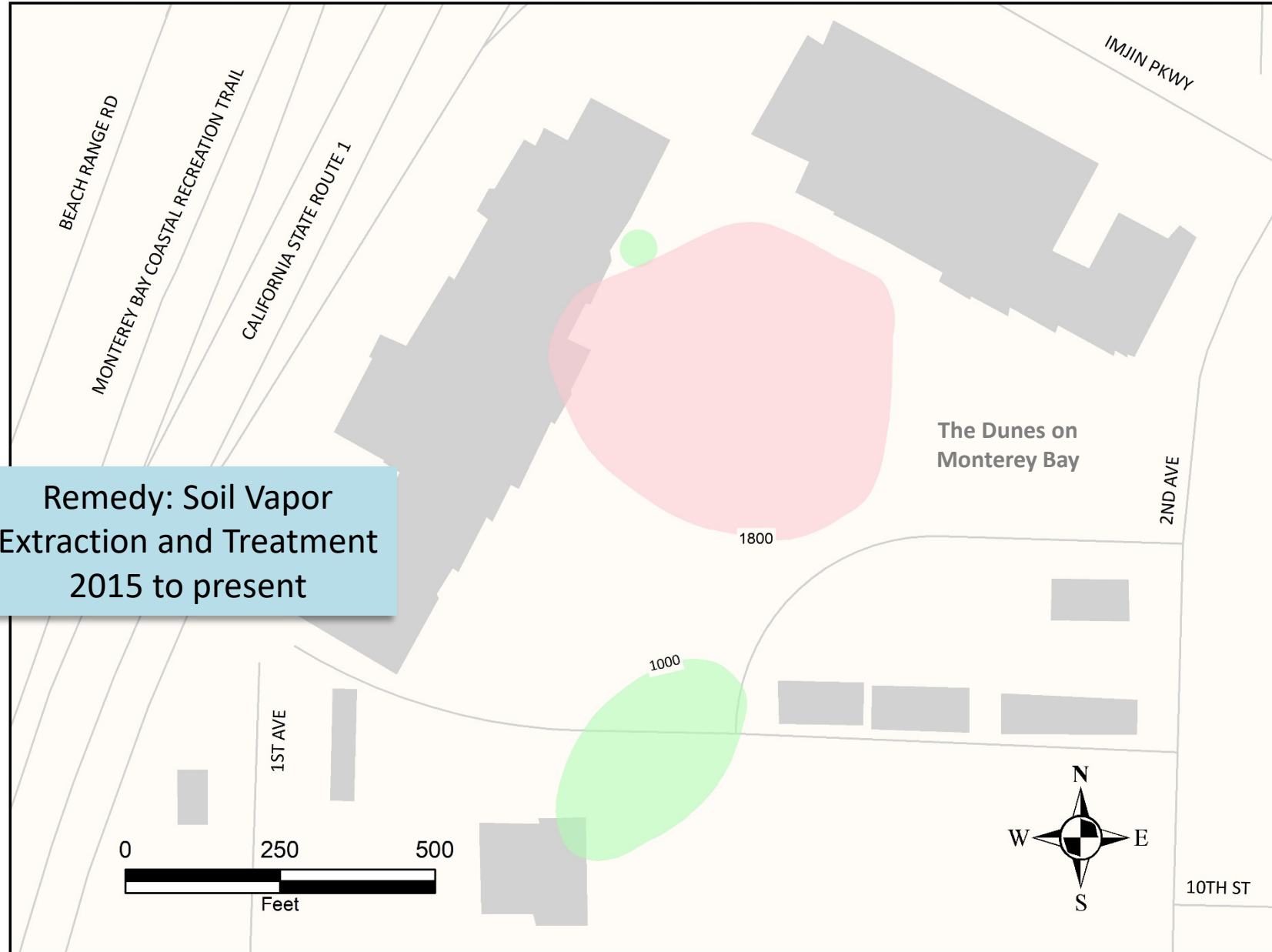


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Sites 2 and 12 Unsaturated Zone



Remedy: Soil Vapor Extraction and Treatment 2015 to present

EXPLANATION

- Roads
- Facilities

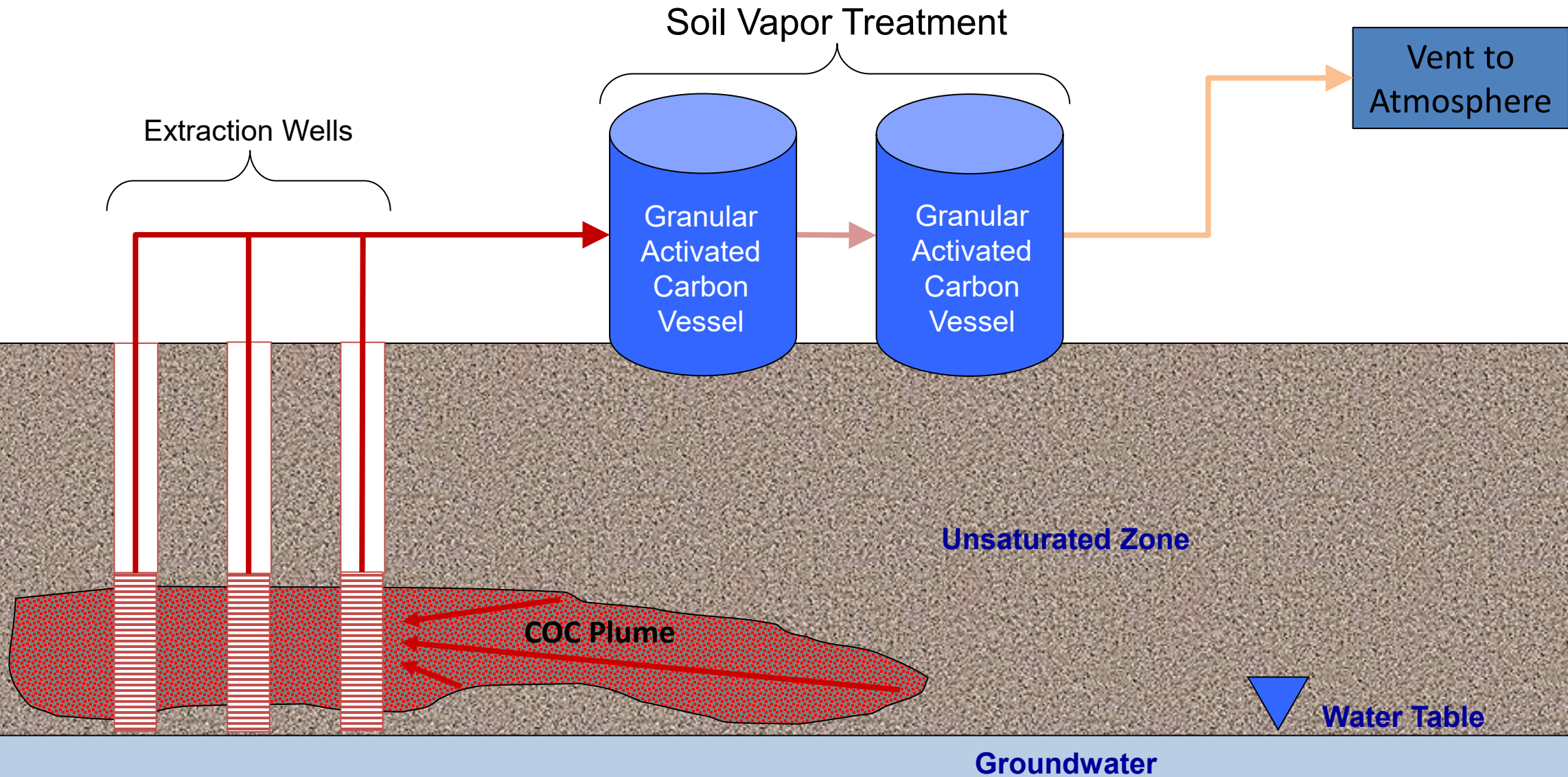
Chemicals of Concern (COC) Soil Gas Cleanup Level (SGCL) Exceedance Contours in micrograms per cubic meter (µg/m³).

- 1,800 ■ Historical maximum tetrachloroethene (PCE) plume extent
- 1,000 ■ Historical maximum trichloroethene (TCE) plume extent

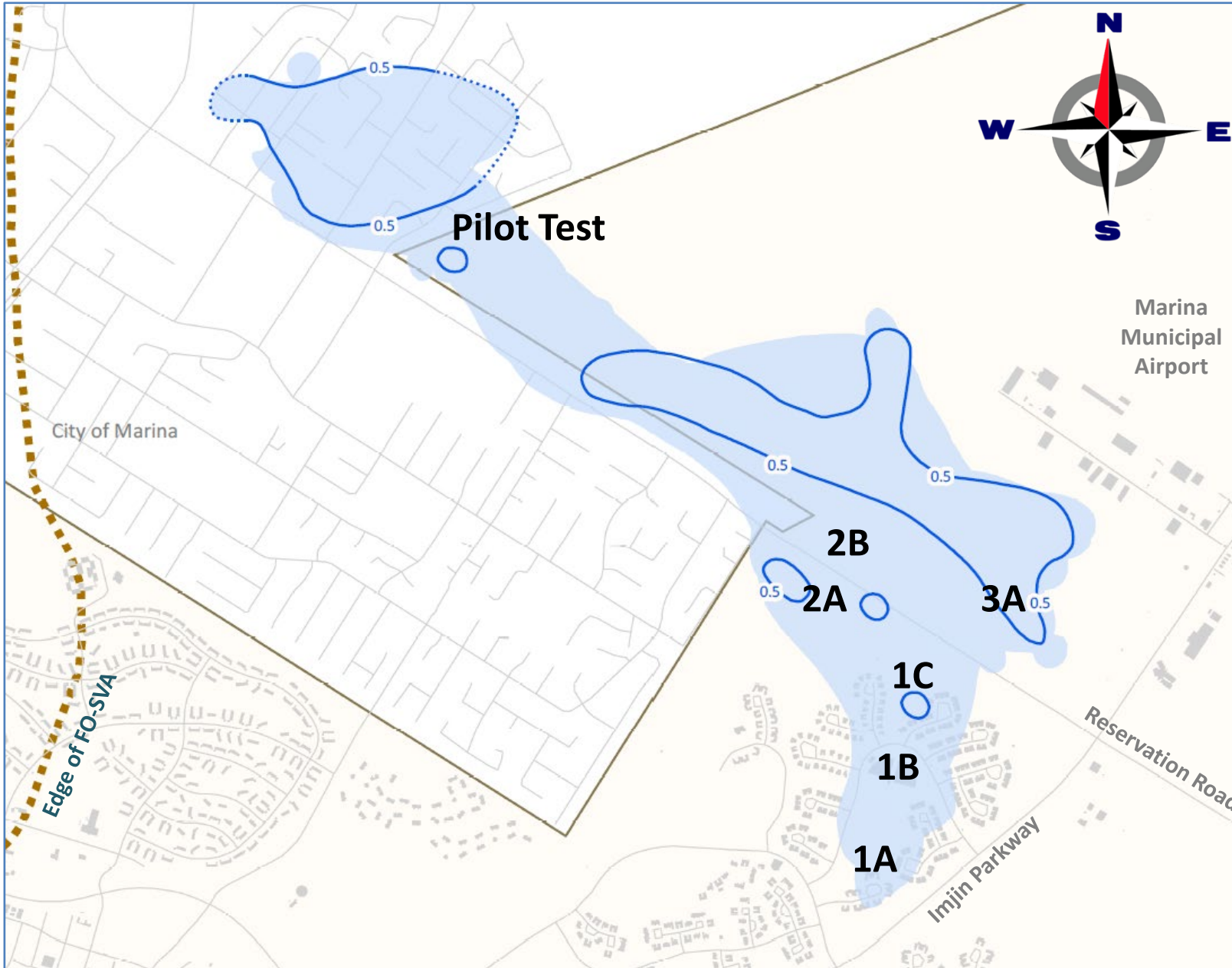
The diagram shows a cross-section of the subsurface. From top to bottom, the layers are: Unsaturated Zone (indicated by a blue line with downward arrows), A-Aquifer (a thin blue layer), Upper 180-Foot Aquifer (a thick green layer), Lower 180-Foot Aquifer (a thick green layer with a white stippled area), and 400-Foot Aquifer (a thick white layer).

	Date: 1/31/2024	
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Soil Vapor Extraction and Treatment System Schematic



OUCTP A-Aquifer



Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

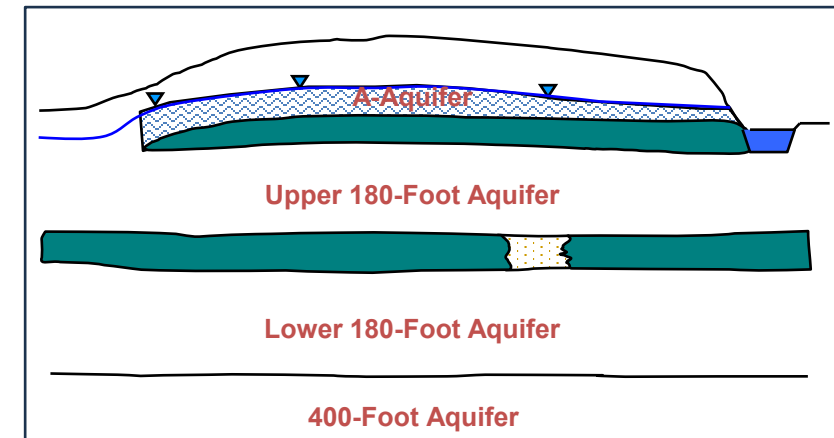
0.5 — 3Q2023 Carbon tetrachloride (CT) plume extent

0.5 ···· 3Q2023 estimated CT plume extent

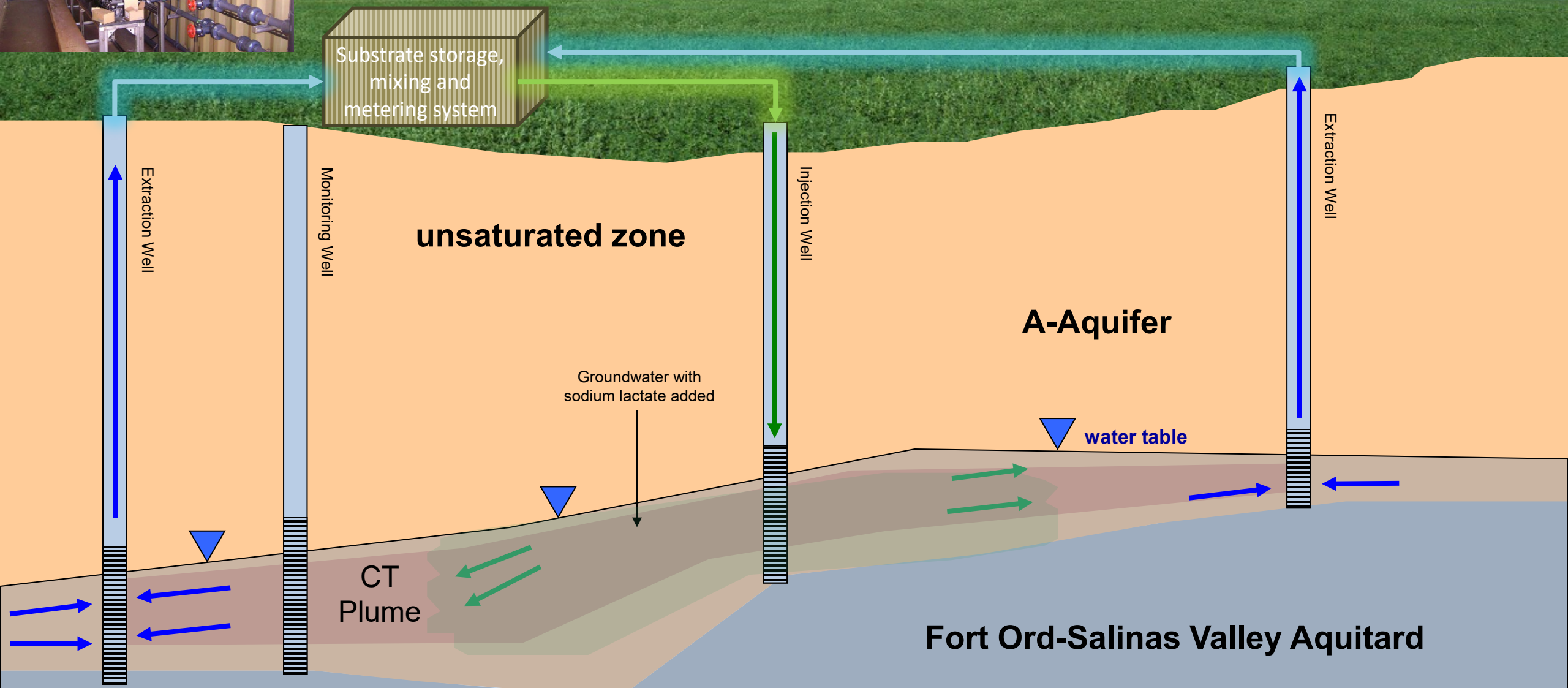
0.5 ■ Historical maximum CT plume extent

1B EISB deployment area

Remedy: Enhanced *In Situ* Bioremediation (EISB) 2008 to present



Enhanced *In Situ* Bioremediation System Schematic



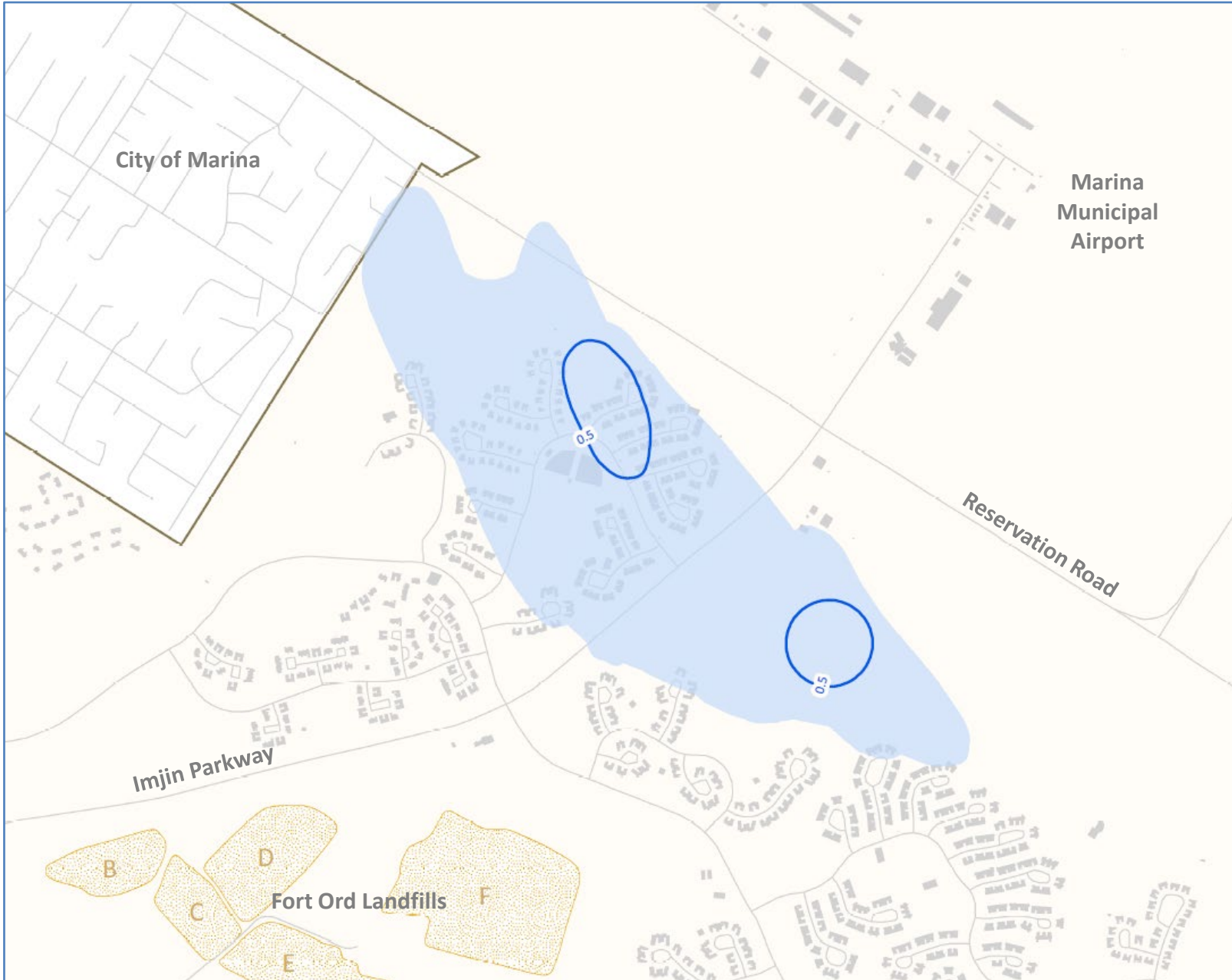
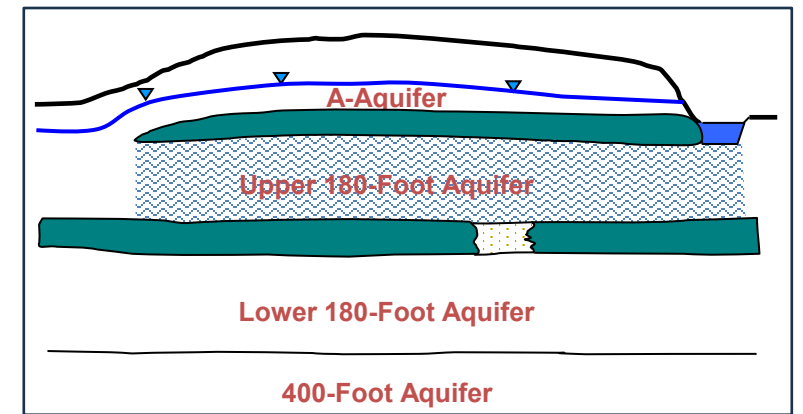
OUCTP Upper 180-Foot Aquifer

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) exceedance contour in $\mu\text{g/L}$.

- 0.5 — 3Q223 Carbon tetrachloride (CT) plume extent
- 0.5 — Historical maximum CT plume extent



Remedy: Groundwater Extraction and Treatment 2011 to present



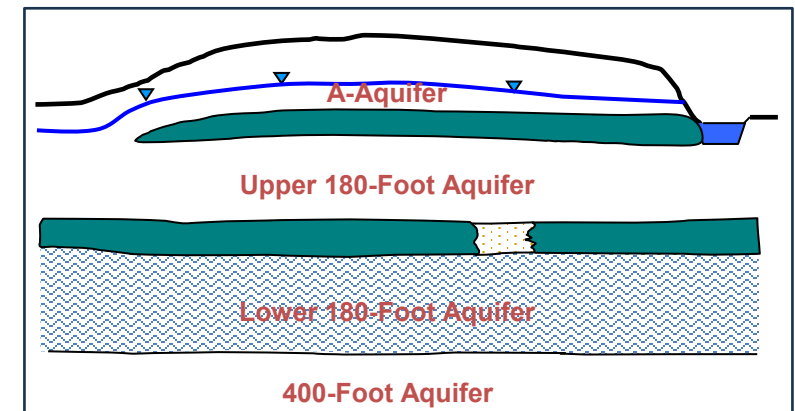
OUCTP Lower 180-Foot Aquifer

Chemical of Concern (COC) Aquifer Cleanup Level (ACL)
Exceedance Contours in $\mu\text{g/L}$.

- 0.5 — 3Q2023 Carbon tetrachloride (CT) plume extent
- 5.0 — 3Q2023 Trichloroethane (TCE) plume extent
- 0.5 — Historical maximum CT plume extent
- 5.0 — Historical maximum TCE plume extent



Remedy: Monitored Natural Attenuation (MNA)
2010 to present



For Additional Information

Visit the Army's website at:
www.fortordcleanup.com

Visit the Fort Ord Administrative Record at:
Building 4463 Gigling Road, Room 101
Ord Military Community
Seaside CA 93955
(831) 393-9693
adminrecord@fortordcleanup.com

Visit the MCWD website at:

www.mcwd.org

2022 Consumer Confidence Report is available at:

https://www.mcwd.org/docs/ccr/2022/mcwd_ccr_2022.pdf

