



PFAS- Summary of the Site Investigation Sampling

Former Naval Weapons Station Seal Beach Detachment Concord

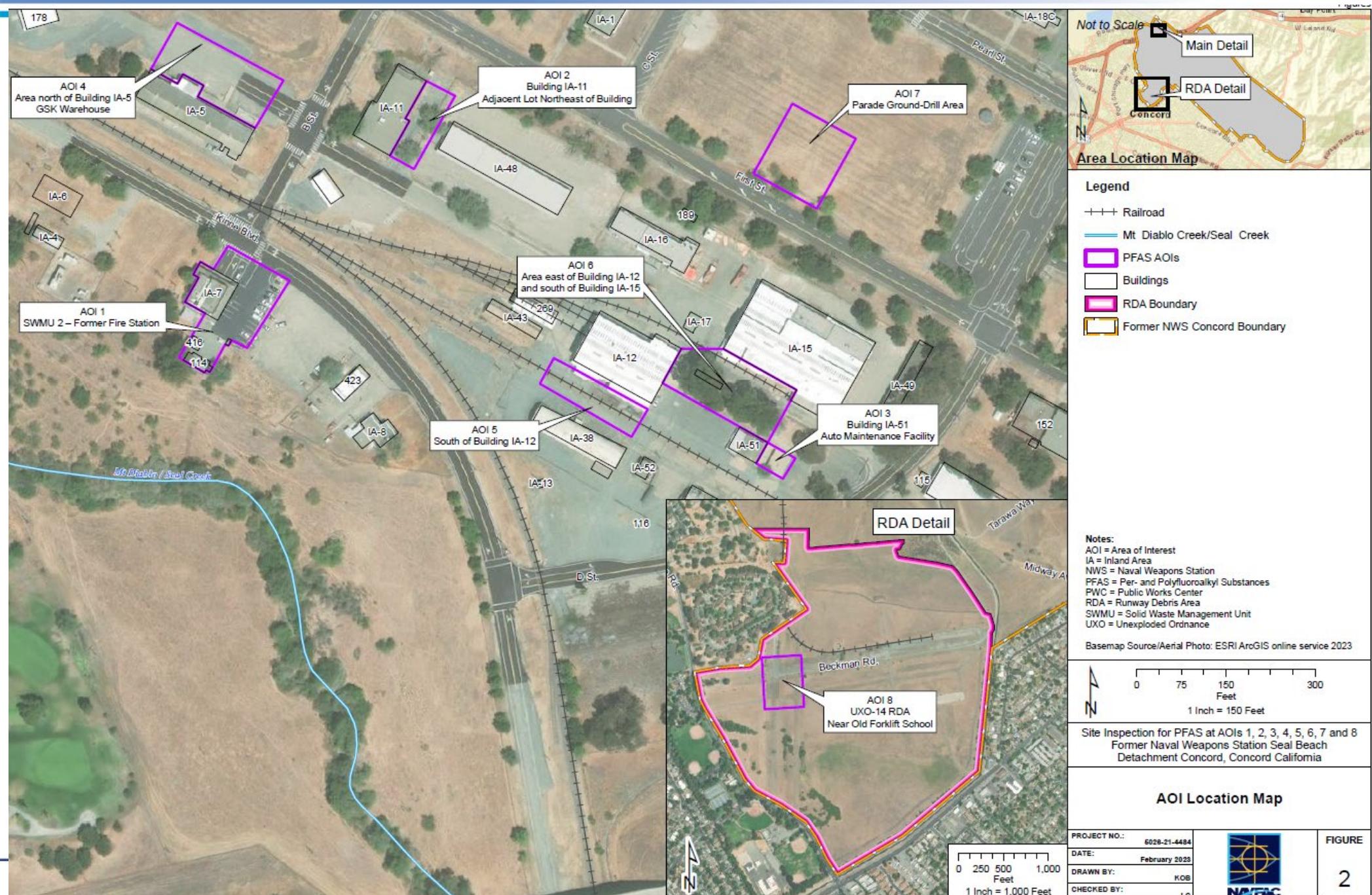
May 24, 2023

Agenda



- Introduction to Investigation Areas
- Summary of Site Inspection (SI) Fieldwork during August 2022
- Summary of Soil and Groundwater Results at each Area of Interest (AOI) and Recommendations
- Questions

Investigation Area Map



SI Field Summary

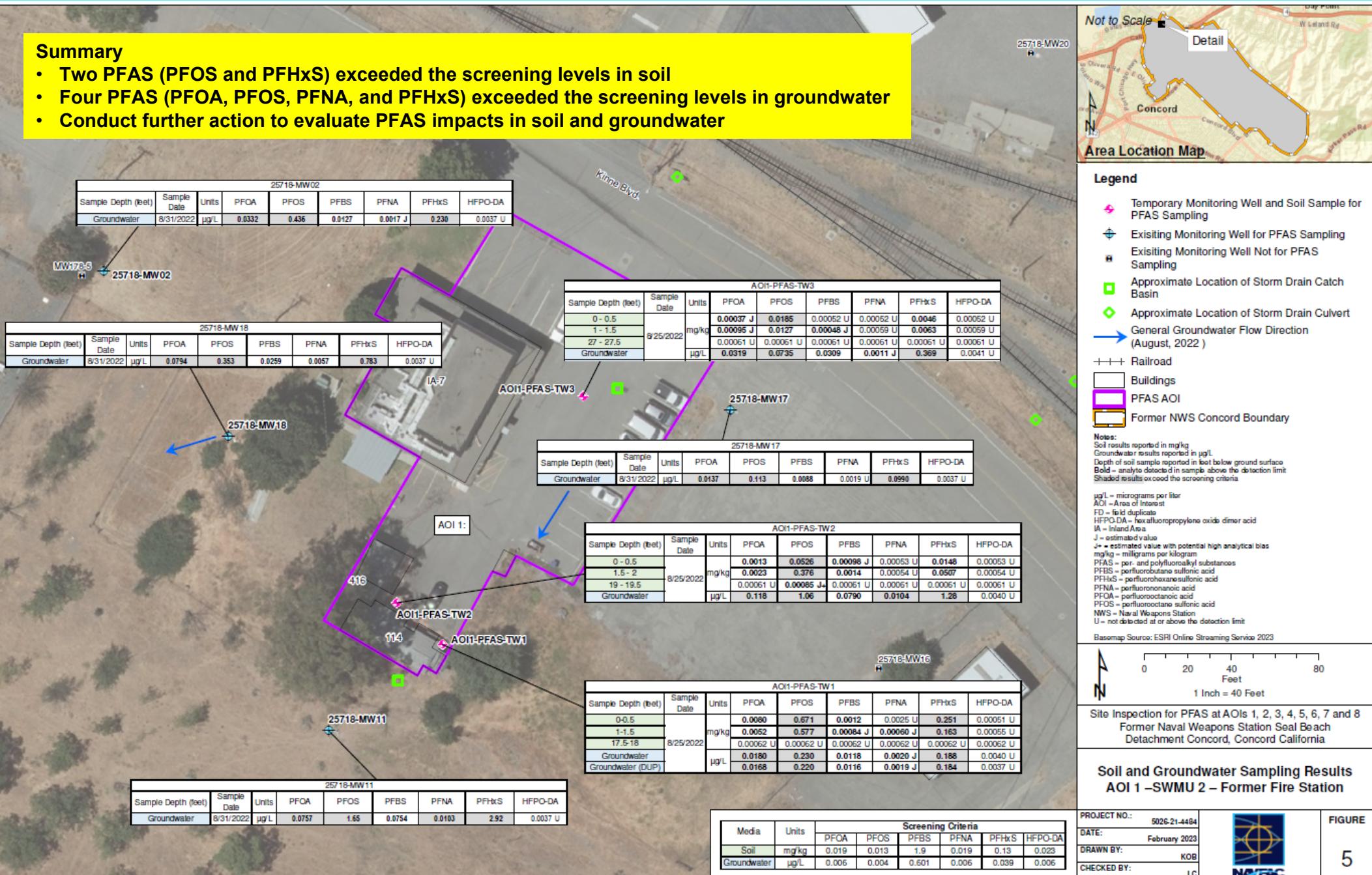
- SI Sampling and Analysis Plan (SAP) was finalized on March 7, 2022, and distributed to the stakeholders
- Fieldwork mobilization on August 16, 2022, to mark and clear sample locations, receive equipment, and collect media samples
- Sampling occurred between August 23 and September 8, 2022:
 - Biological monitoring was performed at the 8 AOIs
 - 79 soil samples were collected in surface (25) and subsurface (54) soils
 - 25 grab groundwater samples were collected from temporary wells
 - 7 groundwater samples were collected from existing wells near selected AOIs
 - All samples were analyzed by our lab, SGS North America, using the approved method in the Final SAP

AOI 1 PFAS Results



Summary

- Two PFAS (PFOS and PFHxS) exceeded the screening levels in soil
- Four PFAS (PFOA, PFOS, PFBS, and PFNA) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in soil and groundwater



AOI 2 PFAS Results

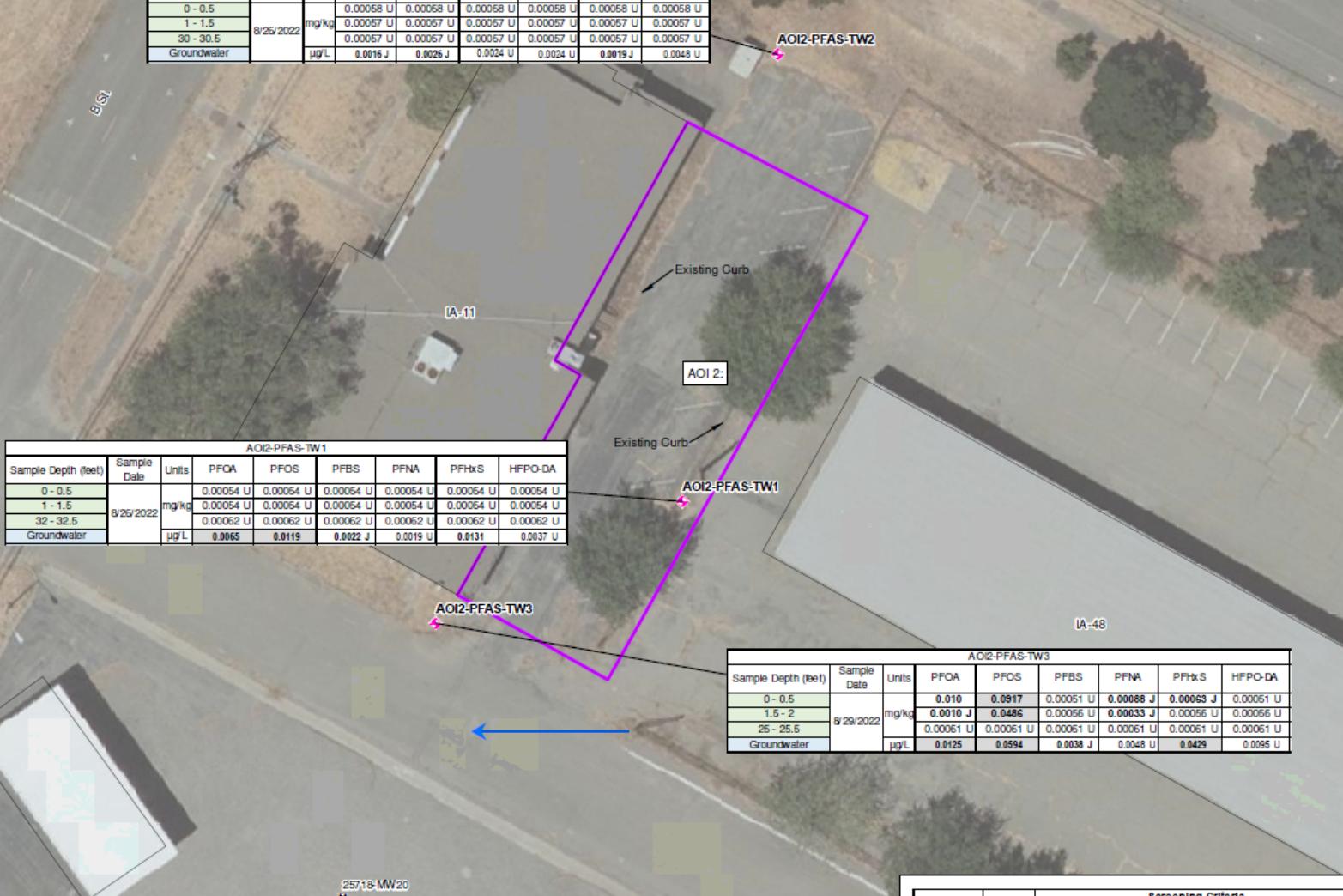


Summary

- One PFAS (PFOS) exceeded the screening levels in soil
- Three PFAS (PFOA, PFOS, and PFHxS) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in soil and groundwater

Sample Depth (feet)	Sample Date	Units	PFOA	PFOS	PFBS	PFNA	PFHxS	HFPO-DA
0 - 0.5		mg/kg	0.00058 U					
1 - 1.5	8/26/2022	mg/kg	0.00057 U					
30 - 30.5		mg/kg	0.00057 U					
Groundwater		µg/L	0.0016 J	0.0026 J	0.0024 U	0.0024 U	0.0019 J	0.0048 U

AOI2-PFAS-TW2



Legend

- Temporary Monitoring Well and Soil Sample for PFAS Sampling
- Existing Monitoring Well Not for PFAS Sampling
- General Groundwater Flow Direction (OTIE, 2018)
- Buildings
- PFAS AOI
- Former NWS Concord Boundary

Notes:
 Soil results reported in mg/kg
 Groundwater results reported in µg/L
 Depth of soil sample reported in feet below ground surface
 Bold = analyte detected in sample above the detection limit
 Shaded results exceed the screening criteria

µg/L = micrograms per liter
 AOI = Area of Interest
 HFPO-DA = hexafluoropropylene oxide dimer acid
 U = Inland Air
 J = estimated value
 mg/kg = milligrams per kilogram
 PFAS = per- and polyfluorinated substances
 PFBS = perfluorobutane sulfonic acid
 PFHxS = perfluorohexamersulfonic acid
 PFNA = perfluorononanoic acid
 PFOA = perfluorooctanoic acid
 PFOS = perfluorooctane sulfonic acid
 NWS = Naval Weapons Station
 U = not detected at or above the detection limit

0 15 30 60
1 Inch = 30 Feet

Site Inspection for PFAS at AOIs 1, 2, 3, 4, 5, 6, 7 and 8
 Former Naval Weapons Station Seal Beach
 Detachment Concord, Concord California

Soil and Groundwater Sampling Results
 AOI 2 – Building IA-11
 Adjacent Lot Northeast of Building

PROJECT NO.: 6028-21-4484

DATE: February 2023

DRAWN BY: KOB

CHECKED BY: LC



FIGURE

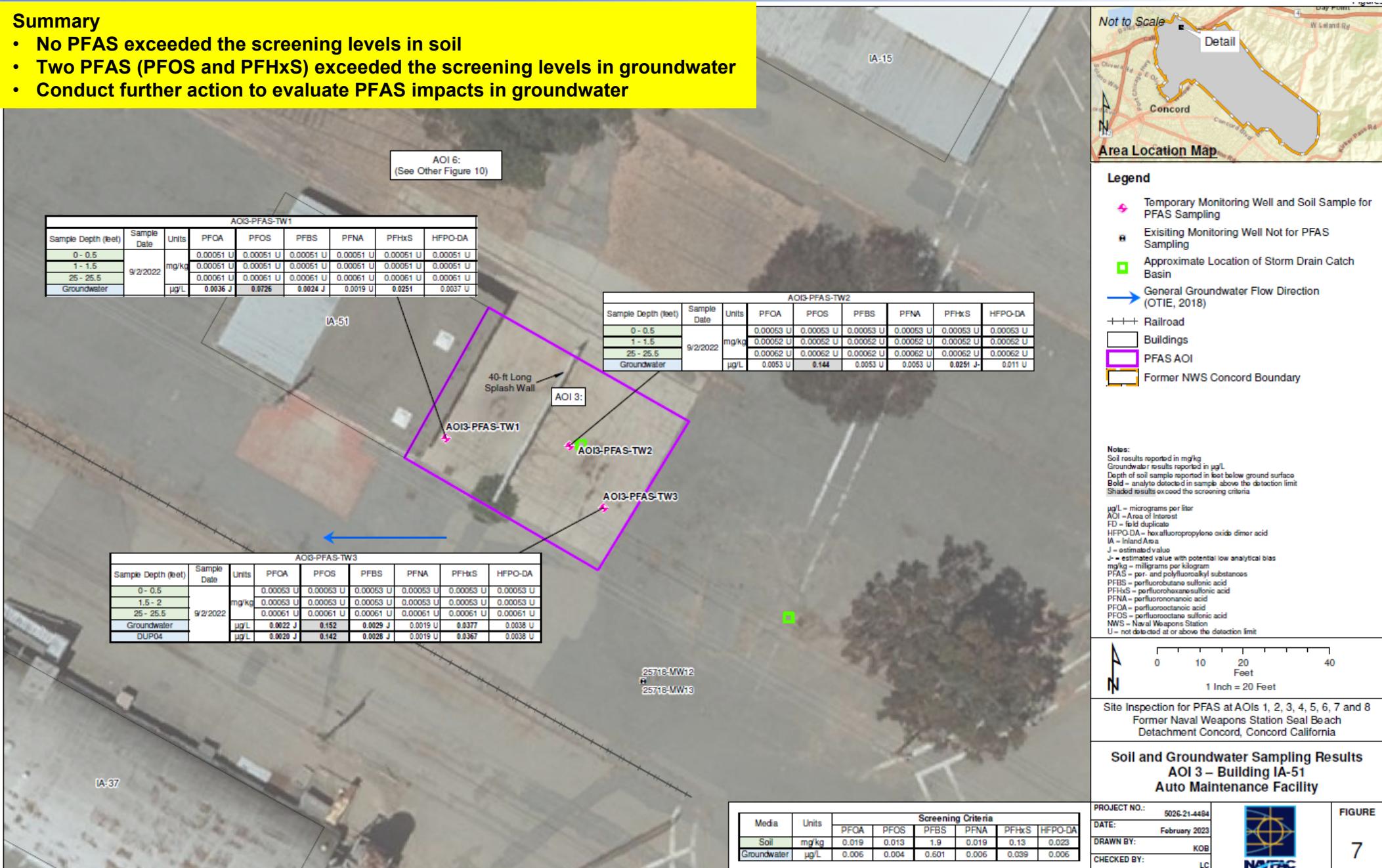
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AOI 3 PFAS Results



Summary

- No PFAS exceeded the screening levels in soil
- Two PFAS (PFOS and PFHxS) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in groundwater



AOI 4 PFAS Results



Reference:
Oneida Total Integrated Enterprises (OTIE), 2018, Final Remedial Action Completion Report Solid Waste Management Units 2, 5, 7 And 18 Inland Area Former Naval Weapons Station Seal Beach Detachment Concord, California. December.
Basemap Source: ESRI Online Streaming Service 2023

AOI4-PFAS-TW2								
Sample Depth (feet)	Sample Date	Units	PFOA	PFOS	PFBS	PFNA	PFHxS	HFPO-DA
0 - 0.5		mg/kg	0.00027 J	0.0024	0.00054 U	0.00054 U	0.00096 J	0.00054 U
1.5 - 2	9/7/2022		0.00058 U	0.0010 J	0.00058 U	0.00058 U	0.00041 J	0.00058 U
22.5 - 23		µg/L	0.00059 U					
Groundwater			0.0122	0.0474	0.0047	0.0020 U	0.0459	0.0040 U

AOI4-PFAS-TW1								
Sample Depth (feet)	Sample Date	Units	PFOA	PFOS	PFBS	PFNA	PFHxS	HFPO-DA
0 - 0.5		mg/kg	0.00037 J	0.0109	0.00053 U	0.00053 U	0.00096 J	0.00053 U
1.5 - 2	9/8/2022		0.00120	0.00680	0.00059 U	0.00059 U	0.0012	0.00059 U
20.5 - 21		µg/L	0.00059 U					
Groundwater			0.0127	0.0512	0.0055	0.0020 U	0.0590	0.0040 U

AOI4-PFAS-TW3								
Sample Depth (feet)	Sample Date	Units	PFOA	PFOS	PFBS	PFNA	PFHxS	HFPO-DA
0 - 0.5		mg/kg	0.00052 U	0.0036	0.00052 U	0.00052 U	0.00055 J	0.00052 U
1.5 - 2	9/8/2022		0.00063 U	0.00067 J	0.00063 U	0.00063 U	0.0010 J	0.00063 U
21 - 21.5		µg/L	0.00062 U					
Groundwater			0.0109	0.0322	0.0052	0.0020 U	0.0505	0.0040 U

Summary

- No PFAS exceeded the screening levels in soil
- Four PFAS (PFOA, PFOS, PFNA, and PFHxS) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in groundwater

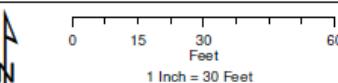


Legend

- Temporary Monitoring Well and Soil Sample for PFAS Sampling
- Approximate Location of Storm Drain Culvert
- General Groundwater Flow Direction (OTIE, 2018)
- Railroad
- Buildings
- PFAS AOI
- Former NWS Concord Boundary

Notes:
Soil results reported in mg/kg
Groundwater results reported in µg/L
Depth of soil sample reported in feet below ground surface
Bold = analyte detected in sample above the detection limit
Shaded results exceed the screening criteria

µg/L = micrograms per liter
AOI = Area of Interest
HFPO-DA = hexafluoropropylene oxide dimer acid
IA = Inland Area
J = estimated value
mg/kg = milligrams per kilogram
PFAS = per- and polyfluoroalkyl substances
PFBS = perfluorobutane sulfonic acid
PFHxS = perfluorohexanesulfonic acid
PFNA = perfluorononanoic acid
PFOA = perfluorooctanoic acid
PFOS = perfluorooctane sulfonic acid
MWS = Naval Weapons Station
U = not detected at or above the detection limit



Site Inspection for PFAS at AOIs 1, 2, 3, 4, 5, 6, 7 and 8
Former Naval Weapons Station Seal Beach
Detachment Concord, Concord California

Soil and Groundwater Sampling Results AOI 4 – Area North of Building IA-5

PROJECT NO.:	5026-21-4494	FIGURE
DATE:	February 2023	
DRAWN BY:	KOB	
CHECKED BY:	LC	

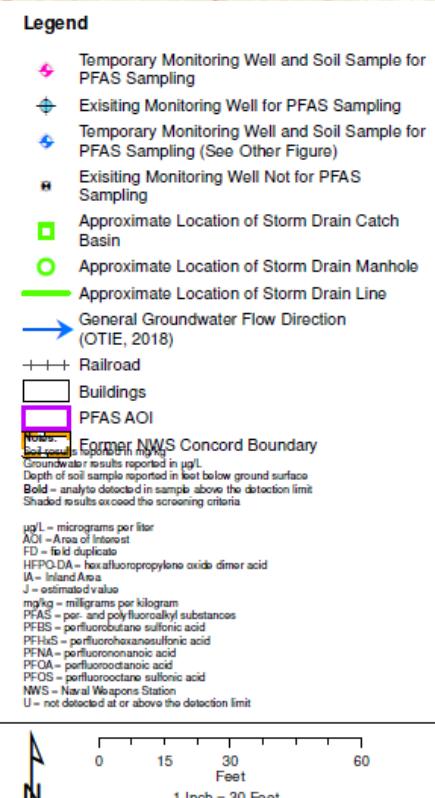
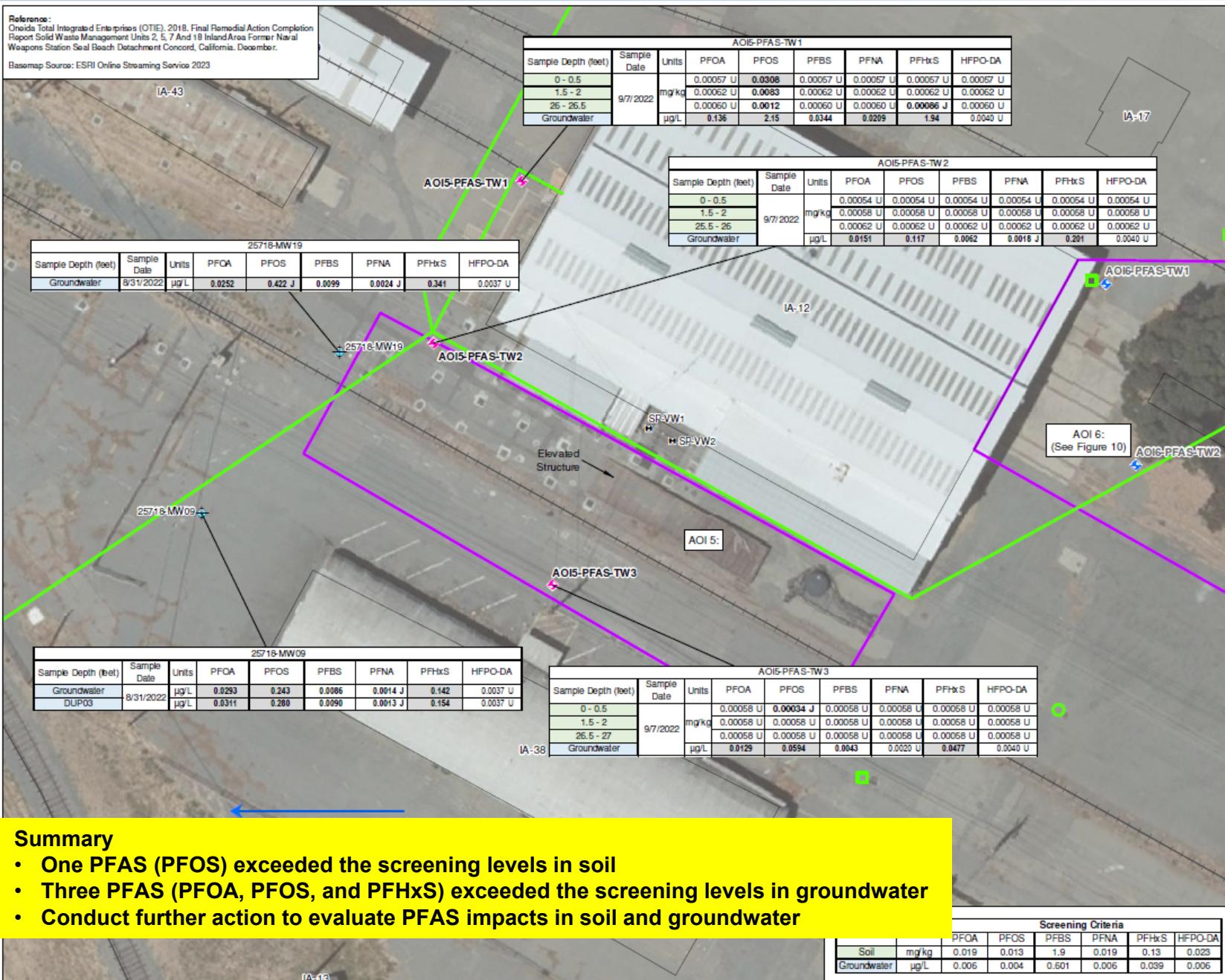


AOI 5 PFAS Results



Reference:
Onedia Total Integrated Enterprises (OTIE). 2018. Final Remedial Action Completion Report Solid Waste Management Units 2, 5, 7 And 18 Inland Area Former Naval Weapons Station Seal Beach Detachment Concord, California. December.

Basemap Source: ESRI Online Streaming Service 2023

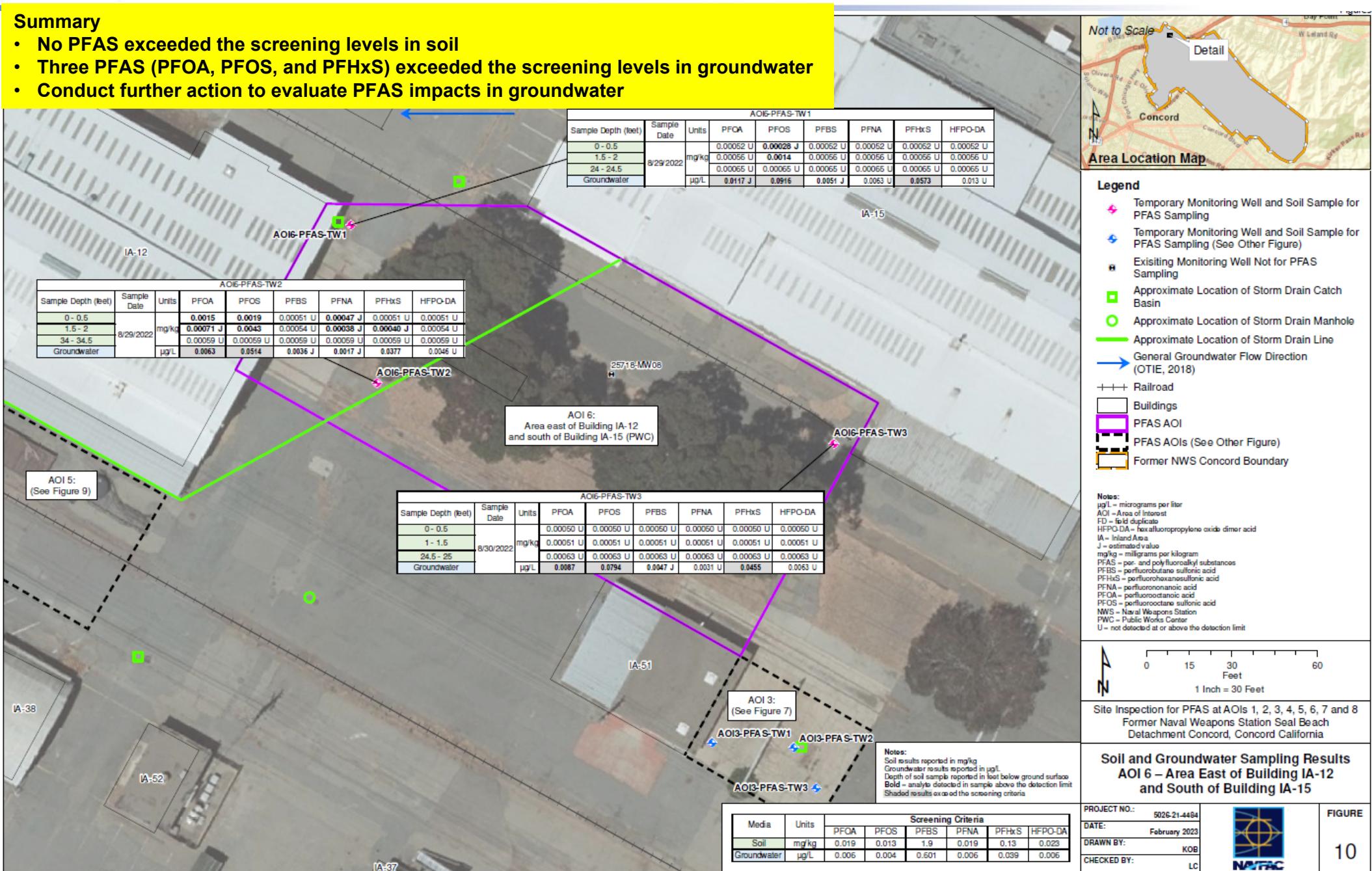


AOI 6 PFAS Results



Summary

- No PFAS exceeded the screening levels in soil
- Three PFAS (PFOA, PFOS, and PFHxS) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in groundwater

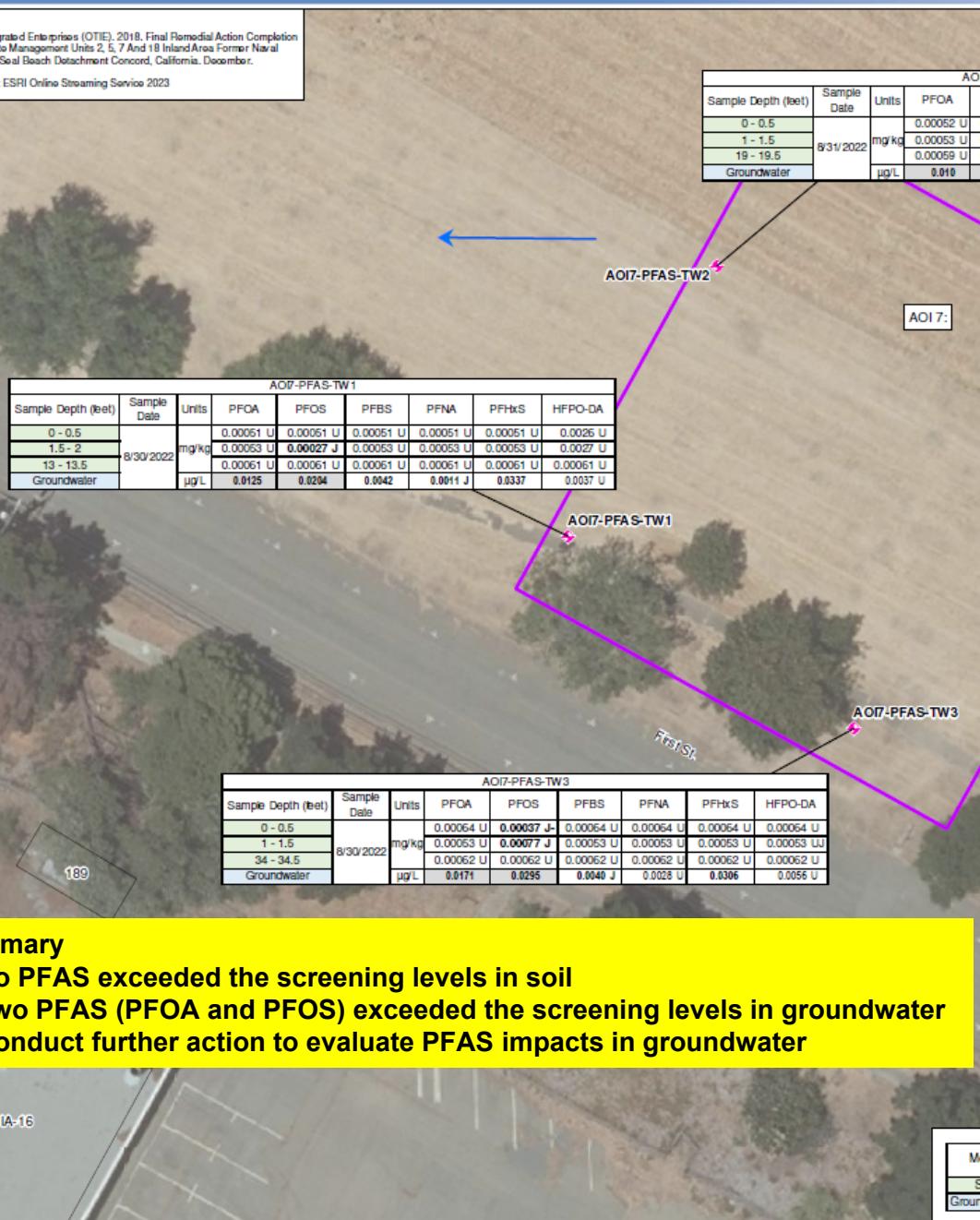


AOI 7 PFAS Results



Reference:
Oneida Total Integrated Enterprises (OTIE). 2018. Final Remedial Action Completion Report Solid Waste Management Units 2, 5, 7 And 18 Inland Area Former Naval Weapons Station Seal Beach Detachment Concord, California. December.

Basemap Source: ESRI Online Streaming Service 2023



Notes:
Soil results reported in mg/kg
Groundwater results reported in µg/L
Depth of soil sample reported in feet below ground surface
Bold = analyte detected in sample above the detection limit
Shaded results exceed the screening criteria

µg/L = micrograms per liter
AOI = Area of Interest
HFPO-DA = hexafluoropropylene oxide dimer acid
IA = Inland Area
J = estimated value
J = estimated value with potential low analytical bias
mg/kg = milligrams per kilogram
PFAS = per- and poly-fluorochemical substances
PFBS = perfluorobutane sulfonic acid
PFHxS = perfluorohexane sulfonic acid
PFNA = perfluorononanoic acid
PFOA = perfluorooctanoic acid
PFOS = perfluorooctane sulfonic acid
NWS = Naval Weapons Station
U = not detected at or above the detection limit

0 15 30 60
1 Inch = 30 Feet

Site Inspection for PFAS at AOIs 1, 2, 3, 4, 5, 6, 7 and 8
Former Naval Weapons Station Seal Beach
Detachment Concord, Concord California

Soil and Groundwater Sampling Results
AOI 7 – Parade Ground – Drill Area

Media	Units	Screening Criteria					
		PFOA	PFOS	PFBS	PFNA	PFHxS	HFPO-DA
Soil	mg/kg	0.019	0.013	1.9	0.019	0.13	0.023
Groundwater	µg/L	0.006	0.004	0.601	0.006	0.039	0.006

PROJECT NO.: 5026-21-4494
DATE: February 2023
DRAWN BY: KOB
CHECKED BY: LC

FIGURE 11

Summary

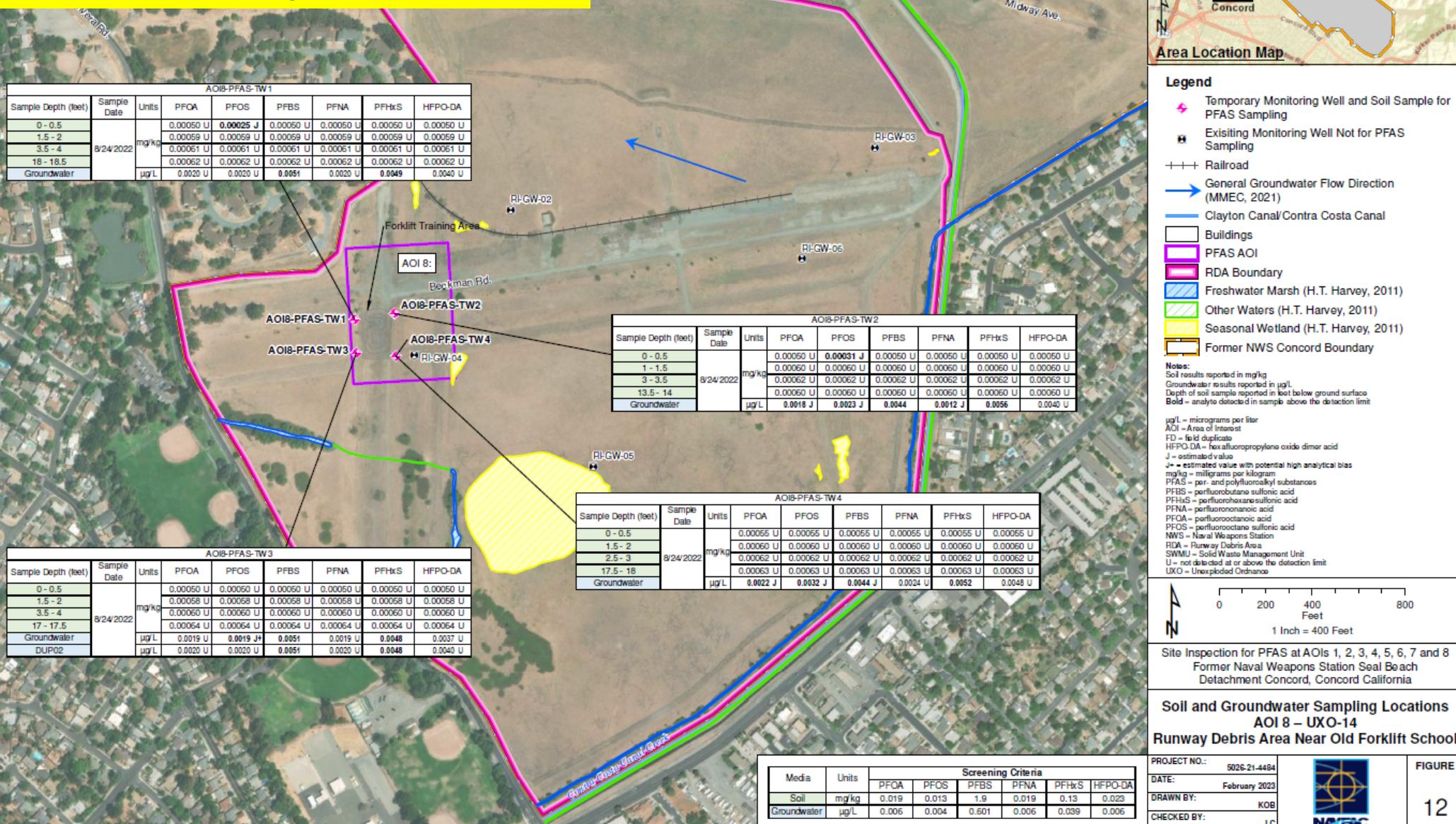
- No PFAS exceeded the screening levels in soil
- Two PFAS (PFOA and PFOS) exceeded the screening levels in groundwater
- Conduct further action to evaluate PFAS impacts in groundwater

AOI 8 PFAS Results



Summary

- No PFAS exceeded the screening levels in soil
- No PFAS exceeded the screening levels in groundwater
- No further action in soil or groundwater



QUESTIONS

