



EMWD and MARB PFAS Impacts

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June 22, 2020

EMWD PFAS (PFOA and PFOS) Impacts

- PFAS was used at Site 7 for fire fighting training using aqueous film forming foam
- Well 59 and two private wells reported above EPA (federal) Lifetime Health Advisory levels:
 - Well 59 PFOA + PFOS = 168 ppt
 - Wells shutdown in May 2016
- Well 56 PFAS reported above the CA Notification:
 - ESI Reported PFOA + PFOS = 16.8 ppt
 - Removed well from service in February 2019
 - PFOA 19 ppt and PFOS 10 ppt*



March Air Reserve Base - PFOA and PFOS

- Environmental Services Cooperative Agreement (ESCA I)
 - Reimbursing EMWD \$7.8 million for imported replacement water for Well 59 and two water service connections
- ESCA II – Reimbursing EMWD \$3.3 million for design and construction of Well 59 wellhead treatment
- Negotiating ESCA III for Well 59 treatment system O&M
- EMWD working toward a tolling agreement for Well 56
- Air Force completed PFOA and PFOS plume delineation study determining extent of MAFB impacts

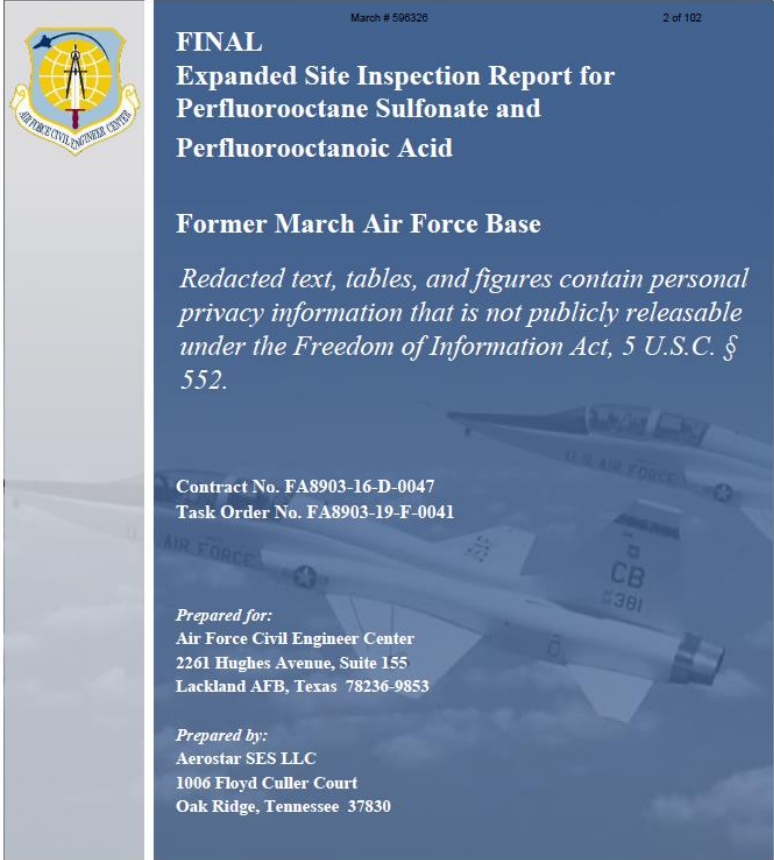


MARB Plume Delineation Report

- Source investigation from Site FT007
 - Fire Fighting Training Site
 - Additionally Site No. 15
- Investigative Activities
 - Groundwater monitoring
- Nature and Extent of Contamination
- Contaminant Fate and Transport
- Risk Screening Evaluation

<https://ar.afcec-cloud.af.mil/Search.aspx>

- U.S Air Force Civil Engineer Center (Administrative Record 2.0.0)



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FINAL
Expanded Site Inspection Report for
Perfluorooctane Sulfonate and
Perfluorooctanoic Acid

Former March Air Force Base


Redacted text, tables, and figures contain personal privacy information that is not publicly releasable under the Freedom of Information Act, 5 U.S.C. § 552.

Contract No. FA8903-16-D-0047
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Prepared for:
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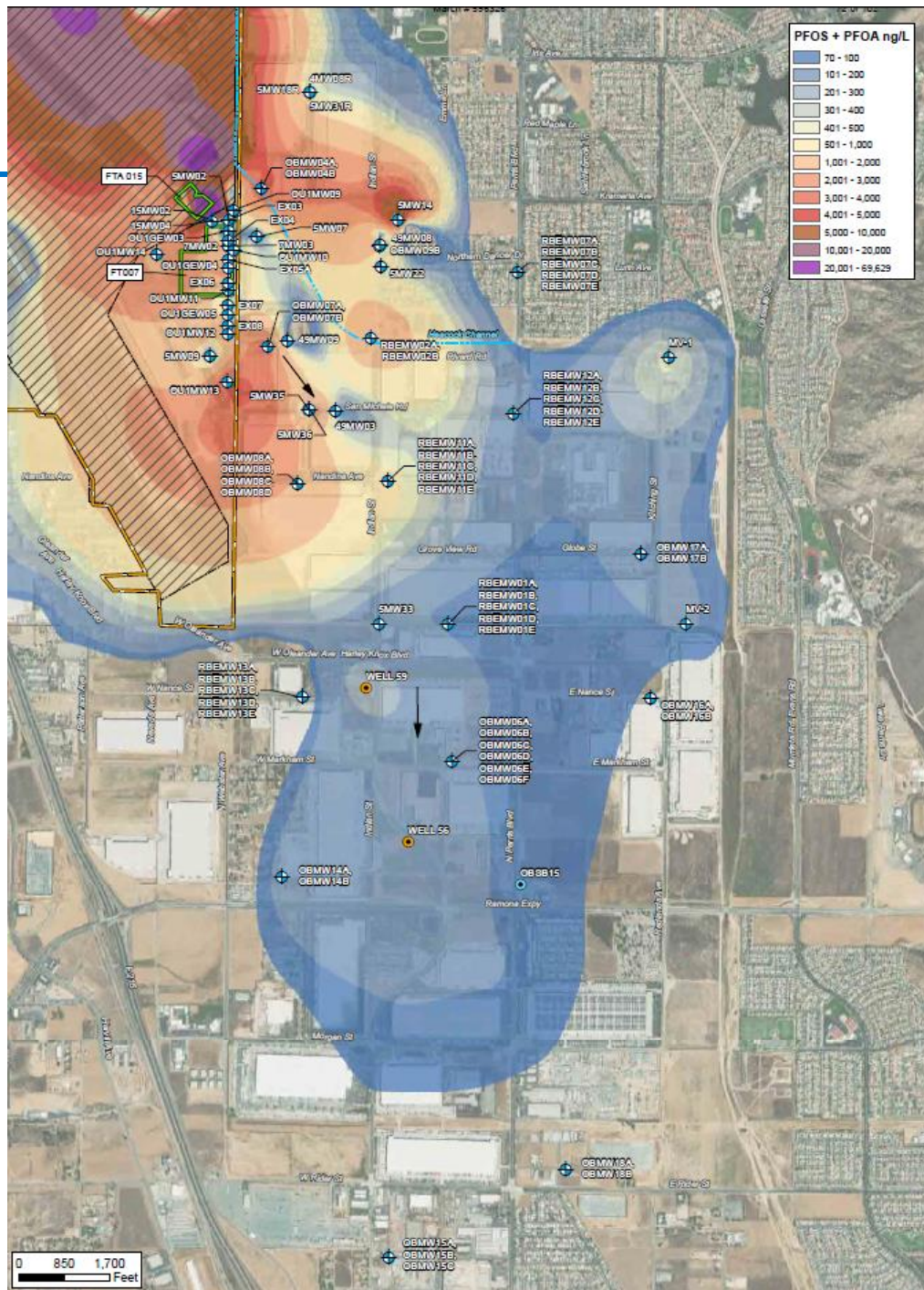
March 2020



PFOA + PFOS Map

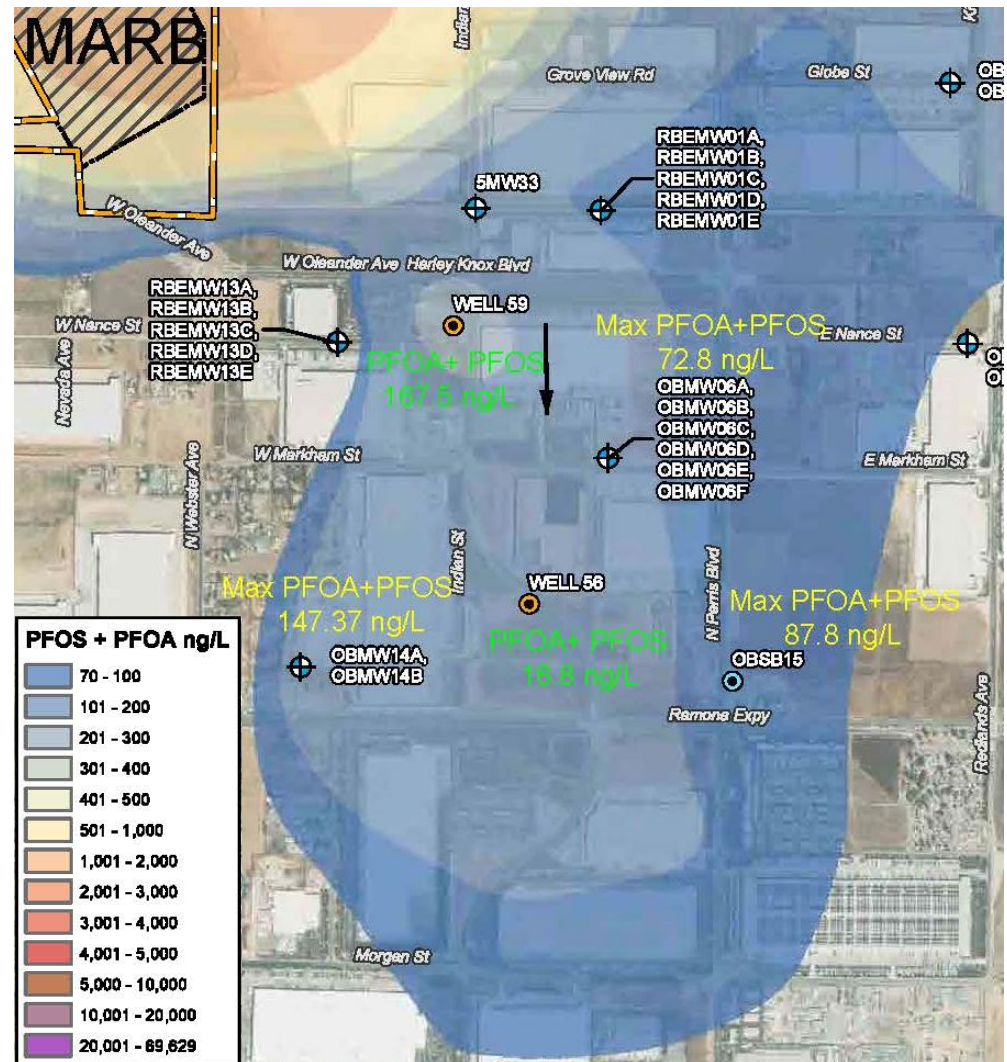
- Delineation of combined upper and lower aquifer
- Approximately 2.4 miles south and over 1.5 miles east
- Only shown to a minimum LHA level of 70 ppt
- Plume migration
 - Southeast/South
- EMWD's concern
 - Further plume migration impacts (Well 56)
 - MVRWRF not considered a source

From ESI Report Figure 4-10



Plume Delineation and Well 56/59

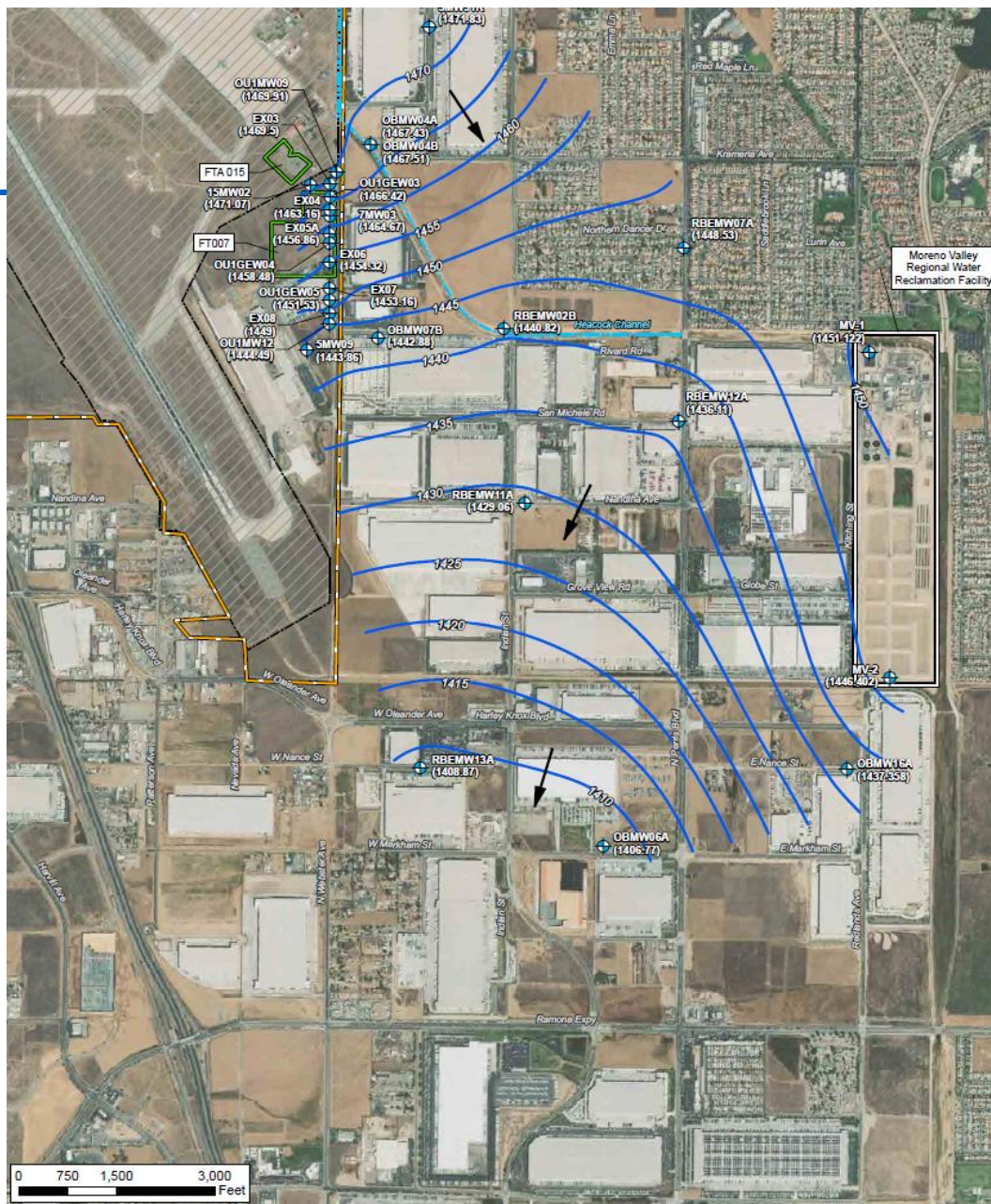
- Well 59 exceeds LHA (70 ng/L PFOA+PFOS)
- Well 56 exceeds CA Notification Levels and Response Level
- Well 56 – surrounding wells exceed LHA (Max PFOA + PFOS)
 - OBMW06C – 72.8 ng/L
 - OBSB15 - 87.8 ng/L
 - OBMW14 – 147.37 ng/L
- Well 56 and Well 59 within plume delineation of >100 ng/L
- Future Potential Impact to Well 56 when the plume continues to migrate



From ESI Report Figure 4-10

PFOA + PFOS Flow

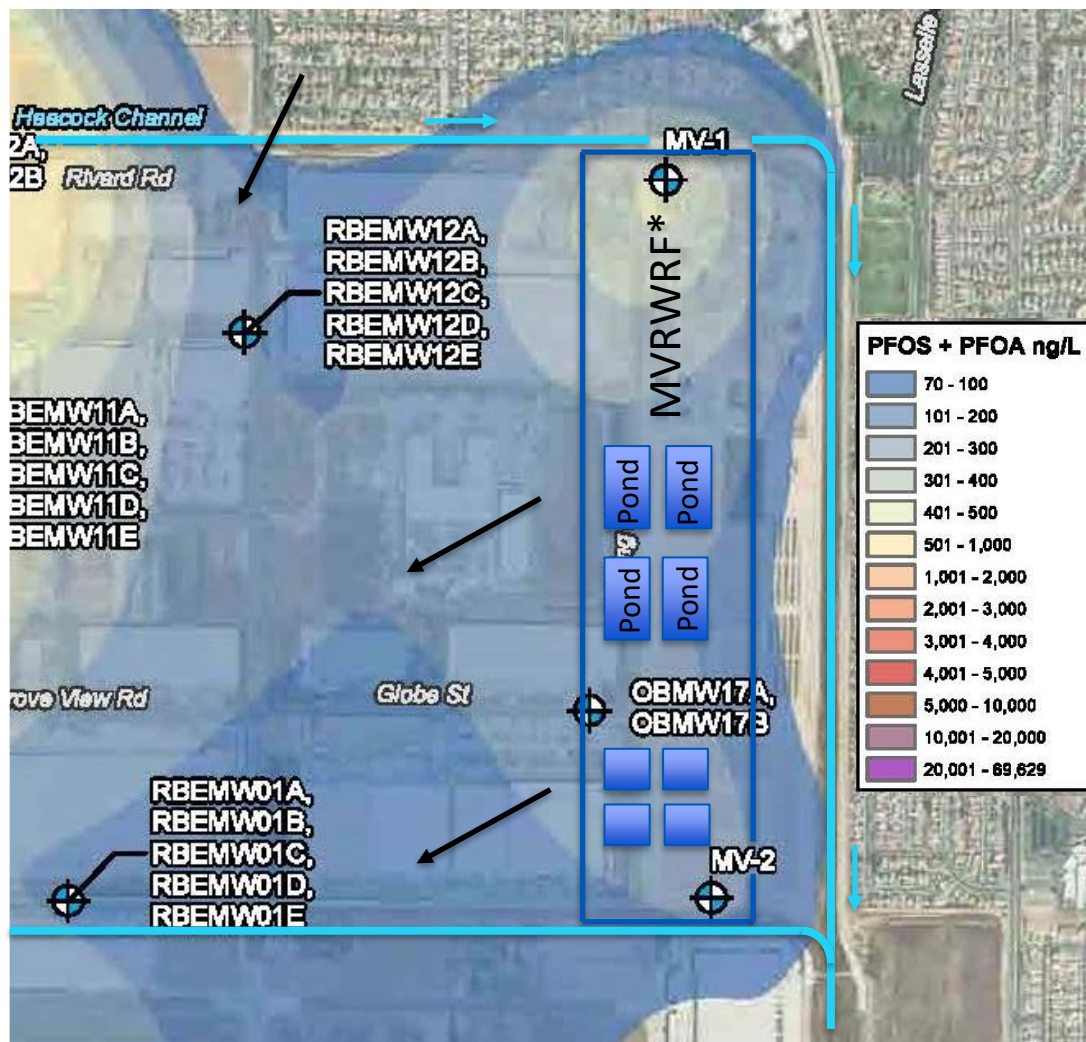
- Plume migration
 - Southeast/South
- Groundwater flow
 - Generally South



From ESI Report Figure 3-3

Moreno Valley RWRf, Not a Source of Contamination

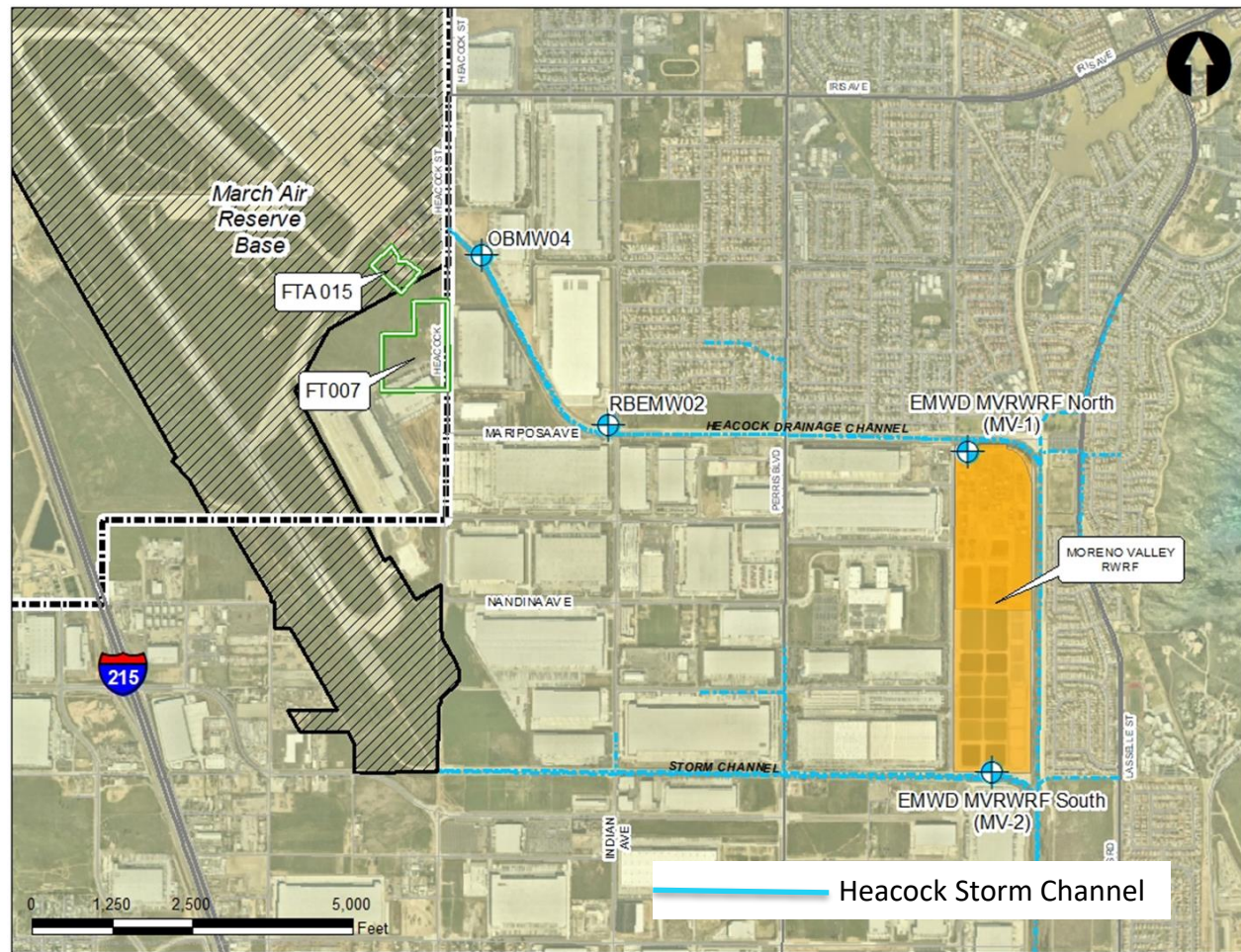
- Moreno Valley Regional Water Reclamation Facility (MVRWRF) inaccurately cited as potential PFAS source:
 - Allegedly from recycled water storage ponds on facility site
- MVRWRF monitoring wells:
 - MV-1 (north): 416.3 ppt PFOA+PFOS
 - MV-2 (south): 110.7 ppt PFOA+PFOS
- MVRWRF recycled water effluent:
 - PFOA: 10 ppt
 - PFOA: < 4 ppt
- Groundwater flow – southwest
- MV-1 and MV-2 sample data inconsistent with MVRWRF being PFAS source



From ESI Report Figure 4-10

Sources of Contamination

- Heacock drainage channel cited as a potential PFAS source
 - Storm water flows from MARB
 - EGETS Discharge
- Wells along Heacock drainage channel
 - OBMW04: 4,026 ng/L PFOA+PFOS
 - RBEMW02B: 1,659 ng/L PFOA+PFOS
 - MV-1: 416.3 ng/L PFOA+PFOS
- Both MV-1 and MV-2 are along drainage channels from MARB



EMWD will submit comment letter to USAF regarding PFAS Plume Delineation Study



Contact Information

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