Per- and Polyfluoroalkyl Substances Site Resolution Report Former Fort Ord, California

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Acronyms and Abbreviations

µg/L	micrograms per liter
µg/kg	micrograms per kilogram
ACL	aquifer cleanup level
AFFF	aqueous film-forming foam
Ahtna	Ahtna Global, LLC
Army	U.S. Department of the Army
AOI	area of interest
AOPI	area of potential interest
AST	aboveground storage tank
bgs	below ground surface
BOQ	Bachelor Officers' Quarters
CCRWQCB	California Central Coast Regional Water Quality Control Board
CDPR	California Department of Parks and Recreation
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
COC	chemical of concern
CSM	conceptual site model
CSUMB	California State University Monterey Bay
DoD	U.S. Department of Defense
DOL	Directorate of Logistics
DTSC	California Department of Toxic Substances Control
FAAF	Fritzsche Army Airfield
FOPWG	Fort Ord PFAS Working Group
FORA	Fort Ord Reuse Authority
FO-SVA	Fort Ord-Salinas Valley Aquitard
IA	interim action
LUC	land use control
MCL	Maximum Contaminant Level
MCWD	Marina Coast Water District
MSL	mean sea level
NFA	no further action
ng/L	nanograms per liter
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
OMC	Ord Military Community
OU1	Operable Unit 1
OU2	Operable Unit 2
OUCTP	Operable Unit Carbon Tetrachloride Plume

PA	Preliminary Assessment
PFAS	per- and polyfluoroalkyl substances
PFBA	perfluorobutanoic acid
PFBS	perfluorobutane sulfonic acid
PFHxA	perfluorohexanoic acid
PFHxS	perfluorohexanesulfonic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
POM	Presidio of Monterey
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
RTP	Regional Treatment Plant
SEA	site evaluation accomplished
SI	Site Inspection
Sites 2/12	Sites 2 and 12
STP	sewage treatment plant
TCE	trichloroethene
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
WWTP	wastewater treatment plant

1.0 Introduction

This per- and polyfluoroalkyl substances (PFAS) Site Resolution Report is focused on documenting PFAS areas of potential interest (AOPIs) at the former Fort Ord that were identified in the Preliminary Assessment (PA) and Site Inspection (SI) or were identified after the PA/SI was completed but are not included in the current Remedial Investigation (RI) phase. Ahtna Global, LLC (Ahtna) prepared this report under U.S. Army Corps of Engineers (USACE) Contract No. W9123824C0018. This Site Resolution Report generally applied guidance documents, where applicable, such as the U.S. Department of the Army (Army) guidance for addressing releases of PFAS (Army, 2018). The purpose of this Site Resolution Report is to:

1) **Document Site Status Decisions:** Provide documentation of site resolution for sites identified in the PA and SI that are not included in the current RI phase.

2) **Establish the Basis for No Further Action (NFA):** Document NFA determinations with valid lines of reasoning, using additional background information not presented in the PA and SI as applicable.

3) **Document Regulatory Agency and Stakeholder Coordination:** Summarize discussions between the Army and the U.S. Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), and California Central Coast Regional Water Quality Control Board (CCRWQCB) (collectively the "regulatory agencies") and/or stakeholders related to PFAS AOPIs that are not included in the current RI phase.

4) **Develop Roadmaps for RI-Phase Sites:** Outline the general scope of work to be conducted during the RI and identify planning considerations for sites that may warrant future evaluation.

5) **Address Newly Identified AOPIs**: Evaluate newly identified AOPIs to assess potential risk, support NFA determinations where appropriate, and identify sites that may warrant additional evaluation through the PA/SI process.

This Site Resolution Report is similar to the PA process, which included a basewide review of historical activities with the potential to cause PFAS contamination in groundwater, surface water, soil, and air, as well as a pathway and environmental hazard assessment at sites where PFAS releases were considered likely (Ahtna, 2022).

Per the Army guidance for addressing releases of PFAS (Army, 2018), sites evaluated in the PA/SI included:

- Former fire training areas where firefighting exercises were conducted using aqueous film-forming foam (AFFF)
- Potential former AFFF storage locations (e.g., fire stations)
- Aircraft crash sites where AFFF may have been applied for fire control (none identified in the PA)
- Aviation hangars and other buildings or fuel storage areas where AFFF may have been used in the fire suppression system and where a release may have occurred (none identified in the PA)
- Other aviation assets (runways, fuel farms, defueling areas) where fuel- or petroleum-based fires may have occurred and AFFF may have been applied for fire control

- AFFF firefighting equipment testing and washout discharge locations, including oil-water separators or other piping systems where released AFFF may have flowed
- Areas where large fires occurred (e.g., warehouse fires)
- Areas where chromium electroplating operations were performed (no chromium electroplating facilities or other types of metal electroplating, metal plating, or metal finishing operations were identified during the PA)
- Landfill and waste disposal areas that may have received waste streams containing PFAS, including waste material and sludge from wastewater treatment plant (WWTPs)
- WWTPs that may have received wastewater from facilities that used or disposed of PFAS-containing liquid effluents

The sites evaluated in this Site Resolution Report include sites evaluated in the PA/SI that were not selected to proceed to the current RI phase and five additional AOPIs that have been newly identified. These sites are listed in Table 1. Potential sources of PFAS other than those listed above are not considered in this Site Resolution Report but may be considered in future phases of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process pending promulgation of applicable Department of Defense (DoD) or Army guidance.

This Site Resolution Report is intended to present the current understanding of PFAS AOPIs at the former Fort Ord based on available information at the time of preparation. It is provided for evaluation and planning purposes only and does not represent final decisions or commitments to specific actions. Site designations and remedy decisions will be evaluated through the CERCLA process in consultation with regulatory agencies and stakeholders. The information presented herein is subject to change as additional data are collected, including through future PA/SI and RI activities.

1.1 Purpose and Scope of Site Resolution Report

The purpose of Site Resolution Report is to document the status of sites identified during the PA and SI phases that did not progress into the current RI phase, and to outline planning considerations for sites currently being evaluated as part of the PFAS RI. This document also addresses newly identified AOPIs that emerged after the PA/SI through stakeholder input, historical records, or field observations.

The scope of the Site Resolution Report includes reviewing existing environmental data to assess potential risks at sites identified during the PA/SI, documenting NFA determinations where appropriate, evaluating additional AOPIs that were identified outside the PA/SI, coordinating regulatory agency and stakeholder input, and developing a roadmap for RI-appropriate sites.

To minimize redundancy across CERCLA planning documents for the former Fort Ord, the following lists outline the specific functions and limitations of the Site Resolution Report, consistent with current Army policy and guidance (Army, 2018).

- Functions:
    - Document resolution of PFAS AOPIs identified in the PA and SI that will not move into the RI phase.
    - Provide supporting rationale and background for NFA decisions.
    - Include additional information beyond the PA and SI to support site resolution, as necessary.

  - Document discussions with regulatory agencies/stakeholders regarding potential PFAS sites not included in the PA/SI or the current RI phase.
  - Develop a roadmap for sites currently identified for progressing to the RI phase.
  - Outline a general description of work anticipated during the RI for each relevant site.
  - Support clear planning and communication of future actions across multiple sites.
  - Provide a consolidated record of discussions and decisions that help inform subsequent CERCLA phases.
- Limitations:
  - Does not initiate or conduct RI fieldwork activities.
  - Does not serve as a final decision document for remedy selection.
  - Does not duplicate the PA or SI Narrative Reports—it supplements them where needed.
  - Does not finalize future RI site inclusion for newly identified AOPIs.
  - Does not define cleanup levels or select remedial actions.
  - Does not preclude future investigation if conditions change or new data emerge.
  - Does not allocate detailed budgets or schedules for RI execution.
  - Does not replace required decision documents (e.g., ROD or ESD).
  - Does not resolve all uncertainties—deferred sites may require future review.

Importantly, this document does not serve the same purpose as a PA or SI and does not include recommendations for further investigation under CERCLA. Instead, it focuses on site resolution and administrative planning. For newly identified AOPIs that were not included in the PA/SI, this document summarizes available site information (e.g., reconnaissance observations, stakeholder input) and provides a PA-like review (e.g., Comprehensive Target Survey elements). This acknowledges these AOPIs as potentially relevant to the CERCLA process without assigning them to the current RI.

Given the timing and circumstances under which these newly documented AOPIs were identified (outside the scope of the original PA/SI efforts), Section 1.1.3 elaborates on considerations specific to these sites. Because the status of these AOPIs will not be resolved prior to the finalization of the current PFAS RI Quality Assurance Project Plan (QAPP; Ahtna, 2026) or other non-RI deliverables, they are not included in the present RI scope. However, this document lays the groundwork for future planning by outlining the known or anticipated pathways, potential lead agencies, and considerations that may influence the administrative approach.

1.1.1 PFAS Background

PFAS refers to a large class of chemicals found in many consumer products, as well as in industrial products, of which perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) were historically the most widely used throughout the United States. PFAS are human-made compounds originally developed in the late 1930s and do not occur naturally in the environment. Since the 1950s, many products commonly used by consumers and industry have been manufactured with or from PFAS, as the unique physical and chemical properties of PFAS impart oil, water, stain, and soil repellency, chemical and thermal stability, and/or friction reduction to a range of products. These products have applications in many industries, including the aerospace, semiconductor, medical, automotive, construction, electronics, and aviation industries, as well as in consumer products (such as carpets, clothing, furniture, outdoor equipment, food packaging), and firefighting applications (ITRC, 2023). After 1972, the DoD began using AFFF that contained PFOS and, in some formulations, PFOA.

AFFFs are proprietary mixtures designed and used to extinguish fuel-based fires. The composition of AFFFs prior to 1989 is unknown because older AFFFs are no longer available. AFFF in the military has been primarily used for firefighting operations during emergencies, in automated fire suppression systems, and personnel training activities. PFAS in AFFF are used as wetting agents to form a thin layer of water over a fuel source.

In 2022, the USEPA established Regional Screening Levels (RSLs) in soil and tap water for six compounds: hexafluoropropylene oxide dimer acid (HFPO-DA [GenX]), perfluorobutane sulfonic acid (PFBS), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), PFOS, and PFOA. In 2023, two more PFAS RSLs were added for perfluorobutanoic acid (PFBA) and perfluorohexanoic acid (PFHxA).

On April 10, 2024 the USEPA established drinking water Maximum Contaminant Levels (MCLs) for five individual PFAS (listed below) and a hazard index (HI) of 1 for a PFAS mixture (containing two or more of these PFAS: PFNA, PFHxS, HFPO-DA [GenX], and PFBS) that require public water systems to comply by 2029 (USEPA, 2024a). On May 14, 2025, the USEPA announced it will retain the current National Primary Drinking Water Regulations (NPDWR) for PFOA and PFOS and intends to extend the compliance deadline from 2029 to 2031 and rescind and reconsider regulations for PFHxS, PFNA, and HFPO-DA (USEPA, 2026).[1]

Chemical	Chemical Abbreviation	CASRN	MCL (ng/L)
perfluorooctanoic acid	PFOA	335-67-1	4.0
perfluorooctane sulfonate	PFOS	1763-23-1	4.0
perfluorohexane sulfonic acid	PFHxS	355-46-4	10
perfluorononanoic acid	PFNA	375-95-1	10
hexafluoropropylene oxide dimer acid	HFPO-DA (GenX)	13252-13-6	10

CASRN: Chemical Abstracts Service Registry Number
MCL: Maximum Contaminant Level
ng/L: nanograms per liter

In November 2024, the USEPA updated the RSLs for soil and water to add seven PFAS (perfluorodecanoic acid [PFDA], perfluoroundecanoic acid [PFUDA], perfluorododecanoic acid [PFDoDA], perfluorotetradecanoic acid [PFTetDA], bis(trifluoromethylsulfonyl)amine [TFSI], perfluorooctadecanoic acid [PFODA], and perfluoropropanoic acid [PFPrA]), for a total of 15 PFAS, and update RSLs for four PFAS (PFOA, PFOS, HFPO-DA [GenX], and PFNA) (USEPA, 2024b).

In addition to the USEPA-established RSLs and MCLs, the DoD developed screening levels for PFAS to guide site investigations and risk assessments at military installations. Historically, DoD tap water screening levels were calculated using the USEPA online RSL calculator and included a default adjustment factor when multiple PFAS were detected. As scientific understanding and regulatory benchmarks have evolved, the DoD updated its screening levels in January 2025 to align with the November 2024 USEPA RSLs (DoD, 2025). These updated screening levels are used for assessing exposure potential in media such as groundwater, surface water, and soil at DoD sites such as the former Fort Ord, and reflect current toxicological guidance. The DoD did not accept USEPA RSLs as

[1] While GenX, PFHxS, and PFNA may be removed from regulatory standards, they will still be analyzed and characterized at PFAS sites undergoing investigation to account for potential contaminant presence and risk assessment.

screening levels for three PFAS (PFOA, PFOS, and PFDA) because these RSLs are below the analytical method detection limit. The DoD did not accept USEPA RSLs as screening levels for four PFAS (PFUDA, PFDoDA, PFTetDA, and PFODA) due to toxicity values that are not peer reviewed (DoD, 2025). The DoD screening levels for water and soil are listed below.

Chemical	Chemical Abbreviation	CASRN	DoD Screening Level	
			Tap Water (ng/L)	Residential Soil (µg/kg)
hexafluoropropylene oxide dimer acid	HFPO-DA (GenX)	13252-13-6	1.5	23
perfluorobutanoic acid	PFBA	375-22-4	1,800	7,800
perfluorobutanesulfonic acid	PFBS	375-73-5	600	1,900
perfluorohexanoic acid	PFHxA	307-24-4	990	3,200
perfluorohexanesulfonic acid	PFHxS	355-46-4	10	130
perfluorononanoic acid	PFNA	375-95-1	5.9	19
perfluorooctanoic acid	PFOA	335-67-1	4.0	0.070
perfluorooctanesulfonic acid	PFOS	1763-23-1	4.0	0.63
bis(trifluoromethylsulfonyl)amine	TFSI	82113-65-3	590	2,300
perfluoropropanoic acid	PFPrA	422-64-0	980	3,900
perfluorodecanoic acid	PFDA	335-76-2	0.52	0.06

µg/kg: micrograms per kilogram
CASRN: Chemical Abstracts Service Registry Number
DoD: Department of Defense
ng/L: nanograms per liter

At Army installations, the primary mechanism for releases of PFAS is through the historical use of AFFF, a product applied during firefighting and firefighting-related training associated with fuel- or petroleum-based fires after 1972 (Army, 2018). AFFF for firefighting was generally used in areas where fuel- or petroleum-based fires may have occurred, such as in the vicinity of aviation assets, fuel farms, or aircraft crash sites.[2] The Army's current practice is to not use AFFF for petroleum-based training fires. Other known sources of environmental releases of PFAS include mist suppressants for chromium electroplating operations, and landfills and WWTPs that have inadvertently accepted PFAS-containing materials (Army, 2018).

1.1.2 Activities Conducted

Several activities were conducted to assess and document the status of sites identified in the PA/SI that did not progress into the current RI phase or may warrant additional evaluation. This included a review of existing environmental data to determine whether sites posed an unacceptable risk to human health or the environment. When no such risk was identified, a basis for an NFA determination was developed. The process also involved the identification and evaluation of additional AOPIs that were not included in the PA or SI but were identified through stakeholder input, historical reviews, or site reconnaissance. Additional efforts included coordinating and documenting discussions with regulatory agencies through the Fort Ord PFAS Working Group (FOPWG) meetings.

[2] There are two major classes of firefighting foams. Class A foams were developed in the 1980s for fighting wildfires and are also used to fight structure fires (Class A foams do not contain PFAS). Class B foams are designed to effectively extinguish flammable and combustible liquids and gases; petroleum greases, tars, oils and gasoline; and solvents and alcohols. Class B foams can be synthetic foams, including AFFF (ITRC, 2020).

This structured resolution process provides consistent documentation of sites—both those originally identified and those newly considered— and categorizes them for planning purposes as:

1) Sites that may warrant consideration for inclusion in a future PA/SI or RI phase; or
2) Sites with a documented basis supporting an NFA determinations in alignment with CERCLA guidance.

During the PA, a comprehensive targets survey (CTS) was conducted to identify physical or environmental receptors within the target distance limit for a particular pathway for specific sites at the former Fort Ord.[3] These CTSs were incorporated into this Site Resolution Report. For sites previously evaluated during the PA and SI phases, no new CTSs were completed; instead, existing CTS data were reviewed and used to inform site resolutions, administrative decision-making, and support NFA determinations. For newly identified or added AOPIs not previously covered in the PA/SI, a PA-like receptor evaluation was conducted to assess potential exposure pathways and inform their documentation, closure, or consideration for additional evaluation through future CERCLA phases.

The CTS completed during the PA and utilized in this Site Resolution Report included a review of maps, geologic reference materials, studies of groundwater resources, databases of public drinking water supplies, and historical and current aerial photographs. Additionally, interviews and inquiries were completed with government officials and specific personnel who worked at Fort Ord in roles that may have used or managed AFFF or waste potentially containing PFAS. For newly identified or added AOPIs not previously covered in the PA/SI, receptor evaluations were conducted following generally the same CTS approach and are documented herein. Records of communication are in Appendix A.

When necessary, additional site reconnaissance was conducted to supplement information garnered during the PA evaluation or for new AOPIs that were not evaluated in the PA/SI. Recorded observations from site reconnaissance include descriptions of the physical features of the site, observations that differ from descriptions gathered through previous data collection, descriptions of photographs taken, and conversations with site personnel and neighbors. Site reconnaissance information is in Appendix B.

1.1.3 Considerations for Newly Identified AOPIs

The PA/SI process focused on the Army's historical storage, use, and disposal of potential PFAS-containing materials at the former Fort Ord prior to the closure of Fort Ord in September 1994 and did not evaluate storage, use, or disposal onsite after September 1994 by non-Army operations or by other local Army installations, such as the U.S. Army Garrison Presidio of Monterey (POM) conducting operations at the former Fort Ord. To avoid unnecessary delay to the current RI process, post-closure AOPIs are documented in this report to ensure continued progress under CERCLA while allowing for the eventual integration of these AOPIs through appropriate mechanisms.

1.2 Site Resolution Methodology

The following methodology outlines the process used to evaluate PFAS AOPIs based on existing information, categorize their current status, and document appropriate next steps in accordance with CERCLA and Army guidance (Army, 2018). Sections 1.2.1 through 1.2.7 describe the approach used to

[3] The target distance limit is the maximum distance over which targets are evaluated and the distances vary by pathway (USEPA, 1991).

review available data, assign site resolution outcomes, develop roadmaps for sites requiring further investigation, and ensure coordination with regulatory agencies and stakeholders.

1.2.1 Document Review and Data Compilation

A comprehensive review of existing documentation was conducted to compile a clear understanding of site conditions, historical activities, and previous evaluations completed at the former Fort Ord. Sources reviewed included:

- PA and SI Narrative Reports, including associated data and findings.
- Installation databases and historical records.
- Communications that occurred during and after the PA/SI process.
- Discussions with regulatory agencies in FOPWG meetings.
- DoD and USEPA guidance related to PFAS investigation and CERCLA compliance.

1.2.2 Site Characterization and Evaluation

Each PFAS AOPI was assigned to one of the following categories based on evaluation criteria consistent with the relevant DoD guidance documents (Army, 2018; DoD, 2018; DoD, 2025):

- **NFA**– Sites not progressing to RI.
- **Sites Progressing to RI** – Requiring development of a roadmap for the RI phase.
- **Sites Progressing to PA/SI** – Not evaluated in the previous PA/SI but identified through stakeholder input; documented for future consideration.

The evaluation considered the following factors:

- Historical PFAS source potential and documented uses (e.g., AFFF application).
- Proximity to environmental media of concern (e.g., groundwater, surface water, soil).
- Completed and potential exposure pathways.
- Extent and completeness of data collected during PA/SI activities.
- Risk-based screening results where applicable.
- Stakeholder and regulatory agency input regarding site priority and concern.

1.2.3 Justification of Site Resolution Decisions

For each AOPI determined not to require further action, this document presents a site-specific justification for NFA. These determinations were based on one or more of the following rationales:

- No documented or likely PFAS release to environmental media.
- Incomplete exposure pathways or lack of receptors.
- Sufficient data collected during the PA/SI to support NFA.
- Low likelihood of risk requiring further CERCLA evaluation.

If available, supplemental background information not included in the original PA or SI is provided to strengthen the rationale and ensure transparent, defensible decision-making. For potential PFAS sites not addressed in the PA/SI but raised through regulatory agency or stakeholder coordination, discussions and preliminary assessments were documented.

1.2.4 Roadmap Development for RI-Phase Sites

For AOPIs determined to require further investigation, a high-level roadmap was developed to support planning and regulatory agency coordination during the RI phase. This roadmap is not intended to be a substitute for detailed work plans but serves as a preliminary guide outlining the expected scope of the RI. The roadmap includes a general description of anticipated RI activities (e.g., media to be sampled, potential contaminants of concern) in alignment with CERCLA requirements and Army/DoD processes to facilitate timely and coordinated transition into the RI phase (Army, 2018; DoD, 2018; DoD, 2025).

1.2.5 Administrative Tracking and Decision Documentation

To ensure consistency and traceability of site status decisions, each AOPI was summarized in a site resolution assessment that includes the following:

- Site name and unique identifier
- Categorization outcome (e.g., NFA, RI, PA/SI)
- Summary of rationale for resolution
- Key references (e.g., specific PA/SI findings, supporting records)

This assessment enables programmatic tracking of site decisions and supports future updates or re-evaluations as needed.

1.2.6 Regulatory Agency and Stakeholder Coordination

This document reflects coordination with regulatory agencies and stakeholders throughout the site resolution process. Input was solicited through PA/SI document review and FOPWG meetings for this purpose.

1.2.7 Evaluation of Newly Identified AOPIs

In addition to the AOPIs evaluated during the PA/SI, this document also considers newly identified AOPIs that were not previously addressed but have since emerged based on stakeholder input, installation records, or updated understanding of PFAS use and release potential.

This evaluation process involved:

- **Site characterization and description**, including physical layout, infrastructure features, and proximity to sensitive receptors or media of concern.
- **Review of operational history and waste characteristics** (e.g., reports of AFFF use) to assess potential PFAS source use.
- **Conducting a pathway analysis** to evaluate the potential for PFAS to enter environmental media (e.g., direct discharge to soil or drains leading to surface water).
- **Review of discussions** during the FOPWG process or through coordination with stakeholders and regulatory agencies.
- **Evaluation for further investigation**, including assignment of site status as NFA or PA/SI based on the weight of evidence and site-specific considerations.

Each newly identified AOPI was assigned one of the following status outcomes:

- **NFA** – where no credible PFAS release mechanism or exposure potential was identified.
- **PA/SI** – for sites requiring future evaluation pending additional data, guidance, or regulatory agency input.

This approach supports transparent site tracking and ensures flexibility to incorporate new information as guidance continues to evolve. Importantly, it allows the current RI process to proceed without delay, while preserving the ability to address questions or regulatory agency coordination related to newly identified AOPIs.

2.0 Fort Ord Description

2.1 Fort Ord General Description

The former Fort Ord is located along the Pacific Ocean in northwest Monterey County, approximately 80 miles south of San Francisco, California (Figure 1). The former military installation covered about 28,000 acres, is bounded by Monterey Bay to the west and the Santa Lucia Range to the south, and is surrounded by the cities of Del Ray Oaks, Marina, Sand City, and Seaside. State Route 1 and the Transportation Agency for Monterey County right-of-way traverse through the western portion of the former Fort Ord, separating the Monterey Bay beachfront from the rest of the installation. Fort Ord served as a training and staging facility for infantry troops from 1917 until its closure in 1994. In 1990, Fort Ord was placed on the USEPA National Priorities List (NPL),[4] primarily due to volatile organic compounds found in groundwater beneath the Fort Ord Landfills. Fort Ord was closed in 1994 under the Base Realignment and Closure Act (BRAC).[5] Environmental remediation at the former Fort Ord is being completed pursuant to CERCLA §121, the National Oil and Hazardous Substances Contingency Plan, and the Federal Facility Agreement signed by representatives of the Army, USEPA, the California Department of Health Services (now the DTSC), and the CCRWQCB. The Federal Facility Agreement became effective on November 19, 1990.

2.2 Fort Ord Operational History

The original Fort Ord site was established in 1917 with the purchase of 16,324 acres of land near the former East Garrison. The base was originally named the Gigling Field Artillery Range and was used by locally stationed units as a maneuver area and field artillery and target range. In 1933, the site was renamed Camp Ord. Five years later, construction of the East Garrison began, which included administrative buildings, mess halls, and tent pads. Additional land was acquired to expand the base to over 20,000 acres, after which the base was renamed Fort Ord (Weston, 1990).

Fort Ord was used as a staging area during World War II, the Korean War, and the Vietnam War. In 1947, Ord became the headquarters for the 4th Replacement Training Center under the U.S. Army Training and Doctrine Command. From 1957 to 1974, the base was used as a basic infantry training center. The Fritzsche Army Airfield (FAAF) was dedicated to Fort Ord in 1960 and expanded over the following year. Fort Ord was designated in 1974 as headquarters for the reactivated 7th Infantry Division. Since 1975, Fort Ord accommodated both infantry and artillery units under the authority of the U.S. Army Forces Command. By 1990, Fort Ord supported a total population of approximately 33,800 personnel (Weston, 1990).

Since base closure in 1994, much of the original Fort Ord is no longer owned by the Army and has been transferred to various public and private owners. The former Main Garrison area is now primarily owned and operated by California State University Monterey Bay (CSUMB), with some areas owned by Monterey Peninsula College, the City of Marina, and the City of Seaside. In 1995, the FAAF was transferred to the City of Marina for use as the Marina Municipal Airport. Portions of the former Fort

[4] The NPL is a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the USEPA in determining which sites warrant further investigation.

[5] BRAC is the process the Department of Defense has used to reorganize its installation infrastructure to more efficiently and effectively support its forces and increase operational readiness.

Ord between Reservation Road and the airport are now owned by the University of California and are operated as the University of California, Monterey Bay Education, Science, and Technology Center. The eastern part of the site is operated by the U.S. Department of the Interior Bureau of Land Management as the Fort Ord National Monument. The former East Garrison area is owned by Century Communities and is now operated as the East Garrison housing development. The Pacific Ocean beach portions of the former Fort Ord are now owned by the California Department of Parks and Recreation and are operated as the Fort Ord Dunes State Park. Much of the former Inland Ranges, however, remain owned by the Army. Further information about property transfer and ownership associated with AOPIs is in Table 2.

2.3 Fort Ord Waste Characteristics

A variety of waste was generated during active Fort Ord operations, including household waste, commercial waste, munitions and explosive waste, construction waste, and various hazardous wastes. Several sites, including Site 16, Site 31, and the Operable Unit 2 (OU2) Fort Ord Landfills, operated as landfills for onsite waste. Several sites, including Sites 1, 2, 32, and 36, operated as WWTPs, receiving residential and commercial wastewater. Hazardous waste was managed by the Directorate of Logistics (DOL).

Following base closure in 1994, a series of remediation efforts were undertaken onsite to address potential groundwater, surface water, soil, and air impacts to human health or the environment due to Fort Ord operations. Chemicals of concern (COCs) varied by site use but included heavy metals at training ranges and volatile organic compounds and petroleum hydrocarbons at maintenance yards, burn pits, landfills, and WWTPs. Petroleum hydrocarbon-impacted soils were treated at the Fort Ord Soil Treatment Area, which was active from 1995 to 1997. Several remediation efforts remain ongoing, including soil gas and groundwater remediation at Sites 2 and 12 (Sites 2/12), groundwater remediation associated with the OU2 Fort Ord Landfills, and groundwater remediation at the Operable Unit Carbon Tetrachloride Plume (OUCTP).

2.4 Fort Ord Geology and Hydrogeology

The former Fort Ord is located within a geologically complex area of Monterey County. Stratigraphy consists of the Miocene Age Monterey formation, which is characterized by marine deposits. The Pliocene Age Purisima formation unconformably overlies the Monterey formation and consists of poorly indurated gravel, sand, silt, and silty clay. Stratigraphically above the Purisima is the Paso Robles formation of Pliocene/Pleistocene Age. The Paso Robles contains alluvial fan, lake, and floodplain deposits. Overlying the Paso Robles Formation is the Aromas Sand, a Pleistocene unit consisting of well-sorted sand containing one or more gravel intervals and, in some localities, a thin basal breccia member. The youngest deposits in the area are unconsolidated gravel, sand, silt, and clay, which were deposited as alluvium, floodplain deposits, terrace deposits, and sand dunes. The former Fort Ord is located in a highly active seismic area, in the middle of a strip of land called the Palo Colorado-San Gregorio Fault Zone, located between the major San Andreas fault zone and a lesser zone that trends northwesterly from Point Sur (HLA, 1994).

Fort Ord is underlain by the Monterey Subbasin of the Salinas Basin in the northern and eastern areas and the Seaside Basin in the southwestern area (Figure 2). The Monterey Subbasin includes the Main Garrison and East Garrison areas, the former FAAF, and the City of Marina. The Seaside Basin is comparatively small and includes the Inland Ranges, City of Del Rey Oaks, City of Seaside, and Sand City (HLA, 1995b).

Three groundwater aquifers within the Monterey Subbasin are in the remediation phase of cleanup activities at the former Fort Ord: the unconfined A-Aquifer, the unconfined and confined Upper 180-Foot Aquifer, and the confined Lower 180-Foot Aquifer (Figure 3). The aquifers consist predominantly of fine to coarse-grained sands separated by silty clay or clayey fine-grained sand aquitards (HLA, 1995b).

The A-Aquifer is located within the relatively homogenous dune sand deposits and is perched above the regional Fort Ord-Salinas Valley Aquitard (FO-SVA) (Figure 3). A groundwater divide in the A-Aquifer exists east of the OU2 Fort Ord Landfills and trends northward toward the former FAAF. Groundwater in the A-Aquifer east of the divide flows north and northeast toward the Salinas Valley and discharges at the bluff face above the Salinas River. Groundwater in the A-Aquifer west of the divide flows north and northwest to the edge of the FO-SVA (HLA, 1995b).

To the west where the FO-SVA pinches out, the unconfined A-Aquifer and confined Upper 180-Foot Aquifer combine to form a continuous, unconfined hydrostratigraphic unit (identified as the unconfined Upper 180-Foot Aquifer) (Figure 3). A north-trending groundwater divide in the unconfined Upper 180-Foot Aquifer exists midway between the FO-SVA and Monterey Bay. Groundwater in the unconfined Upper 180-Foot Aquifer west of the divide flows west and discharges to the Monterey Bay. Groundwater in the unconfined Upper 180-Foot Aquifer east of the divide flows under the FO-SVA (becoming confined) toward the Salinas Valley.

The Upper and Lower 180-Foot Aquifers and portions of the 400-Foot Aquifer (locally) are contained within valley-fill deposits composed predominantly of fluvial sand with some gravel. The Upper 180-Foot Aquifer is separated from the Lower 180-Foot Aquifer by the Intermediate 180-Foot Aquitard, which appears to be laterally discontinuous in the eastern portion of the former Fort Ord near the OU2 and OUCTP areas creating a natural conduit between the aquifers (Army, 2008) (Figure 3).

The Lower 180-Foot Aquifer and the 400-Foot Aquifer have similar groundwater elevations in the areas of the Main Garrison and the Fort Ord Landfills. Little hydraulic separation is evident at these locations; therefore, their groundwater elevations are contoured together and they are considered as a single hydrostratigraphic unit. Groundwater flow in the Lower 180-Foot Aquifer and the 400-Foot Aquifer is eastward toward the Salinas Valley and groundwater levels fluctuate in direct response to seasonal groundwater demand by Salinas Valley irrigation wells (HLA, 1995b). The Lower 180-Foot Aquifer and the 400-Foot Aquifer are penetrated by three Marina Coast Water District (MCWD) drinking water supply wells.

The “180-Foot” and “400-Foot” aquifer names at the former Fort Ord are derived from the aquifer names in common usage in the Salinas Valley. Underlying the 400-Foot Aquifer is a confining layer reported to be approximately 150 feet thick that separates the 400-Foot Aquifer from the 900-Foot Aquifer, which consists of sands and gravels interbedded with discontinuous lenses of clay between depths of approximately 750 and 1,700 feet below ground surface (bgs). The 900-Foot Aquifer is penetrated by three deep MCWD drinking water supply wells (HLA, 1995b).

The boundary between the Monterey Subbasin and the Seaside Basin is not well defined. An east-west-trending “bedrock high,” as defined by the presence of the Monterey Formation, is believed to extend from the vicinity of Welch and Grant Ewing ridges eastward to at least Camp Huffman. The basin boundary then extends southward from Camp Huffman toward Laguna Seca approximately parallel to Wildcat Ridge. The Seaside Basin includes the Uppermost Aquifer, Paso Robles Aquifer, and Santa

Margarita Aquifer (Figure 4). The Uppermost Aquifer is not used for water supply, but the Paso Robles and Santa Margarita formations contain several water-bearing zones and are water supply sources (HLA, 1994).

The Uppermost Aquifer is similar to the A-Aquifer of the Salinas Basin and consists of sandy, permeable soils. Groundwater within the Uppermost Aquifer is unconfined and perched, generally flowing from east to west. The degree of hydraulic communication between the Uppermost and the underlying Paso Robles Aquifers is considered relatively low because the upper Paso Robles Formation is poorly sorted, with considerable fine-grained components. Additionally, in much of the western portion of the Seaside Basin, an extensive clay (the Seaside clay) appears to separate the Uppermost and Paso Robles Aquifers (HLA, 1994) (Figure 4).

The Paso Robles Formation is geologically older than the Uppermost Aquifer and the sediments (and aquifer zones) in this formation are believed to be deformed by faulting and folding. This deformation primarily affects the deeper portions of the formation and the faults are considered to act as significant barriers to groundwater flow where they are present. Groundwater in this aquifer is typically confined and flow is influenced to a large degree by pumping from supply wells (HLA, 1994).

The deepest aquifer in the Seaside Basin is the Santa Margarita formation (Figure 4). Groundwater in this aquifer is confined and groundwater flow is strongly influenced by pumping. As in the Paso Robles Aquifer, this aquifer is deformed by folding and faulting with faults forming barriers to groundwater flow (HLA, 1994).

Significant seawater intrusion or groundwater contamination has not been identified in the Seaside Basin aquifers (HLA, 1994). Seawater intrusion is not occurring in the Seaside Basin, though both the Paso Robles and Santa Margarita Aquifers in the Seaside Basin are susceptible to seawater intrusion (Montgomery, 2024). Based on current seawater intrusion mapping from the Monterey County Water Resources Agency, seawater intrusion in Monterey County is located north of the former Fort Ord (MCWRA, 2022). Pure Water Monterey, a joint advanced water recycling project by the Monterey Peninsula Water Management District and Monterey One Water, works to address seawater intrusion in the Monterey Subbasin through groundwater replenishment with treated recycled water (Pure Water Monterey, 2022).

2.5 Fort Ord Surface Water and Physiography

Several small unnamed lakes and intermittent tributaries are located at the former Fort Ord. The tributaries are mainly located in the undeveloped eastern portion of the facility and drain toward the north to the Salinas River or to the south to an unnamed tributary. Both the Salinas River and the unnamed tributary drain into the Pacific Ocean, which is located along the western border of the former Fort Ord. The western portion of the former Fort Ord, which extends from the coastline 4 or 5 miles inland, consists primarily of stabilized and shifting sand dunes. Elevations in this area range from sea level along the coastline of Monterey Bay to over 500 feet above mean sea level (MSL) on Merrilis Hill, near the center of the former Fort Ord. The eastern portion of the former Fort Ord, from the vicinity of the East Garrison south to Laguna Seca, consists of hilly land with randomly oriented ridges and drainage swales. Few surface water bodies exist in the area because the highly permeable sandy soils drain most of the rainfall, leaving little runoff. Elevations in the eastern portion of the former Fort Ord range from

approximately 200 feet above MSL in the vicinity of the East Garrison to over 900 feet above MSL near Laguna Seca (EA, 1991). Topography and drainage at the former Fort Ord are shown in Appendix C.

2.6 Fort Ord Soil Setting

The predominant lithology is loose, well-sorted (poorly graded) fine- to medium-grained sand. The sands represent active and recently active dunes and older Pleistocene-age dune sands. The active dune sands parallel the beach and extend several hundred feet inland. The older dune sands cover most of the northern and western portions of the former Fort Ord. Paleosols, representing former ground surfaces (silty sands), exist within these sands. These paleosols indicate that one or more cycles of dune deposition have occurred with intervening periods of soil development. The paleosols in the dunes bordering the beach indicate that older dune sand is locally present beneath the recent dune sand.

The dominant soil types found at the former Fort Ord include the Arnold, Baywood, and Oceano series. These soils formed in alluvium derived from mixed sources on alluvial fans and terraces and also formed in material derived from sand dunes, hills, and uplands. These soils are excessively drained, moderately erosive, and extremely low in fertility, and are therefore of limited agricultural value.

Arnold soils (Arnold-Santa Ynez Complex or Ar) are found mainly in the Inland Ranges. Baywood soils formed in stabilized sand dunes and are located west of the former FAAF, the golf course, Main Garrison area, and the western portion of the Inland Ranges. Vegetation in these areas is generally manzanita, chamise, and scattered oaks. Baywood soils are susceptible to erosion if the vegetation cover is removed.

Soils that are characteristic of the Oceano series are located at the former FAAF, portions of the Main Garrison, the northern portion of the Inland Ranges, and Fort Ord Dunes State Park. These soils support annual grasses, forbs, and scattered brush.

The southeastern comer of the former Fort Ord is characterized by soils from the Santa Ynez series. These soils are typically well-drained soils that form on terraces in alluvium derived from sandstone and granitic rock. Generally, the vegetation consists of annual grasses and forbs, scattered oaks, and brush.

Soils along the coast are principally formed on marine sedimentary rocks and sand dune deposits. These areas are partly covered by water during high tides and exposed during low tides. Inland from coastal beaches are the coastal dunes. Typical vegetation in dune areas includes ice plant, lupines, brush, and grasses (EA, 1991).

Because of the high permeability of the dune sand deposits that cover the surface of the former Fort Ord, rainfall generally percolates directly in the soil. As a result, most of the area of the former Fort Ord displays large, undrained basins; however, runoff does occur over developed areas in the former Main Garrison and along a few ephemeral streams in deep canyons in the southeastern area.

2.7 Fort Ord Climate

The climate at the former Fort Ord is classified as a Mediterranean climate, with strong coastal marine influences. This coastal proximity results in mild, stable temperatures throughout the year. According to the Western Regional Climate Center (WRCC; 2025), average maximum temperatures in the Monterey area range from approximately 59.8°F in January to 71.8°F in September, while average minimum temperatures range from 43.4°F in January to 53.0°F in September. These temperatures are further tempered by marine fog and ocean breezes particularly during the summer months.

Average annual precipitation is 19.7 inches with the majority falling between November and April, marking a distinct wet season (WRCC, 2025). Conversely, the dry season spans from late spring through early fall and is characterized by minimal rainfall and persistent coastal fog. The former Fort Ord precipitation regime supports a diverse coastal ecosystem, including maritime chaparral, grasslands, and coastal scrub habitats.

3.0 Site Resolution Assessment for Selected Sites

3.1 Fire Training Areas

This section presents newly identified AOPIs that were recognized after completion of the PA/SI process. These AOPIs are associated with activities conducted after the 1994 closure of Fort Ord, including activities performed by non-Army entities or other Army organizations, such as the POM, operating at former Fort Ord properties. These areas were included to ensure comprehensive site evaluation under CERCLA. The evaluation of these AOPIs was intended to assess risk associated with potential PFAS releases, support NFA determinations as appropriate, and identify sites recommended for future investigation. For AOPIs where additional data needs are identified, a PA/SI designation was assigned to acknowledge their current evaluation status and support future evaluation consistent with the CERCLA process.

3.1.1 Building 1760 (former structure on 1st Avenue)

Site Description

Building 1760 was located on the western side of former Fort Ord between State Route 1 and California State University Monterey Bay (Figure 5). The site can be accessed from 1st Avenue. Building 1760 served as an administration building within the Main Garrison between construction in 1940 and base closure in 1994 (Army, 2003). The building footprint was approximately 3,000 square feet in size. A review of historical imagery on Google Earth Pro (accessed July 2025) indicated that Building 1760 was demolished between September 2022 and March 2023.

As an administrative facility, the historical use of Building 1760 would not have involved industrial processes, maintenance operations, or activities typically associated with PFAS-containing material and the presence of PFAS during its operational period was unlikely. However, post-closure activities included use of the building and surrounding area for fire training activities involving AFFF.

Site reconnaissance was performed on April 11, 2025. The site was under active construction during the site visit, with Building 1760 previously demolished, and rough grading and utility installation complete for a new residential development. Site visit information is in Appendix B.

The Building 1760 footprint is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 7 through 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was previously owned and operated by the Army as an administration building located in the Main Garrison (Army, 2003). The site property was transferred from the Army to the Fort Ord Reuse Authority (FORA) in 2004 and is currently owned by Marina Community Partners, LLC (Table 2). The site is currently being developed as part of a residential community in The Dunes.

Building 1760 sewage would have been conveyed via the Main Garrison sewer system to the Site 2 Main Garrison Sewage Treatment Plant (STP) until its decommissioning in 1990, after which flows were redirected to the Regional Treatment Plant (RTP) north of the City of Marina through lift stations (Weston, 1990). There is no evidence of on-site septic or wastewater treatment systems. No underground storage tanks (USTs) or hazardous material storage were associated with Building 1760.

Waste generation was consistent with its use as a non-industrial administrative facility and consisted primarily of sanitary wastewater and typical building solid waste.

No AFFF use or storage was documented at Building 1760 during installation operations pre-closure in 1994. However, post-closure activities included use of the building for firefighter training activities involving AFFF by the POM Fire Department. An interview with POM Fire Chief was conducted on April 18, 2025, to determine the nature of the training exercises. Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. The truck with the aerial ladder device was used for training and would discharge AFFF and water over the top of Building 1760, with AFFF falling to the ground surface on all four sides of the building. These training activities occurred approximately 3 to 4 times per year between 2005 and 2015. No firefighter training occurred at the site after 2015. It was noted during the interview that training before 2005 is possible; however, there is not currently a record of such activity. No other spills, leaks, or accidental AFFF discharges were reported at the site and no AFFF was stored onsite. Interview information is in Appendix A.

Pathway Analysis

A pathway analysis for the former Building 1760 site was conducted to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, along with FOPWG discussions, form the technical basis for the former Building 1760 site resolution decisions presented in this document.

Groundwater

Hydrogeologic Setting

The site of the former Building 1760 overlies the unconfined Upper 180-Foot Aquifer west of the FO-SVA. Because the FO-SVA is absent at this site, the A-Aquifer is considered part of the Upper 180-Foot Aquifer. The lithology of both the Upper 180-Foot Aquifer and Lower 180-Foot Aquifer is primarily sand to silty sand with up to 15 percent gravel in some zones. The Intermediate 180-Foot Aquitard, present between the Upper 180-Foot Aquifer and the Lower 180-Foot Aquifer at approximately 128 to 138 feet bgs, is mainly sandy silt to silty and clayey sand and ranges in thickness from about 8 to 20 feet. During initial site characterization in 1992 at Sites 2/12, approximately ½ to ¾ of a mile to the north of Building 1760, the depth to groundwater ranged from about 40 to 60 feet bgs. Groundwater flow in the Upper-180 Foot Aquifer is generally southwest toward Monterey Bay, with a maximum hydraulic gradient of 6.9 x 10-4 feet/feet. Upper 180-Foot Aquifer water levels close to Monterey Bay are influenced by tidal fluctuation but the effects decrease to less than 0.1 foot approximately 1,000 feet from the shore, indicating that this site is not generally influenced by tidal fluctuation. Groundwater flow in the Lower 180-Foot Aquifer is generally inland away from the former Building 1760 site. Local variation in flow direction In the Lower 180-Foot Aquifer does occur near the Monterey Bay where water levels are affected by tidal conditions; however, there are only minor seasonal variations in water levels. Influence on water levels in the Lower 180-Foot Aquifer related to tidal changes is present over 2,000 feet from Monterey Bay, with a change of over one foot in water level measured at nearby Site 12 during tidal influence monitoring in 1994. The Upper 180-Foot Aquifer is unconfined at Building 1760 while the Lower 180-Foot Aquifer is confined and aquifer stress testing (from pumping) applied to the Upper 180-Foot Aquifer in the Sites 2/12 area did not influence the Lower 180-Foot Aquifer. Pump tests were not conducted in the Lower 180-Foot Aquifer in the nearby Site 2 area, though the Lower 180-Foot Aquifer was monitored during pump testing in the Upper 180-Foot Aquifer (HLA, 1995b).

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. Generally, the highest concentrations of groundwater COCs at Sites 2/12 are detected from 0 to 20 feet below the top of the water table. Concentrations decrease to non-detection at the bottom of the Upper 180-Foot Aquifer. COCs are not detected below the Intermediate 180-Foot Aquitard showing that the unit is a barrier to their downward migration (i.e., the Lower 180-Foot Aquifer is not impacted) (HLA, 1995b). The Upper 180-Foot Aquifer is not used for water supply and there is no downgradient groundwater use.

For deeper aquifers, downgradient of the former Building 1760 site are the MCWD drinking water supply wells 29, 30, 31, and 34, located approximately 3.3 miles, 3.6 miles, 3.8 miles, and 4.1 miles away, respectively (Figure 12). Wells 29, 30, and 31 draw from the Lower 180-Foot Aquifer and the 400-Foot Aquifer; however, these aquifers are hydraulically separated from the Upper 180-Foot Aquifer, which flows toward the Monterey Bay at Building 1760. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer that is approximately 150 feet thick. These wells supply potable water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the Building 1760 site to the Upper 180-Foot Aquifer is possible because of the post-closure use of AFFF in this area. Because of the mobility of PFAS in the soil pathway, a groundwater investigation is recommended in this area (see Section 4.9).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). Building 1760 was located in the Marina watershed (Figure 6). The site does not lie within either the 100-year or 500-year flood plains (FEMA, 2017). Surface water infiltration is likely high at Building 1760 due to subsurface materials consisting of coarse and silty sand to approximately 180 feet bgs (HLA, 1996a). The nearest surface water body is the Monterey Bay, located approximately 0.6 mile away from the site. Stormwater runoff from the Building 1760 site to the Monterey Bay or other surface water bodies is unlikely due to the topography and high infiltration soil types present at the site.

Stormwater runoff from the former site of Building 1760 would flow along the curb and gutter on 1st Avenue to the north, where it would then enter the storm drain system. From there, it would be transported to an infiltration basin on the west side of State Route 1 that was constructed in 2003 (Creegan + D'Angelo, 2005). Due to the high infiltration rates in this area, surface water would infiltrate into the soil and groundwater.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The closest surface water body is Monterey Bay approximately 0.6 mile away. There are no drinking water intakes, fisheries, or aqueous sensitive environments downstream of the site of the former Building 1760. Due to the distance of surface water bodies and groundwater flow directions in the Upper 180-Foot Aquifer, it is unlikely that there is a groundwater impact to surface water resulting from historical activities at the site.

Surface Water Conclusions

Because no surface water is present onsite and there is no stormwater runoff to surface water from the former Building 1760 site, it is unlikely that any potential PFAS generated from the site would have migrated to surface water bodies and there are no associated primary targets. Therefore, no additional surface water investigation is recommended.

Soil Pathway

Physical Conditions

At the former Building 1760 site, the soils are mapped by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) as Oceano loamy sand from the surface to approximately 80 feet bgs (USDA, 2025). Nearby Site 20 was characterized with subsurface material consisting of brownish yellow fine to coarse sand and silty sand to approximately 180 feet bgs, with predominantly silt and silty sand below this depth (HLA, 1996a). The depth to groundwater is approximately 180 feet bgs; however, because there are no wells in the immediate vicinity, this is an estimate based on information from Site 20 directly to the south.

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are not currently resident populations or schools within 200 feet of the former Building 1760 site; however, the site is zoned as SP-UV (Specific Plan – University Village) and will be developed for the University Village (The Dunes) project. The Dunes project is planned as a mixed-use area consisting of retail, entertainment, commercial, visitor serving and residential uses (Dahlin, 2005). The former Building 1760 site is currently planned for residential units and PFAS-impacted soil could be exposed during development.

Because of the planned developments at the former Building 1760 site, there is a potential exposure pathway through soil for workers and for future residents, both identified as primary target populations.

Soil Conclusions

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the unpaved areas adjacent to the former Building 1760 site is likely and PFAS-impacted soil could remain near the ground surface. Soil sampling for PFAS analysis in this area at depths ranging from the ground surface to 10 feet bgs to screen for the presence of PFAS is recommended because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible (see Section 4.9).

FOPWG Discussions

Building 1760 was discussed during FOPWG meetings, during which the Army noted that Building 1760 is not included in the current RI phase but would initially be addressed in this Site Resolution Report to support future efforts.

Evaluation for Further Investigation

Building 1760 has been identified as a location where potential exposure pathways for groundwater and soil may be present and may warrant consideration for future investigation.

3.1.2 Building 1885 (former structure on 5th Street)

Site Description

Building 1885 was located on the western side of former Fort Ord between State Route 1 and California State University Monterey Bay (Figure 5). The site can be accessed from 5th Street. Building 1885 served

as a chapel within the Main Garrison between construction in 1941 and base closure in 1994 (Army, 2003). The building footprint was approximately 3,500 square feet. A review of historical imagery on Google Earth Pro (accessed July 2025) indicated that Building 1885 was demolished between September 2022 and March 2023.

As a chapel, the historical use of Building 1885 would not have involved industrial processes, maintenance operations, or activities typically associated with PFAS-containing material and the presence of PFAS during its operational period was unlikely. However, post-closure activities included use of the building for firefighter training activities involving AFFF.

Site reconnaissance was performed on April 11, 2025. The site was under active construction during the site visit, with Building 1885 previously demolished, and rough grading and utility installation complete. Site visit information is in Appendix B.

Building 1885 is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 7 through 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

Building 1885 was previously owned and operated by the Army as a chapel located in, and serving residents of, the Main Garrison (Army, 2003). The site property was transferred from the Army to FORA in 2004 and is currently owned by Marina Community Partners, LLC (Table 2). The site is currently being developed as part of a residential community in The Dunes.

Building 1885 sewage was conveyed via the Main Garrison sewer system to the Site 2 Main Garrison STP until its decommissioning in 1990, after which flows were redirected to the RTP north of the City of Marina through lift stations (U.S. Army, circa 1990). There is no evidence of on-site septic or wastewater treatment systems. No USTs or hazardous material storage were associated with Building 1885. Waste generation was consistent with its use as a non-industrial community facility and consisted primarily of sanitary wastewater and typical building solid waste.

No AFFF use or storage was documented at Building 1885 during installation operations pre-closure in 1994. However, post-closure activities included use of the building and surrounding area for firefighter training activities involving AFFF by the POM Fire Department. An interview with POM Fire Chief was conducted on April 18, 2025, to determine the nature of the training exercises. Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at Building 1760. The truck with the aerial ladder device was used for training and would discharge AFFF and water over the top of the building, with AFFF falling to the ground surface on all four sides of the building. These training activities occurred approximately 3 to 4 times per year between 2005 and 2015. No firefighter training occurred at the site after 2015. It was noted during the interview that training before 2005 is possible; however, there is not currently a record of such activity. No other spills, leaks, or accidental AFFF discharges were reported at the site and no AFFF was stored onsite. Interview information is in Appendix A.

Pathway Analysis

A pathway analysis for the former Building 1885 site was conducted to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, along with FOPWG discussions, form the technical basis for the former Building 1885 site resolution decisions presented in this document.

Groundwater

Hydrogeologic Setting

The site of the former Building 1885 overlies the unconfined Upper 180-Foot Aquifer west of the FO-SVA. Because the FO-SVA is absent at this site, the A-Aquifer is considered part of the Upper 180-Foot Aquifer. The lithology of both the Upper 180-Foot Aquifer and Lower 180-Foot Aquifer is primarily sand to silty sand with up to 15 percent gravel in some zones. The Intermediate 180-Foot Aquitard, present between the Upper 180-Foot Aquifer and the Lower 180-Foot Aquifer at approximately 128 to 138 feet bgs, is mainly sandy silt to silty and clayey sand and ranges in thickness from about 8 to 20 feet. During initial site characterization in 1992 at Sites 2/12, approximately ½ to ¾ of a mile to the north of Building 1885, the depth to groundwater ranged from about 40 to 60 feet bgs. Groundwater flow in the Upper-180 Foot Aquifer is generally southwest toward Monterey Bay, with a maximum hydraulic gradient of 6.9 x 10-4 feet/feet. Upper 180-Foot Aquifer water levels close to Monterey Bay are influenced by tidal fluctuation but the effects decrease to less than 0.1 foot approximately 1,000 feet from the shore, indicating that this site is not generally influenced by tidal fluctuation. Groundwater flow in the Lower 180-Foot Aquifer is generally inland away from the former Building 1885 site. Local variation in flow direction In the Lower 180-Foot Aquifer does occur near the Monterey Bay where water levels are affected by tidal conditions; however, there are only minor seasonal variations in water levels. Influence on water levels in the Lower 180-Foot Aquifer related to tidal changes is present over 2,000 feet from Monterey Bay, with a change of over one foot in water level measured at nearby Site 12 during tidal influence monitoring in 1994. The Upper 180-Foot Aquifer is unconfined at Building 1885 while the Lower 180-Foot Aquifer is confined and aquifer stress testing (from pumping) applied to the Upper 180-Foot Aquifer in the Sites 2/12 area did not influence the Lower 180-Foot Aquifer. Pump tests were not conducted in the Lower 180-Foot Aquifer in the Site 2 area, though the Lower 180-Foot Aquifer was monitored during pump testing in the Upper 180-Foot Aquifer (HLA, 1995b).

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. Generally, the highest concentrations of groundwater COCs at Sites 2/12 are detected from 0 to 20 feet below the top of the water table. Concentrations decrease to non-detection at the bottom of the Upper 180-Foot Aquifer. COCs are not detected below the Intermediate 180-Foot Aquitard showing that the unit is a barrier to their downward migration (i.e., the Lower 180-Foot Aquifer is not impacted) (HLA, 1995b). The Upper 180-Foot Aquifer is not used for water supply and there is no downgradient groundwater use.

For deeper aquifers, downgradient of the former Building 1885 site are the MCWD drinking water supply wells 29, 30, 31, and 34, located approximately 3.3 miles, 3.6 miles, 3.8 miles, and 4.1 miles away, respectively (Figure 12). Wells 29, 30, and 31 draw from the Lower 180-Foot Aquifer and the 400-Foot Aquifer; however, these aquifers are hydraulically separated from the Upper 180-Foot Aquifer, which flows toward the Monterey Bay at Building 1885. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer

that is approximately 150 feet thick. These wells supply potable water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the Building 1885 site to the Upper 180-Foot Aquifer is possible because of the post-closure use of AFFF in this area. Because of the mobility of PFAS in the soil pathway, a groundwater investigation is recommended in this area (see Section 4.10).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). Building 1885 was located in the Marina watershed (Figure 6). The site does not lie within either the 100-year or 500-year flood plains (FEMA, 2017). Surface water infiltration is likely high at Building 1885 due to subsurface materials consisting of coarse and silty sand to approximately 180 feet bgs (HLA, 1996a). The nearest surface water body is the Monterey Bay, located approximately 0.6 miles away from the site. Stormwater runoff from the Building 1885 site to the Monterey Bay or other surface water bodies is unlikely due to the topography and high infiltration soil types present at the site.

Stormwater runoff from the former site of Building 1885 would flow along the curb and gutter on 5th Street to the west, where it would then enter the storm drain system. From there, it would be transported to an infiltration basin on the west side of State Route 1 that was constructed in 2003 (Creegan + D'Angelo, 2005). Due to the high infiltration rates in this area, surface water would infiltrate into the soil and groundwater.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The closest surface water body is Monterey Bay approximately 0.6 miles away. There are no drinking water intakes, fisheries, or aqueous sensitive environments downstream of the site of the former Building 1885. Due to the distance of surface water bodies and groundwater flow directions in the Upper 180-Foot Aquifer, it is unlikely that there is a groundwater impact to surface water resulting from historical activities at the site.

Surface Water Conclusions

Because no surface water is present onsite and there is no stormwater runoff to surface water from the former Building 1885 site, it is unlikely that any potential PFAS generated from the site would have migrated to surface water bodies and there are no associated primary targets. Therefore, no additional surface water investigation is recommended.

Soil Pathway

Physical Conditions

At the former Building 1885 site, the soils are mapped by NRCS as Oceano loamy sand from the surface to approximately 80 feet bgs (USDA, 2025). The nearby Site 20 was characterized with subsurface material consisting of brownish yellow fine to coarse sand and silty sand to approximately 180 feet bgs, with predominantly silt and silty sand below this depth (HLA, 1996a). The depth to groundwater is approximately 180 feet bgs; however, because there are not wells in the immediate vicinity, this is an estimate based on information from Site 20 directly to the south.

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are not currently resident populations or schools within 200 feet of the former Building 1885 site; however, the site is zoned as SP-UV (Specific Plan – University Village) and will be developed for the University Village (The Dunes) project. The Dunes project is planned as a mixed-use area consisting of retail, entertainment, commercial, visitor serving and residential uses (Dahlin, 2005). The former Building 1885 site is currently planned for residential units and PFAS-impacted soil could be exposed during development. Because of the planned developments at the former Building 1885 site, there is a potential exposure pathway through soil for workers and for future residents, both identified as primary target populations.

Soil Conclusions

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the unpaved areas adjacent to the former Building 1885 site is likely and PFAS-impacted soil could remain near the ground surface. Soil sampling for PFAS analysis in this area at depths ranging from the ground surface to 10 feet bgs to screen for the presence of PFAS is recommended because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible (see Section 4.10).

FOPWG Discussions

Building 1885 was discussed during FOPWG meetings, during which the Army noted that Building 1885 is not included in the current RI phase but would initially be addressed in this Site Resolution Report to support future efforts.

Evaluation for Further Investigation

Building 1885 has been identified as a location where potential exposure pathways for groundwater and soil may be present and may warrant consideration for future investigation.

3.1.3 Buildings 4360-4363 (former Bachelor Officers' Quarters [BOQ])

Site Description

Buildings 4360 through 4363 were located on the eastern side of General Jim Moore Boulevard adjacent to Chartwell School (Figure 5). The site can be accessed from Numa Watson Road. These buildings were the BOQ and Buildings 4360 through 4362 were constructed in 1953, while Building 4363 was constructed in 1956 (DEI, 1993). A review of historical imagery on Google Earth Pro (accessed July 2025) indicated that Buildings 4360-4363 were demolished between February 2021 and June 2022.

As residential quarters, the historical use of Buildings 4360-4363 would not have involved industrial processes, maintenance operations, or activities typically associated with PFAS-containing material and the presence of PFAS during its operational period was unlikely. However, post-closure activities included use of the building and surrounding area for fire training activities involving AFFF.

Site reconnaissance was performed March 21, 2025. Buildings 4360 through 4363 were previously demolished, and the site was previously rough graded. All portions of the site appear unused at this time, except for the area of former Building 4363, which was being used as an archery range. Site visit information is in Appendix B.

Buildings 4360 through 4363 are located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 7 through 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

Buildings 4360 through 4363 were previously owned and operated by the Army and were constructed and used as the BOQ to accommodate unmarried military officers assigned to the Main Garrison. These facilities featured dormitory-style living arrangements with individual or shared rooms and common amenities such as restrooms and lounges. The buildings were not associated with vehicle maintenance, industrial operations, or logistical support.

The BOQ buildings were connected to Fort Ord's centralized utility infrastructure, including water, sewer, and electric service. Wastewater from these buildings discharged via gravity sewers to the Site 2 Main Garrison STP (Army, 2007a). Upon the STP's closure in 1990, the BOQ's sewage flow was redirected through lift stations to the RTP north of the City of Marina (HLA, 1995b). No records show onsite wastewater treatment systems were used for these buildings; all wastewaters were managed through the centralized sewer network.

Three USTs were historically present and served utility functions related to building operations (EA, 1991). Building 4362 had two USTs, including a 4,000-gallon tank (UST 4362.1) and a 1,500-gallon tank (UST 4362.2), both used for diesel fuel storage. These USTs were removed in September 1990 following discovery of a product release in 1988. Due to structural integrity concerns for Building 4362, some contaminated soil was left in place (HLA, 1997b). Building 4363 had one 3,000-gallon diesel UST (UST 4363.1), which was removed in April 1992 (HLA, 1998b). These USTs were associated with fuel storage and were not related to sanitary sewer or wastewater functions.

No AFFF use or storage was documented at the BOQ during installation operations pre-closure in 1994. However, post-closure activities included use of the building and surrounding area for POM Fire training activities involving AFFF. An interview with POM Fire Chief was conducted on March 21, 2025, to determine the nature of the training exercises. Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at the four buildings and associated parking lots on the west side of the BOQ. Firefighters would deploy hoses for training between the three buildings in the northern part of the BOQ (Buildings 4360, 4361, and 4362) from the parking lot on the south side of the buildings, though the POM Fire Chief stated that water and AFFF were not discharged beyond the northern extent of the buildings. It was noted that AFFF was sometimes discharged into the oak trees on the west end of the parking lot and would also enter the concrete-lined stormwater drainage channel exiting the east end of the parking lot and going down Numa Watson Road toward Normandy Road. Training on the southwestern side of the BOQ included nozzle testing from the ladder truck over the top of Building 4363 on the north side of the parking lot and over the oak tree canopy on the south side of the parking lot. It was noted that AFFF also entered the two storm drain inlets at the west end of the parking lot, which are both connected to a discharge pipe that daylights downslope approximately 200 feet west of the parking lot. These training activities occurred approximately 3 to 4 times per year between 2005 and 2015. No firefighter training occurred at the site after 2015. It was noted during the interview that training before 2005 is possible; however, there is not currently a record of such activity. No other spills, leaks, or accidental AFFF discharges were reported at the site and no AFFF was stored onsite. Interview information is in Appendix A.

The site property was transferred from the Army as two parcels, one to FORA in 2005, which is currently owned by the City of Seaside, and one to the U.S. Department of Education and then to Chartwell School

as a public benefit conveyance in 2011 (Table 2). A portion of the site is planned for redevelopment as an expansion of Chartwell's high school facilities. Based on the results of a Phase I Environmental Site Assessment, Chartwell School entered into a voluntary agreement with DTSC in August 2023 to investigate, remediate, and/or evaluate a release, a threatened release, or a potential release of any hazardous substance, including hexavalent chromium, lead, and diesel-range total petroleum hydrocarbons, at or from the site under the oversight of DTSC (DTSC, 2023). Non-PFAS site characterization activities, including soil and soil vapor sampling, occurred in 2023 and 2024. In June 2025, DTSC concluded that PFAS evaluation of soil and groundwater is warranted based on documented historical AFFF training and testing activities in the vicinity of the site (DTSC, 2025).

Pathway Analysis

A pathway analysis for the former Buildings 4360 through 4363 site was conducted to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, along with FOPWG discussions, form the technical basis for the former Buildings 4360 through 4363 site resolution decisions presented in this document.

Groundwater

Hydrogeologic Setting

The site of former Buildings 4360 through 4363 lies within the Monterey Subbasin just north of the Seaside Basin boundary and overlies the unconfined 180-Foot Aquifer above the Monterey Formation bedrock high located between the former Main Garrison area and the City of Seaside that separates the Seaside Basin and the Monterey Subbasin of the Salinas Basin. Characterization of the geometry and extent of this bedrock high is limited by the relatively few data points in the area. However, these data suggest the bedrock high slopes toward the west and has a relatively flat surface (HLA, 1994). It is expected that the lithology of the 180-Foot Aquifer in the BOQ area would be similar to that of nearby Site 10, approximately ¾ of a mile to the north, consisting of primarily sand to silty sand with up to 15 percent gravel in some zones.

Historical unconfined 180-Foot Aquifer data from Site 10 indicates depths to groundwater of 240 to 250 feet bgs and groundwater elevations of 3 to 5 feet MSL in this area; however, differences in surface elevations indicate depth to groundwater at the former BOQ could be as much as 400 feet bgs. Based on extrapolation of groundwater elevations in wells on the north and south sides of the bedrock high, the saturated thickness of aquifer materials overlying the bedrock in the vicinity of former Buildings 4360 through 4363 is relatively thin. Therefore, it appears that the interconnection of the Salinas and Seaside groundwater basins in this area is minor and restricted to only a few feet of saturated aquifer material on top of the Monterey Formation. In the deeper aquifers, flow between the two basins appears to be blocked by the bedrock high (HLA, 1994).

On the Monterey Subbasin side of the bedrock high, groundwater flow in the unconfined 180-Foot Aquifer south of the edge of the FO-SVA in July 1992 was to the north or northeast, away from the BOQ area (HLA, 1994). On the southern (Seaside Basin, Northern Inland Subarea) side of the bedrock high, flow is also to the northeast, towards the BOQ area (Montgomery, 2024).

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. Generally, the highest concentrations of groundwater COCs are detected from 0 to 20 feet below the top of the water table. Concentrations decrease to non-detection at the bottom of the Upper 180-Foot Aquifer. COCs are not

detected below the Intermediate 180-Foot Aquitard showing that the unit is a barrier to their downward migration (i.e., the Lower 180-Foot Aquifer is not impacted) (HLA, 1995b). The Upper 180-Foot Aquifer is not used for water supply and there is no downgradient groundwater use.

For deeper aquifers, downgradient of the BOQ site are the MCWD drinking water supply wells 29, 30, 31, and 34, located approximately 3.1 miles, 3.5 miles, 3.6 miles, and 3.7 miles away, respectively (Figure 12). Wells 29, 30, and 31 draw from the Lower 180-Foot Aquifer and the 400-Foot Aquifer; however, these aquifers are hydraulically separated from the Upper 180-Foot Aquifer. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer that is approximately 150 feet thick. These wells supply potable water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the BOQ site to the Upper 180-Foot Aquifer is possible because of the post-closure use of AFFF in this area. At this site, the subsurface flow would be into the unconfined Upper 180-Foot Aquifer and then to the northeast into the confined Upper 180-Foot Aquifer under the FO-SVA. Because of the mobility of PFAS in the soil pathway, a groundwater investigation is recommended in this area (see Section 4.11).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). The former Buildings 4360 through 4360 site is located in the Marina watershed (Figure 6). The site does not lie within either the 100-year or 500-year flood plains (FEMA, 2017). Surface water infiltration is high at the site due to silty sand which extends from ground surface to 200 feet bgs and layers of well-graded and poorly graded sand below 200 feet bgs (HLA, 1996c) to the Monterey Formation shales at approximately 300 feet bgs. The nearest surface water body is the Monterey Bay, located approximately 1.9 miles away from the site. Stormwater runoff from the BOQ site to the Monterey Bay or other surface water bodies is unlikely due to the topography and high infiltration soil types present at the site.

Stormwater runoff from the BOQ site would flow partially into the Ord Military Community (OMC) storm drain system and partially percolate into the high infiltration soils adjacent to the former buildings. There are storm drains located on the southwest corner of the site, which transport water to an outlet releasing water further to the southwest in the unpaved, vegetated area adjacent to the site. There is also a concrete-lined drainage channel draining the parking lot area and transporting water north along Numa Watson Road and into an OMC storm drain system inlet at the intersection of Numa Watson Road and Normandy Road.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The closest surface water body is Monterey Bay approximately 1.9 miles away. There are no drinking water intakes, fisheries, or aqueous sensitive environments downstream of the BOQ site. Due to the distance of surface water bodies and groundwater flow directions in the Upper 180-Foot Aquifer, it is also unlikely that there is a groundwater impact to surface water resulting from historical activities at the site.

Surface Water Conclusions

Because no surface water is present onsite and there is minimal stormwater runoff to surface water from the BOQ site it is unlikely that any potential PFAS generated from the site would have migrated to surface water bodies and there are no associated primary targets. Therefore, no additional surface water investigation is recommended.

Soil Pathway

Physical Conditions

At the former Buildings 4360 through 4363 site, the soils are mapped by NRCS as Oceano loamy sand from the surface to approximately 80 feet bgs (USDA, 2025). Nearby Site 10 was characterized with subsurface material consisting of dark brown silty sand and yellow-brown silty sand with varying amounts of silt to approximately 200 feet bgs, with layers of well-graded sand interbedded by layers of poorly graded sands and silts (HLA, 1996c).

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are currently no resident populations within 200 feet of the former BOQ site. However, the site is located near the Chartwell School, which currently uses the site as an archery range as part of its educational program. These activities involve students (child receptors) and school staff (adult occupational receptors) who are considered current users of the area. Because of the potential for current educational use by Chartwell School students and staff, there is an exposure pathway for this primary target population. Under planned redevelopment, the same receptors (students and staff) will continue to use the site, but their exposure scenario will change. Future use will involve regular occupancy of new school buildings, resulting in longer time spent on-site but likely with reduced direct soil contact.

Soil Conclusions

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the unpaved areas adjacent to the BOQ site is likely and PFAS-impacted soil could remain near the ground surface. Soil sampling for PFAS analysis in this area at depths ranging from the ground surface to 10 feet bgs to screen for the presence of PFAS is recommended because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible (see Section 4.11).

FOPWG Discussions

Buildings 4360 through 4363 were discussed during FOPWG meetings, during which the Army noted that Buildings 4360 through 4363 are not included in the current RI phase but would initially be addressed in this Site Resolution Report to support future efforts.

Evaluation for Further Investigation

Buildings 4360 through 4363 have been identified as a location where potential exposure pathways for groundwater and soil may be present and may warrant consideration for future investigation.

3.1.4 Building 4387 (former Nurses' Barracks)

Site Description

Building 4387 is located east of General Jim Moore Boulevard near the Monterey Bay Department of Defense Center (Figure 5). The site can be accessed from Parker Flats Cut Off Road. The building was one of two buildings used as enlisted barracks and was constructed in 1974 (DEI, 1993). The building is currently still standing on property owned by the City of Seaside, which is intended for future

redevelopment where the sale of the property to the prospective developer remains contingent as of September 2025 (ESCA, 2025).

As residential quarters, the historical use of Building 4387 would not have involved industrial processes, maintenance operations, or activities typically associated with PFAS-containing material and the presence of PFAS during its operational period was unlikely. However, post-closure activities included use of the building and surrounding area for fire training activities involving AFFF.

Site reconnaissance was performed March 21, 2025. Building 4387 is still present on site. Site visit information is in Appendix B.

Building 4387 is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 7 through 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

Building 4387 was previously owned and operated by the Army and was constructed and used as enlisted barracks. These facilities featured dormitory-style living arrangements with individual or shared rooms and common amenities such as restrooms and lounges. The building was not associated with vehicle maintenance, industrial operations, or logistical support.

The Nurses' Barracks were connected to Fort Ord's centralized utility infrastructure, including water, sewer, and electric service. Wastewater from these buildings discharged via gravity sewers to the Site 2 Main Garrison STP (Army, 2007a). Upon Site 2's closure in 1990, the Nurses' Barracks sewage flow was redirected through lift stations to the RTP north of the City of Marina (EA, 1991). No records show onsite wastewater treatment systems were used for these buildings; all wastewaters were managed through the centralized sewer network.

One UST was historically present and served utility functions related to building operations. The UST was a 3,000-gallon tank (UST 4387), which was identified for removal in the Underground Storage Tank Management Plan and subsequently removed in 1991 (HLA, 1991). The UST was associated with fuel storage and there was no evidence of petroleum release from this site (Army, 2007b).

No AFFF use or storage was documented at Building 4387 during installation operations pre-closure in 1994. However, post-closure activities included use of the building for firefighter training activities involving AFFF by the POM Fire Department (Appendix A, Wilcox). An interview with POM Fire Chief was conducted on March 21, 2025, to determine the nature of the training exercises. Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at Building 4387 and the associated parking lot to the south. The POM Fire Chief stated no training occurred at adjacent Building 4386. Firefighters would deploy hoses for training at Building 4387 from the parking lot on the south side of the building, though after 2007 the parking lot was used for construction staging and the POM Fire Department only used the driveway on the west side of Building 4387 for staging firefighting vehicles during training. The truck with the aerial ladder device was used for training and would discharge AFFF and water over the top of Building 4387, with AFFF falling to the ground surface on all four sides of the building. It was stated that water and AFFF were discharged from a nozzle mounted on the aerial ladder device and the discharge could reach up to approximately 200

hundred feet off the edge of the pavement and over the top of the oak tree canopy on the south and east sides of the parking lot (up until 2007). These training activities occurred approximately 3 to 4 times per year between 2005 and 2015. No firefighter training occurred at the site after 2015. It was noted during the interview that training before 2005 is possible; however, there is not currently a record of such activity. No other spills, leaks, or accidental AFFF discharges were reported at the site and no AFFF was stored onsite. Interview information is in Appendix A.

The site property was transferred from the Army to FORA in 2009, was sub-divided into different parcels, with a portion currently owned by the City of Seaside and a portion currently owned by A.P. Glover Enterprises, LLC with sale to a developer pending (Table 2). The site is proposed for mixed-use development, including recreational open space and moderate- to high-density multi-family residential (City of Seaside, 2024).

Pathway Analysis

Groundwater

Hydrogeologic Setting

Building 4387 lies within the Monterey Subbasin north of the Seaside Basin boundary and overlies the unconfined Upper 180-Foot Aquifer just south of the edge of the FO-SVA. It is expected that the lithology of the 180-Foot Aquifer in the Building 4387 area would be similar to that of nearby Site 10, approximately ½ of a mile to the northwest. The lithology of both the Upper 180-Foot Aquifer and Lower 180-Foot Aquifer is primarily sand to silty sand with up to 15 percent gravel in some zones. The Intermediate 180-Foot Aquitard, present between the Upper 180-Foot Aquifer and the Lower 180-Foot Aquifer and estimated to be at approximately 390 to 400 feet bgs, is mainly sandy silt to silty and clayey sand.

Historical unconfined 180-Foot Aquifer data from Site 10 indicates depths to groundwater of 240 to 250 feet bgs and groundwater elevations of 3 to 5 feet MSL in this area; however, differences in surface elevations indicate depth to groundwater at Building 4387 could be as much as 350 feet bgs. Groundwater flow in the unconfined 180-Foot Aquifer south of the edge of the FO-SVA in July 1992 was to the north or northeast from the Building 4387 area (HLA, 1994). Groundwater flow in the Lower 180-Foot Aquifer is also generally to the northeast from Building 4387. The Upper 180-Foot Aquifer is unconfined at Building 4387 while the Lower 180-Foot Aquifer is confined.

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. Generally, the highest concentrations of groundwater COCs are detected from 0 to 20 feet below the top of the water table. Concentrations decrease to non-detection at the bottom of the Upper 180-Foot Aquifer. COCs are not detected below the Intermediate 180-Foot Aquitard showing that the unit is a barrier to their downward migration (i.e., the Lower 180-Foot Aquifer is not impacted) (HLA, 1995b). The Upper 180-Foot Aquifer is not used for water supply and there is no downgradient groundwater use.

For deeper aquifers, downgradient of Building 4387 are the MCWD drinking water supply wells 29, 30, 31, and 34, located approximately 2.7 miles, 3.1 miles, 3.2 miles, and 3.4 miles away, respectively (Figure 12). Wells 29, 30, and 31 draw from the Lower 180-Foot Aquifer and the 400-Foot Aquifer; however, these aquifers are hydraulically separated from the Upper 180-Foot Aquifer. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer that is approximately 150 feet thick. These wells supply potable

water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the Building 4387 site to the Upper 180-Foot Aquifer is possible because of the post-closure use of AFFF in this area. At this site, the subsurface flow would be into the unconfined Upper 180-Foot Aquifer and then to the northeast into the confined Upper 180-Foot Aquifer under the FO-SVA. Because of the mobility of PFAS in the soil pathway, a groundwater investigation is recommended in this area (see Section 4.12).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). Building 4387 is located in the Marina watershed (Figure 6). The site does not lie within either the 100-year or 500-year flood plains (FEMA, 2017). Surface water infiltration is high at Building 4387 due to silty sand which extends from ground surface to 200 feet bgs and layers of well-graded and poorly graded sand below 200 feet bgs (HLA, 1996c). The nearest surface water body is the Monterey Bay, located approximately 1.9 miles away from the site. Stormwater runoff from Building 4387 site to the Monterey Bay or other surface water bodies is unlikely due to the topography and high infiltration soil types present at the site.

Stormwater runoff from Building 4387 would flow partially into the OMC storm drain system and partially percolate into the high infiltration soils adjacent to the building. The OMC storm drain system in this area is comprised of concrete-lined channels adjacent to the roadways that transport runoff from the Building 4387 area to the west and then north along the east side of Parker Flats Cut Off Road to Gigling Road. Runoff then enters a pipe under Parker Flats Cut Off Road, which discharges to a vegetated area at the southwest corner of Parker Flats Cut Off Road and Gigling Road.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The closest surface water body is Monterey Bay approximately 1.9 miles away. There are no drinking water intakes, fisheries, or aqueous sensitive environments downstream of Building 4387. Due to the distance of surface water bodies and groundwater flow directions in the Upper 180-Foot Aquifer, it is also unlikely that there is a groundwater impact to surface water resulting from historical activities at the site.

Surface Water Conclusions

Because no surface water is present onsite and the stormwater runoff generally percolates into the ground onsite or further downstream at the stormwater infiltration area at the southwest corner of Parker Flats Cut Off Road and Gigling Road, it is unlikely that any potential PFAS generated from the site would have migrated to surface water bodies and there are no associated primary targets. Therefore, no additional surface water investigation is recommended.

Soil Pathway

Physical Conditions

At Building 4387, the soils are mapped by NRCS as Oceano loamy sand from the surface to approximately 80 feet bgs (USDA, 2025). Nearby Site 10 was characterized with subsurface material consisting of dark brown silty sand and yellow-brown silty sand with varying amounts of silt to

approximately 200 feet bgs, with layers of well-graded sand interbedded by layers of poorly graded sands and silts (HLA, 1996c).

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are not currently resident populations within 200 feet of the former Building 4387 site. However, redevelopment of the site for residential and recreational use is planned (City of Seaside, 2024). Due to these planning efforts, the target populations at the site include future residents, future workers, and recreational users and there is a potential exposure pathway for these primary target populations.

Soil Conclusions

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the unpaved areas adjacent to Building 4387 is likely and PFAS-impacted soil could remain near the ground surface. Soil sampling for PFAS analysis in this area at depths ranging from the ground surface to 10 feet bgs to screen for the presence of PFAS is recommended because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible (see Section 4.12).

FOPWG Discussions

Building 4387 was discussed during FOPWG meetings, during which the Army noted that Building 4387 is not included in the current RI phase but would initially be addressed in this Site Resolution Report to support future efforts.

Evaluation for Further Investigation

Building 4387 has been identified as a location where potential exposure pathways for groundwater and soil may be present and may warrant consideration for future investigation.

3.1.5 Building 7146 (former residential unit in Doe Park)

Site Description

Building 7146, a former residential unit in Doe Park, was located on the western side of General Jim Moore Boulevard on California Road (Figure 5). The building was used as a residential unit and was constructed in 1953 (Army, 1998). A review of historical imagery on Google Earth Pro (accessed July 2025) indicated that Building 7146 was demolished between October 2007 and March 2009. The site was transferred in 2000 to the City of Seaside and subsequently reacquired by the Army as part of the OMC (Army, 2000).

As residential quarters, the historical use of Building 7146 would not have involved industrial processes, maintenance operations, or activities typically associated with PFAS-containing material and the presence of PFAS during its operational period was unlikely. However, post-closure activities included use of the building and surrounding area for firefighter training activities involving AFFF.

Site reconnaissance was not performed at this site. Desktop evaluation occurred via Google Earth imagery.

Building 7146 was located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 7 through 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

Building 7146 was previously owned and operated by the Army in the Doe Park housing and was constructed to accommodate residents assigned to the Main Garrison. The housing in Doe Park generally consisted of family-style duplex and single-family residences, designed to accommodate military personnel and their families, with individual living units that included private kitchens, bathrooms, and living areas. Building 7146 was not associated with vehicle maintenance, industrial operations, or logistical support.

The units in Doe Park, including Building 7146, were connected to Fort Ord's centralized utility infrastructure, including water, sewer, and electric service. Wastewater from these buildings discharged via gravity sewers to the Site 2 Main Garrison STP (Army, 2007a). Upon Site 2's closure in 1990, these residential units' sewage flow was redirected through lift stations to the RTP north of the City of Marina (Army, 1995). No records show onsite wastewater treatment systems were used for these buildings; all wastewaters were managed through the centralized sewer network. No USTs or hazardous material storage were associated with Building 7146.

No AFFF use or storage was documented at Building 7146 during installation operations pre-closure in 1994. However, post-closure activities included use of the building for firefighter training activities involving AFFF by the POM Fire Department. An interview with POM Fire Chief was conducted on April 18, 2025, to determine the nature of the training exercises. Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training. Training took place at Buildings 7145 and 7146, though nozzle testing only occurred at Building 7146. Building 7145 was used to practice entry and exit procedures for firefighters. AFFF and water were discharged over the top of Building 7146, with AFFF falling to the ground surface on all four sides of the building. These training activities occurred approximately 3 to 4 times per year between 2005 and 2007. No firefighter training occurred at the site after 2007. It was noted during the interview that training before 2005 is possible; however, there is not currently a record of such activity. No other spills, leaks, or accidental AFFF discharges were reported at the site and no AFFF was stored onsite. Interview information is in Appendix A.

Pathway Analysis

Groundwater

Hydrogeologic Setting

The site of former Building 7146 lies within the Monterey Subbasin just north of the Seaside Basin boundary and overlies the unconfined Upper 180-Foot Aquifer southwest of the FO-SVA and above the Monterey Formation bedrock high located between the former Main Garrison area and the City of Seaside, which separates the Seaside Basin and the Monterey Subbasin of the Salinas Basin. Characterization of the geometry and extent of this bedrock high is limited by the relatively few data points in the area. However, these data suggest the bedrock high slopes toward the west and has a relatively flat surface (HLA, 1994). It is expected that the lithology of the 180-Foot Aquifer in the Building 7146 area would be similar to that of nearby Site 10, approximately ½ of a mile to the north, consisting of primarily sand to silty sand with up to 15 percent gravel in some zones.

Historical unconfined 180-Foot Aquifer data from Site 10 and other wells west of the FO-SVA indicate depths to groundwater of approximately 245 feet bgs and groundwater elevations of 5 feet MSL in this area; however, differences in surface elevations indicate depth to groundwater at the former Building

7146 could be approximately 225 feet bgs. Based on extrapolation of groundwater elevations in wells on the north and south sides of the bedrock high, the saturated thickness of aquifer materials overlying the bedrock in the vicinity of former Building 7146 is relatively thin. Therefore, it appears that the interconnection of the Salinas and Seaside groundwater basins in this area is minor and restricted to only a few feet of saturated aquifer material on top of the Monterey Formation. In the deeper aquifers, flow between the two basins appears to be blocked by the bedrock high (HLA, 1994).

On the Monterey Subbasin side of the bedrock high, groundwater flow in the unconfined 180-Foot Aquifer southwest of the edge of the FO-SVA in March 2014 was to the north or northeast, away from the Building 7146 area (AES, 2014). On the southern (Seaside Basin, Northern Coastal Subarea) side of the bedrock high, flow is to the southwest, away from the Building 7146 area (Montgomery, 2024).

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. The nearest drinking water well in relation to Building 7146 is a residential well located approximately 1.3 miles to the south. Because this well is south of the Seaside Basin boundary and the shallow aquifer groundwater divide, any potential PFAS migrating into the groundwater from the former Building 7146 would travel to the north away from the well. COC concentrations generally decrease to non-detection at the bottom of the Upper 180-Foot Aquifer, and COCs are not typically detected below the Intermediate 180-Foot Aquitard showing that the unit is a barrier to their downward migration (i.e., the Lower 180-Foot Aquifer is not impacted) (HLA, 1995b). The Upper 180-Foot Aquifer is not used for water supply and there is no downgradient groundwater use from this aquifer.

The Lower 180-Foot Aquifer divide is also south of the former Building 7146 site. Downgradient of the site in this aquifer are the MCWD drinking water supply wells 29, 30, 31, and 34, located approximately 3.5 miles, 3.8 miles, 3.9 miles, and 4.1 miles away, respectively (Figure 12). Wells 29, 30, and 31 draw from the Lower 180-Foot Aquifer and the 400-Foot Aquifer; however, these aquifers are hydraulically separated from the Upper 180-Foot Aquifer. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer that is approximately 150 feet thick. These wells supply potable water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the Building 7146 site to the Upper 180-Foot Aquifer is possible because of the post-closure use of AFFF in this area. Because of the mobility of PFAS in the soil pathway, a groundwater investigation is recommended in this area (see Section 4.13).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). Building 7146 was located in the Marina watershed (Figure 6). The site lies within the 500-year flood plain but at an elevation higher than the 100-year flood plain (FEMA, 2017). Surface water infiltration is high at Building 7146 due to silty sand which extends from ground surface to 200 feet bgs and layers of well-graded and poorly graded sand below 200 feet bgs (HLA, 1996c). The nearest surface water body is the Monterey Bay, located approximately 1.2 miles away from the site. Stormwater runoff from the Building 7146 site to the Monterey Bay or other surface water bodies is unlikely due to the topography and high infiltration soil types present at the site.

Stormwater runoff from the former site of Building 7146 is primarily toward an adjacent vegetated depression to the northwest of the site. Due to the high infiltration rates in this area, surface runoff from the site would infiltrate into the soil.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The closest surface water body is Monterey Bay approximately 1.2 miles away. There are no drinking water intakes, fisheries, or aqueous sensitive environments downstream of the site of the former Building 7146. Due to the distance of surface water bodies and groundwater flow directions in the Upper 180-Foot Aquifer, it is also unlikely that there is a groundwater impact to surface water resulting from historical activities at the site.

Surface Water Conclusions

Because no surface water is present onsite and there is no stormwater runoff to surface water from Building 7146, it is unlikely that any potential PFAS generated from the site would have migrated to surface water bodies and there are no associated primary targets. Therefore, no additional surface water investigation is recommended.

Soil Pathway

Physical Conditions

At the former Building 7146 site, the soils are mapped by NRCS as Oceano loamy sand from the surface to approximately 80 feet bgs (USDA, 2025). Nearby Site 10 was characterized with subsurface material consisting of dark brown silty sand and yellow-brown silty sand with varying amounts of silt to approximately 200 feet bgs, with layers of well-graded sand interbedded by layers of poorly graded sands and silts (HLA, 1996c).

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are currently resident populations within 200 feet of the former Building 7146 site. Additionally, the site is now a playground servicing recreational user populations. Because of the proximity of the former Building 7146 site to resident populations and its use by recreational user populations, there is a potential exposure pathway for both primary target populations.

Soil Conclusions

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the unpaved areas adjacent to the former Building 7146 site is likely and PFAS-impacted soil could remain near the ground surface. Soil sampling for PFAS analysis in this area at depths ranging from the ground surface to 10 feet bgs to screen for the presence of PFAS is recommended because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible (see Section 4.13).

FOPWG Discussions

Building 7146 was discussed during FOPWG meetings, during which the Army noted that Building 7146 is not included in the current RI phase but would initially be addressed in this Site Resolution Report to support future efforts.

Evaluation for Further Investigation

Building 7146 has been identified as a location where potential exposure pathways for groundwater and soil may be present and may warrant consideration for future investigation.

3.2 Fuel Farms and Other Aviation Assets – Site 40A: East FAAF Helicopter Defueling Area

Site 40A, the former East FAAF Helicopter Defueling Area, was investigated during the PFAS SI, which included soil sampling at three locations to 10 feet bgs and groundwater sampling at two downgradient monitoring wells. Based on the results of the SI, Site 40A was recommended for site evaluation accomplished (SEA). However, based on regulatory agency comments, Site 40A was reevaluated as described below.

Site Description

Site 40A is located in the northwestern portion of the FAAF, east of the FAAF Fire & Rescue Station (Figure 5). New helicopter pads were constructed east of the Fire & Rescue Station in the mid- to late 1970s and the helicopter defueling area was likely relocated from Site 40 to Site 40A around this time (Ahtna, 2022). There are no major buildings or structures onsite and the terrain is flat and sparsely vegetated.

A 24-inch diameter storm drain line runs through the helicopter parking apron east of the Fire & Rescue Station and parallels Imjin Road. This storm drain line discharges at an outfall approximately 450 feet east of the Fire & Rescue Station. From there, the discharge travels via surface drainage to a topographic low area to the northeast of the helicopter parking apron. Surface runoff from the helicopter parking apron appears to have also drained to the same topographic low area (HLA, 1995a).

Site 40A is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 13 through 15. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was owned and operated by the Army until base closure in 1994. The site is now owned by the City of Marina and operated as part of the Marina Municipal Airport (Table 2). During Army operation, defueling stationary aircraft at a single point was performed to prevent leakage while the aircraft was on the ground or to facilitate maintenance operations. Defueling trucks were used to vacuum the bulk of the fuel out of the aircraft. During defueling operations at FAAF, the fire department was on standby in case of a spill or other incident.

Sometime in the late 1970s or early 1980s, a defueling tank ruptured, and 5,000 to 10,000 gallons of fuel were spilled. The fire department applied AFFF to the spill area to reduce the likelihood of fire. After the spill was contained, soil was placed in the spill area to absorb the fuel (and AFFF), after which the soil was loaded into dump trucks and disposed of at an unknown location. Interviews with Fort Ord personnel indicate that the waste soil was likely disposed of somewhere at FAAF or possibly the Fort Ord Landfills (Ahtna, 2022).

Groundwater contamination at the former FAAF would have been limited to the A-Aquifer, which is not used for drinking water purposes (HGL, 2017). The FO-SVA underlies the A-Aquifer beneath Site 40A and continues in a downgradient direction, daylighting at the bluffs above the Salinas River along the eastern

boundary of the former Fort Ord (HLA, 1995b, Volume II). Additionally, the low permeability and thickness of the FO-SVA prevents significant vertical migration of groundwater within the former FAAF area from the A-Aquifer into the underlying Upper 180-Foot Aquifer. Consequently, there is no exposure pathway to human receptors for groundwater from the Site 40A area.

Pathway Analysis

A pathway analysis for Site 40A was previously conducted during the PA/SI to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, along with FOPWG discussions, form the technical basis for Site 40A resolution decisions presented in this document. The pathway analyses are summarized below. Sensitive environments and target populations are shown in Figure 16.

Groundwater

The release of PFAS from Site 40A to the A-Aquifer was suspected because of reported historical use of AFFF during a response to a fuel spill in the late 1970s or early 1980s to reduce the likelihood of fire. Because of the mobility of PFAS in the soil pathway, a groundwater investigation was conducted in the downgradient area between the helicopter parking apron and the former Fort Ord boundary to the east. The monitoring wells included in the groundwater investigation are also downgradient of the FAAF Fire & Rescue Station. The results of the groundwater investigation indicated that concentrations of PFOA, PFBS, PFHxS, and PFOS exceeded their respective tap water screening levels in the A-Aquifer downgradient of Site 40A. Additionally, land use controls (LUCs) are in place for restricting access to groundwater, but the LUCs are not PFAS-specific. Therefore, the human exposure pathway is potentially complete. However, based on the analytical results for the Site 40A soil samples (Table 3), the suspected source of PFAS in the groundwater is the FAAF Fire & Rescue Station (Ahtna, 2023).

Surface Water

Because no surface water is present onsite and there is no stormwater runoff to surface water from Site 40A, it is unlikely that PFAS generated from the Site 40A fuel spill response migrated to surface water bodies, and there are no associated primary targets. Surface runoff from the site enters the topographic low area previously discussed and then infiltrates the ground surface. Therefore, no additional surface water investigation was warranted.

Soil

Because of the high permeability of soil in the area, AFFF infiltration into the soil in the drainage area north of Site 40A was possible and PFAS-impacted soil could have remained near the ground surface. Surface runoff from Site 40A and the storm drain line 450 feet east of the FAAF Fire & Rescue Station both discharge to the same topographic low. Therefore, soil sampling for PFAS analysis in the topographic low area at depths ranging from the ground surface to 10 feet bgs was conducted because long-term retention of longer-chain PFAS in shallow soils after extended percolation is possible. The results of the soil investigation indicate PFAS concentrations are below the current residential and industrial screening levels (Table 3) and the human exposure pathway is considered incomplete for soil.

FOPWG Discussions

The results of the Site 40A SI were presented and discussed during the March 19, 2025, FOPWG meeting. The discussion focused on the rationale utilized to recommend SEA in the SI Narrative Report (Ahtna, 2023). The rationale is rooted in the differential sorption of short- and long-chain PFAS, whereby long-chain PFAS are typically retained in surface soils while short-chain PFAS are more likely to migrate

deeper. Because the great majority of PFAS mass generally resides in the upper 10 feet with the longest-chain PFAS nearest the surface, lack of long-chain PFAS in surface soils is a good indicator that other PFAS are not present at deeper depths (ITRC, 2023 and Bigler et al., 2024). CCRWQCB commented at the FOPWG meeting that there is not enough data to determine that the PFAS detected at downgradient monitoring well MW-40A-01-A are from the FAAF Fire & Rescue Station and Site 40A is not a source. DTSC also expressed concern that deeper soil samples were not collected. The Army reiterated that shallow soil sampling is appropriate for PFAS site characterization based on the literature, which found strong evidence that long-chain PFAS are retained in shallow soils over the long-term.

Evaluation for Further Investigation

The results of the SI indicated the presence of PFOS (long chain) in soil in the drainage area at Site 40A at concentrations less than screening levels (Table 3). No other PFAS were detected (Ahtna, 2023). Based on these results, it is unlikely there was a historical release of AFFF to the drainage area at Site 40A; therefore, it is also unlikely that significant PFAS mass remains in the vadose zone below 10 feet bgs and unlikely that Site 40A is a source of PFAS detected in downgradient groundwater monitoring wells. Accordingly, Site 40A was recommended for SEA in the SI Narrative Report. Discussions that occurred during the FOPWG meetings did not present additional evidence counter to the SEA recommendation.

Based on the results of the PA/SI and subsequent FOPWG discussions, no RI sampling or remedial action is warranted under CERCLA for Site 40A for the following reasons:

- The human exposure pathway is incomplete for groundwater; the likely source for PFAS in groundwater downgradient of Site 40A is the FAAF Fire & Rescue Station, which will progress to the RI phase (Section 4.3).
- The human exposure pathway is incomplete for surface water.
- The human exposure pathway is incomplete for soil; the results of the soil investigation indicate PFAS are not detected or detected at concentrations below screening levels.

3.3 Firefighting Equipment Testing and Washout Discharge Locations – Site 16: DOL Maintenance Yard

Site 16, the former DOL Maintenance Yard, was evaluated during the PFAS PA because AFFF systems on firefighting vehicles may have been serviced at this location. Based on the results of the PA, it was concluded that potential storage, use, or disposal of PFAS-containing materials at Site 16 does not pose a potential threat of release to the environment and further investigation is not warranted (Ahtna, 2022). The regulatory agencies expressed concerns in their comments on the PA Narrative Report about discharges of rinsate from AFFF tanks on firefighting vehicles at Site 16 and requested further investigation of this site. Additionally, there were comments about Site 16 during FOPWG meetings (see below). Accordingly, Site 16 background information and data were reviewed and reevaluated as described below.

Site Description

The Site 16 DOL Maintenance Yard is located in the Main Garrison area of the former Fort Ord between the OU2 Fort Ord Landfills and State Route 1 (Figure 5). The DOL Maintenance Yard is a 4.3-acre site located near the intersection of 8th Street and 5th Avenue (HLA, 1995b). From the 1950s through base closure in 1994, the DOL Maintenance Yard was used as a heavy equipment maintenance facility. Onsite structures and buildings included five buildings, a steam cleaner shed, a wash rack, an oil-water separator, and an aboveground storage tank (AST) for diesel fuel (EA, 1991). The property that includes

the DOL Maintenance Yard was transferred from the Army to FORA in 2004 and subsequently transferred from FORA to CSUMB. All former Army structures on the property were decommissioned in 2014, and CSUMB residential dormitories were constructed in 2015. High-density polyethylene storm sewer pipes outside the CSUMB Promontory building indicate that the storm sewer system has been renovated since property transfer from the Army (Ahtna, 2022).

Site 16 is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figure 7, Figure 8, and Figure 9. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was previously owned by the Army and operated by the DOL. The site is currently owned and operated by CSUMB and includes the Promontory student housing building (Table 2). From the 1950s through base closure in 1994, the DOL Maintenance Yard was used as a heavy equipment maintenance facility. The heavy equipment, primarily large civilian trucks, was serviced mostly in Building 4900, including servicing of fire department vehicles where flushing of tanks and systems containing AFFF may have occurred. Fire department vehicles that used AFFF were equipped with a single 25-gallon AFFF tank that was drained of AFFF at the Main Garrison Fire Station before servicing. Therefore, only residual amounts of AFFF would have been flushed from the tanks and systems. It was also noted servicing of AFFF systems on fire department vehicles was needed only five times over 40 years (Ahtna, 2022), with some of this servicing occurring at the DOL Automotive Yard in the Site 12 area. The facility included a concrete-paved wash rack where runoff discharged to an adjacent oil-water separator. It is suspected fire department vehicle tanks would have been flushed at the wash rack and into the oil-water separator. Waste oil from the oil-water separator was stored in USTs prior to disposal by an offsite contractor, likely at an offsite disposal location (Weston, 1990), and water from the oil-water separator entered the sanitary sewer system and was treated at the Main Garrison STP.

There was also a sewage pump station at Building 4906 to the southwest of the DOL Maintenance Yard that served Building 4900. Overflows are suspected of having occurred, releasing raw sewage into the surrounding area (EA, 1991).

Building 4900, the main DOL Maintenance Yard building, was used primarily for vehicle repairs. Operations in Building 4900 included small arms weapons repair, a weapons bluing process, spray painting, and general vehicle repairs. A former 1,500-gallon diesel UST near Building 4900 was removed in March 1992. Building 4901 was used for storage of unused motor oil. Building 4902 was a wash rack. An oil/water separator was adjacent to the wash rack. Building 4903 contained a diesel-powered steam cleaner. A 200-gallon diesel fuel AST adjacent to the building provided fuel to the steam cleaner by gravity feed. Building 4904 was the former paint shop. Building 4905 was used for storage of nonhazardous materials.

Groundwater was investigated at Site 16 and organic chemicals, including tetrachloroethene and trichloroethene (TCE), were detected; however, it was concluded these were associated with OU2 (Army, 1997). In 1997, approximately 6,620 cubic yards of soil were excavated from the DOL Maintenance Yard during remedial actions and placed in the OU2 Fort Ord Landfills as general fill. The extent of the excavation required demolition and removal of Building 4901, including the oil/water separator, concrete pad and wash rack, and Buildings 4903, 4904, and 4905. The site was backfilled with

clean soil from onsite sources and base rock was placed in the excavation area at the DOL Maintenance Yard (IT, 1999).

Pathway Analysis

A pathway analysis for the Site 16 DOL Maintenance Yard was conducted to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, along with FOPWG discussions, form the technical basis for the Site 16 DOL Maintenance Yard resolution decisions presented in this document.

Groundwater

Hydrogeologic Setting

The Site 16 DOL Maintenance Yard overlies the Monterey Subbasin of the Salinas Basin. At the former Fort Ord, the Monterey Subbasin is composed of relatively flat to gently dipping, poorly consolidated sediments. Aquifers within the Monterey Subbasin at the former Fort Ord, from top to bottom, are the A-Aquifer, Upper 180-Foot Aquifer, Lower 180-Foot Aquifer, 400-Foot Aquifer, and 900-Foot Aquifer. Contaminants at OU2 have been detected in the A-Aquifer, Upper 180-Foot Aquifer, and potentially the Lower 180-Foot Aquifer (Ahtna, 2025a and Ahtna, 2025b).

The A-Aquifer is unconfined and occurs within the permeable older dune sand, which is among the youngest deposits of the area. These dune sand deposits are approximately 100 feet deep at the nearby northwestern edge of the OU2 Fort Ord Landfills. Aquifer materials in the saturated zone of the A-Aquifer consist predominantly of permeable, slightly silty, fine- to medium-grained sands with some coarse-grained sands. Depth to groundwater in the unconfined A-Aquifer is between 100 and 135 feet bgs in the Site 16 DOL Maintenance Yard area (HLA, 1995b, Volume I). The A-Aquifer is underlain by a sequence of impermeable silts and clays that compose the FO-SVA. The FO-SVA varies in thickness and is approximately 65 feet thick at the nearby northwestern edge of the OU2 Fort Ord Landfills (HLA, 1988) and appears to be an effective barrier that prevents downward migration of contaminants from the A-Aquifer into the underlying confined Upper 180-Foot Aquifer. A groundwater divide in the A-Aquifer exists east of Site 16 and trends northward toward the former FAAF. The Site 16 DOL Maintenance Yard is located west of the A-Aquifer groundwater divide and groundwater flow in the A-Aquifer in the area is to the north and northwest.

In the Site 16 DOL Maintenance Yard area, the Upper 180-Foot Aquifer is confined beneath the FO-SVA (HLA, 1995b) and depth to groundwater in the Upper 180-Foot Aquifer is between 60 and 265 feet bgs. To the west where the FO-SVA pinches out, the unconfined A-Aquifer and confined Upper 180-Foot Aquifer combine to form a continuous, unconfined hydrostratigraphic unit (identified as the unconfined Upper 180-Foot Aquifer). A north-trending groundwater divide in the unconfined Upper 180-Foot Aquifer exists midway between the FO-SVA and Monterey Bay. Groundwater in the unconfined Upper 180-Foot Aquifer west of the divide flows west and discharges to the Monterey Bay. Groundwater in the unconfined Upper 180-Foot Aquifer east of the divide (the Site 16 DOL Maintenance Yard is east of the divide) flows under the FO-SVA (becoming confined) toward the Salinas Valley. The Upper 180-Foot Aquifer consists of about 60 feet of fine to coarse sand and some gravel and is laterally extensive throughout the area. Groundwater flows generally eastward under largely confined conditions. The direction of flow appears controlled by the degree of hydraulic communication with the underlying Lower 180-Foot Aquifer, separated by the Intermediate 180-Foot Aquitard, where present. Where this

aquitard is discontinuous, groundwater from the Upper 180-Foot Aquifer drains into the Lower 180-Foot Aquifer (MACTEC, 2006).

The Intermediate 180-Foot Aquitard consists of approximately 50 feet of interbedded clay and clayey sand layers, occasionally mixed with coarse gravel. This aquitard hydraulically isolates the Upper and Lower 180-Foot Aquifers from one another but is discontinuous in the area south of Reservation Road, allowing recharge to the Lower 180-Foot Aquifer to occur (MACTEC, 2006).

The Lower 180-Foot Aquifer consists of approximately 200 feet of coarse sand and gravel and the 400-Foot Aquifer consists of up to 250 feet of a sequence of interbedded sand and clay. These aquifers have historically been and continue to be a significant source of potable water for the former Fort Ord and City of Marina areas (MACTEC, 2006).

Underlying the 400-Foot Aquifer is a confining layer reported to be approximately 150 feet thick that separates the 400-Foot Aquifer from the 900-Foot Aquifer, which consists of sands and gravels interbedded with discontinuous lenses of clay between depths of approximately 750 and 1,700 feet bgs. The 900-Foot Aquifer is penetrated by the deep MCWD drinking water supply wells (HLA, 1995b).

Groundwater Targets

Local target populations and sensitive environments are shown in Figure 11. In the Upper 180-Foot Aquifer, the OU2 Fort Ord Landfills and the MCWD drinking water supply wells 29, 30, 31, and 34 are downgradient of the Site 16 DOL Maintenance Yard (Figure 12). Wells 29, 30, and 31 draw water from the Lower 180-Foot Aquifer and the 400-Foot Aquifer and therefore could be impacted by migration of PFAS in groundwater from the Site 16 DOL Maintenance Yard. Well 34 draws water from the 900-Foot Aquifer (MCWD, 2025); however, the 900-Foot Aquifer is separated from the above aquifers by a confining layer that is approximately 150 feet thick. These wells supply potable water to the City of Marina, the CSUMB campus, and parts of the City of Seaside. The MCWD water supply system operates as a blended system.

Groundwater Conclusions

The release of PFAS from the Site 16 DOL Maintenance Yard to the A-Aquifer was considered because of reported historical disposal practices of residual AFFF. However, several lines of evidence support the conclusion that there is no exposure pathway to human receptors for groundwater from the Site 16 DOL Maintenance Yard:

- Historical practice was to remove the bulk of AFFF from tanks on firefighting vehicles at the Main Garrison Fire Station before servicing. As such, any volume of residual AFFF rinsed from the tanks at the Site 16 DOL Maintenance Yard would have been small.
- Residual AFFF discharges occurred infrequently, fewer than five times over 40 years.
- Residual AFFF discharges would have been contained in the onsite oil-water separator.
- Potential residual AFFF discharges to soil would likely have been removed when 6,620 cubic yards of soil was removed for petroleum hydrocarbons.
- Sewage overflows from the pump station at Building 4906 would have been intermittent and with a low probability of AFFF being discharged at the wash rack during an event that caused a sewage overflow (e.g., a major storm event).

Surface Water

Hydrologic Setting

Most rainfall at Fort Ord occurs from November through April with an average annual precipitation of 19.7 inches (WRCC, 2025). The Site 16 DOL Maintenance Yard is located in the Marina watershed (Figure 6). Special flood hazard areas are present at Site 16 Pete's Pond and Pete's Pond Extension adjacent to the Site 16 DOL Maintenance Yard to the northwest (FEMA, 2017). While there were areas of impervious surface at the Site 16 DOL Maintenance Yard, unpaved areas are directly adjacent to those surfaces and infiltration is high due to the permeable Baywood sands present (USDA, 2025). The nearest perennial surface water body is the Monterey Bay, located approximately 1.4 miles from the site. The nearest ephemeral water body is Pete's Pond and Pete's Pond Extension. Stormwater runoff from the Site 16 DOL Maintenance Yard to the Monterey Bay is not likely due to the distance. Stormwater runoff to Pete's Pond and Pete's Pond Extension is likely during large precipitation events; however, these retained waters would only be present for short periods of time due to the high infiltration Baywood sands present.

Surface Water Targets

Local target populations and sensitive environments are shown in Figure 11. The only surface water retaining runoff from Site 16 is Pete's Pond; however, this ephemeral pool does not retain water long term due to high infiltration rates and does not flow into any other bodies of water. The ephemeral nature, small size, and lack of fish suggest that these intermittent pools do not support recreational activities and as such would not complete the exposure pathway to human receptors.

Surface Water Conclusions

The release of PFAS from the Site 16 DOL Maintenance Yard to surface water was considered because of reported historical disposal practices for rinsate from firefighting vehicle AFFF tanks. However, several lines of evidence support the conclusion that there is no exposure pathway to human receptors for surface water from the Site 16 DOL Maintenance Yard:

- Historical practice was to remove the bulk of AFFF from tanks on firefighting vehicles at the Main Garrison Fire Station before servicing. As such, any volume of residual AFFF rinsed from the tanks at the Site 16 DOL Maintenance Yard would have been small.
- Residual AFFF discharges occurred infrequently, fewer than five times over 40 years.
- Residual AFFF discharges would have been contained in the onsite oil-water separator.
- The Baywood sands present are highly permeable and surface water infiltration rates are high (USDA, 2025).
- Surface runoff that reached the adjacent Pete's Pond and Pete's Pond Extension would not have continuity to larger water bodies or Monterey Bay.
- Ponded surface water at Pete's Pond and Pete's Pond Extension would be temporary, infiltrate relatively quickly, and are not expected to support human use for fishing, swimming, or other human-contact activities.

Soil

Physical Conditions

At the Site 16 DOL Maintenance Yard, the soils are mapped by NRCS as Baywood sand from the surface to approximately 60 feet bgs (USDA, 2025). This area is part of a larger complex of older dune sands present through the west and north of the former Fort Ord (HLA, 1993). These dune sand deposits are approximately 100 feet deep at the nearby northwestern edge of the OU2 Fort Ord Landfills. Aquifer

materials in the saturated zone of the A-Aquifer consist predominantly of permeable, slightly silty, fine- to medium-grained sands with some coarse-grained sands. Depth to groundwater in the unconfined A-Aquifer is between 100 and 135 feet bgs in the Site 16 DOL Maintenance Yard area (HLA, 1995b, Volume I).

Soil Targets

Local target populations and sensitive environments are shown in Figure 11. There are currently resident populations living in the Promontory student housing for CSUMB, which is located on the former Site 16 DOL Maintenance Yard. Additionally, worker populations would be expected to maintain the Promontory housing units. Because of the proximity of the site to resident and worker populations, there is a potential exposure pathway for both of these primary target populations.

Soil Conclusions

The release of PFAS from the Site 16 DOL Maintenance Yard to adjacent or site soil was considered because of reported historical disposal practices of residual AFFF. However, several lines of evidence support the conclusion that there is no exposure pathway to human receptors for soil from the Site 16 DOL Maintenance Yard:

- Historical practice was to remove the bulk of AFFF from tanks on firefighting vehicles at the Main Garrison Fire Station before servicing. As such, any volume of residual AFFF rinsed from the tanks at the Site 16 DOL Maintenance Yard would have been small.
- Residual AFFF discharges occurred infrequently, fewer than five times over 40 years.
- Residual AFFF discharges would have been contained in the onsite oil-water separator.
- Potential residual AFFF discharges to soil would likely have been removed when 6,620 cubic yards of soil was removed for remediation of petroleum hydrocarbons.
- Sewage overflows from the pump station at Building 4906 would have been intermittent and with a low probability of AFFF being discharged at the wash rack during an event that caused a sewage overflow (e.g., a major storm event).

FOPWG Discussions

The Site 16 DOL Maintenance Yard was briefly discussed during the November 6, 2024, FOPWG meeting and was presented as selected for NFA in the July 9, 2025, FOPWG meeting. While the site was included in the PA process and considered for inclusion in the RI, it was not ultimately selected for advancement to the RI. The decision for NFA was founded in the insignificant presence of AFFF on site during DOL Maintenance Yard operations.

Discussion regarding the Site 16 DOL Maintenance Yard during the FOPWG meetings included:

- The USEPA inquired whether non-AFFF sources of PFAS were considered, such as products used for automotive maintenance. It was noted that non-AFFF sources were not considered in the PA process and the site was identified in the PA due to potential AFFF releases related to servicing firefighting vehicles (consistent with Army policy and guidance [Army, 2018]). USEPA noted that non-AFFF sources are still a concern, and the USEPA would want the Army to consider looking at other non-AFFF sources related to vehicle maintenance.
- The CCRWQCB expressed its desire for the Army to consider collecting soil samples during installation of a monitoring well at Site 16, which is being installed for evaluation of the OU2

Fort Ord Landfills, and to consider installing the well near the location of the former oil-water separator.

These discussions were considered; however, the Site 16 DOL Maintenance Yard was still selected for NFA because, based on the lines of evidence presented above, the site does not pose a risk to receptors. Additionally, sites where vehicle maintenance occurred are not among the types of sites to be evaluated per Army PFAS Guidance (see Section 1.0). One new A-Aquifer monitoring well will be installed downgradient and west of the OU2 Fort Ord Landfills and upgradient of the edge of the FO-SVA, as described in the PFAS RI QAPP (Ahtna, 2026); however, based on current and historical A-Aquifer data, this well must be located elsewhere than Site 16 to ensure PFAS data are representative of potential PFAS migration from the OU2 Fort Ord Landfills. The proposed well location is not in an area where a PFAS release is suspected; therefore, no soil sampling will occur other than for characterization of investigation-derived waste (i.e., borehole soil cuttings or cores).

Evaluation for Further Investigation

The results of the PA indicated significant PFAS releases warranting further action were unlikely at the Site 16 DOL Maintenance Yard. The additional pathway analysis conducted herein also determined that releases were not likely. The Site 16 DOL Maintenance Yard is identified for NFA. Discussions that occurred during the FOPWG meetings did not present additional evidence to suggest NFA is not appropriate.

Based on the results of the PA, the pathway analysis herein, and subsequent FOPWG discussions, no RI sampling or remedial action is warranted under CERCLA for the Site 16 DOL Maintenance Yard for the following reasons:

- The human exposure pathway is incomplete for groundwater; the likely source for PFAS in groundwater downgradient of Site 16 is the OU2 Fort Ord Landfills, which will progress to the RI phase (Section 4.6).
- The human exposure pathway is incomplete for surface water.
- The human exposure pathway is incomplete for soil.
- Site-specific discussions in the November 6, 2024 and July 9, 2025 FOPWG meetings did not divulge compelling evidence to the contrary.

3.4 Wastewater Treatment Plants

3.4.1 Site 1: Ord Village Sewage Treatment Plant

Site 1, the former Ord Village STP, was evaluated during the PFAS PA, which concluded that no further investigation at Site 1 was warranted under CERCLA because, based on the information available, potential storage, use, or disposal of PFAS-containing materials at the site does not pose a potential threat of release to the environment. However, the PA Narrative Report also acknowledged that Site 1 may be considered for PFAS investigation in the future should additional evidence become available indicating that further investigation is appropriate. The regulatory agencies generally expressed concerns in their comments on the PA Narrative Report that many household products containing PFAS could be disposed of in the sewer system and WWTPs of any size or operational flow rate could then be sources of PFAS to the environment and therefore should be included in the SI. Accordingly, Site 1 background information and data were reviewed and reevaluated as described below.

Site Description

Site 1 is located in the southwest corner of the former Fort Ord (Figure 5). The site is on the south end of Fort Ord Dunes State Park and can be accessed via the 8th Street overpass and Beach Range Road. The site was formerly used as a WWTP but is currently inactive. The WWTP was built in the early 1950s to treat sewage from the now-demolished Ord Village housing area but was abandoned in 1964 when an offsite pumping station was built to pump sewage flow to the Main Garrison STP (HLA, 1996b).

Site 1 is approximately 2.3 acres in size and includes a sewage lift station operated by the MCWD. The site is situated on dune sand deposits and in a depression between two northwest-southeast trending dunes. The top of the dunes is roughly 140 feet above MSL, and the rest of Site 1 sits at approximately 65 feet above MSL (HLA, 1996b). The site lies wholly within Fort Ord Dunes State Park, which is bounded by the Transportation Agency of Monterey County right-of-way and State Route 1 to the east, Monterey Bay to the west, and private property to the south.

The sewage lift station was operated by MCWD and was demolished sometime between April 2023 and June 2024. The site is secured with a chain-link fence. California Department of Parks and Recreation (CDPR)-protected land is present along the north and south boundaries of Site 1 (Ahtna, 2022).

Site 1 is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figures 17 and 18. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was formerly owned and operated by the Army as the Ord Village STP, a WWTP that was later converted to a sewage pumping station. The site was transferred to the CDPR in 2006 and is operated as part of the Fort Ord Dunes State Park (Table 2). The site is undeveloped now that the sewage lift station operated by MCWD was removed. The CDPR plans to develop new campground and beach access facilities in Fort Ord Dunes State Park, which will involve the construction of new access roads, buildings, and parking lots. However, current plans indicate all development will occur at least one mile northeast of Site 1, close to the old military bunkers and the railroad balloon spur, and no construction will occur on or near Site 1 (CDPR, 2020).

From the early 1950s through 1964, Site 1, as the Ord Village STP, conducted primary wastewater treatment. The volume of wastewater received at the Ord Village STP is not reported; however, based on a review of historical aerial photographs, the Ord Village STP served a residential area of approximately 800 households. From the mid-1950s to the mid-1960s, the average household size was 3.3 persons (Wetzel, 1990). The average daily water use for a typical residential home during the 1950s and 1960s was approximately 60 gallons per capita per day; therefore, the Ord Village STP could have received approximately 160,000 gallons per day (Lindeburg, 2018; Tchobanoglous, 1991). Onsite treatment facilities included two trickling filters, two clarifiers, a sludge digestion tank, a chlorine contact tank, three small sludge-drying beds, and a holding pond (HLA, 1996b).

In 1964, an offsite pumping station was built to pump sewage flow to the Main Garrison STP. The Ord Village STP buildings and facilities were abandoned until 1983, when the facilities were demolished, and the Ord Village Pumping Station was built onsite to pump sewage to the Main Garrison STP (IT, 1997). In 1990, sewage flow through the Ord Village Pumping Station was routed to the RTP following the phase-out of the Main Garrison STP (HLA, 1996b).

When the Ord Village Pumping Station was operational, surge water from the system was being routed into the original holding pond, functioning as a surge reservoir (EA, 1991). During field visits in 1990, a sheen—indicative of dissolved petroleum hydrocarbons—was noted on the surface of the chlorine contact tank, where surge water was held prior to flowing into the holding pond. Interviews with Directorate of Engineering and Housing (DEH) staff revealed that waste oil from personal vehicles may have been dumped into the sanitary sewer, which could have potentially been transported with untreated wastewater into the holding pond. It was noted that this practice may have persisted for years.

In December 1991 through February 1992 and February 1996, the Army performed site characterization field investigations, including drilling and sampling of 19 soil borings, collecting six surface soil samples, installing and sampling three groundwater monitoring wells, and excavating three exploratory trenches. Samples were analyzed for a variety of COCs, including several organic compounds, pesticides, and metals (HLA, 1997d). PFAS compounds were not included in the sampling.

In accordance with the IA ROD (Army, 1994), an IA excavation was completed at Site 1 in 1997 to remove soils with concentrations of organic compounds and metals above target cleanup concentrations. 862 cubic yards of soils and dried sludge were excavated from the area of the former trickling filters and holding pond (the acting surge reservoir) and placed at the OU2 Fort Ord Landfills in the foundation layer for the engineered cover system (HLA, 1997d).

Pathway Analysis

A pathway analysis for Site 1 was previously conducted during the PA to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of this analysis, additional historical documentation review, and review of FOPWG meeting minutes, form the technical basis for Site 1 resolution decisions presented in this document. The pathway analyses are summarized below and sensitive environments and target populations are shown in Figure 19.

Groundwater

The groundwater pathway at Site 1 is considered potentially complete. Historical operations at the Ord Village STP included the use of a holding pond as a surge reservoir, which received untreated wastewater and potentially petroleum hydrocarbons from vehicle waste oil disposal practices (EA, 1991). Although groundwater monitoring wells were installed and sampled in the 1990s, PFAS compounds were not included in the analytical suite (HLA, 1997d). Given the site's location on permeable dune sand deposits and its proximity to sensitive environments within the Marina watershed, there is a plausible route for contaminant migration to groundwater.

However, based on current site conditions and the absence of direct evidence of PFAS in groundwater, groundwater sampling is not recommended at this time. Instead, soil sampling at the former holding pond is proposed as a first step to evaluate the potential for subsurface contamination. Should soil sample analytical results indicate the presence of PFAS at concentrations exceeding screening levels, groundwater sampling may be warranted in a subsequent RI phase to assess vertical migration and potential exposure risks.

Surface Water

The surface water pathway was considered incomplete. Site 1 is located within the Marina watershed, but there are no surface water bodies onsite, and the site lies in a topographic depression between dunes, limiting overland flow (HLA, 1996b). While Monterey Bay is located to the west of the site, the distance and intervening terrain make migration of contaminants via surface water highly unlikely.

Given the lack of surface water features and the absence of direct hydrologic connectivity to Monterey Bay, no surface water sampling is recommended. The pathway does not present a viable route for contaminant transport under current site conditions.

Soil

The soil pathway at Site 1 is considered complete. Historical documentation and field observations indicate that the holding pond received untreated wastewater and surge water potentially containing petroleum hydrocarbons and waste oil (EA, 1991). Interviews with DEH staff suggest that improper disposal practices may have persisted for years, increasing the likelihood of residual contamination in site soils. Although an IA excavation removed approximately 862 cubic yards of impacted soil and sludge in 1997, PFAS compounds were not included in the analytical scope of previous investigations (HLA, 1997d).

Given the site's operational history, documented releases, and the absence of PFAS data, soil sampling at the area of the former holding pond is recommended to evaluate the presence and extent of contamination. This will help determine whether the soil pathway poses a risk to human health or the environment and inform future decisions regarding groundwater sampling or remedial actions.

FOPWG Discussions

Wastewater treatment plants in general were discussed in the July 9, 2025 FOPWG meeting; however, there was no specific discussion of the Site 1 Ord Village STP. Moreover, the concerns of the CCRWQCB were focused on the Site 36 FAAF STP, and the concerns of the USEPA were focused on clarifying that non-AFFF sources (including WWTPs) should be considered in addition to AFFF sources. No specific agreements regarding Site 1 have been made.

Evaluation for Further Investigation

The results of the PA and further evaluations conducted for this document indicated PFAS releases were not considered likely at the Site 1 Ord Village STP during its original operation, but during use of the former holding pond as a surge reservoir, PFAS releases were possible. The Site 1 Ord Village STP is recommended for soil investigation.

Based on the results of the PA, the pathway analysis herein, and subsequent FOPWG discussions, limited RI soil sampling in the holding pond is warranted under CERCLA for the Site 1 Ord Village STP for the following reasons:

- The human exposure pathway is considered potentially complete for soil.
- There were reported releases of untreated wastewater into the former holding pond at Site 1 that were of unknown volume and frequency.

3.4.2 Site 32: East Garrison Sewage Treatment Plant

Site 32, the former East Garrison STP, was evaluated during the PFAS PA, which concluded that no further investigation at Site 32 was warranted under CERCLA because, based on the information

available, potential storage, use, or disposal of PFAS-containing materials at the site does not pose a potential threat of release to the environment. However, the PA Narrative Report also acknowledged that Site 32 may be considered for PFAS investigation in the future should additional evidence become available indicating that further investigation is appropriate. The regulatory agencies generally expressed concerns in their comments on the PA Narrative Report that many household products containing PFAS could be disposed of in the sewer system and WWTPs of any size or operational flow rate could then be sources of PFAS to the environment and therefore should be included in the SI. Accordingly, Site 32 background information and data were reviewed and reevaluated as described below.

Site Description

Site 32 is located at the eastern portion of the former Fort Ord, north of Inter-Garrison Road and south of Reservation Road (Figure 5). The site was operated as the East Garrison STP, a WWTP which operated from the 1940s through 1997. The East Garrison STP was built before the 1940s as a primary treatment plant to serve the municipal needs of the East Garrison. Onsite structures included several unlined sludge beds, an unlined percolation pond, and two concrete Doten-sedimentation tanks (HLA, 1998a). Boundaries of the sludge beds and percolation ponds were unclear because these areas had been disturbed numerous times by off-road vehicles and once by earth moving equipment during a search for a missing person (HLA, 1997a).

The site is located on a bluff above the Salinas River Valley and is now within the East Garrison residential development. All East Garrison STP features were demolished and removed from the site in 2007 during redevelopment activities. Features near the site now include several parks, a chapel, a fire station, and residential areas.

The area of the former STP currently encompasses a portion of Eleanor Roosevelt Park and residences near the intersection of Warren Avenue and McClellan Circle. The site has been entirely regraded and redeveloped and no STP features remain onsite (Ahtna, 2022).

Site 32 is located in the Salinas River watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figure 20. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was previously owned and operated by the Army. The site is currently owned and operated by Century Communities as part of the East Garrison housing development. The East Garrison STP was constructed prior to the 1940s as a primary treatment plant to serve the municipal needs of the East Garrison. Treatment facilities consisted of unlined sludge beds, an unlined percolation pond, and two concrete Doten-sedimentation tanks (HLA, 1998a). The East Garrison STP effluent was discharged to the Salinas River until around 1973 when the discharge pipe was capped (Weston, 1990). Prior to the early 1980s, the sludge beds received solid waste that was removed from the Doten tanks. The sludge beds were used to dewater the solid material; however, the sludge had never been removed from the sludge beds and chlorination was never conducted at the East Garrison STP (HLA, 1997a).

The East Garrison STP operated until 1997 but only received wastewater from toilets and showers used at the East Garrison, approximately 2,000 to 5,000 gallons per day. By 1997, sewage entered the East Garrison STP through the southeasternmost Doten tank and the suspended solids were settled out

through a series of holding tanks. Liquid sewage was released through an overflow valve to a diversion box and out onto the ground directly north of the diversion box, where the liquid ponded. A portion of the sludge beds and the percolation ponds were no longer utilized. Approximately 3,000 gallons of effluent water was released via the diversion box each day to the sludge bed next to the Doten tanks. The sludge material settled out in the Doten tanks was removed and transported to the RTP north of the City of Marina (HLA, 1997a).

In 1997, dried sewage sludge was removed from the inactive drying beds and soil containing elevated concentrations of metals, pesticides, and petroleum hydrocarbons was removed from the IA areas. Approximately 1,800 cubic yards of soil was excavated and transported to the OU2 Fort Ord Landfills for use in the foundation layer of the engineered cover system (HLA, 1998a). The Doten tanks were emptied, cleaned, and capped (IT, 2000). The results of confirmation sampling and risk evaluation indicated no further threat to human health, the environment, or groundwater (HLA, 1998a). The Site 32 property was transferred in 2004 and the East Garrison residential development was constructed over the area.

Pathway Analysis

A pathway analysis for Site 32 was previously conducted during the PA to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of that analysis, along with additional considerations of non-AFFF PFAS sources and FOPWG discussions, form the technical basis for Site 32 resolution decisions presented in this document. The prior pathway analyses along with additional considerations are summarized below. The sensitive environments and target populations are shown in Figure 16.

Groundwater

Because the flow rate at the Site 32 East Garrison STP remained low during its years of operation (approximately 2,000 to 5,000 gallons per day), was used for only toilets and showers, and there are no known significant historical sources of PFAS such as AFFF storage or use, it is unlikely significant amounts of PFAS would have been transported into the groundwater at Site 32.

An additional consideration of potential for PFAS to impact groundwater resources at Site 32 was conducted. Site-specific hydrogeologic conditions were considered alongside documented PFAS presence in hygiene products (expected at the site). Based on a review of PFAS-containing products, shampoo, conditioner, and shaving cream were the only plausible contributors of PFAS that could potentially have been transported into the Site 32 STP, and any PFAS mass entering groundwater would have been limited (Gaines, 2022; RTI International, 2023). Given the potential for these products, the groundwater pathway was considered potentially complete. However, drinking water wells in the vicinity of the site (MCWD drinking water supply wells 29, 30, and 31) are located upgradient or cross-gradient and are screened in the 400-Foot Aquifer, which is hydraulically separated from the East Garrison area. The MCWD production well FO-34 is in the 900-Foot Aquifer, which is further separated from the ground surface by several aquifers and aquitards. These geologic barriers significantly limit vertical migration of contaminants and reduce the likelihood of PFAS reaching drinking water supplies. When combined with the relatively low potential for PFAS mass to originate from the Site 32 STP, a complete groundwater pathway to a target population is unlikely.

Based on the information available and the lack of potential storage, use, or disposal of PFAS-containing materials, Site 32 does not pose a potential threat of release to the environment. Therefore, no groundwater investigations were warranted.

Surface Water

The flow rate at the Site 32 East Garrison STP remained low during its years of operation (approximately 2,000 to 5,000 gallons per day), was used for only toilets and showers, and there are no known significant historical sources of PFAS such as AFFF storage or use. The site does not pose a potential threat of release to the environment and the release of PFAS from Site 32 to surface water is not suspected.

An additional consideration was given to non-AFFF sources of PFAS, specifically personal care products such as shampoo, conditioner, and shaving cream, which may have entered the Site 32 STP. These products are known to contain several PFAS compounds (Gaines, 2022; RTI International, 2023). However, because the volume of treated water is very low and approximately 1,800 cubic yards of impacted soil were removed during post-closure excavation activities, the potential for residual PFAS to be mobilized via surface runoff is insignificant. Additionally, there is no onsite surface water, and no connection to nearby water bodies.

Given the limited potential for PFAS mass, the absence of direct surface water features, and the infiltration-dominated site conditions, the potential for PFAS to reach surface water via overland transport or erosion is considered negligible. Therefore, no further evaluation of the surface water exposure pathway at the Site 32 East Garrison STP is warranted.

Soil

Because the flow rate at the Site 32 East Garrison STP remained low during its years of operation (approximately 2,000 to 5,000 gallons per day), was used for only toilets and showers, and there are no known significant historical sources of PFAS such as AFFF storage or use, it is unlikely significant amounts of PFAS were retained in the soil at Site 32.

An additional consideration of potential PFAS presence at Site 32 was conducted to evaluate toilet and shower contributions as non-AFFF sources of PFAS. Historical use pattern of PFAS-containing products was considered in the context of post-closure site excavations. Based on a review of PFAS-containing products, shampoo, conditioner, and shaving cream were the only plausible contributors of PFAS that could potentially have been transported into the Site 32 STP, though the amount of any potential PFAS would have been small (Gaines, 2022; RTI International, 2023). Given the potential for these products, the soil pathway was considered potentially complete, and the potential for PFAS in soil was considered. Approximately 1,800 cubic yards of soil were removed from the sludge drying beds and adjacent ponding area during closure activities. Given the limited PFAS expected from historical product use coupled with the large volume of material excavated, any residual concentrations in soil would be expected to be below applicable screening levels.

Based on the information available and the lack of potential storage, use, or disposal of PFAS-containing material, Site 32 does not pose a potential threat of release to the environment. Therefore, no soil investigations are warranted.

FOPWG Discussions

Wastewater treatment plants in general were discussed in the July 9, 2025 FOPWG meeting; however, there was no specific discussion about the Site 32 East Garrison STP. Moreover, the concerns of the CCRWQCB were focused on the Site 36 FAAF STP and the concerns of the USEPA were focused on clarifying that non-AFFF sources (including WWTPs) should be considered in addition to AFFF sources. No agreements regarding Site 32 have been made.

Evaluation for Further Investigation

The results of the PA, and further evaluations conducted for this document, indicated PFAS releases were not considered likely at the Site 32 East Garrison STP. The Site 32 East Garrison STP is recommended for SEA. Discussions that occurred during the FOPWG meetings did not present additional evidence to suggest SEA was not appropriate.

Based on the results of the PA, the pathway analysis herein, and subsequent FOPWG discussions, no RI sampling or remedial action is warranted under CERCLA for the Site 32 East Garrison STP for the following reasons:

- The human exposure pathway is considered incomplete for surface water.
- The human exposure pathway was considered potentially complete for groundwater and soil; however, excavation of the site coupled with no significant PFAS sources indicate that retained PFAS and risk to human health and the environment is low.
- Discussions in the July 9, 2025 FOPWG meeting did not divulge compelling evidence to the contrary.

3.4.3 Site 36: FAAF Sewage Treatment Plant

Site 36, the former FAAF STP, was evaluated during the PFAS PA, which concluded that no further investigation at Site 36 was warranted under CERCLA because, based on the information available, potential storage, use, or disposal of PFAS-containing materials at the site does not pose a potential threat of release to the environment. However, the PA Narrative Report also acknowledged that Site 36 may be considered for PFAS investigation in the future should additional evidence become available indicating that further investigation is appropriate. The regulatory agencies generally expressed concerns in their comments on the PA Narrative Report that many household products containing PFAS could be disposed of in the sewer system and WWTPs of any size or operational flow rate could then be sources of PFAS to the environment and therefore should be included in the SI. Accordingly, Site 36 background information and data were reviewed and reevaluated as described below.

Site Description

Site 36 was located in the northeastern portion of the FAAF near the former Fort Ord boundary (Figure 5). From the site's construction in the late 1950s through March 1991, the site operated as the FAAF STP, a WWTP that received both sanitary sewage and wastewater from wash racks and maintenance shops at the FAAF and the nearby U.S. Army Reserve Center (HLA, 1996d).

Site 36 is approximately 4 acres in size and previous onsite structures included a barminutor, an Imhoff tank, two concrete-lined evaporation ponds with an estimated capacity of 20,000 gallons per day, two small sludge-drying beds for the Imhoff tank sludge, and a sewage overflow outfall. By 1996, the barminutor and Imhoff tanks had been removed (HLA, 1996d). The site is now largely natural and sparsely vegetated. Land use in the area includes a large agricultural area north of the Salinas River and the Marina Municipal Airport to the southwest.

The only remaining structure onsite is an airport communication tower used and operated by the City of Marina. The sludge drying bed and evaporation pond area is currently a well-vegetated depression. The outfall area is largely overgrown (Ahtna, 2022).

Site 36 is located in the Marina watershed. Surface water information for the watershed is in Figure 6. Groundwater information for the site and surrounding area is in Figure 13, Figure 14, and Figure 15. Sensitive environments information for the watershed is in Figure 10.

Operational History and Waste Characteristics

The site was previously owned and operated by the Army. Site 36 has been owned and operated by the City of Marina as part of the Marina Municipal Airport since 2001. From the late 1950s through March 1991, the FAAF STP operated as an active WWTP, with onsite structures that included a barminutor, an Imhoff tank, two concrete-lined evaporation ponds with an estimated capacity of 20,000 gallons per day, two small sludge-drying beds for the Imhoff tank sludge, and a sewage overflow outfall. Chlorination did not occur at Site 36 (HLA, 1996d).

The FAAF STP treated an average of 16,500 gallons per day of sanitary sewage and wastewater from wash racks and maintenance shops at FAAF and the nearby U.S. Army Reserve Center. Wastewater from the helicopter washdown was occasionally pumped to the oxidation ponds of the FAAF STP instead of the holding tanks in the wash area (EA, 1991). There was no off-base effluent discharge from the evaporation ponds, and sludge was never removed from the drying beds (Harding ESE, 2002).

Oil-water separators were installed in the 1960s to pre-treat wastewater from the aircraft wash racks and prevent petroleum hydrocarbons from entering the sanitary sewer system. In March 1997, an IA excavation removed approximately 600 cubic yards of impacted soil from the evaporation ponds and approximately 8,700 cubic yards of sewage sludge from the drying beds. All excavation soil and sludge were transported to the OU2 Fort Ord Landfills for disposal under the engineered cover system. In May 1997, the site was graded so that surface water would flow off the site. The final work phases involved temporary erosion control and revegetation using native plants. Straw crimping was completed in August 1997 and seeding was completed by the end of 1997 (IT, 2000).

The Imhoff tank experienced overflows from the oil-water separators, and the evaporation ponds had cracks in the bottom, so it was possible for wastewater to percolate into the ground (HLA, 1997c), though groundwater contamination would have been limited to the A-Aquifer, which is not used for drinking water purposes (HGL, 2017). The FO-SVA underlies the A-Aquifer beneath Site 36 and continues in a downgradient direction, daylighting at the bluffs above the Salinas River along the eastern boundary of the former Fort Ord (HLA, 1995b, Volume II). Additionally, the low permeability and thickness of the FO-SVA prevents significant vertical migration of groundwater within the Site 36 area from the A-Aquifer into the underlying Upper 180-Foot Aquifer. Consequently, there is no exposure pathway to human receptors for groundwater from the Site 36 area.

Pathway Analysis

A pathway analysis for Site 36 was previously conducted during the PA to evaluate the likelihood of PFAS migration from identified sources to potential receptors through groundwater, surface water, and soil. The results of that analysis, along with additional considerations of non-AFFF PFAS sources and FOPWG discussions, form the technical basis for Site 36 resolution decisions presented in this document. The prior pathway analyses along with additional considerations are summarized below. Sensitive environments and target populations are shown in Figure 16.

Groundwater

The groundwater pathway at Site 36 is considered potentially complete. The site historically received both domestic and industrial wastewater, including inputs from helicopter wash racks and maintenance shops (EA, 1991). The presence of oil-water separators and the documented overflow events from the Imhoff tank suggest that petroleum hydrocarbons and other industrial chemicals may have entered the wastewater stream (HLA, 1997c). Additionally, some of the evaporation ponds were unlined, providing a potential route for contaminants to migrate into the subsurface; however, potential groundwater contamination would be limited to the A-Aquifer, which is not used for drinking water.

Despite this potentiality, groundwater sampling is not recommended at this time. Instead, soil sampling at the evaporation ponds and drying beds where interim actions were completed (IA Area 36A and IA Area 36B) is proposed to evaluate the presence of PFAS and other contaminants. Should soil sample analytical results indicate the presence of PFAS at concentrations exceeding screening levels, additional soil and groundwater sampling may be warranted during future CERCLA phases to assess potential migration and exposure risks.

Surface Water

The surface water pathway at the Site 36 FAAF STP is considered incomplete. The site is located within the Marina watershed but lacks any surface water bodies onsite. The topography of the area, characterized by well-vegetated depressions and dune formations, limits overland flow and reduces the likelihood of contaminant migration via surface water (HLA, 1996d). Additionally, the distance and terrain between Site 36 and the Salinas River make hydrologic connectivity unlikely.

Given the absence of surface water features and the lack of a viable transport mechanism, surface water sampling is not recommended. The pathway does not present a credible route for contaminant migration under current site conditions.

Soil

The soil pathway at Site 36 is considered complete. The site received moderate flows of wastewater from both domestic and industrial sources, including helicopter washdown and maintenance operations (EA, 1991). Historical records indicate that several of the evaporation ponds were unlined, and there are documented occurrences of waste oil dumping into the system and Imhoff tank overflow events (HLA, 1997c). While interim actions were completed to remove soil at this site, the potential for migration into deeper soils is possible (HLA, 1996d; IT, 2000).

Given the operational history, the presence of industrial wastewater inputs, and the potential for PFAS migration into deeper soils, soil sampling at the evaporation ponds and drying beds where interim actions were completed (IA Area 36A and IA Area 36B) is recommended. This will help determine whether the soil pathway poses a risk to human health or the environment and inform future decisions regarding additional soil sampling, groundwater monitoring, or remedial actions.

FOPWG Discussions

The Site 36 FAAF STP was discussed in the July 9, 2025 FOPWG meeting. The CCRWQCB specifically requested that Site 36 be evaluated as part of the ongoing PFAS RI and emphasized that it is important not to overlook the potential for other PFAS sources near monitoring wells MW-40A-01-A and MW-40A-02-A because PFAS detections in this area could be misattributed to the FAAF Fire & Rescue Station even if the PFAS may have originated from Site 36.

The CCRWQCB also noted that it is unclear whether all sludge was removed from the Site 36 FAAF STP area or whether the point source outfall discharge remains a potential PFAS source. The CCRWQCB recommended that Site 36 be included in the PFAS RI to help distinguish between potential contributions from the FAAF Fire & Rescue Station and the Site 36 FAAF STP. No agreements regarding Site 36 have been made.

Evaluation for Further Investigation

The results of the PA and further evaluations conducted for this document indicate that PFAS releases were possible during the operation of the FAAF STP at Site 36 due to the site's use as a wastewater treatment facility that received industrial inputs—including wash rack and maintenance shop discharges. The Site 36 FAAF STP is recommended for soil investigation.

Based on the results of the PA, the pathway analysis herein, and subsequent FOPWG discussions, limited RI soil sampling in the evaporation ponds and drying beds where interim actions were completed (IA Area 36A and IA Area 36B) is warranted under CERCLA for the Site 36 FAAF STP for the following reasons:

- The human exposure pathway was considered potentially complete for soil.
- There were documented releases of untreated wastewater into the unlined evaporation ponds and overflow events from oil-water separators at the Imhoff tank.
- The site received moderate wastewater flows from industrial sources, suggesting PFAS presence as possible.

3.5 Potential Non-AFFF PFAS Sources

The regulatory agencies have requested PFAS investigations at areas beyond the scope of DoD guidance, such as pesticide mixing areas, automotive shops, and areas where possible PFAS-containing munitions were used. Based on DoD guidance, these facilities do not meet the criteria for additional evaluation above and beyond what has already been provided in the PA/SI. There is not an indication of any possible AFFF release associated with firefighting activities at any of those locations. Unless the DoD guidance is revised to expand the scope of PFAS investigations or additional information is uncovered associated with possible AFFF use associated with firefighting activities at any of those locations, these areas will not be subject to additional investigation or assessment at the former Fort Ord.

FOPWG Discussions

PFAS in munitions were noted as an outstanding discussion point by the USEPA in the May 28, 2025 FOPWG meeting. Munitions were again discussed in the July 9, 2025 FOPWG meeting in the context of the RI conceptual site model (CSM). The USEPA's position is that all non-AFFF sources of PFAS, including the potential for PFAS in munitions, should not be omitted from the CSM. The USEPA also commented that the Army should consider soil sampling after the prescribed burns that are planned on Fort Ord for fall 2025 to determine if there is PFAS contamination in soil at munitions sites. The Army responded that, based on the findings presented in the PFAS PA Narrative Report, there is no evidence suggesting PFAS contamination in munitions areas at the former Fort Ord that would warrant further investigation. No agreements regarding PFAS-containing munitions sites have been made.

4.0 Site Investigation Roadmaps and Planning Considerations

This section outlines the planned investigation activities for sites under evaluation. For sites included in the current RI phase, the RI efforts are designed to characterize the nature and extent of potential contamination, evaluate potential migration pathways and receptors, and collect the data necessary to support risk evaluation and remedy selection. For newly identified AOPIs, a PA/SI will be conducted to evaluate potential groundwater and soil exposure pathways associated with historical use of AFFF and determine the suitability of a site for inclusion in a future RI phase.

For PFAS sites moving through the RI process, the appropriate administrative pathway and decision document, if warranted, will be determined collaboratively by the Army and the regulatory agencies based on site-specific findings and the CERCLA process. These decisions will rely on several key considerations including, but not necessarily limited to:

- Contiguous plume area
- Likely source relationships
- Relevance of existing remedies
- Timeframe of existing remedies
- Administrative complexity of any considered decision document

Depending on how these factors align, the administrative path may involve one or more decision documents or assignment of sites to new or existing OUs at the former Fort Ord. These options are identified here only to outline the range of tools available; the project is not making recommendations at this stage.

Sites discussed in Sections 4.1 through 4.6 are currently included in the PFAS RI QAPP (Ahtna, 2026) and are progressing through the RI process. Sites discussed in Sections 4.7 through 4.8 are recommended for a future RI phase and are not currently included in the PFAS RI QAPP. Sites discussed in Sections 4.9 through 4.13 represent sites identified during preparation of this report that are recommended for PA/SI evaluation.

4.1 Site 2, Main Garrison Sewage Treatment Plant

Site 2, the former Main Garrison STP, is located within Fort Ord Dunes State Park, between State Route 1 and the Monterey Bay, and historically operated as the primary WWTP for former Fort Ord from the 1930s until its decommissioning in 1990. The facility included a network of treatment structures, unlined ponding areas, and asphalt-lined sludge drying beds, where treated effluent and residual materials may have contained PFAS from residential, commercial, or industrial sources. During the SI, PFAS were detected in groundwater samples collected from the unconfined Upper 180-Foot Aquifer at concentrations exceeding screening levels (Ahtna, 2023). Specifically, PFOA and PFOS exceeded screening levels in monitoring well MW-02-13-180U and extraction well EW-12-08-180U. Other PFAS detected across the four sampled wells included PFBA, PFHxA, PFBS, and PFHxS. In soil, a low-level detection of PFOS was observed at 1 foot bgs at soil boring SB-02-18 but below residential and industrial screening levels (Ahtna, 2023).

Although the facility has been decommissioned and partial soil removal and cleanup occurred in the late 1990s, the mobility of PFAS, the historical configuration of the site, and the exceedances in groundwater support the need for additional investigation. RI activities will focus on further evaluating the nature and

extent of PFAS in groundwater downgradient of the former discharge areas and assessing potential retention in shallow soils near Ponding Area 1.

The RI will include groundwater and soil sampling to evaluate potential PFAS impacts associated with historical operations at Site 2, the Main Garrison STP. Groundwater sampling will be conducted in the unconfined Upper 180-Foot Aquifer and soil sampling will be performed in low-lying areas within Ponding Area 1, adjacent to the former sludge drying beds.

Groundwater sampling will target 22 existing and two new wells located onsite and north and east of the Main Garrison STP. These locations were selected based on groundwater modeling that indicates northeastward flow influenced by aquifer recharge at the Site 2 infiltration galleries. Although the unconfined Upper 180-Foot Aquifer in this area is not used for water supply, the mobility of PFAS and potential migration toward Site 12 warrant further investigation.

Soil sampling will be performed at three locations within Ponding Area 1, where discharge from the STP sludge drying beds would have been retained longest. Soil samples will be collected from the surface to the groundwater interface at one location and the depth of the remaining borings will be determined based on the analytical results for soil samples from the first location. Ponding Area 1 is protected from such erosional forces and is expected to yield representative data for evaluating historical PFAS discharges. If PFAS concentrations in soil are present above industrial screening levels in Ponding Area 1, then Ponding Area 2 will be sampled. If PFAS concentrations in soil are above industrial screening levels in Ponding Area 2, then Ponding Area 3 will be sampled (Ahtna, 2026).

4.2 Site 10, Former Burn Pit

Site 10 is located near the Main Garrison Fire Station in the former Fort Ord Main Garrison area and historically functioned as a firefighter training area from the mid-1950s through 1990. During these activities, petroleum fuels were ignited and extinguished, which included the use of AFFF after 1972, with residual liquids allowed to infiltrate the soil in an unlined burn pit. An IA completed in 1995 removed contaminated soil to a depth of 10 feet bgs, and the area was backfilled with clean soil. However, the potential for PFAS infiltration and migration to groundwater had not been investigated until the recent SI (Ahtna, 2023).

During the SI, PFAS were detected in all five groundwater wells sampled downgradient of Site 10. PFOA concentrations exceeded the tap water screening level at newly installed well MW-10-07-180, approximately 4,300 feet downgradient of the site. Other PFAS detected across the well network included PFBA, PFHxA, PFBS, and PFHxS, all at concentrations below their respective screening levels. In soil, PFHxS and PFOS were detected below screening levels in samples collected from 15 to 20 feet bgs, beneath the previously excavated zone. While the spatial distribution of PFAS detections suggests the adjacent Main Garrison Fire Station may be the dominant source of PFAS to groundwater, the confirmed exceedance at MW-10-07-180 supports the need for additional investigation between Site 10 and that location.

RI activities will focus on confirming the PFOA screening level exceedance at MW-10-07-180 and characterizing PFAS occurrence in groundwater in the area between Site 10 and that monitoring well. Soil conditions were assessed to a depth of 20 feet and further soil investigation is planned for the RI.

The RI for Site 10 will include targeted groundwater and soil sampling to evaluate PFAS impacts associated with historical use of AFFF. Groundwater sampling will focus on the Upper 180-Foot Aquifer at Site 10 and downgradient, and soil sampling will be conducted in the former burn pit area.

One new well is proposed directly within Site 10, one new well will be installed between Site 10 and MW-10-07-180, and existing wells MW-10-07-180 and MW-OU2-29-180 will be sampled to assess the potential for downgradient PFAS migration. These wells were selected based on particle tracking analysis from the Fort Ord groundwater model, which indicates that PFAS released at Site 10 may have migrated toward the OU2 Fort Ord Landfills and potentially commingled with the OU2 TCE plume. Previous PFAS sampling in this area has confirmed long-range migration of PFAS compounds downgradient of the OU2 Fort Ord Landfills, further supporting this approach.

Soil sampling will be performed in the former burn pit area. Samples from the deep boring will be collected from 10 feet bgs, beneath the previously backfilled clean soil, to the groundwater interface to evaluate potential retention of PFAS compounds in vadose zone soil following historical AFFF use and extended percolation. Sample depths for the four other soil borings will be determined based on results from the first boring. Two shallow soil samples will be collected in the area of the underground pipe discharge point located southwest of the burn pit if it is able to be located.

4.3 FAAF Fire & Rescue Station

The FAAF Fire & Rescue Station (Building 514), located at the former FAAF (now Marina Municipal Airport), operated as a military fire station from 1961 through base closure in 1994. AFFF was historically discharged to the unpaved, grassy area immediately south of the station as part of vehicle maintenance and material disposal practices. Although AFFF was not stored at the facility itself, routine rotation and disposal of AFFF from vehicle tanks occurred approximately annually, resulting in potential impacts to soil and groundwater.

During the SI process, PFAS were detected in both groundwater and soil samples at concentrations exceeding relevant screening levels. Groundwater samples from two newly installed A-Aquifer monitoring wells (MW-40A-01-A and MW-40A-02-A) contained PFOA, PFNA, PFHxS, and PFOS at concentrations above their respective tap water screening levels. In total, twelve or more PFAS compounds were detected at each well. Soil sampling in the unpaved area south of Building 514 identified a PFOS exceedance of the industrial screening level in one sample. Other PFAS detected in soil included PFBA, PFHxA, PFOA, PFNA, PFBS, and PFHxS, although all were below their respective screening levels.

Due to the confirmed presence of PFAS in both environmental media, additional RI activities are warranted. These efforts will focus on further characterization of PFAS distribution in the A-Aquifer downgradient of the FAAF Fire & Rescue Station and refining the understanding of PFAS retention in soils at historical discharge areas.

The RI at the FAAF Fire and Rescue Station will include groundwater and soil sampling to assess potential PFAS impacts associated with historical AFFF use near Building 514. Groundwater monitoring will be conducted in the A-Aquifer downgradient of the source area, and soil sampling will target soils in the adjacent grassy area south of Building 514.

Although the A-Aquifer is not currently used for water supply and there is no known downgradient groundwater use, three new A-Aquifer monitoring wells will be installed, one at the FAAF Fire & Rescue Station and two downgradient located north and south of MW-40A-02-A. Existing wells MW-40A-01-A and MW-40A-02-A will also be sampled. This investigation is driven by the known mobility of PFAS and the possibility that releases from past AFFF use may have migrated downgradient through the shallow aquifer system.

Soil sampling will be conducted in the area south of Building 514, where AFFF discharge may have occurred and where site workers could represent a potential receptor population. Samples will be collected from the surface to the groundwater interface at the deep soil boring. Based on the analytical results for soil samples collected from the deep soil boring, additional sampling will be conducted in a grid pattern at up to 29 locations. The Salinas River bluff face will also be inspected to determine if the A-Aquifer is daylighting, and if so, the saturated soil will be sampled.

4.4 Main Garrison Fire Station

The Main Garrison Fire Station, located along General Jim Moore Boulevard within the former Fort Ord, has been identified as a potential PFAS source area due to the historical use and discharge of AFFF. Originally constructed in 1953 (Building 4400) and now operated by the POM Fire Department, the site saw routine AFFF storage and periodic discharges in grassy areas adjacent to the station, particularly near Building 4401. Given the persistence and mobility of PFAS, and the site's location within a hydrologically connected aquifer system, further investigation under the RI is warranted.

During the SI, both groundwater and soil were sampled to evaluate the presence and extent of PFAS contamination (Ahtna, 2023). Groundwater samples were collected from four existing downgradient monitoring wells (MW-OU2-29-180, MW-OU2-54-180, MW-OU2-55-180, and MW-OU2-62-180) and one newly installed downgradient well (MW-10-07-180). Multiple PFAS were detected at all five wells, including PFBA, PFHxA, PFBS, PFHxS, PFOA, and PFOS. PFOA and PFHxS concentrations exceeded their respective tap water screening levels in MW-10-07-180, located downgradient of the Main Garrison Fire Station. Soil sampling in the grassy area west of Building 4401 also identified PFOS and PFOA at concentrations exceeding residential screening levels, confirming a release to the environment and the potential for ongoing exposure.

Based on these findings, the human exposure pathway is considered complete for soil and potentially complete for groundwater. The site's proximity to downgradient municipal supply wells, combined with the exceedances of PFAS in both environmental media, supports the need for an RI to delineate the extent of PFAS in soil and groundwater, evaluate exposure pathways, and provide the data necessary to support potential future development of appropriate decision documents.

The RI at the Main Garrison Fire Station will include groundwater and soil sampling to evaluate PFAS impacts related to historical AFFF use. Groundwater sampling will focus on the Upper 180-Foot Aquifer onsite and downgradient of the site, while soil sampling will be conducted in the grassy area adjacent to Building 4401, in the sand filter discharge area adjacent to Building 4400, and adjacent to and downgradient of the AFFF storage area north of Building S-4403.

One new monitoring well is proposed at the location of the deep soil boring in the grassy area adjacent to Building 4400. One new monitoring well is proposed downgradient of the fire station, installed between the Main Garrison Fire Station and MW-10-07-180. One new monitoring well will be installed

at the adjacent Site 10 burn pit. Additionally, thirteen existing downgradient monitoring wells will be sampled for PFAS. These wells were selected based on groundwater modeling and particle tracking analyses that indicate PFAS released at the fire station could have migrated toward the OU2 Fort Ord Landfills and potentially commingled with the OU2 TCE plume. The selected wells are the same as those to be used in the RI for adjacent Site 10, reflecting the potential for overlapping migration pathways.

To evaluate potential exposure to site workers and the persistence of PFAS in soil, soil samples will be collected from the grassy area west of Building 4401. Sampling at the deep soil boring will extend from the ground surface to the groundwater interface to assess whether PFAS have been retained in soil in the unsaturated zone following past AFFF use. Eight additional soil borings in the grassy area will be drilled with depths determined based on the results from the first soil boring to the groundwater interface. Shallow soil samples will be collected from two borings in the sand filter discharge area adjacent to Building 4400 and from two soil borings adjacent to and downgradient of the AFFF storage area north of Building S-4403. The grassy area was redeveloped into a gravel parking lot in 2025 with surface soil removed and stockpiled adjacent to the parking lot. The onsite stockpiled surface soil will also be sampled for PFAS.

4.5 FAAF Fire Drill Area

The FAAF Fire Drill Area, located in the western portion of the former Fort Ord, was used for live fire suppression training by the Fort Ord Fire Department from 1962 to 1985. AFFF was regularly applied during these exercises. While the site underwent prior remedial actions for petroleum hydrocarbons and VOCs as part of Operable Unit 1 (OU1), PFAS were not evaluated during those efforts. Recent assessment activities have identified the site as a potential source of PFAS to groundwater, prompting the need for an RI to evaluate current conditions and support future CERCLA decision-making.

As part of the SI, groundwater samples were collected from three existing A-Aquifer monitoring wells (MW-BW-95-A, MW-BW-96-A, and MW-BW-97-A), along with one soil boring (SB-FDA-01). PFAS detected in groundwater included PFBA, PFHxA, PFOA, PFBS, PFHxS, and PFOS. Notably, PFOA, PFHxS, and PFOS concentrations in groundwater exceeded their respective tap water screening levels in samples from MW-BW-95-A and from the groundwater interface sample collected at SB-FDA-01. Soil samples collected at SB-FDA-01 showed no exceedances of residential or industrial screening levels and PFAS detections were limited to the groundwater interface, suggesting limited retention in shallow soil.

Although LUCs restrict use of the A-Aquifer, these controls are not PFAS-specific, and the presence of PFAS at concentrations above screening levels in groundwater indicates a potentially complete exposure pathway. In addition, uncertainty regarding the alignment and influence of the FO-SVA channel low—an important hydrogeologic feature—may affect PFAS transport within the aquifer. Therefore, an RI is warranted to refine the CSM and delineate PFAS contamination in the A-Aquifer.

The RI at the FAAF Fire Drill Area will include groundwater and soil sampling to evaluate potential PFAS impacts associated with historical AFFF use. Groundwater monitoring will focus on the A-Aquifer and soil sampling will assess conditions from the surface to the groundwater interface in areas with past petroleum contamination.

Although the A-Aquifer is not used for water supply and there is no known downgradient use, groundwater sampling will be conducted to verify that PFAS are no longer migrating from the site. Three existing wells (MW-BW-95-A, MW-BW-96-A, and MW-BW-97-A) will be sampled and one new A-Aquifer

monitoring well will be installed at one of the two deep soil boring locations in the FAAF Fire Drill Area and one groundwater grab sample will be collected at the second deep soil boring. Additionally, four new A-Aquifer monitoring wells will be installed downgradient of the FAAF Fire Drill Area up to the former Fort Ord boundary. These locations were selected based on the results of the SI and the 2015 attainment monitoring for OU1 and some are within the FO-SVA Channel Low, a preferential pathway for contaminant migration. These new wells will also support OUCTP delineation, as they are located downgradient of MW-BW-95-A, where carbon tetrachloride has been detected above its aquifer cleanup level (ACL).

Soil sampling will be conducted from below the depth (20 or 30 feet bgs) previously excavated for the OU1 soil remedy to the groundwater interface at two soil borings in the FAAF Fire Drill Area to determine if PFAS-impacted soil remains at the site. Five additional soil borings will be drilled in the FAAF Fire Drill Area with the sample depths determined based on the analytical results for soil samples from the two deep soil borings.

4.6 OU2 Fort Ord Landfills

The OU2 Fort Ord Landfills, located in the north-central portion of the former Fort Ord, operated from 1955 to 1987 and were used for disposal of residential, commercial, and on-base solid waste. Historical records indicate that AFFF may have been used during fire suppression events, and that PFAS-containing materials could have been disposed of in the Fort Ord Landfills. These past practices led to identification of the OU2 Fort Ord Landfills as a candidate for PFAS evaluation. The SI was conducted to assess the potential presence and migration of PFAS in groundwater and determine whether further CERCLA action is warranted.

As part of the SI, groundwater samples were collected from wells screened in the A-Aquifer, Upper 180-Foot Aquifer, and Lower 180-Foot Aquifer. PFAS compounds including PFOA, PFOS, PFHxS, and PFNA were detected in several wells, with concentrations exceeding screening levels in the southern portion of the OU2 TCE plume in the Upper 180-Foot Aquifer—specifically at MW-OU2-23-180, MW-OU2-50-180, and EW-OU2-03-180. No PFAS were detected in A-Aquifer wells near the OU2 Fort Ord Landfills, suggesting the engineered cover system is effectively limiting direct infiltration. In addition, low concentrations of PFHxA, PFBS, and PFHxS were detected in downgradient municipal supply well 29, though PFOA and PFOS were not present. These results indicate that, while the OU2 Fort Ord Landfills do not appear to be a current source of PFAS, PFAS are present in the groundwater migration pathway and may have originated from upgradient locations.

Given the presence of PFAS in groundwater above screening levels and the potential for vertical or lateral migration toward drinking water supply wells, an RI is necessary. Soil investigation is not proposed due to the presence of the engineered cover system and absence of complete exposure pathways. The RI will aim to delineate PFAS concentrations in the A-Aquifer and the Upper 180-Foot Aquifer, assess potential migration to deeper groundwater zones, and refine the CSM to support future response decisions.

The RI at OU2 will include groundwater sampling in the A-Aquifer, the Upper 180-Foot Aquifer, and the downgradient Lower 180-Foot Aquifer to evaluate PFAS impacts associated with historical disposal practices, past AFFF use at the Fort Ord Landfills, and the detections of PFOA and PFOS observed in monitoring well MW-OU2-23-180 at concentrations above the screening levels (Ahtna, 2022).

Groundwater sampling will focus on delineating the extent of PFAS in the A-Aquifer (29 existing wells and one new well downgradient of the OU2 Fort Ord Landfills near the edge of the FO-SVA), the Upper 180-Foot Aquifer (22 existing wells), and the downgradient Lower 180-Foot Aquifer (8 existing wells, including the MCWD supply wells). PFAS will be evaluated for potential vertical migration from the Upper to Lower 180-Foot Aquifer due to recent detected TCE concentrations above the ACL (5 micrograms per liter [µg/L]) in the Upper 180-Foot Aquifer and the MCL (5 µg/L) in the Lower 180-Foot Aquifer east of the OU2 Ford Ord Landfills and upgradient of MCWD drinking water supply well 29.

4.7 Site 1 Ord Village Sewage Treatment Plant

The RI at the Site 1 Ord Village STP will focus on evaluating potential PFAS contamination in shallow soils associated with historical wastewater management practices. Soil sampling will be conducted in the area of the former holding pond, which functioned as a surge reservoir during the site's operation as a pumping station (EA, 1991).

Soil sampling will be performed at the lowest point of the holding pond where discharges from the STP or the pumping station would have been retained longest. Samples will be collected from the surface to a depth of 10 feet bgs to assess the potential for long-term retention of PFAS, particularly longer-chain PFAS compounds, in shallow soils. If initial sampling results indicate PFAS is present and concentrations exceed screening levels, step-out sampling may be conducted to delineate the lateral extent of contamination.

Groundwater sampling is not proposed at this time due to the absence of direct evidence of PFAS in groundwater and the site's location on permeable dune sand deposits. However, if soil sampling results indicate PFAS concentrations above screening levels, groundwater sampling may be considered in a subsequent phase to evaluate vertical migration and exposure potential.

4.8 Site 36 FAAF Sewage Treatment Plant

The RI at Site 36, the FAAF STP, will include soil sampling in the area of the former evaporation ponds and drying beds where interim actions were completed (IA Area 36A and IA Area 36B) to evaluate potential PFAS contamination resulting from historical wastewater discharges. Samples will be collected from the surface to a depth of 10 feet bgs to assess the potential for long-term retention of PFAS, particularly longer-chain PFAS compounds, in shallow soils. If initial sampling results indicate PFAS are present and concentrations exceed screening levels, step-out sampling may be conducted to delineate the lateral extent of contamination.

Groundwater sampling is not proposed at this time due to the site's location over the A-Aquifer, which is not used for drinking water purposes, and the presence of the FO-SVA, which limits vertical migration. However, if soil sampling results indicate PFAS concentrations above applicable screening levels, groundwater sampling may warrant additional evaluation through future CERCLA phases.

4.9 Building 1760 (former structure on 1st Avenue)

Building 1760, formerly an administrative facility within the Main Garrison of Fort Ord, was located west of State Route 1 near California State University Monterey Bay and accessible via 1st Avenue. Constructed in 1940 and decommissioned in 1994, the approximately 3,000-square-foot building was demolished in 2023. Although not originally associated with PFAS use, post-closure fire training activities involving AFFF introduced potential environmental concerns; therefore, a PA/SI will be conducted for Building 1760 to evaluate potential groundwater and soil exposure pathways associated with historical

use of AFFF. Future evaluation needs for Building 1760 will be determined based on the results of the PA/SI.

4.10 Building 1885 (former structure on 5th Street)

Building 1885, once a chapel within the Main Garrison of Fort Ord, was situated near California State University Monterey Bay, west of State Route 1, and accessible via 5th Street. Constructed in 1941 and decommissioned in 1994, the 3,500-square-foot structure was removed in 2023. While its original use posed little likelihood for PFAS contamination, subsequent fire-training activities utilizing AFFF in the area introduced potential environmental concerns; therefore, a PA/SI will be conducted for Building 1885 to evaluate potential groundwater and soil exposure pathways associated with historical use of AFFF. Future evaluation needs for Building 1885 will be determined based on the results of the PA/SI.

4.11 Buildings 4360-4363 (former BOQ)

Buildings 4360 through 4363, formerly used as the BOQ at Fort Ord, were located east of General Jim Moore Boulevard near Chartwell School and accessible from Numa Watson Road. Constructed between 1953 and 1956 and removed in 2023, the residential use of these buildings made PFAS contamination during their operational period unlikely. However, post-closure fire training activities involving AFFF introduced potential environmental concerns; therefore, a PA/SI will be conducted for Buildings 4360-4363 to evaluate potential groundwater and soil exposure pathways associated with historical use of AFFF. Future evaluation needs for Building 4360-4363 will be determined based on the results of the PA/SI.

4.12 Building 4387 (former Nurses' Barracks)

Building 4387, one of the former Nurses Barracks at Fort Ord, is located east of General Jim Moore Boulevard near the Monterey Bay Department of Defense Center and accessible via Parker Flats Cut Off Road. Constructed in 1974 and still standing today, the building is situated in an area designated for future redevelopment. While its historical residential use makes PFAS contamination during operation unlikely, post-closure fire training activities involving AFFF raise potential environmental concerns; therefore, a PA/SI will be conducted for Building 4387 to evaluate potential groundwater and soil exposure pathways associated with historical use of AFFF. Future evaluation needs for Building 4387 will be determined based on the results of the PA/SI.

4.13 Buildings 7146 (former residential unit in Doe Park)

Building 7146, once a residential structure in Doe Park at Fort Ord, was situated west of General Jim Moore Boulevard on California Road. Built in 1953 and removed around 2008, the building's residential use suggests a low likelihood of PFAS contamination during its operational period. Nonetheless, the area was later used for fire-training exercises involving AFFF, introducing potential environmental concerns; therefore, a PA/SI will be conducted for Building 7146 to evaluate potential groundwater and soil exposure pathways associated with historical use of AFFF. Future evaluation needs for Building 7146 will be determined based on the results of the PA/SI.

5.0 Summary and Conclusions

This Site Resolution Report provides a comprehensive evaluation of PFAS AOPIs at the former Fort Ord that were identified during the PA/SI phase, as well as newly identified AOPIs. The report documents the resolution of sites not advancing to the current RI phase, establishes the basis for NFA determinations, and outlines administrative planning for sites proceeding to RI or PA/SI. Sites were categorized as:

- No Further Action (NFA) – no credible PFAS release or exposure pathway.
- Remedial Investigation (RI) or Recommendation for future RI phase – PFAS presence or exposure potential warrants further study.
- Preliminary Assessment/Site Inspection (PA/SI) – data gaps prevent an NFA determination or RI inclusion at this time and additional evaluation through the PA/SI process is required.

Key intended outcomes of this report include:

- Closure of NFA sites with supporting rationale.
- A roadmap outlining future site investigations and planning considerations for sites under evaluation.
- Documentation of newly identified sites for additional investigation.

The sites evaluated within this Site Resolution Report, their current status in the CERCLA process, and their subsequent determinations are summarized below.

Site	Current Status	Determination
Site 40A: East FAAF Helicopter Defueling Area	SEA[1]	No Further Action
Site 16: DOL Maintenance Yard	NFA[2]	No Further Action
Site 1: Ord Village STP	NFA[3]	Recommended for future RI phase
Site 32: East Garrison STP	NFA[3]	No Further Action
Site 36: FAAF STP	NFA[3]	Recommended for future RI phase
Site 2: Main Garrion STP	Area of Interest (AOI)[4]	Progressing to the RI
Site 10: Former Burn Pit	AOI[4]	Progressing to the RI
FAAF Fire & Rescue Station	AOI[4]	Progressing to the RI
Main Garrison Fire Station	AOI[4]	Progressing to the RI
FAAF Fire Drill Area	AOI[4]	Progressing to the RI
OU2 Fort Ord Landfills	AOI[4]	Progressing to the RI
Building 1760 (former structure on 1st Avenue)	AOPI	Progressing to PA/SI
Building 1885 (former structure on 5th Street)	AOPI	Progressing to PA/SI
Buildings 4360-4363 (former BOQ)	AOPI	Progressing to PA/SI
Building 4387 (former Nurses' Barracks)	AOPI	Progressing to PA/SI
Building 7146 (former residential unit in Doe Park)	AOPI	Progressing to PA/SI

Notes:

[1] Per the SI Narrative Report (Ahtna, 2023).

[2] Per the PA Narrative Report (Ahtna, 2022).

[3] Per the PA Narrative Report (Ahtna, 2022). May be considered for PFAS investigation in the future should additional evidence become available indicating that further investigation is appropriate.

[4] Per the PFAS RI QAPP (Ahtna, 2026).

6.0 References[6]

Ahtna Engineering Services LLC (AES), 2014. *Report of Quarterly Monitoring, First Quarter 2014, Groundwater Monitoring Program, Sites 2 and 12, OU2, and OUCTP, Former Fort Ord, California,* July 25. BW-2718.

Ahtna Global, LLC (Ahtna), 2022. *Final Preliminary Assessment Narrative Report, Per- and Polyfluoroalkyl Substances, Former Fort Ord, California*. September 2022. BW-2904B.

Ahtna, 2023. *Final Site Inspection Narrative Report, Per- and Polyfluoroalkyl Substances, Former Fort Ord, California*. December 2023. BW-2942A.

Ahtna, 2025a. *Final Operable Unit Carbon Tetrachloride Plume Third Quarter 2025 Groundwater Monitoring Report, Former Fort Ord, California*. November 4. OUCTP-0124.

Ahtna, 2025b. *Final Operable Unit 2 Third Quarter 2025 Groundwater Monitoring and Treatment System Report, Former Fort Ord, California*. November 13. OU2-751.

Ahtna, 2026. *Quality Assurance Project Plan, Former Fort Ord, California, Draft Revision 0, Remedial Investigation for Per- and Polyfluoroalkyl Substances*. January. BW-2971.

Bigler, Brusseau, Guo, Jones, Pritchard, Higgins, and Hatton. 2024. *High-Resolution Depth-Discrete Analysis of PFAS Distribution and Leaching for a Vadose-Zone Source at an AFFF-Impacted Site*. Environmental, Science & Technology. Vol. 58, Issue 22.

California Department of Parks and Recreation (CDPR), 2020. *Ft. Ord Dunes Campground Project.* https://www.parks.ca.gov/?page_id=28340

California Department of Toxic Substances Control (DTSC), 2023. *Docket No. HAS-FY22/23-124, Standard Voluntary Agreement, Health and Safety Code Section 25355.5(a)(1)(C) in the Matter of: Chartwell Proposed High School*. August.

DTSC, 2025. *Chartwell Proposed High School: Review of Final Preliminary Assessment of Per- and Polyfluoroalkyl (PFAS) at Presidio of Monterey, California and Ord Military Community, California*. June 30.

City of Seaside, 2024. *City of Seaside General Plan, Adopted May 16, 2024, Resolution GPA-24-01.* https://www.ci.seaside.ca.us/DocumentCenter/View/15999/Seaside2040-General-PlanPDF?bidId=

City of Seaside Environmental Services Cooperative Agreement (ESCA), 2025. *Environmental Services Cooperative Agreement (ESCA) Program Update at the Fort Ord BRAC Cleanup Team (BCT) Meeting: May 9, 2025*. OE-1031.

[6] At the end of references included in the Fort Ord Document Library are the Record Numbers (e.g., BW-1234). To find the referenced document, this number may be typed into the Online Search tool at: http://www.fortordcleanup.com/documents/search/. Please note the referenced documents were available in the Fort Ord Document Library at the time this document was issued; however, some may have been superseded by more current versions and were subsequently withdrawn. TBD: to be determined.

Creegan + D'Angelo, 2005. *Fort Ord Reuse Authority (FORA) Storm Water Master Plan*. Prepared for FORA March 2005.

Dahlin Group Architecture Planning (Dahlin), 2005. *University Villages Specific Plan*. May 31; amended August 7, 2017. https://cityofmarina.org/DocumentCenter/View/10863/UV-Specific-Plan_CURRENT?bidId=

Diagnostic Engineering Inc. (DEI), 1993. *Asbestos Survey Report, U.S. Army Corps of Engineers – Fort Ord Installation, Fort Ord, California*. April 26.

EA Engineering, Science, and Technology (EA), 1991. *Basewide Remedial Investigation/Feasibility Study, Volume I – Literature Review and Base Inventory Report.* March 1. BW-0136.

Federal Emergency Management Agency (FEMA), 2017. *Flood Insurance Rate Map: Monterey County, California and Incorporated Areas, Map Numbers 06053C0187H, 06053C0191H, 06053C0195H, 06053C0189H.* June 21, 2017. Accessed June 12, 2025.

Fort Ord Data Integration System (FODIS), 2025. *Buildings Application Soil Cleanup Application*. Accessed July 23, 2025 at: https://maps.fodis.net/portal/home/index.html

Gaines, Linda G. T., 2022. *Historical and current usage of per- and polyfluoroalkyl substances (PFAS): a literature review*. Am J Ind Med. 2022;1-26. doi:10.1002/ajim.23362

Harding ESE, 2002. *Draft Final Field Investigation and Data Review, Solid Waste Management Units, Fort Ord, California.* July 30. BW-1496A.

HydroGeoLogic, Inc. (HGL), 2017. *Final Closeout Report, Operable Unit 1 Groundwater Remediation, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California*. December. OU1-631A.

Harding Lawson Associates (HLA), 1988. *Fort Ord Landfills, Preliminary Hydrogeologic Investigation*. June 1. OU2-037.

HLA, 1991. *Underground Storage Tank Management Plan, Fort Ord Complex, Monterey County, California, Volume I*. October 1991. BW-0193.

HLA, 1993. *Basewide Background Soil Investigation, Fort Ord, California*. March 15. BW-0352.

HLA, 1994. *Draft Final Basewide Hydrogeologic Characterization, Fort Ord, California, Volume I – Text and Plates.* June 10. BW-0608.

HLA, 1995a*. Volume I – Draft Final Basewide Surface Water Outfall Investigation, Remedial Investigation/Feasibility Study, Fort Ord, California.* May 17. BW-1146.

HLA, 1995b. *Basewide Remedial Investigation/Feasibility Study, Fort Ord, California, Volumes I through VI*. October 19. BW-1283A.

HLA, 1996a. *Interim Action Confirmation Report, Site 20 – South Parade Ground, 3800 and 519th Motor Pools, Fort Ord, California.* July. BW-1351.

HLA, 1996b. *Draft Final Site Characterization Site 1 – Ord Village Sewage Treatment Plant, Fort Ord, California.* August 26. BW-1370.

HLA, 1996c. *Interim Action Confirmation Report, Site 10 – Burn Pit, Fort Ord, California.* August 30. BW-1382.

HLA, 1996d. *Draft Final Site Characterization, Site 36 – Fritzsche Army Airfield Sewage Treatment Plant, Fort Ord, California.* December 30. BW-1547.

HLA, 1997a. *Draft Final Site Characterization Report, Site 32 – East Garrison Sewage Treatment Plant, Fort Ord, California.* January 28. BW-1566.

HLA, 1997b. *Draft Final Site Investigation Report, Buildings 2253, 3803, 4362, and 4534, Former Fort Ord, California.* March 4. BW-1683.

HLA, 1997c. *Interim Action Confirmation Report, Site 36 – Fritzsche Army Airfield Sewage Treatment Plant, Fort Ord, California.* June 20. IAFS-177.

HLA, 1997d. *Interim Action Confirmation Report, Site 1 – Ord Village Sewage Treatment Plant, Fort Ord, California*. December 10. IAFS-199.

HLA, 1998a. *Interim Action Confirmation Report, Site 32 – East Garrison Sewage Treatment Plant, Fort Ord, California*. March 5. IAFS-203.

HLA, 1998b. *Underground And Aboveground Storage Tank Management Plan Update, Former Fort Ord and Presidio of Monterey, Monterey County, California.* March 13.

International Technology Corporation (IT), 1997. *Interim Action Sites Work Plan, Fort Ord Contaminated Soil Removal, Site #1A, Outfalls 15, 34, and 35, Fort Ord, California*. May. IAFS-211.

IT, 1999. *Construction Close-out Report, Sites 16 and 17, Basewide Remedial Investigation Sites, Former Fort Ord, California.* October. BW-2022B.

IT, 2000. *Final Construction Summary Report Interim Action and Sludge Removal Sites, Former Fort Ord, California.* June. BW-2791.

Interstate Technology Regulatory Council (ITRC), 2020. *Aqueous Film-Forming Foam*. August. https://pfas-1.itrcweb.org/wp-content/uploads/2020/10/afff_508_093020.pdf

ITRC, 2023. *Technical/Regulatory Guidance, Per- and Polyfluoroalkyl Substances (PFAS).* September. https://pfas-1.itrcweb.org/wp-content/uploads/2023/12/Full-PFAS-Guidance-12.11.2023.pdf

Lindeburg MR, 2018. *PE Civil Reference Manual*. 16th ed. PPI, Belmont, CA.

MACTEC Engineering and Consulting, Inc (MACTEC), 2006. *Final Operable Unit Carbon Tetrachloride Plume Groundwater Remedial Investigation/Feasibility Study, Former Fort Ord, California*. May 19. OUCTP-0011P.

Marina Coast Water District (MCWD), 2025. *Consumer Confidence Reports*. https://www.mcwd.org/water_quality.html#ccr

Monterey County Water Resources Agency (MCWRA), 2022. "Seawater Intrusion Monitoring" https://www.co.monterey.ca.us/government/government-links/water-resources-agency/programs/seawater-intrusion-monitoring

Montgomery & Associates, Water Resource Consultants (Montgomery), 2024. *Seaside Groundwater Basin, 2024 Seawater Intrusion Analysis Report.* December 23. https://seasidegroundwaterbasinwatermaster.wpcomstaging.com/wp-content/uploads/2024/12/WY2024-Seawater-Intrusion-Analysis-Report-for-posting.pdf

Organisation for Economic Co-operation and Development (OECD), 2022. *Government Risk Management Approaches Used for Chemicals Management*, OECD Series on Risk Management, No. 74, Environment, Health and Safety, Environment Directorate, OECD.

Pure Water Monterey, 2022. "About Pure Water Monterey" https://purewatermonterey.org/about-us/

Roy F. Weston, Inc. (Weston), 1990. *Final Toxic and Hazardous Materials Agency Task Order 11. Enhanced Preliminary Assessment, Fort Ord, California.* December. BW-2427.

RTI International, 2023. *Characterizing PFAS Chemistries, Sources, Uses, and Regulatory Trends in U.S. and International Markets, Final White Paper*. Prepared for Consumer Product Safety Commission. June.

Tchobanoglous, George, 1991. *Wastewater Engineering: Treatment, Disposal, and Reuse. Metcalf & Eddy, Inc. – 3rd ed.* January.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA). 2025. *Web Soil Survey.* Accessed June 12, 2025. Available at: https://websoilsurvey.sc.egov.usda.gov

U.S. Department of Defense (DoD), 2018. *Defense Environmental Restoration Program (DERP) management* (DoD Manual 4715.20, Change 1). https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/471520m.pdf

DoD, Brendan M. Owens, Assistant Secretary of Defense for Sustainment, 2025. *Memorandum For Assistant Secretary Of The Army (Installations, Energy, And Environment) Assistant Secretary Of The Navy (Energy, Installations, And Environment) Assistant Secretary Of The Air Force (Energy, Installations, And Environment) Director, National Guard Bureau (Joint Staff, J3/4/7) Director, Defense Logistics Agency (Installation Management); Subject: Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program*. January 17, 2025. https://www.acq.osd.mil/eie/eer/ecc/pfas/pfas101/rsl.html

U.S. Department of the Army (Army), 1994a. *Interim Action Record of Decision, Contaminated Surface Soil Remediation, Fort Ord, Monterey, California*. March 15. IAFS-089.

Army, 1995. *Basewide Remedial Investigation / Feasibility Study, Fort Ord, California, Vol. 1 through 6*. October 1. BW-1283A.

Army, 1997. *Record of Decision, Basewide Remedial Investigation Sites, Fort Ord, California.* January 13. RI-025.

Army, 1998. *Final Finding of Suitability to Transfer (FOST), Preston and Stilwell Park Disposal Polygons, Former Fort Ord, California*. March 2. OTH-046A.

Army, 2000. *Quitclaim deed for Stillwell Park*. Monterey County Recorder's Office, Document 2000050373.

Army, 2003. *Finding of Suitability to Transfer (FOST), Track 0 Parcels, Former Fort Ord, California*. May 27. OTH-207H.

Army, 2007a. *Final Second Five-Year Review Report, Fort Ord Superfund Site, Monterey, California*. September 10. BW-2437.

Army, 2007b. *Finding of Suitability for Early Transfer, Former Fort Ord: ESCA Parcels and Non-ESCA Parcels (Operable Unit Carbon Tetrachloride Plume) (FOSET 5)*. AR-FOSET-004J.

Army, 2008. *Record of Decision, Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California*. February 6. OUCTP-0021D.

Army, 2018. *Army Guidance for Addressing Releases of Per- and Polyfluoroalkyl Substances (PFAS)*. September 4.

U.S. Environmental Protection Agency (USEPA), 1991. *Guidance for Performing Preliminary Assessments Under CERCLA*. September. EPA/540/G-91/013, Publication 9345.0-01A.

USEPA, 2024a. *PFAS National Primary Drinking Water Regulation*. Final rule. 89 Fed. Reg. 30868 (April 26, 2024) (to be codified at 40 CFR pts. 141 & 142).

USEPA, 2024b. *Regional Screening Levels (RSLs) – Generic Tables (November 2024)*. U.S. Environmental Protection Agency. Retrieved May 28, 2025 at https://semspub.epa.gov/work/HQ/405269.pdf

USEPA, 2026. *Rescission of Regulatory Determinations and Removal of Related Provisions for Four PFAS Substances (PFHxS, PFNA, HFPO-DA (GenX), and the Mixture of These Three PFAS Plus PFBS)*. May 20. https://www.federalregister.gov/documents/2026/05/20/2026-10085/rescission-of-regulatory-determinations-and-removal-of-related-provisions-for-four-pfas-substances

Western Regional Climate Center (WRCC), 2025. *Monterey, California (045795): Period of Record Monthly Climate Summary*. Accessed May 19, 2025 at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?camtry+nca

Wetzel, James R., 1990. *American families: 75 years of change*. March. https://www.bls.gov/mlr/1990/03/art1full.pdf.

Tables

Table 1. Assessment Site List

Site ID	Site Name	Building No.	Suspected Site Type
1	Ord Village Sewage Treatment Plant	NA	wastewater treatment plant
12	DOL Automotive Yard	NA	AFFF testing/washout
16	DOL Maintenance Yard	NA	AFFF testing/washout
32	East Garrison Sewage Treatment Plant	145	wastewater treatment plant
36	FAAF Sewage Treatment Plant	540	wastewater treatment plant
40A	East FAAF Helicopter Defueling Area	NA	aviation asset
NA	Former Structure on 1st Avenue	1760	AFFF nozzle testing/training
NA	Former Structure on 5th Street	1885	AFFF nozzle testing/training
NA	Former Bachelor Officer's Quarters	4360-4363	AFFF nozzle testing/training
NA	Former Nurses' Barracks	4387	AFFF nozzle testing/training
NA	Former Residential Unit in Doe Park	7146	AFFF nozzle testing/training

Notes:
No plating facilities that may have used PFAS-containing mist suppressants were identified at the former Fort Ord.
Site ID refers to site identification that was developed during the former Fort Ord Basewide RI process.

Acronyms and Abbreviations:
AFFF = aqueous film-forming foam
DOL = Directorate of Logistics
FAAF = Fritzsche Army Airfield
NA = not applicable
PFAS = per- and polyfluoroalkyl substances
RI = Remedial Investigation

Table 2. Property Transfer Information for Assessment Sites

Site ID	Site Name	Former Site Use	Transfer Date	Current Site Owner/Operator	Current Site Use
1	Ord Village Sewage Treatment Plant	wastewater treatment plant	9/26/2006	California Department of Parks and Recreation	Fort Ord Dunes State Park
12	DOL Automotive Yard	vehicle maintenance	3/15/2004	Shea Properties/Commercial Retail Associates	The Dunes on Monterey Bay Retail Center
16	DOL Maintenance Yard	vehicle maintenance	3/15/2004	CSU Monterey Bay	dormitory
32	East Garrison Sewage Treatment Plant	wastewater treatment plant	9/1/2004	Century Communities	residential
36	FAAF Sewage Treatment Plant	wastewater treatment plant	10/5/2001	City of Marina	Marina Municipal Airport
40A	East FAAF Helicopter Defueling Area	helicopter defueling area	8/11/1995	City of Marina	Marina Municipal Airport
NA	Former Structure on 1st Avenue (Bldg 1760)	administrative building (post-closure nozzle testing/training)	7/9/2004	Marina Community Partners LLC	The Dunes on Monterey Bay residential
NA	Former Structure on 5th Street (Bldg 1885)	chapel (post-closure nozzle testing/training)	7/9/2004	Marina Community Partners LLC	The Dunes on Monterey Bay residential
NA	Former Bachelor Officers' Quarters (Bldgs 4360-4363)	barracks / housing (post-closure nozzle testing/training)	2/17/2011	Chartwell School and City of Seaside	planned high school expansion development
NA	Former Nurses' Barracks (Bldg 4387)	barracks / housing (post-closure nozzle testing/training)	8/5/2009	City of Seaside and A.P. Glover Enterprises, LLC*	planned residential redevelopment
NA	Former Residential Unit in Doe Park (Bldg 7146)	housing (post-closure nozzle testing/training)	8/8/2000	Army, Presidio of Monterey/The Parks at Monterey Bay	Doe Park playground

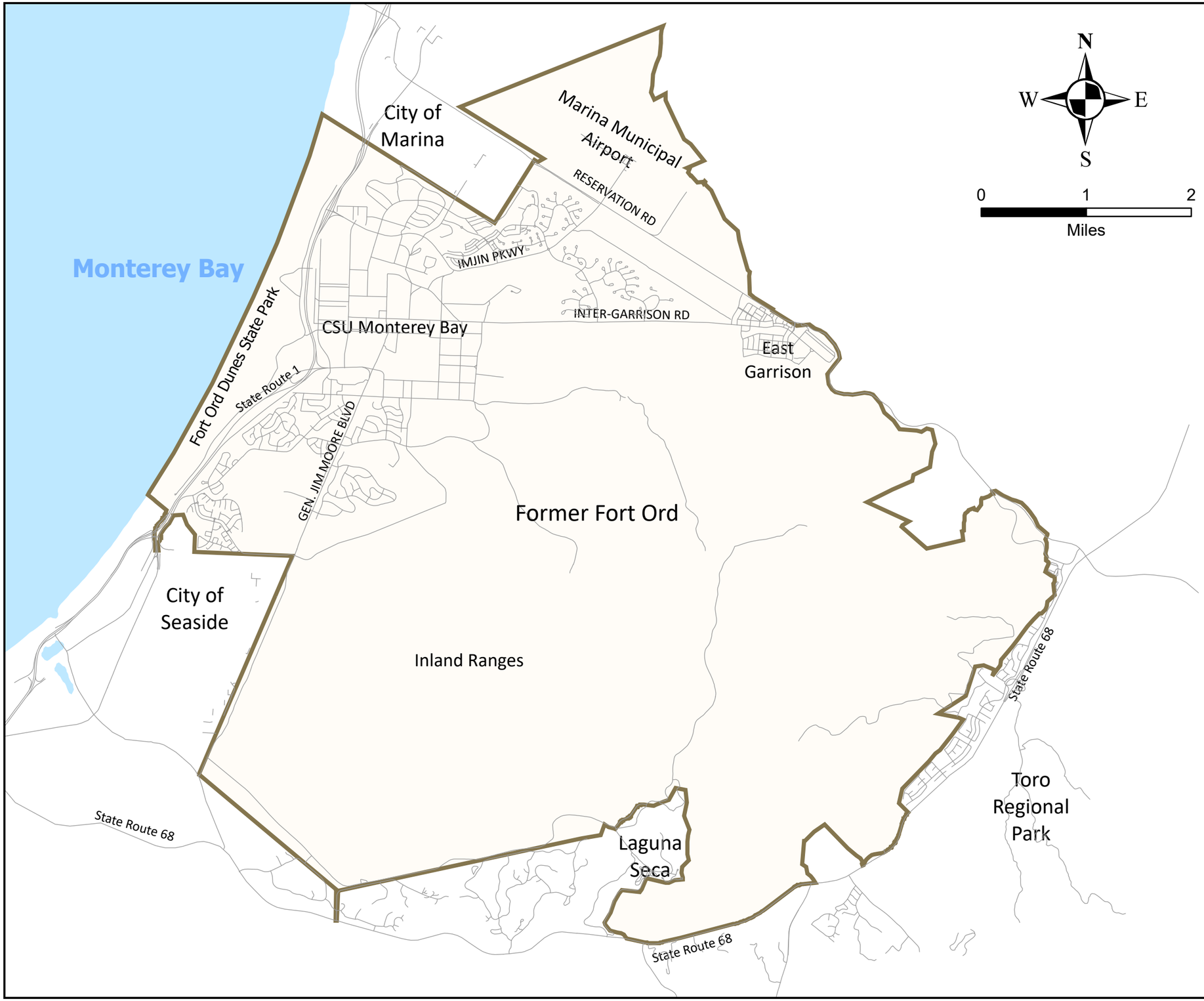
Note:

* Sale to developer pending

Acronyms and Abbreviations:

AFFF = aqueous film-forming foam
DOL = Directorate of Logistics
HMP = Habitat Management Plan
FAAF = Fritzsche Army Airfield
NA = not applicable
PFAS = per- and polyfluoroalkyl substances

Figures

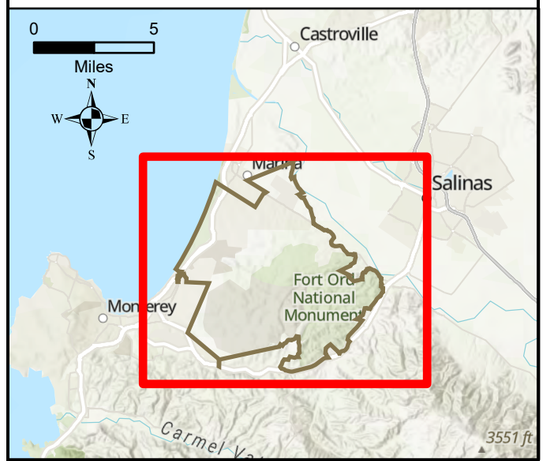


EXPLANATION

- Roads
- Former Fort Ord Boundary

NOTES:

1. Marina Municipal Airport is the former Fritzsche Army Airfield (FAAF)
2. CSU Monterey Bay is located within the former Main Garrison area.

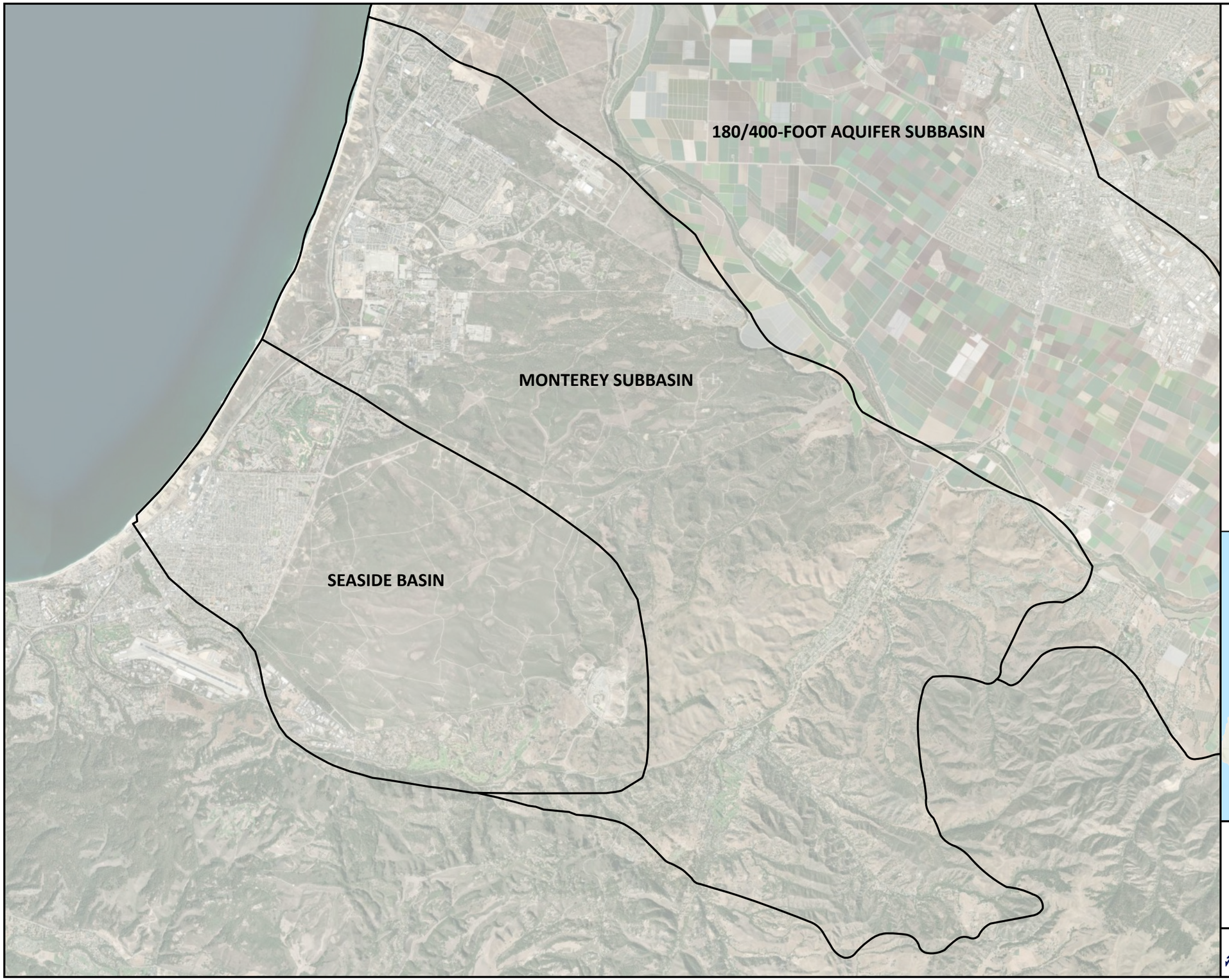


FORMER FORT ORD LOCATION MAP

PFAS Site Resolution Report

Former Fort Ord, California

Ahtna	Date: 11/20/2025	Figure: 1

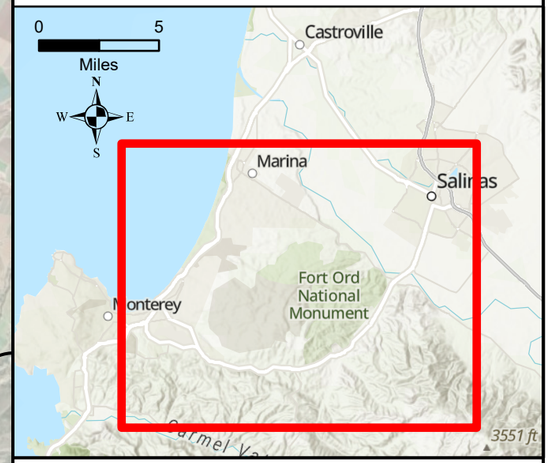


EXPLANATION

Salinas Basin subbasin boundaries within the vicinity of former Fort Ord

N
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S

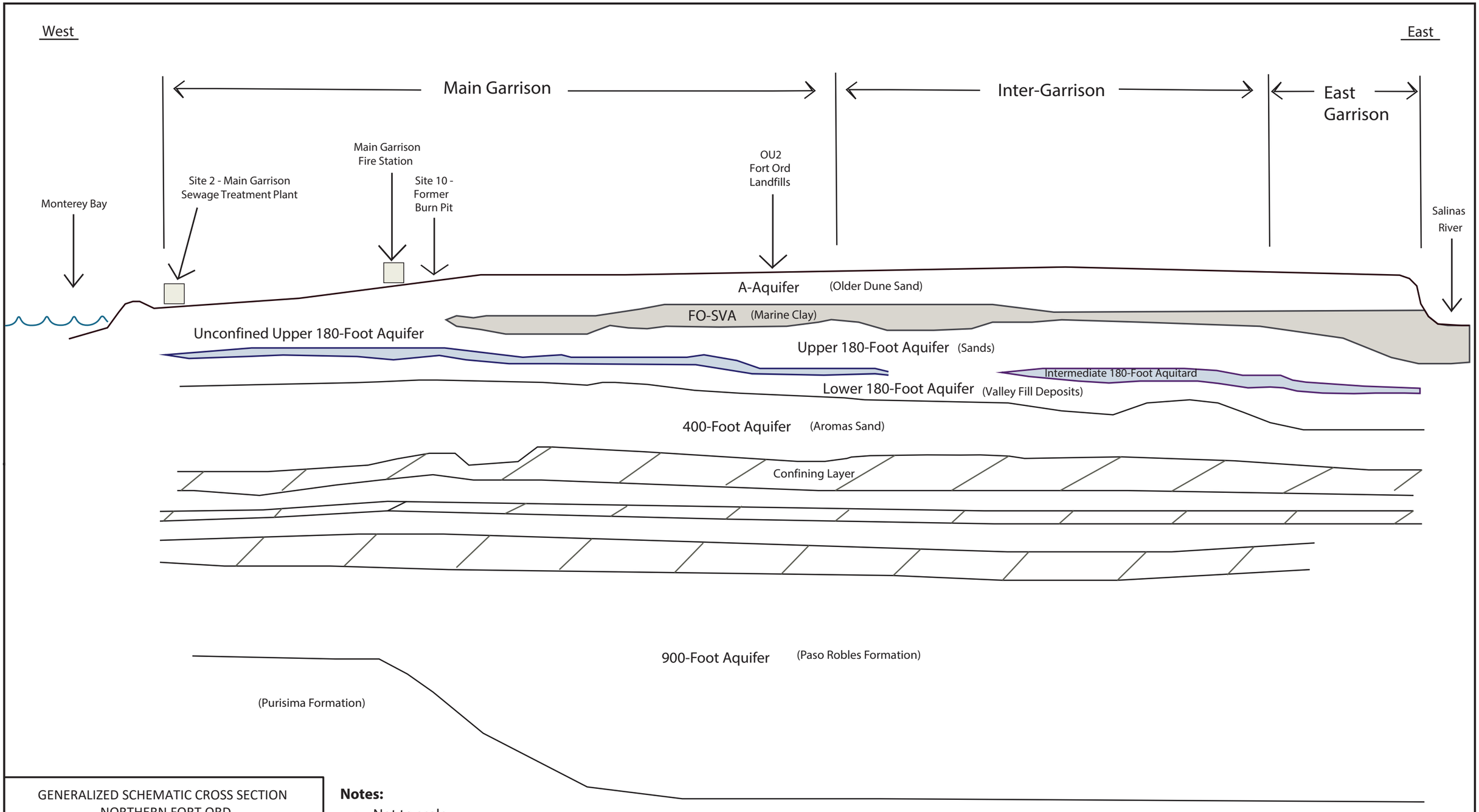
0 1 2
Miles



GROUNDWATER SUBBASINS WITHIN THE SALINAS VALLEY BASIN

PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 8/25/2026	Figure: 2



GENERALIZED SCHEMATIC CROSS SECTION
NORTHERN FORT ORD
MONTEREY SUBBASIN HYDROSTRATIGRAPHY
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 11/20/2025 | Figure: 3

Notes:

- Not to scale
- Intermediate 180-Foot Aquitard consists of interbedded clay and clayey sand layers, occasionally mixed with coarse gravel Confining layer between the 400-Foot Aquifer and 900-Foot Aquifer Consists of massive clay units interbedded with sands
- This cross section is conceptual and not intended to depict the precise geometry or continuity of hydrostratigraphic units.

Acronyms/Abbreviations:
OU2 = Operational Unit 2
FO-SVA = Fort Ord - Salinas Valley Aquitard

West

East

Inland Ranges

City of Seaside

Former Fort Ord

Monterey Bay

Aromas Sand

Older Dune Sand

Paso Robles Formation

Seaside Clay

Santa Margarita Formation

Monterey Formation

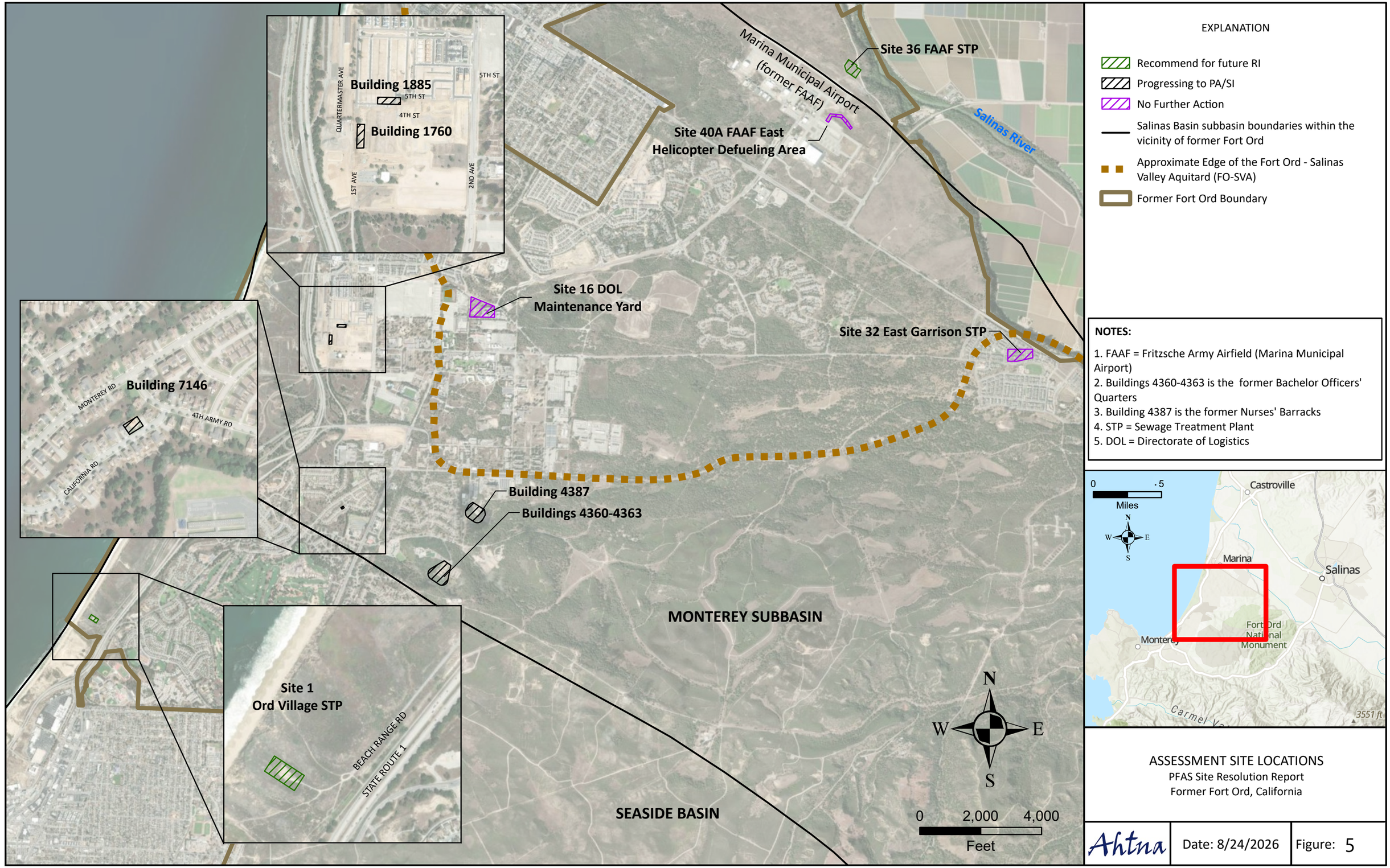
Note:
Not to scale

GENERALIZED SCHEMATIC CROSS SECTION
SOUTHERN FORT ORD SEASIDE BASIN AND
MONTEREY SUBBASIN HYDROSTRATIGRAPHY
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna

Date: 11/20/2025

Figure: 4



EXPLANATION

- Recommend for future RI
- Progressing to PA/SI
- No Further Action
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Approximate Edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)
- Former Fort Ord Boundary

NOTES:

1. FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
2. Buildings 4360-4363 is the former Bachelor Officers' Quarters
3. Building 4387 is the former Nurses' Barracks
4. STP = Sewage Treatment Plant
5. DOL = Directorate of Logistics

ASSESSMENT SITE LOCATIONS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 8/24/2026 | Figure: 5

NOTE:
DOL = Directorate of Logistics
FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
STP = Sewage Treatment Plant

N
W E
S

0 0.5 1
Miles

Site 36
FAAF STP

Site 40A East
FAAF Helicopter
Defueling Area

Building
1885

Site 16 DOL
Maintenance
Yard

Building
1760

Site 32 East
Garrison STP

Building
4387

Building
7146

Buildings
4360-4363

Site 1 Ord
Village STP

EXPLANATION

- No Further Action
- Progressing to PA/SI
- Recommend for future RI
- Potential Recharge Areas (Moderate-High Infiltration)

Watershed Area Boundaries

- Salinas River - Southwest Portion
- Marina/Monterey Bay

Waterbodies

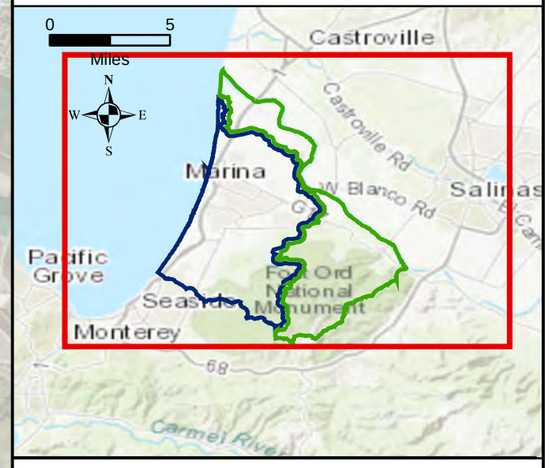
- Lake/Pond Intermittent
- Lake/Pond Perennial
- Stream/River Intermittent
- Stream/River Perennial
- Wash
- Vernal Ponds

Surface Water Flowline

- Canal/Ditch
- Connector (e.g. culvert)
- Stream/River Ephemeral
- Stream/River Intermittent
- Stream/River Perennial

Flood Hazard

- Floodway
- 100 Year Flood

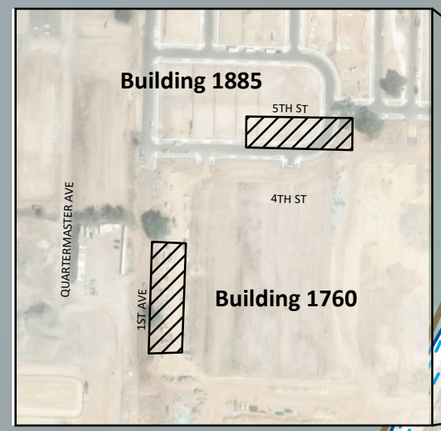


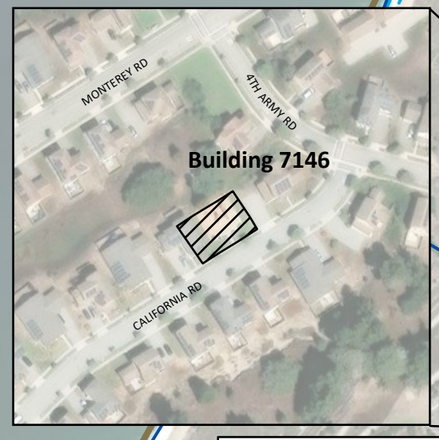
SURFACE WATER OVERVIEW
SALINAS RIVER & MARINA WATERSHEDS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 6/24/2026 | Figure: 6

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0 1,250 2,500
Feet





Site 16
DOL Maintenance Yard

Building 4387

Buildings 4360 - 4363

Site 1
Ord Village STP

MONTEREY SUBBASIN

SEASIDE BASIN

CA State Highway 1

LIGHTFIGHTER DR

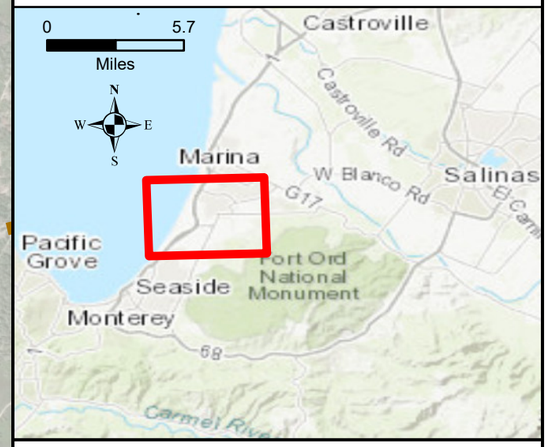
GEN. JIM MOORE BLVD

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NOTES:
1. *Sites 2 and 12, Second Quarter 2025 Groundwater and Soil Gas Monitoring and Treatment System Report* (Ahtna, 2025)
2. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)
3. Groundwater elevation contours are in feet above mean sea level (msl)
4. Buildings 4360-4363 is the former Bachelor Officers' Quarters
5. Building 4387 is the former Nurses' Barracks
6. DOL = Directorate of Logistics

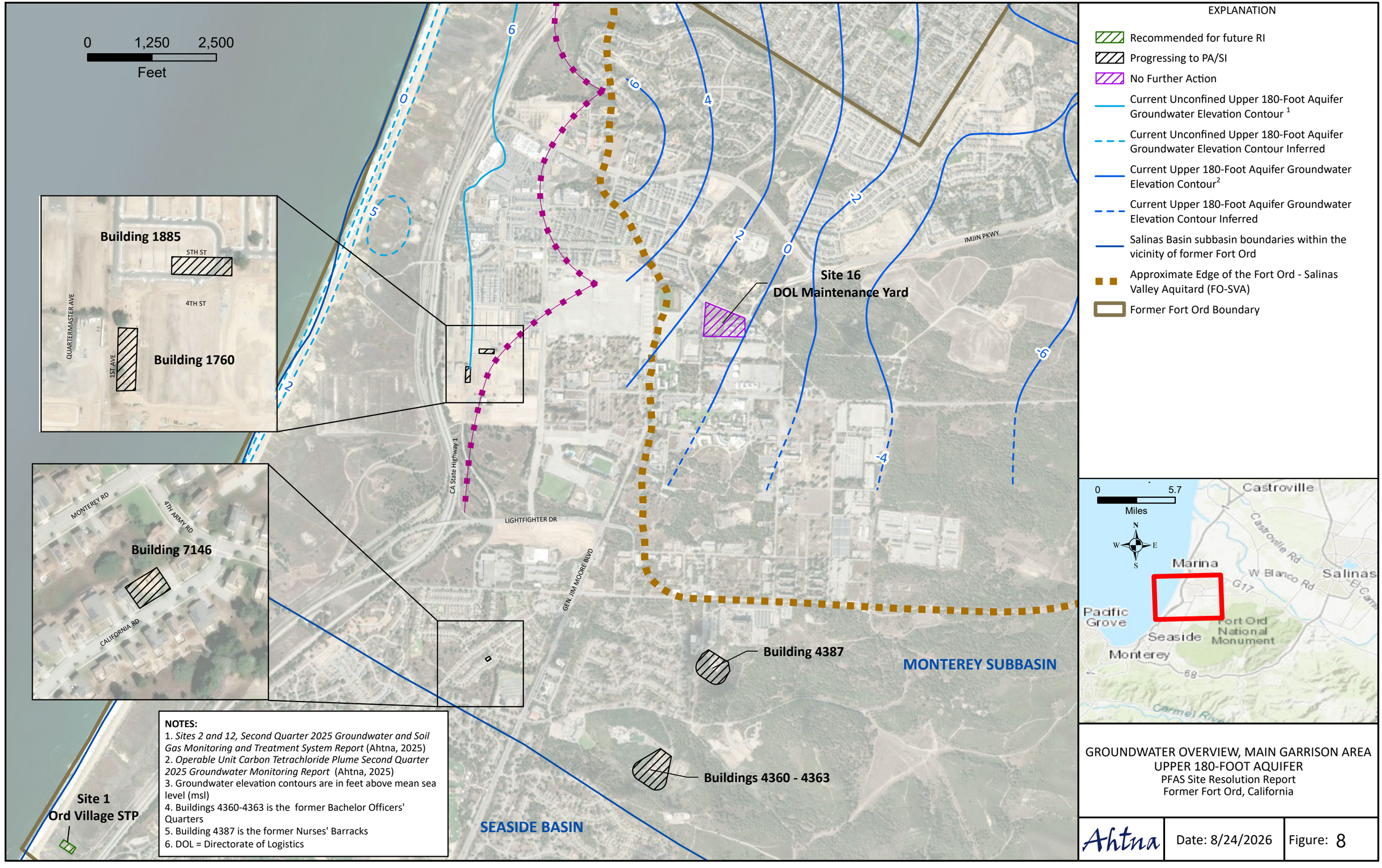
EXPLANATION

- Recommended for future RI
- PA/SI Site
- No Further Action
- Current Unconfined Upper 180-Foot Aquifer Groundwater Elevation Contour [1]
- Current Unconfined Upper 180-Foot Aquifer Groundwater Elevation Contour Inferred
- Current A-Aquifer Groundwater Elevation Contour[2]
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Approximate Edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)
- Former Fort Ord Boundary



GROUNDWATER OVERVIEW, MAIN GARRISON AREA
A-AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 8/24/2026 | Figure: 7



NOTES:

1. *Sites 2 and 12, Second Quarter 2025 Groundwater and Soil Gas Monitoring and Treatment System Report* (Ahtna, 2025)
2. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)
3. Groundwater elevation contours are in feet above mean sea level (msl)
4. Buildings 4360-4363 is the former Bachelor Officers' Quarters
5. Building 4387 is the former Nurses' Barracks
6. DOL = Directorate of Logistics

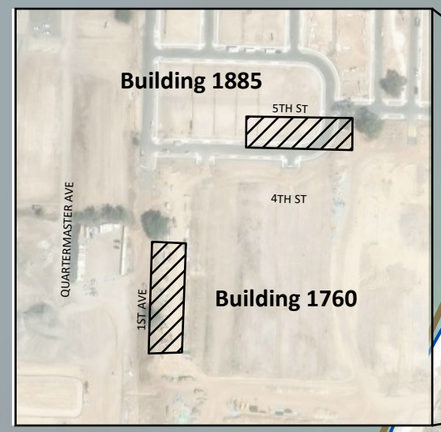
GROUNDWATER OVERVIEW, MAIN GARRISON AREA
UPPER 180-FOOT AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

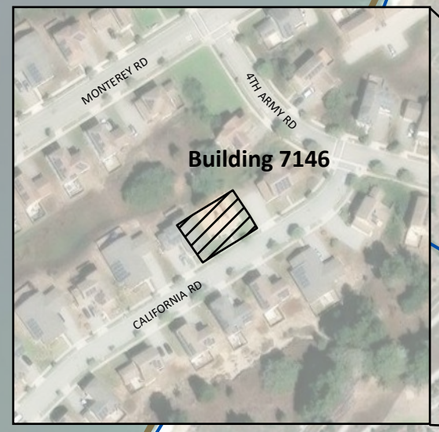
Ahtna | Date: 8/24/2026 | Figure: 8

0 1,250 2,500
Feet

EXPLANATION

- Recommended for future RI
- Progressing to PA/SI
- No Further Action
- Current Lower 180-Foot Aquifer Groundwater Elevation Contour[2]
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Former Fort Ord Boundary





Site 16
DOL Maintenance Yard

Building 4387

Buildings 4360 - 4363

Site 1
Ord Village STP

MONTEREY SUBBASIN

SEASIDE BASIN

IMJIN PKWY

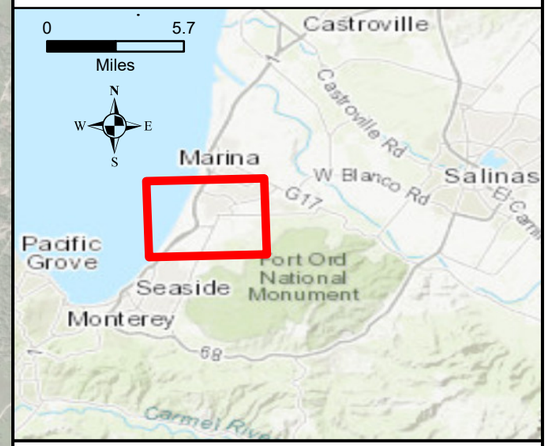
LIGHTFIGHTER DR

GEN. JIM MOORE BLVD

CA State Highway 1

NOTES:

1. *Sites 2 and 12, Second Quarter 2025 Groundwater and Soil Gas Monitoring and Treatment System Report* (Ahtna, 2025)
2. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)
3. Groundwater elevation contours are in feet above mean sea level (msl)
4. Buildings 4360-4363 is the former Bachelor Officers' Quarters
5. Building 4387 is the former Nurses' Barracks
6. DOL = Directorate of Logistics



GROUNDWATER OVERVIEW, MAIN GARRISON AREA
LOWER 180-FOOT AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 8/24/2026 | Figure: 9

NOTE:
DOL = Directorate of Logistics
FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
STP = Sewage Treatement Plant
*Critical habitat and significant natural areas are only being shown within the watershed area boundaries.
**Based on known and potential breeding habitat present on the former Fort Ord. Not all areas identified may be suitable upland habitat and significant physical barriers may impede migration.

N
W E
S
0 0.5 1
Miles

Site 36
FAAF STP

Site 40A East
FAAF Helicopter
Defueling Area

Site 16 DOL
Maintenance
Yard

Building
1885

Buiding
1760

Building
4387

Building
7146

Buildings
4360-4363

Site 1 Ord
Village STP

Site 32 East
Garrison STP

EXPLANATION

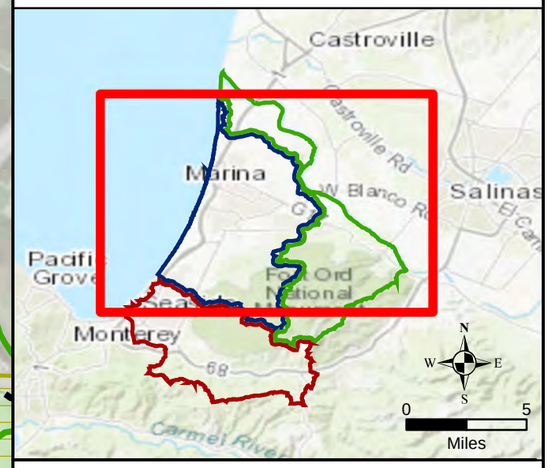
- No Further Action
- Progressing to PA/SI
- Recommend for future RI

Watershed Area Boundaries

- Salinas River - Southwest Portion
- Canyon Del Rey
- Marina/Monterey Bay

Environmentally Sensitive Areas

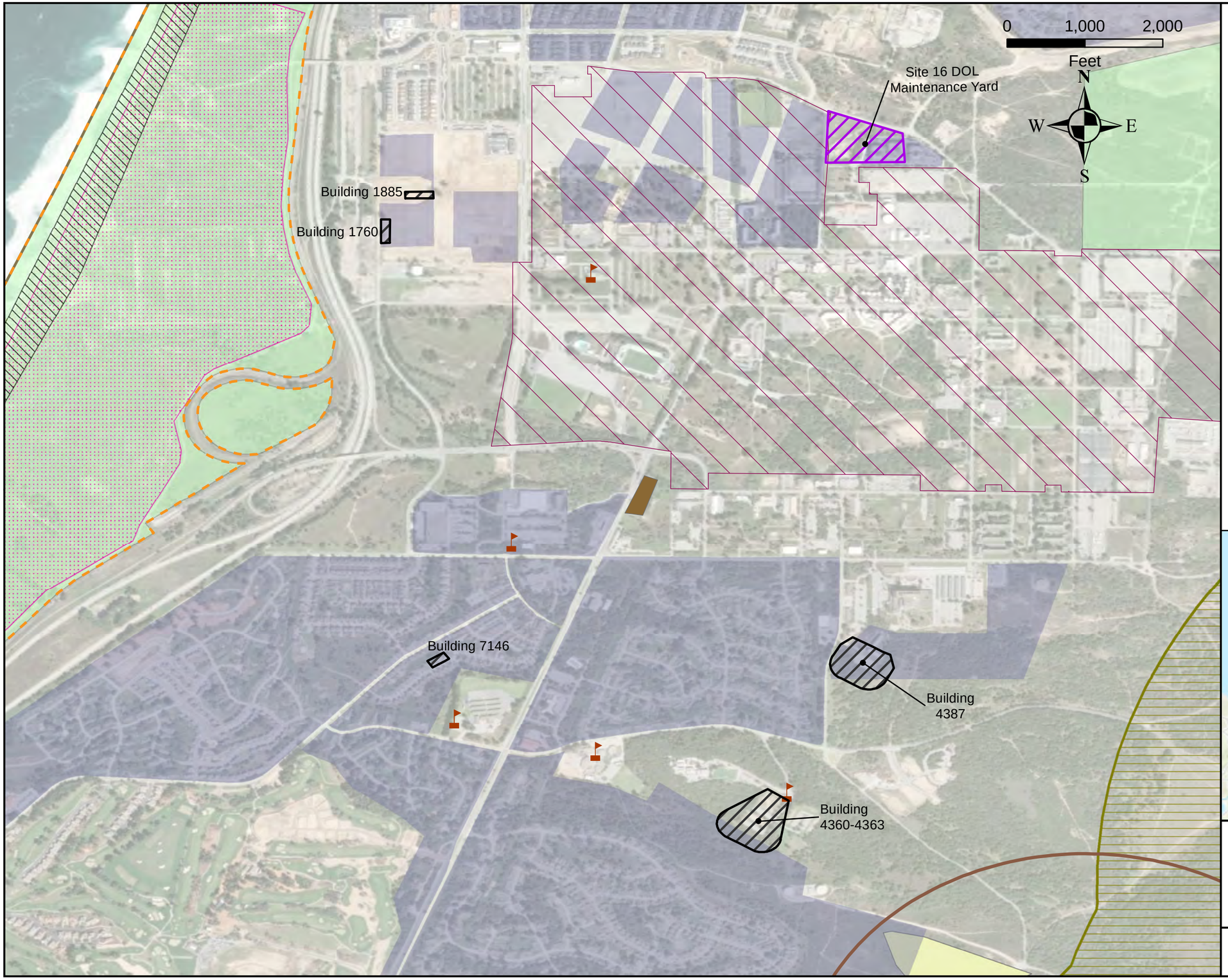
- Vernal Ponds
- Fort Ord Natural Reserve
- Fort Ord Dunes State Park
- Fort Ord National Monument
- Fort Ord Habitat Management Areas
- California Native Plant Society - Fort Ord Native Plant Reserve
- California Department of Fish and Wildlife - Significant Natural Areas*
- Monterey Spineflower Critical Habitat*
- Snowy Plover Critical Habitat*
- Tidewater Goby Critical Habitat*
- Potential Upland Habitat for California Tiger Salamander**



SENSITIVE ENVIRONMENTS OVERVIEW
SALINAS RIVER AND MARINA WATERSHEDS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 6/24/2026	Figure: 10

Document Path: C:\Users\shession\OneDrive - Ahtna, Inc\Documents\GIS_Files\Projects\FortOrd\PFAS\NonRI_20250912\PFAS_NonRI_SalinasRiver_Watershed_Enviro_20260624.mxd



EXPLANATION

- No Further Action
- Progressing to PA/SI
- Recommend for future RI
- Former Fort Ord Boundary
- Fort Ord Dunes State Park

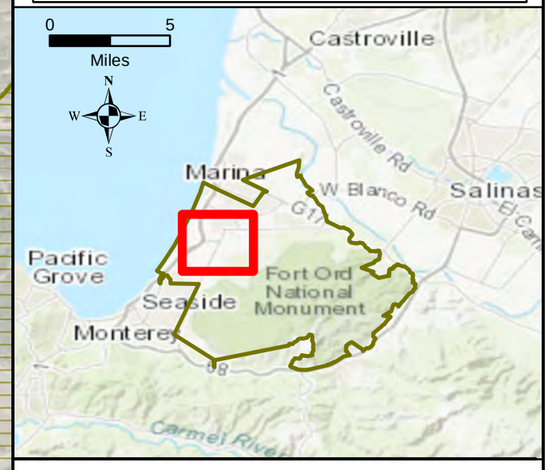
Secondary Target Populations

- Residential Areas
- California State University Monterey Bay
- Schools and Daycare Facilities

Sensitive Environments

- Fort Ord Habitat Management Areas
- Monterey Spineflower Critical Habitat
- Snowy Plover Critical Habitat
- California Department of Fish and Wildlife - Significant Natural Areas
- Potential Upland Habitat for California Tiger Salamander*
- California Native Plant Society - Fort Ord Native Plant Reserve

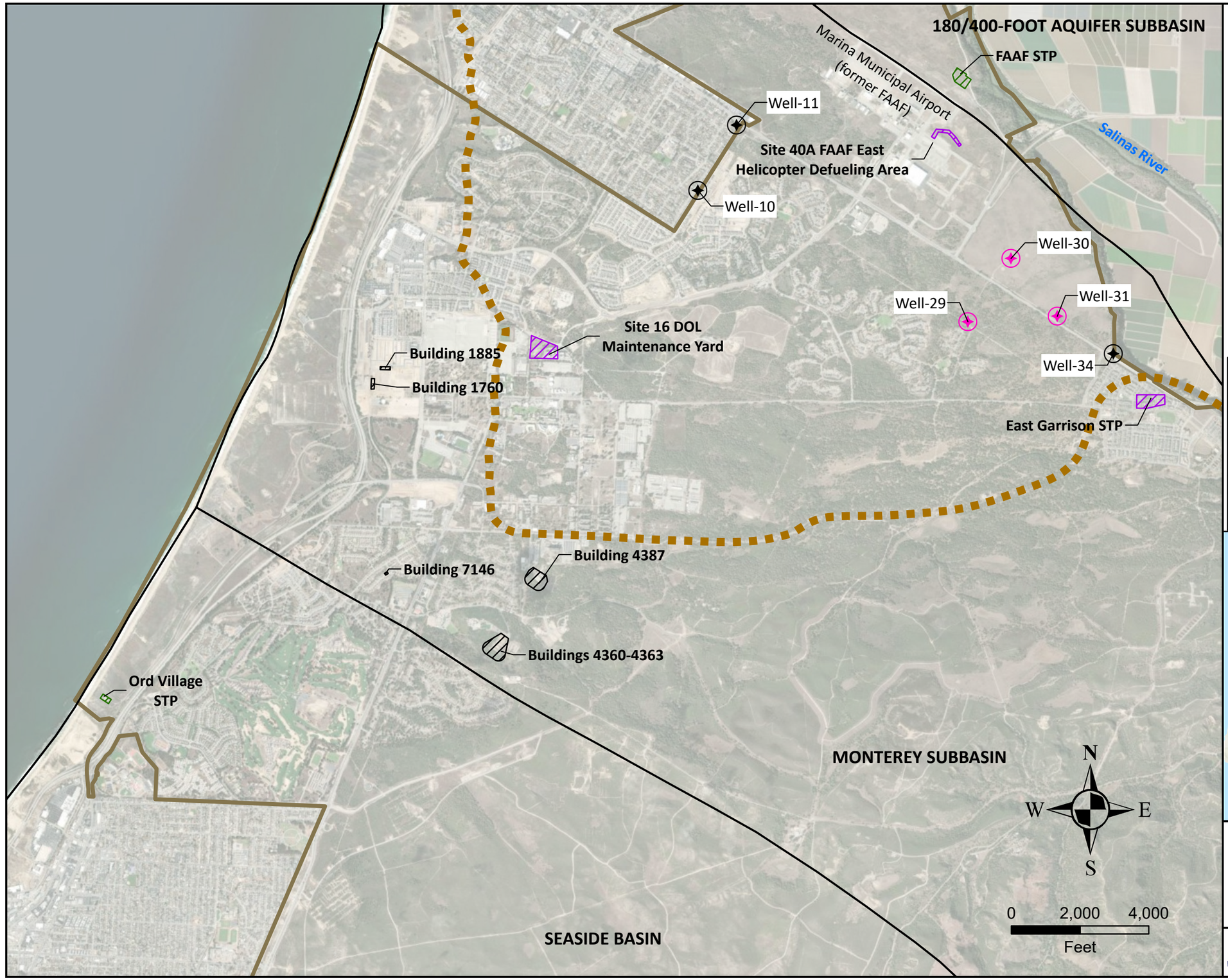
NOTE:
DOL = Directorate of Logistics
* Based on known and potential breeding habitat present on the former Fort Ord. Not all areas identified may be suitable upland habitat and significant physical barriers may impede migration.



SITE 16 DOL MAINTENANCE YARD AND
NEWLY IDENTIFIED AREAS OF POTENTIAL INTEREST
TARGET POPULATIONS AND SENSITIVE ENVIRONMENTS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 6/24/2026	Figure: 11

Document Path: C:\Users\shession\OneDrive - Ahtna, Inc\Documents\GIS_Files\Projects\FortOrd\PFAS\NonRI_20250912\PFAS_NonRI_NEWsites_Enviro_20260624_v0.mxd

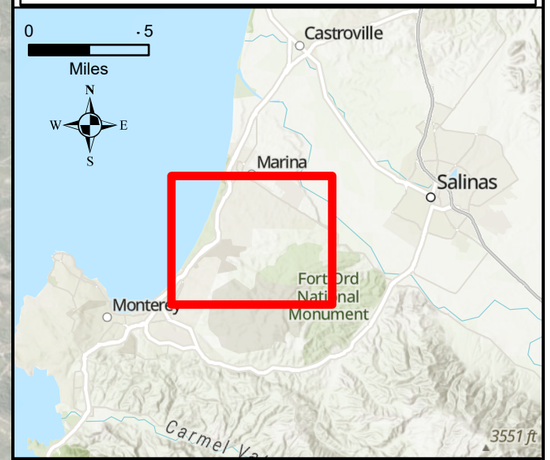


EXPLANATION

- Well screened in the Lower 180-Foot/400-Foot Aquifer
- Well screened in the 900-Foot Aquifer
- Recommend for future RI PA/
- Progressing to PA/SI
- No Further Action
- Approximate Edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Former Fort Ord Boundary

NOTES:

1. FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
2. Buildings 4360-4363 is the former Bachelor Officers' Quarters
3. Building 4387 is the former Nurses' Barracks
4. Wells screened in the 900-Foot Aquifer are not target drinking water supply wells.
5. STP = sewage treatment plant



TARGET DRINKING WATER SUPPLY WELLS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 8/30/2026	Figure: 12

180/400-FOOT AQUIFER SUBBASIN

SITE 36
FAAF STP

Salinas River

Site 40A East FAAF
Helicopter Defueling Area

MONTEREY SUBBASIN

20
30
40
50
60
70
80

N
W
E
S

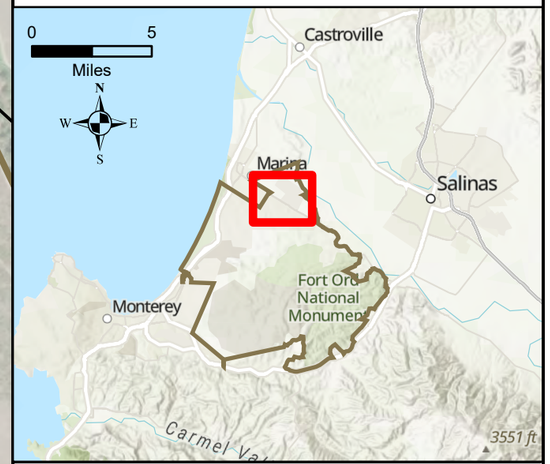
0 1,250 2,500
Feet

EXPLANATION

- Recommend for future RI
- No Further Action
- Groundwater Elevation, A-Aquifer[1]
- Approximate location of the A-Aquifer groundwater divide
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Former Fort Ord Boundary

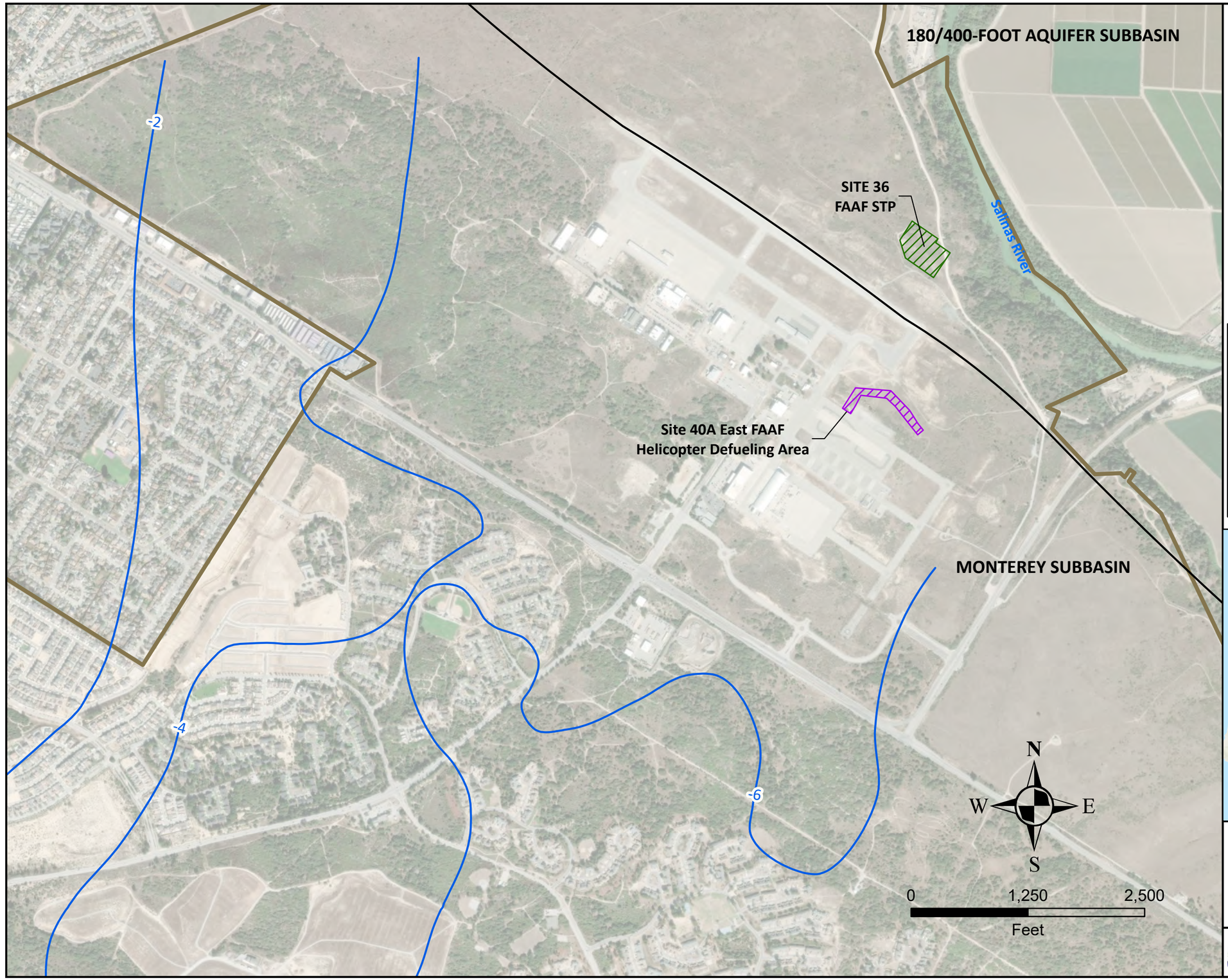
NOTES:

1. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)
2. Groundwater elevation contours are in feet above mean sea level (msl)
3. FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
4. STP = sewage treatment plant



GROUNDWATER OVERVIEW, FAAF
AREA A-AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 11/20/2025	Figure: 13



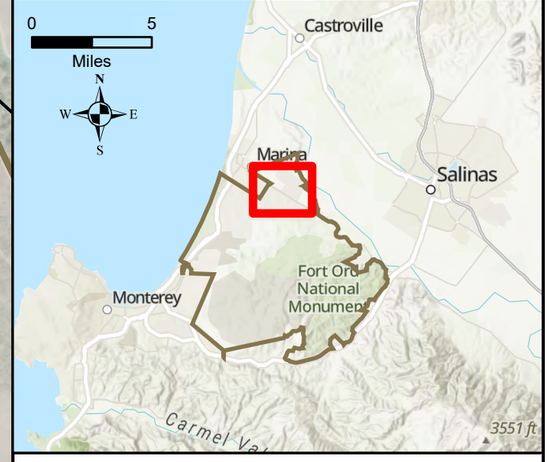
EXPLANATION

- Recommend for future RI
- No Further Action
- Groundwater Elevation, Upper 180-Foot Aquifer[1]
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Former Fort Ord Boundary

NOTES:

1. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)

2. Groundwater elevation contours are in feet above mean sea level (msl)
3. FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
4. STP = sewage treatment plant



GROUNDWATER OVERVIEW, FAAF AREA
UPPER 180-FOOT AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 11/20/2025	Figure: 14

180/400-FOOT AQUIFER SUBBASIN

SITE 36
FAAF STP

Salinas River

Site 40A East FAAF
Helicopter Defueling Area

MONTEREY SUBBASIN

-4

-6

-8

N
W E
S

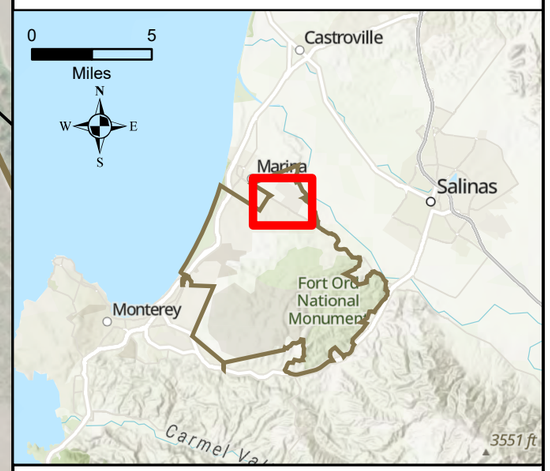
0 1,250 2,500
Feet

EXPLANATION

- Recommend for future RI
- No Further Action
- Groundwater Elevation, Lower 180-Foot Aquifer[1]
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Former Fort Ord Boundary

NOTES:

1. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2025 Groundwater Monitoring Report* (Ahtna, 2025)
2. Groundwater elevation contours are in feet above mean sea level (msl)
3. FAAF = Fritzsche Army Airfield (Marina Municipal Airport)
4. STP = sewage treatment plant



GROUNDWATER OVERVIEW, FAAF AREA
LOWER 180-FOOT AQUIFER
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 11/20/2025 | Figure: 15

NOTE:
FAAF = former Fritzsche Army Airfield (Marina Municipal Airport)
STP = Sewage Treatment Plant
* Based on known and potential breeding habitat present on the former Fort Ord. Not all areas identified may be suitable upland habitat and significant physical barriers may impede migration.

0 2,000 4,000
Feet

N
W E
S

Site 36
FAAF STP

Site 40A East
FAAF Helicopter
Defueling Area

Site 32 East
Garrison STP

EXPLANATION

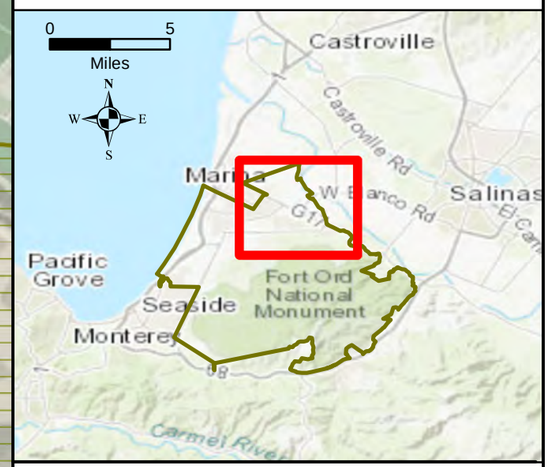
- No Further Action
- Recommend for future RI
- Former Fort Ord

Secondary Target Populations

- Residential Areas
- California State University Monterey
- Schools and Daycare

Sensitive Environments

- Fort Ord Habitat Management Areas
- Vernal Ponds
- Fort Ord Natural Reserve
- Fort Ord National Monument
- Monterey Spineflower Critical Habitat
- Snowy Plover Critical Habitat
- California Department of Fish and Wildlife - Significant Natural Areas
- Potential Upland Habitat for California Tiger Salamander*



SITE 32 - EAST GARRISON STP, SITE 36 - FAAF STP, and
SITE 40A - EAST FAAF HELICOPTER DEFUELING AREA
TARGET POPULATIONS AND SENSITIVE ENVIRONMENTS
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 6/24/2026	Figure: 16

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Building 7146

Building 4387

Buildings 4360 - 4363

Site 1
Ord Village STP

NORTHERN COASTAL SUBBASIN

SOUTHERN COASTAL SUBBASIN

MONTEREY SUBBASIN

SEASIDE BASIN

NORTHERN INLAND SUBBASIN

LAGUNA SECA SUBBASIN

0
-20
-40
20
40
60
80
100
120
140
160
180
200
220

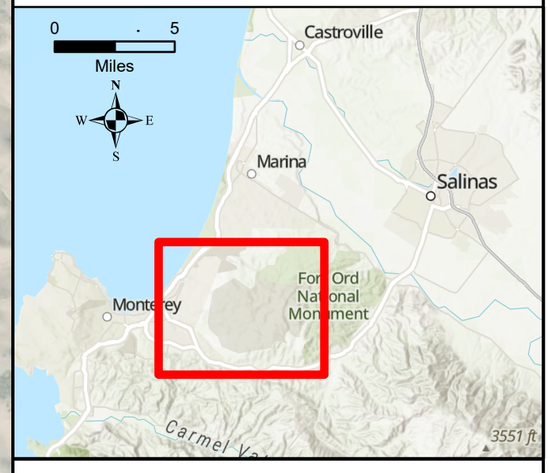
N
W
E
S

0 0.5 1
Miles

EXPLANATION

- Recommended for future RI
- PA/SI Site
- Basin Boundary*
- Subbasin Boundary*
- Groundwater Elevation, Paso Robles Formation*
- Inferred Groundwater Elevation, Paso Robles Formation*
- Approximate edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)

NOTES:
**Salinas Valley Basin Groundwater Sustainability Agency (2024)*
STP = sewage treatment plant



GROUNDWATER OVERVIEW
SOUTHERN FORT ORD
PASO ROBLES FORMATION
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 8/24/2026 | Figure: 17

Site 1
Ord Village STP

Building 4387

Buildings 4360 - 4363

BEACH RANGE RD

STATE ROUTE 1

NORTHERN COASTAL SUBBASIN

SOUTHERN COASTAL SUBBASIN

MONTEREY SUBBASIN

SEASIDE BASIN

NORTHERN INLAND SUBBASIN

LAGUNA SECA SUBBASIN

-20
20
40
60
80
100
120
140
160
180
200
220
0

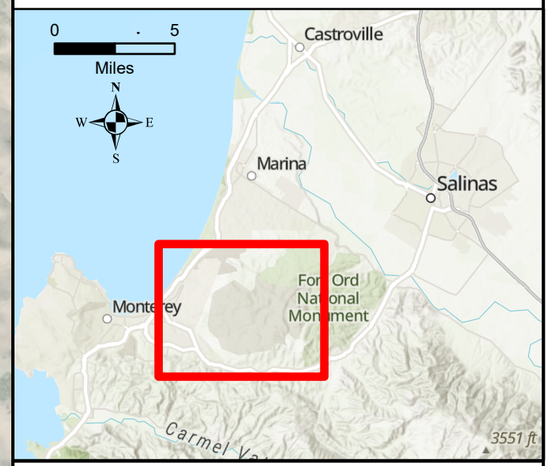
N
W
E
S

0 0.5 1
Miles

EXPLANATION

- Recommended for future RI
- Progressing to PA/SI
- Shallow Aquifer Basin Boundary
- Shallow Aquifer Subbasin Boundary
- Northern Deep Aquifer Basin Boundary
- Groundwater Elevation, Santa Margarita Formation
- Groundwater Elevation Inferred, Santa Margarita Formation
- Approximate edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)

NOTES:
**Salinas Valley Basin Groundwater Sustainability Agency (2024)*
STP = sewage treatment plant



GROUNDWATER OVERVIEW
SOUTHERN FORT ORD
SANTA MARGARITA FORMATION
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna | Date: 8/24/2026 | Figure: 18



EXPLANATION

Recommend for future RI

Secondary Target Populations

Residential Areas

Schools and Daycare

Sensitive

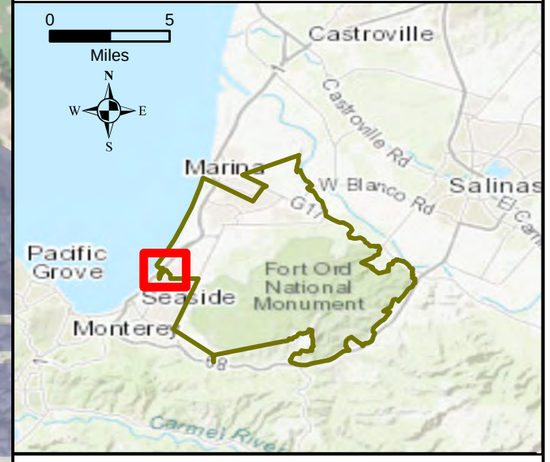
Fort Ord Habitat Management

Fort Ord Dunes State Park

California Native Plant Society - Fort Ord Native Plant Reserve

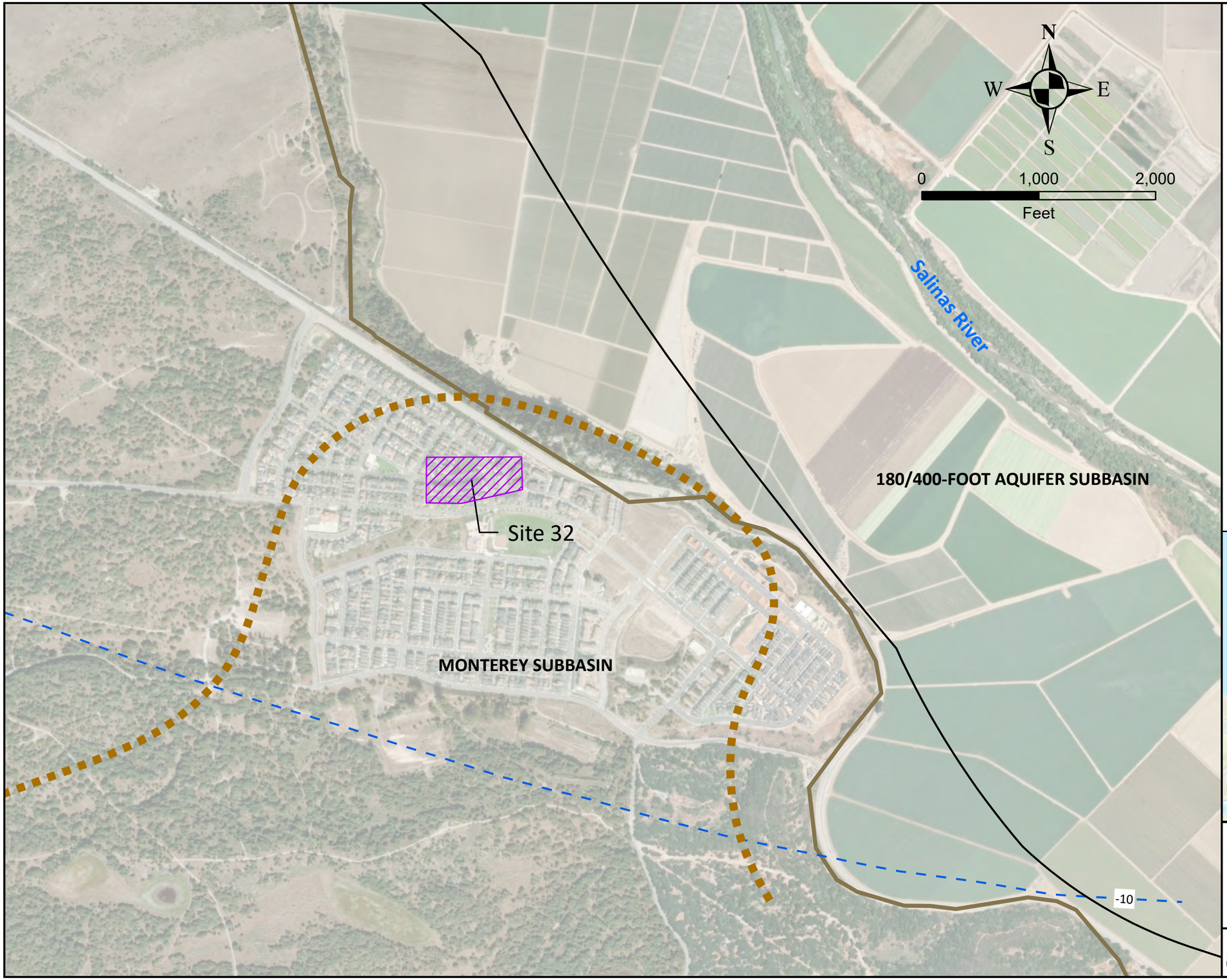
Monterey Spineflower Critical Habitat

Snowy Plover Critical Habitat



SITE 1 ORD VILLAGE SEWAGE TREATMENT PLANT
TARGET POPULATIONS AND SENSITIVE ENVIRONMENTS
PFAS Site Resolution Report
Former Fort Ord, California

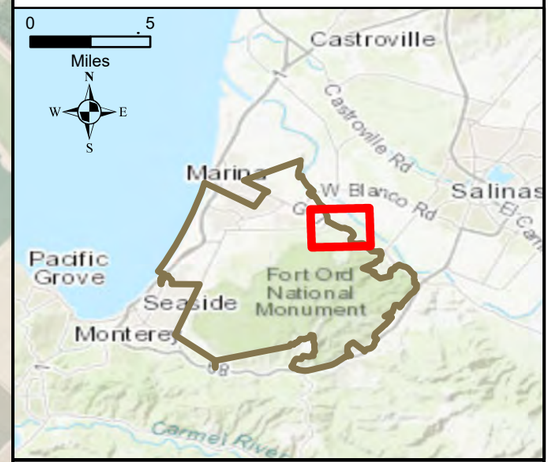
Ahtna	Date: 9/24/2025	Figure: 19



EXPLANATION

- No Further Action
- Groundwater Elevation, Paso Robles Formation*
- Groundwater Elevation Inferred, Paso Robles Formation*
- Salinas Basin subbasin boundaries within the vicinity of former Fort Ord
- Approximate Edge of the Fort Ord - Salinas Valley Aquitard (FO-SVA)
- Former Fort Ord Boundary

NOTES:
**Salinas Valley Basin Groundwater Sustainability Agency (2024)*



GROUNDWATER OVERVIEW
EAST GARRISON AREA
PASO ROBLES FORMATION
PFAS Site Resolution Report
Former Fort Ord, California

Ahtna	Date: 11/20/2025	Figure: 20

Appendices

Appendix A
Records of Communication

NOZZLE TESTING AREAS

Date:	3/21/2025
Time:	1300
Type (e.g., email, telephone):	in-person
Person contacted	
Name:	David Wilcox
Affiliation:	Directorate of Emergency Services FESD, USAG Presidio of Monterey
Occupation/Former Occupation:	Fire Chief
Years in Occupation:	2005 - present
Person making the contact	
Name:	Joelle Lobo, Derek Lieberman
Affiliation:	Fort Ord Base Realignment and Closure (BRAC), Ahtna Global, LLC

Nurses Barracks/Medical Officers Barracks

Was AFFF used onsite?	*yes*		
Freq. of site use:	*3-4 times per year*	Years of Site Operation:	*2005-2015*
What was the frequency of use of AFFF at this site ?	*3-4 times per year*		

Describe the standard operating procedure (set-up, training activities, and any clean-up actions, how much AFFF was used, other fire-fighting techniques used with AFFF (e.g. water, techniques that may impact fate/transport)?

Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at Bldg 4387 and the associated parking lot to the south. Chief Wilcox stated no training occurred at Bldg 4386. Firefighters would deploy hoses for training at Bldg 4387 from the parking lot on the south side of the building, though after 2007 the parking lot was used for construction staging and the POM Fire Department only used the driveway on the west side of Bldg 4387 for staging vehicles during training. The truck with the aerial ladder device was used for training and would discharge AFFF and water over the top of Bldg 4387, with AFFF falling to the ground surface on all four sides of the building. Chief Wilcox stated that water and AFFF were discharged from a nozzle mounted on the aerial ladder device and the discharge could reach up to "a couple hundred feet" off the edge of the pavement on the south and east sides of the parking lot (up until 2007). Chief Wilcox commented that AFFF would be discharged over the top of the oak tree canopy and it looked like it was snowing.

Were there any spills, leaks, damaged storage containers, or other accidental AFFF discharges onsite? Describe situation, date, quantity discharged, discharge time, actions taken, etc.
None reported.

Was AFFF stored onsite? If so, see AFFF Storage Sites questions
No.
Other notes:
Chief Wilcox joined the POM Fire Department in 2005, but indicated the training described above may have occurred before then. During these site visits, Chief Wilcox noted that POM Fire Department training using AFFF also occurred in the area west of 2nd Avenue between 4th Street and 5th Street and in the Stillwell Park residential area, which was redeveloped into the Doe Park residential area starting in 2008.

NOZZLE TESTING AREAS

Date:	3/21/2025
Time:	1330
Type (e.g., email, telephone):	in-person
Person contacted	
Name:	David Wilcox
Affiliation:	Directorate of Emergency Services FESD, USAG Presidio of Monterey
Occupation/Former Occupation:	Fire Chief
Years in Occupation:	2005 - present
Person making the contact	
Name:	Joelle Lobo, Derek Lieberman
Affiliation:	Fort Ord Base Realignment and Closure (BRAC), Ahtna Global, LLC

Numa Watson Road/former Bachelor Officers' Quarters

Was AFFF used onsite?	*yes*		
Freq. of site use:	*3-4 times per year*	Years of Site Operation:	*2005-2015*
What was the frequency of use of AFFF at this site ?	*3-4 times per year*		

Describe the standard operating procedure (set-up, training activities, and any clean-up actions, how much AFFF was used, other fire-fighting techniques used with AFFF (e.g. water, techniques that may impact fate/transport)?

Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at the four buildings and associated parking lots on the west side of the BOQ. Firefighters would deploy hoses for training between the three buildings in the northern part of the BOQ (Bldgs 4360, 4361, 4362) from the parking lot on the south side of the buildings, though Chief Wilcox stated that water and AFFF were not discharged beyond the northern extent of the buildings. Chief Wilcox noted that AFFF was sometimes discharged into the oak trees on the west end of the parking lot and would also enter the concrete-lined stormwater drainage channel exiting the east end of the parking lot and going down Numa Watson Road toward Normandy Road. Training on the southwestern side of the BOQ included nozzle testing from the ladder truck over the top of Bldg 4363 on the north side of the parking lot and over the oak tree canopy on the south side of the parking lot. Chief Wilcox said AFFF also entered the two storm drain inlets at the west end of the parking lot, which are both connected to a discharge pipe that daylights downslope approximately 200 feet west of the parking lot.

Were there any spills, leaks, damaged storage containers, or other accidental AFFF discharges onsite? Describe situation, date, quantity discharged, discharge time, actions taken, etc.
None reported.
Was AFFF stored onsite? If so, see AFFF Storage Sites questions
No.
Other notes:
Chief Wilcox joined the POM Fire Department in 2005, but indicated the training described above may have occurred before then. Bldgs 4360, 4361, 4362, and 4363 were demolished in 2021 or 2022. The area of former Bldgs 4360, 4361, and 4362 is unimproved and it appears it is not being used; however, the area of former Bldg 4363 is being used as an archery range. The parking lots associated with the former buildings are being used for POV parking. Chief Wilcox noted that the POM Fire Department did not coordinate training activities with the property owner.

NOZZLE TESTING AREAS

Date:	4/18/2025
Time:	0900
Type (e.g., email, telephone):	in-person
Person contacted	
Name:	David Wilcox
Affiliation:	Directorate of Emergency Services FESD, USAG Presidio of Monterey
Occupation/Former Occupation:	Fire Chief
Years in Occupation:	2005 - present
Person making the contact	
Name:	Joelle Lobo, Derek Lieberman
Affiliation:	Fort Ord Base Realignment and Closure (BRAC), Ahtna Global, LLC

Building 7146 on California Road

Was AFFF used onsite? *yes*

Freq. of site use: *3-4 times per year* Years of Site Operation: *2005-2007*

What was the frequency of use of AFFF at this site ? *3-4 times per year*

Describe the standard operating procedure (set-up, training activities, and any clean-up actions, how much AFFF was used, other fire-fighting techniques used with AFFF (e.g. water, techniques that may impact fate/transport)?

Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training. Training took place at Bldgs 7145 and 7146, though nozzle testing only occurred at Bldg 7146. Bldg 7145 was used to practice entry and exit procedures for firefighers. AFFF and water were discharged over the top of Bldg 7146, with AFFF falling to the ground surface on all four sides of the building.

Were there any spills, leaks, damaged storage containers, or other accidental AFFF discharges onsite? Describe situation, date, quantity discharged, discharge time, actions taken, etc.

None reported.

Was AFFF stored onsite? If so, see AFFF Storage Sites questions

No.

Other notes:

Chief Wilcox joined the POM Fire Department in 2005, but indicated the training described above may have occurred before then. Bldgs 7145 and 7146 were residential structures in the fomer Stilwell Park but were demolished circa 2008 for construction of the new Doe Park residential development. Bldg 7145 was replaced with a new residential structure and a park/playground is in the footprint of former Bldg 7146. The street layout for Doe Park is almost identical to the old Stillwell Park.

NOZZLE TESTING AREAS

Date:	4/18/2025
Time:	0930
Type (e.g., email, telephone):	in-person
Person contacted	
Name:	David Wilcox
Affiliation:	Directorate of Emergency Services FESD, USAG Presidio of Monterey
Occupation/Former Occupation:	Fire Chief
Years in Occupation:	2005 - present
Person making the contact	
Name:	Joelle Lobo, Derek Lieberman
Affiliation:	Fort Ord Base Realignment and Closure (BRAC), Ahtna Global, LLC

Building T-1760 on 1st Avenue and Building T-1885 on 5th Street

Was AFFF used onsite?	*yes*		
Freq. of site use:	*3-4 times per year*	Years of Site Operation:	*2005-2015*
What was the frequency of use of AFFF at this site ?	*3-4 times per year*		

Describe the standard operating procedure (set-up, training activities, and any clean-up actions, how much AFFF was used, other fire-fighting techniques used with AFFF (e.g. water, techniques that may impact fate/transport)?

Training included nozzle and hose testing using water and AFFF. Various firefighting vehicles were deployed for training, including a truck with an aerial ladder device that could extend to 150 feet. Training took place at Bldg T-1760 on 1st Avenue and Bldg T-1885 on 5th Street. The truck with the aerial ladder device was used for training and would discharge AFFF and water over the top of Bldgs T-1760 and T-1885, with AFFF falling to the ground surface on all four sides of the building.

Were there any spills, leaks, damaged storage containers, or other accidental AFFF discharges onsite? Describe situation, date, quantity discharged, discharge time, actions taken, etc.
None reported.

Was AFFF stored onsite? If so, see AFFF Storage Sites questions
No.

Other notes:
Chief Wilcox joined the POM Fire Department in 2005, but indicated the training described above may have occurred before then. The former 1700 block and 1800 block areas between 1st Avenue and 2nd Avenue. Bldgs T-1760 and T-1885 were demolished circa 2023 for development of a new residential residential area that is being constructed by Shea Homes as part of The Dunes on Monterey Bay. It appears that rough grading and utility installation are complete at the site.

NOZZLE TESTING AREAS

Date:	5/2/2025
Time:	1200
Type (e.g., email, telephone):	in-person
Person contacted	
Name:	David Wilcox
Affiliation:	Directorate of Emergency Services FESD, USAG Presidio of Monterey
Occupation/Former Occupation:	Fire Chief
Years in Occupation:	2005 - present
Person making the contact	
Name:	Joelle Lobo, Derek Lieberman
Affiliation:	Fort Ord Base Realignment and Closure (BRAC), Ahtna Global, LLC

Main Garrison Fire Station Sand Filter and Infiltration Ditch

Was AFFF used onsite?	*yes*		
Freq. of site use:	*3-4 times per year*	Years of Site Operation:	*2005-2015*
What was the frequency of use of AFFF at this site ?	*3-4 times per year*		

Describe the standard operating procedure (set-up, training activities, and any clean-up actions, how much AFFF was used, other fire-fighting techniques used with AFFF (e.g. water, techniques that may impact fate/transport)?

Activities that occurred on the concrete-paved driveway between the Main Garrison Fire Station (Bldg 4400) and the hose tower (Bldg 4401) included filling and flushing of AFFF tanks, gasket testing, and truck washing. Runoff from these activities entered a drain and sand filtration system in the driveway. The sand filter discharges to an unlined drainage ditch on the south side of Bldg 4400.

Were there any spills, leaks, damaged storage containers, or other accidental AFFF discharges onsite? Describe situation, date, quantity discharged, discharge time, actions taken, etc.
None reported, but such discharges would have entered the drain and sand filter in the driveway.

Was AFFF stored onsite? If so, see AFFF Storage Sites questions
No.
Other notes:
Chief Wilcox joined the POM Fire Department in 2005, but indicated the activities described above may have occurred before then.

Appendix B
Site Reconnaissance Notes and Photographs

Site No: NA	Site Name:	Building 1760 (former structure on 1st Avenue)
Date/Time: 4/18/2025, 0930		Weather: not documented
Personnel Present:	Derek Lieberman, David Wilcox (Fire Chief), Joelle Lobo (BRAC Coordinator)	
Physical Features and Site Description:	No apparent source at time of site visit. No buildings or structures are present. Rough grading and utility installation has been completed as part of a new residential development by Shea Homes. Minimal vegetation onsite due to grading. Rock and gravel stockpiles and staking present.	
Other:		

Site No: NA	Site Name:	Building 1885 (former structure on 5th Street)
Date/Time: 4/18/2025, 0930		Weather: not documented
Personnel Present:	Derek Lieberman, David Wilcox (Fire Chief), Joelle Lobo (BRAC Coordinator)	
Physical Features and Site Description:	No apparent source at time of site visit. No buildings or structures are present. Rough grading and utility installation has been completed as part of a new residential development by Shea Homes. Minimal vegetation onsite due to grading. Rock and gravel stockpiles and staking and flagging present.	
Other:		

Site No: NA	Site Name:	Buildings 4360-4363 (former Bachelors Officers' Quarters)
Date/Time: 3/21/2025 1330		Weather: not documented
Personnel Present:	Derek Lieberman, David Wilcox (Fire Chief), Joelle Lobo (BRAC Coordinator)	
Physical Features and Site Description:	No apparent source at time of site visit. No buildings or structures are present. Rough grading has been completed and the site is slated for new structures for the Chartwell School. The site of former Building 4363 was being used by the Chartwell School for archery and there are several woodchip piles present. The site of former Buildings 4360 through 4362 is currently unused and has annual grasses and a few shrubs present.Runoff could flow several directions - 1) toward the southwest corner of the southernmost parking lot with a culvert draining water into the adjacent field, and 2) toward the north down Numa Watson Road where it enters a series of storm drains that terminate near Normandy Road and Chapel Drive.	
Other:		

Site No: NA	Site Name:	Building 4387 (former Nurses' Barracks)
Date/Time: 3/21/2025 1300		Weather: not documented
Personnel Present:	Derek Lieberman, David Wilcox (Fire Chief), Joelle Lobo (BRAC Coordinator)	
Physical Features and Site Description:	No apparent source at time of site visit. Building 4387 was present in a deteriorated state, unused and fenced off. Runoff would generally flow to the northwest to Parker Flats Cutoff Road and eventually into vegetated areas through a series of stormdrains and gutters.	
Other:		

Site No: NA	Site Name:	Building 7146 (former residential unit in Doe Park)
Date/Time: NA		Weather: NA
Personnel Present:	NA	
Physical Features and Site Description:	No site visit was conducted. Google Earth imagery was evaluated. Runoff likely flowed into adjacent vegetated areas; no storm drains are mapped in this area.	
Other:		



Photo 1: Google Earth imagery from 1998 depicting the former buildings between 1st and 2nd Avenues in Marina, CA.



Photo 2: View of the site of former Building 1760 showing rough grading and several materials stockpiles present.



Photo 3: Google Street View of Building 1760 prior to demolition.

Ahtna

Building 1760
Former Structure on 1st Avenue

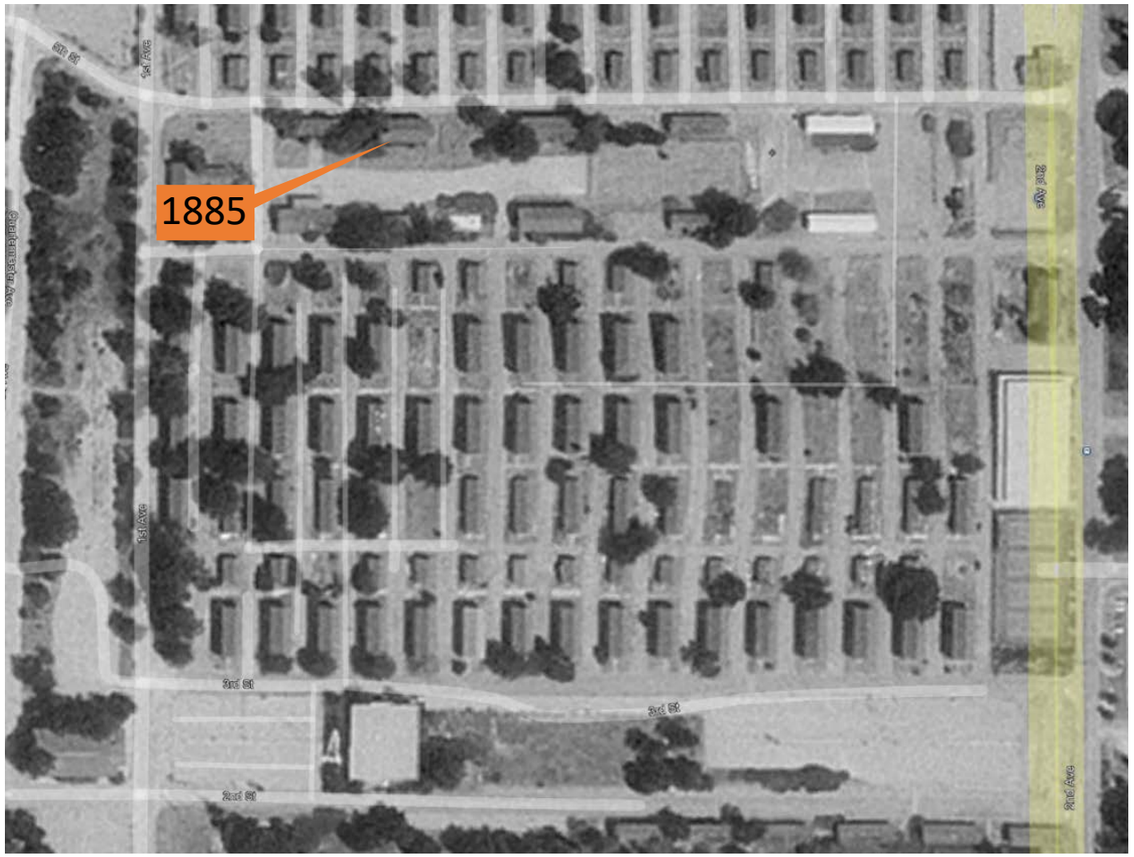


Photo 1: Google Earth imagery from 1998 depicting the former buildings between 1st and 2nd Avenues in Marina, CA.



Photo 2: View of the site of former Building 1885 showing rough grading and staking and utility lines present.



Photo 3: Google Street View of Building 1885 prior to demolition, overgrown by trees and bushes.

Ahtna

Building 1885
Former Structure on 5th Street

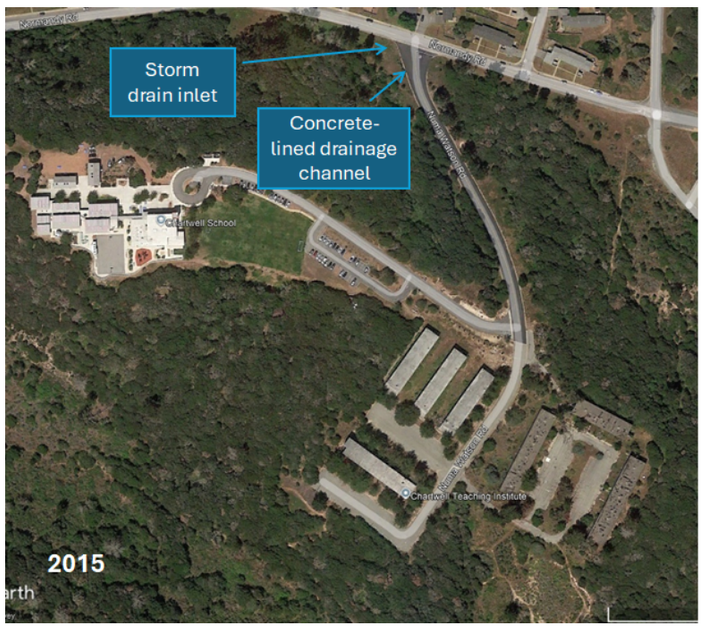




Photo 1: Aerial imagery depicting the buildings in 2015 and the demolished site in 2022. The storm drain inlet and drainage channels are indicated.



Photo 2: Aerial imagery depicting the buildings in 2015, the suspected area of AFFF spray, and runoff pathways indicated.

Bldgs Site 4360-4362

Bldg Site 4363





Storm drain below Bldg 4363



Drain at Numa Watson and Normandy





Buildings 4360-4363
Bachelors Officers' Quarters

Ahtna



Photo 1: Building 4387 with deteriorating conditions and fenced off.



Photo 2: Southern parking lot and Building 4387 from the east, areas where AFFF was used for nozzle testing.



Storm drain outlet to a vegetated ditch west of Parker Flats Cutoff Rd



Storm drain along Parker Flats Cutoff Rd

Ahtna

Building 4387
Nurses' Barracks



Photo 1: Google Earth Image from 2007 prior to demolition.



Photo 2: Enlarged view of the former Building 7146 nozzle testing area.

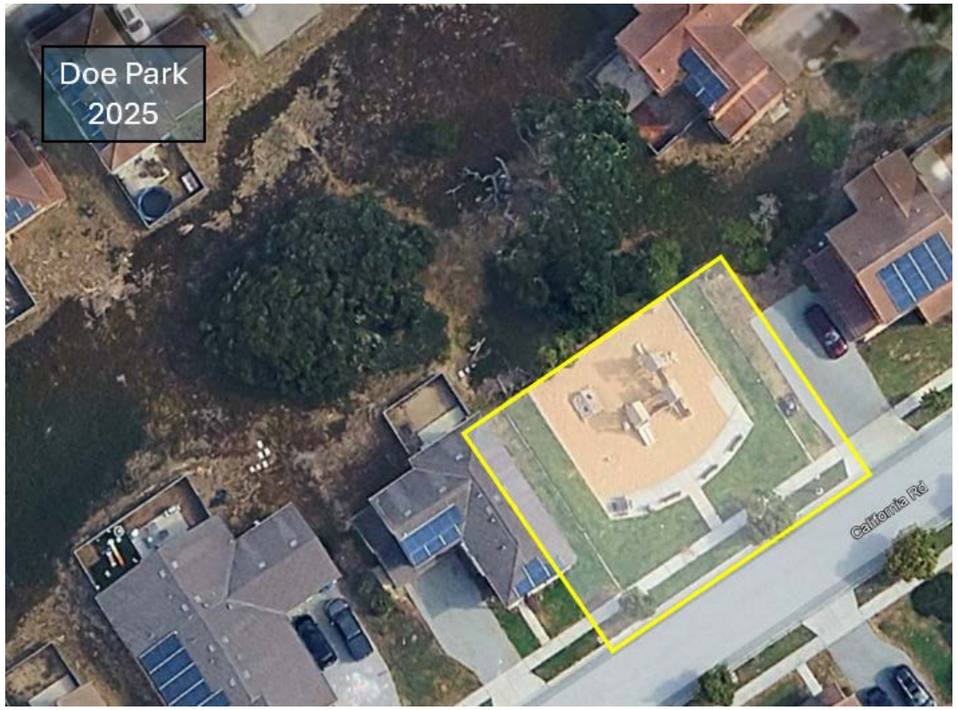


Photo 3: Doe Park in 2025 consists of new residential units, and the site of former Building 7146 is a playground.



Photo 2: Playground at the site of former Building 7146.

Ahtna

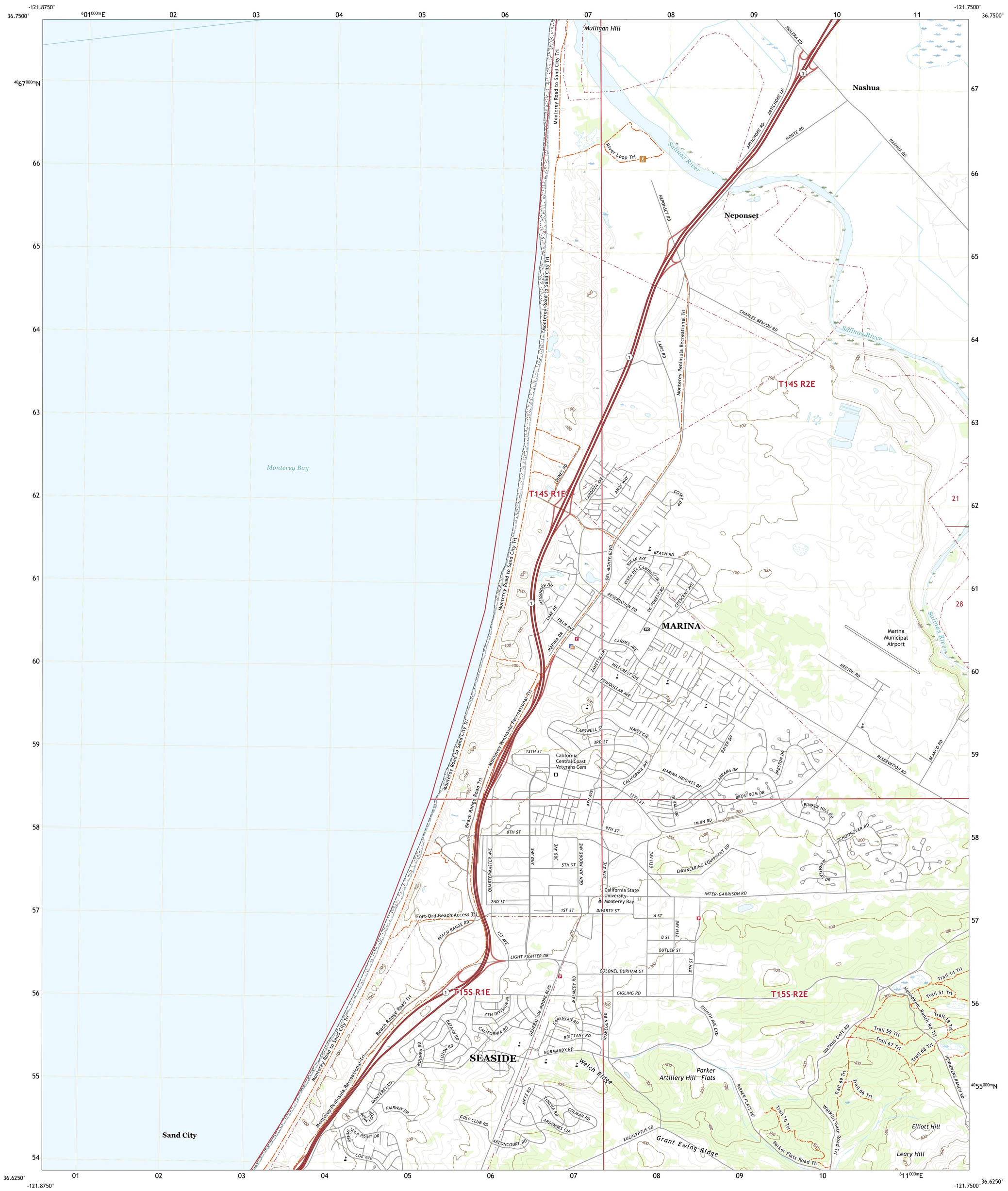
Building 7146
Former Residential Unit in Doe Park

Appendix C
USGS Topographic Maps

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

MARINA QUADRANGLE
CALIFORNIA - MONTEREY COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 10S

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	June 2020 - June 2020
Roads	U.S. Census Bureau,	2016
Names	GNIS,	1981 - 2021
Hydrography	National Hydrography Dataset,	2001 - 2021
Contours	National Elevation Dataset,	2021
Boundaries	Multiple sources; see metadata file	2019 - 2021
Public Land Survey System	BLM,	2020
Wetlands	FWS National Wetlands Inventory	2005 - 2005

MN
GN
13°7′
233 MILS
0°43′
13 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
FF
Grid Zone Designation
10S

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

CALIFORNIA
QUADRANGLE LOCATION

	1	2
3		4
5	6	7

ADJOINING QUADRANGLES
1 Moss Landing
2 Prunedale
3 Monterey OE N
4 Salinas
5 Monterey
6 Seaside
7 Spreckels

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

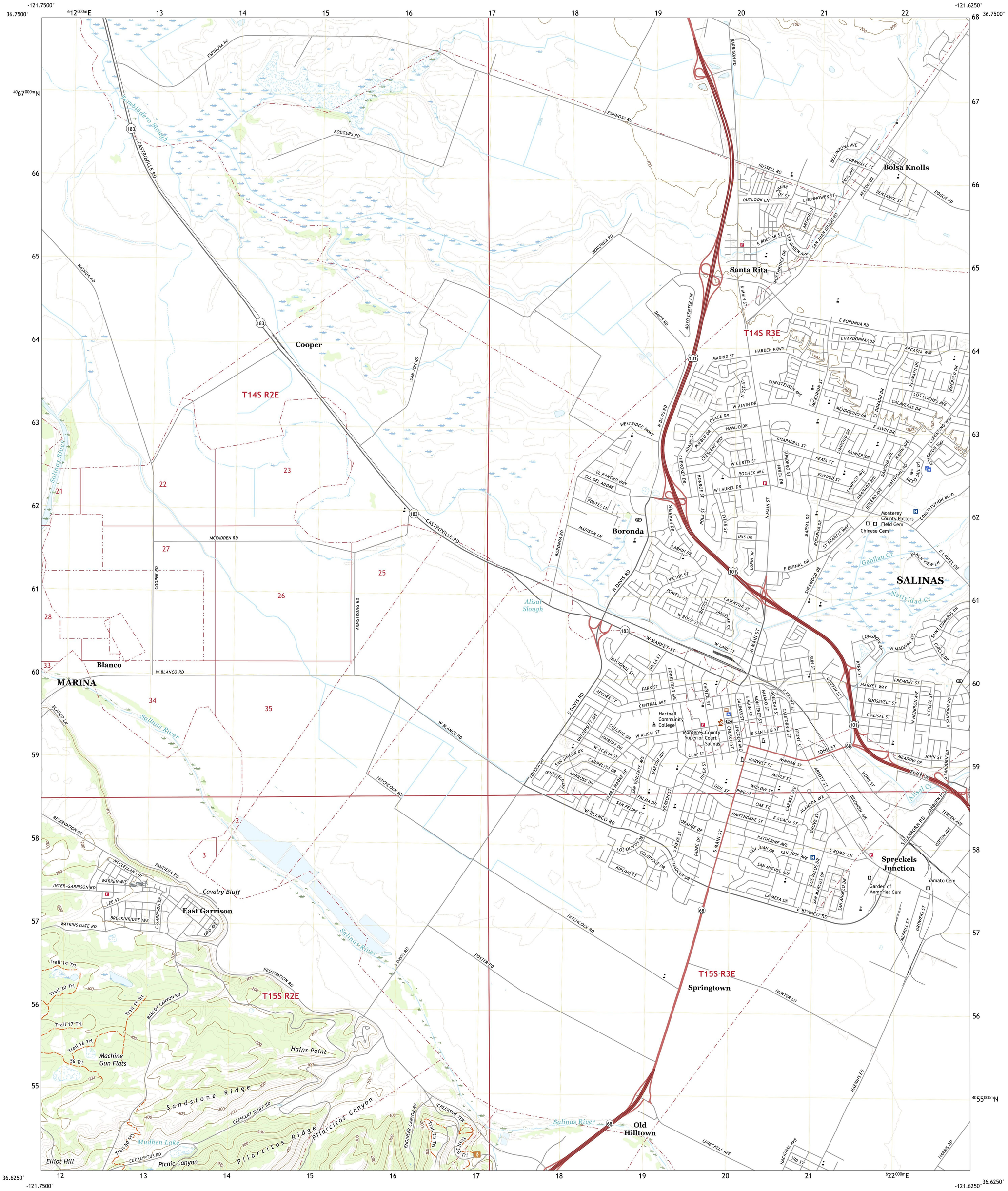
MARINA, CA
2021

NSN. 7643016356983
NGA REF NO. USGSX24K27701

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

SALINAS QUADRANGLE
CALIFORNIA - MONTEREY COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 10S

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, June 2020 - June 2020
Roads.....U.S. Census Bureau, 2016
Names.....GNIS, 1981 - 2021
Hydrography.....National Hydrography Dataset, 2002 - 2021
Contours.....National Elevation Dataset, 2021
Boundaries.....Multiple sources; see metadata file 2019 - 2021
Public Land Survey System.....BLM, 2020
Wetlands.....FWS National Wetlands Inventory 2005 - 2005

MN
GN
13°5′ 233 MILS
0°47′ 14 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
FF
Grid Zone Designation 10S

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

CALIFORNIA
QUADRANGLE LOCATION

1 2 3
4 5
6 7 8
ADJOINING QUADRANGLES
1 Moss Landing
2 Prunedale
3 San Juan Bautista
4 Marina
5 Natividad
6 Seaside
7 Spreckels
8 Chualar

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

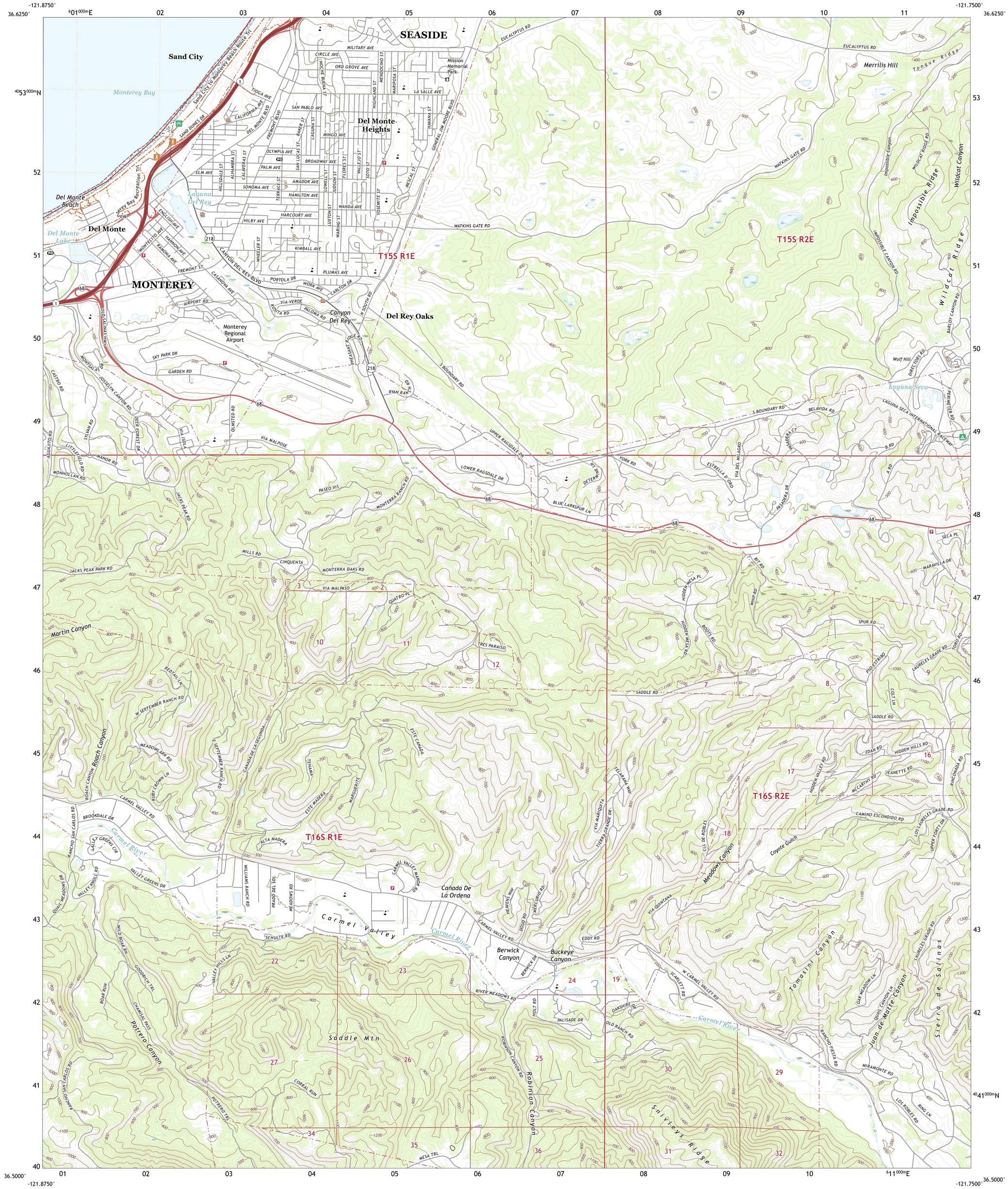
SALINAS, CA
2021

NSN 7643015357590
NGA REF NO. USGSX24K394454

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

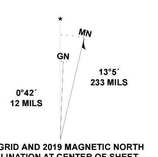
SEASIDE QUADRANGLE
CALIFORNIA - MONTEREY COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 10S

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Imagery.....NAIP, June 2020 - June 2020
Roads..... U.S. Census Bureau, 2016
Names.....GNIS, 1981 - 2021
Hydrography.....National Hydrography Dataset, 2001 - 2021
Contours.....National Elevation Dataset, 2021
Boundaries.....Multiple sources; see metadata file 2019 - 2021
Public Land Survey System.....BLM, 2020
Wetlands.....FWS National Wetlands Inventory 2005 - 2005



UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
FF
Grid Zone Designation
10S

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES

1 Monterey OE N
2 Marina
3 Salinas
4 Monterey
5 Spreckels
6 Soberanes Point
7 Mount Carmel
8 Carmel Valley

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

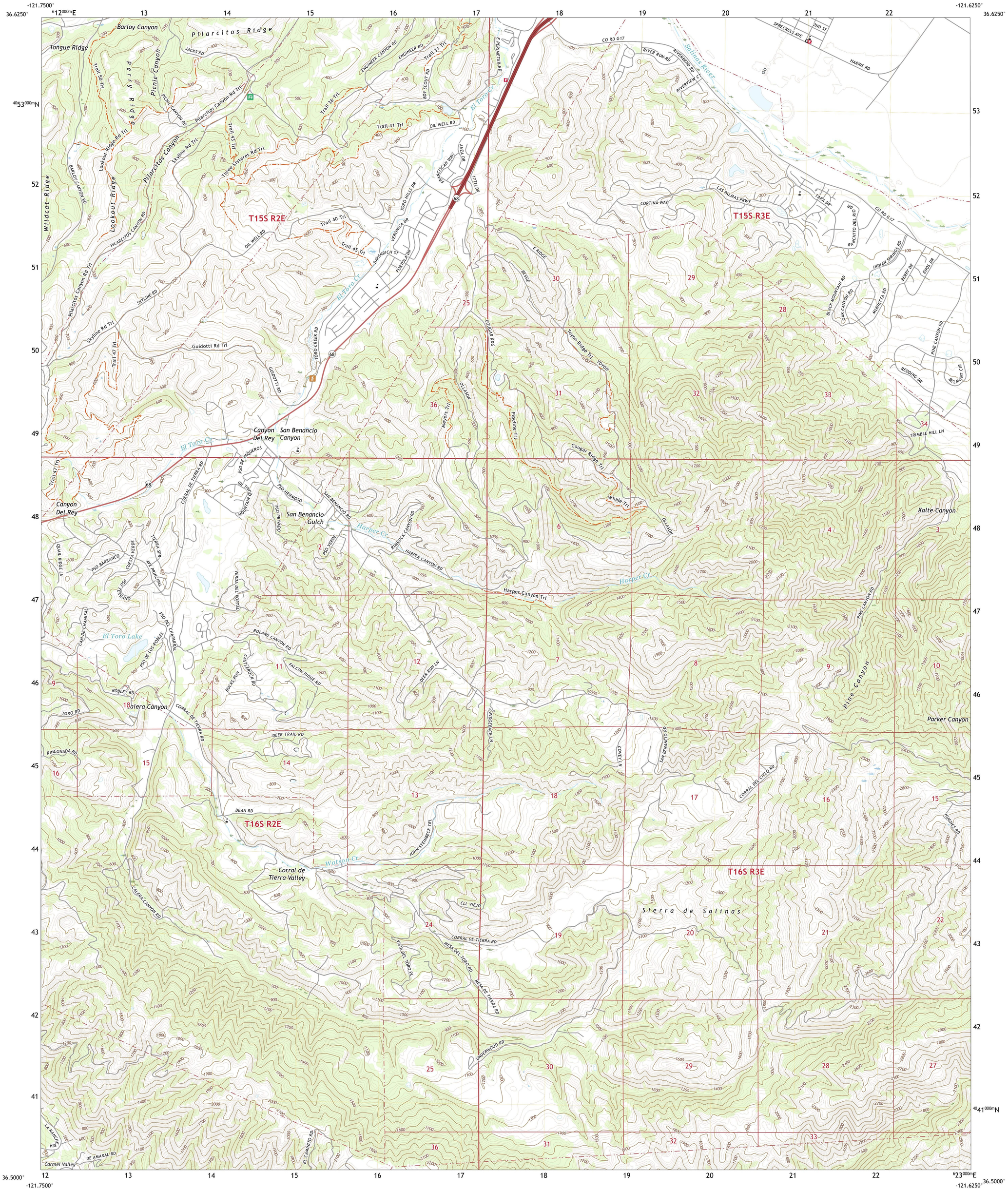
SEASIDE, CA
2021

NSN. 7643016357738
NGA REF NO. USGSX24K40395

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

SPRECKELS QUADRANGLE
CALIFORNIA - MONTEREY COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 10S

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Imagery	NAIP, June 2020 - June 2020
Roads	U.S. Census Bureau, 2016
Names	GNIS, 1981 - 2021
Hydrography	National Hydrography Dataset, 2001 - 2020
Contours	National Elevation Dataset, 2021
Boundaries	Multiple sources; see metadata file 2019 - 2021
Public Land Survey System	BLM, 2020
Wetlands	FWS National Wetlands Inventory 2005 - 2005



UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
FF
Grid Zone Designation
10S

SCALE 1:24 000

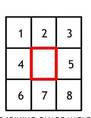
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.



QUADRANGLE LOCATION



ADJOINING QUADRANGLES

1 Marina
2 Salinas
3 Natividad
4 Seaside
5 Chualar
6 Mount Carmel
7 Carmel Valley
8 Rana Creek

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

SPRECKELS, CA
2021

NSN 7643016357868
NGA REF NO. USGSX24K72695