

**Draft**

**Initial Study and Mitigated  
Negative Declaration**

**Aerojet Waste Consolidation  
Unit Project  
Aerojet Rocketdyne, Inc.**

**Lead Agency:**



**California Regional Water Quality  
Control Board  
11020 Sun Center Drive, #200  
Rancho Cordova, California  
95670-6114  
(916) 464-3291**

**June 2020**



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS





**DRAFT**

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**Aerojet Waste Consolidation Unit Project  
Aerojet Rocketdyne, Inc.**

**June 2020**

**Lead Agency:**



**California Regional Water Quality Control Board  
11020 Sun Center Drive, #200  
Rancho Cordova, California 95670-6114  
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**Prepared by:**



**ECORP Consulting, Inc.**  
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**On Behalf of:**

**Aerojet Rocketdyne, Inc.  
2001 Aerojet Road  
Rancho Cordova, California 95742-6418**

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**DRAFT MITIGATED NEGATIVE DECLARATION  
AEROJET WASTE CONSOLIDATION UNIT PROJECT**

<b>Lead Agency:</b>	Central Valley Regional Water Quality Control Board
<b>Project Proponent:</b>	Aerojet Rocketdyne, Inc.
<b>Project Location:</b>	12353 White Rock Road, Sacramento County, California

**DECLARATION**

The Central Valley Regional Water Quality Control Board has determined there is no substantial evidence that the below project, as mitigated, may have a significant effect on the environment and proposes that a Mitigated Negative Declaration be adopted. The determination is based on the attached Initial Study and the following findings:

1. The project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.
2. The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.
3. The project will not have impacts that are individually limited, but cumulatively considerable.
4. The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.
5. No substantial evidence exists that the project will have a negative or adverse effect on the environment.
6. The project incorporates all applicable mitigation measures identified in the Initial Study.
7. This Mitigated Negative Declaration reflects the independent judgment of the lead agency.

**Project Location:** The Proposed Project is located on an Aerojet-Rocketdyne Inc. (Aerojet) owned ±250-acre parcel referred to as the White Rock North Dump (WRND) parcel. The WRND parcel includes a ±100-acre pre-regulation “dump” and is within Aerojet’s access-controlled property located south of State Highway 50 between the Cities of Rancho Cordova and Folsom in Sacramento County, CA. The Project site address is 12353 White Rock Road, Sacramento County, CA. 95742 (APN: 072-0100-020).

**Project Description:** The Project is a proposal by Aerojet to implement the following phased improvements:

Phase I AWCU: Construct, fill and close consistent with Title 27 requirements a Class II Landfill to be known as the Aerojet Waste Consolidation Unit (AWCU) on top of ±50-acres of the WRND within the existing Aerojet-owned ±250-acre WRND parcel. Dispose of up to 1,000,000 CYs of waste soil that meets



the Class II waste requirements and inert construction debris (together referred to as Transfer Material) in the AWCU. Transfer Material would be generated from future remediation projects located within the proposed AWCU Service Area which comprises approximately 7,500 acres of Aerojet access-controlled property. This would include accepting transfer Material from the Aerojet Landfill consistent with the approved Aerojet Landfill Clean Closure Plan. The Aerojet Landfill is an existing approximately 180-acre, non-operating, closed landfill owned by Aerojet located within the proposed AWCU Service Area approximately 2.3 miles north of the proposed WRND parcel. To facilitate the revised Aerojet Landfill disposal location, the Project also includes amending the 2015 County-approved Aerojet Landfill CCP to replace the identified offsite haul route with the Aerojet Landfill Haul Route identified in the initial study.

Phase 2 WRND Cap and Closure: Cap and close the remainder of the existing pre-regulation  $\pm 100$ -acre WRND in accordance with Title 27 requirements ( $\pm 50$  acres plus any remaining portion of the  $\pm 50$ -acre AWCU area not filled with Transfer Material).

Entitlements: The current  $\pm 250$ -acre WRND parcel, inclusive of the  $\pm 100$ -acre former dump is zoned M1, which does not include landfill activities. In order to bring the parcel into compliance with its current use and to construct the AWCU on the parcel, incorporation of the WRND parcel into the Aerojet Special Planning Area (SPA) is required. Therefore, Project entitlements include amending the Aerojet SPA chapter of the Sacramento County zoning code to add the WRND parcel into the SPA "Industrial Zone."

Schedule: It is anticipated the entire Project lifecycle would not exceed 15 years from the issuance of the solid waste facility permit. Assuming construction of the AWCU commences in Spring 2021, Transfer Material could be received as soon as Fall 2021. Although Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to an AWCU closure by December 31, 2035. The preferred schedule for implementation of the WRND Phase 2 Cap is to begin when 1,000,000 CY of Transfer Material have been placed in the AWCU. However, since Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to the completion of the Phase 2 Cap by December 31, 2035.

**Public Review Period:** The public review and comment period for the IS/MND will extend 30 days starting June 24, 2020 and ending July 24, 2020.

**Mitigation Measures Incorporated into the Project to Avoid Significant Effects:** In addition to the mitigation measures listed below, the project would implement Environmental Stewardship Measures (ESMs), described in Initial Study Section 3.2.3.

### **Air Quality**

**AQ-1** The following practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by District Rule 403 and enforced by SMAQMD staff.

- Water all exposed surfaces two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadways, driveways, sidewalks, and parking lots to be paved should be completed as quickly as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

### **Biological Resources**

**BIO-1: Special-Status Plant Species:** Prior to Phase 1 or 2 construction activities, the following actions are recommended for avoiding impacts to special-status plant species:

- Perform focused plant surveys according to USFWS, CDFW, and CNPS protocols. Surveys should be timed according to the blooming period for target species and known reference populations, if available.
- The USFWS generally considers plant survey results valid for approximately three years. Therefore, follow-up surveys may be necessary if Project implementation occurs after this three-year window.
- If special-status plant species are found, avoidance zones may be established around plants to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may vary between species and the specific avoidance zone distance would be determined in coordination with appropriate resource agencies (CDFW and/or USFWS).
- If special-status plant species are found within the Project and avoidance of the species is not possible, additional measures such as seed collection and/or translocation may be developed in consultation with the appropriate agencies.
- If no special-status plants are found, no further measures pertaining to special-status plants are necessary.

**BIO-2: American Badger:** Potentially suitable habitat (e.g., annual grassland) is present onsite for one special-status mammal, the American badger. To ensure that there are no impacts to American badgers, the following measures are recommended:

- Conduct a pre-construction survey for American badger. If no evidence (e.g., sign, scat, burrows) of American badger presence is found, no further measures are necessary.

- If evidence of American badger presence is found, consult with CDFW to determine if any additional measures are necessary.

**BIO-3: Native Oak Trees:** The Applicant shall implement the following measures to minimize potential impacts to native oak trees:

- Conduct an arborist survey according to Sacramento County guidelines by an International Society of Arboriculture certified arborist for the Project footprint.
- If no impacts to protected trees are found, no action is required.
- Should the arborist report identify potential impacts to trees protected by County ordinance, prepare and submit an application for a Sacramento County Tree Permit. The tree permit would outline mitigation measures to reduce impacts to protected trees to less-than-significant consistent with County requirements.

**BIO-4: Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp:** The following measures are recommended to minimize potential impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp:

- The Applicant may assume presence of listed large branchiopods. Prior to any construction or work related activities or impacts to any features that provide suitable habitat (vernal pools, seasonal wetlands, and seasonal wetland swales) for the aforementioned listed large branchiopod species, Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
- If the Applicant does not assume presence of listed large branchiopods, perform protocol level surveys pursuant to the current USFWS Guidelines. The findings of the protocol surveys would dictate mitigation, avoidance, and/or minimization measures through Section 7 consultation with USFWS.

**BIO-5: Elderberry Longhorn Beetle:** The following measure is recommended to minimize potential impacts to VELB:

- Conduct surveys for elderberry shrubs within areas of the Study Area that have not been previously surveyed.
- If elderberry shrubs would be removed, an evaluation using the 2017 USFWS guidance entitled *USFWS 2017 Framework for Assessing Impacts to the VELB* should be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.
- Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.



**BIO-6: Western Spadefoot:** The following measures shall be implemented to minimize potential impacts to western spadefoot:

- Although no formal survey protocol is required by agencies to determine presence of western spadefoot, it is recommended that nighttime auditory surveys and dip net surveys are made in suitable aquatic habitat during the breeding season (typically late February into April, Shedd 2016).
- If no western spadefoot is detected during the surveys no further measures are needed.
- If western spadefoot is detected, additional measures may be developed in consultation with CDFW to avoid impacts to this species. Measures may include preconstruction surveys and/or monitors present during construction activities in and adjacent to suitable aquatic habitat.

**BIO-7: Waters of the United States/Waters of the State.** To minimize potential impacts to Waters of the U.S./State, the following measures shall be implemented prior to Phase 2 construction.

- To compensate for the permanent loss of Waters of the U.S./State, Aerojet shall obtain Section 404 and 401 Permits from the USACE and RWQCB and either create replacement wetland habitat or purchase credits at an agency-approved mitigation bank.
- The wetland compensation ratio Shall be a minimum of 1:1 (one acre of wetland habitat credit for every one acre of impact) to ensure no net loss of wetland habitat functions and values. The project shall also implement the conditions and requirements of the state and federal permits. The actual mitigation ratio and associated credit acreage may be modified based on final design and USACE and RWQCB permitting which will dictate the ultimate compensation for permanent impacts to Waters of the U.S./ State.
- If applicable, Aerojet shall also obtain a Section 1602 Permit from the California Department of Fish and Wildlife.

## **Cultural Resources**

**CUL-1: Unanticipated Discovery** - If any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains are encountered during the initial inspection or during any subsequent construction activities, work shall be suspended within 100 feet of the find, and the construction supervisor shall immediately notify the CVRWQCB representative. If the find includes human remains, CVRWQCB shall immediately notify the Sacramento County Coroner and the procedures in Section 7050.5 of the California Health and Safety Code and, if applicable, Section 5097.98 of the Public Resources Code, shall be followed. If the discovery is reasonably associated with Native American culture, CVRWQCB shall coordinate any necessary investigation of the discovery with an appropriate tribal representative and a qualified archaeologist approved by CVRWQCB. As part of the site investigation and resource assessment, CVRWQCB shall consult with appropriate parties to develop, document, and implement appropriate management recommendations, should potential impacts to the resources be found by CVRWQCB to be significant. Possible management recommendations could include

documentation, data recovery, or (if deemed feasible by CVRWQCB) preservation in place. The contractor shall implement any measures deemed by CVRWQCB, at its discretion, to be necessary and feasible to avoid, minimize, or mitigate significant effects to the cultural resources.

**CUL-2: Human Remains Discovery** - If human remains of any kind, or remains that are potentially human, are found during any phase on any portion of the Project, a qualified professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant for the project (§ 5097.98 of the Public Resources Code). The designated Most Likely Descendant will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the Most Likely Descendant, the NAHC may mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

## **Geology and Soils**

**GEO-1: Discovery of Unknown Paleontological Resources** - Any deep excavations extending below the surface dredge tailings or landfill materials will be monitored closely by a qualified paleontologist. If any paleontological resources (i.e., fossils) are found during excavation, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until the lead agency, Central Valley Water Quality Control Board, is notified and the area is cleared for future work. A qualified paleontologist will evaluate the findings and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project Site. If the lead agency resumes work in a location where paleontological remains have been discovered and cleared, the lead agency will have a paleontologist onsite to observe any continuing excavation and confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

**Draft Initial Study and Mitigated Negative Declaration  
Aerojet Waste Consolidation Unit Project**

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**ACRONYMS AND ABBREVIATIONS**

ASTM	American Society for Testing and Materials
AWCP	Aerojet Waste Consolidation Project
AWCU	Aerojet Waste Consolidation Unit
BACT	Best available control technology
BCC	Bird of conservation concern
BP	Before present
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCP	Clean Closure Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CIWMB	California Integrated Waste Management Board
CMP	Closure Modification Plan
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DBH	Diameter breast height
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources



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EIR	Environmental Impact Report
EMD	Environmental Management Department
ESA	Endangered species acts
ESM	Environmental Stewardship Measures
FTA	Federal Transit Administration
GCL	Geosynthetic clay liner
GPD	Gallons per day
GSP	Groundwater Sustainability Plan
HMD	Hazardous Materials Division
JTD	Joint Technical Documents
LCRS	Leachate Collection and Recovery System
LDS	Leak detection system
LEA	Local Enforcement Agency
LLDPE	Linear low- density polyethylene
MBTA	Migratory Bird Treaty Act
MLC	Minerals land classification
MRZ	Mineral Resource Zone
MSL	Mean sea level
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of Determination
NOI	Notice of Intent
NO <sub>x</sub>	Nitrous oxide
NRHP	National Register of Historic Places
OHWM	Ordinary high-water mark
OSHA	Occupational Safety and Health Administration
PCMP	Post-Closure Maintenance and Monitoring Plan
PG&E	Pacific Gas and Electric
PM	Particulate matter
PPV	Peak particle velocity
PRC	Public Resources Code
QSP	Qualified SWPPP Practitioner
RCRA	Resource Conservation and Recovery Act
ROG	Reactive organic gases
SARA	Superfund Amendments and Reauthorization Act
SDA	Soil Data Access
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utilities District
SOW	Statement of Work
SPA	Special Planning Area
SSC	Species of special concern
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plans
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants

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TCE	Trichloroethylene
TCR	Tribal Cultural Resources
TRBL	Tricolored blackbird
VELB	Valley elderberry longhorn beetle
VMT	Vehicle mile traveled
VOC	Volatile organic compounds
WDR	Waste Discharge Requirements
WMU	Waste management units
WRND	White Rock North Dump

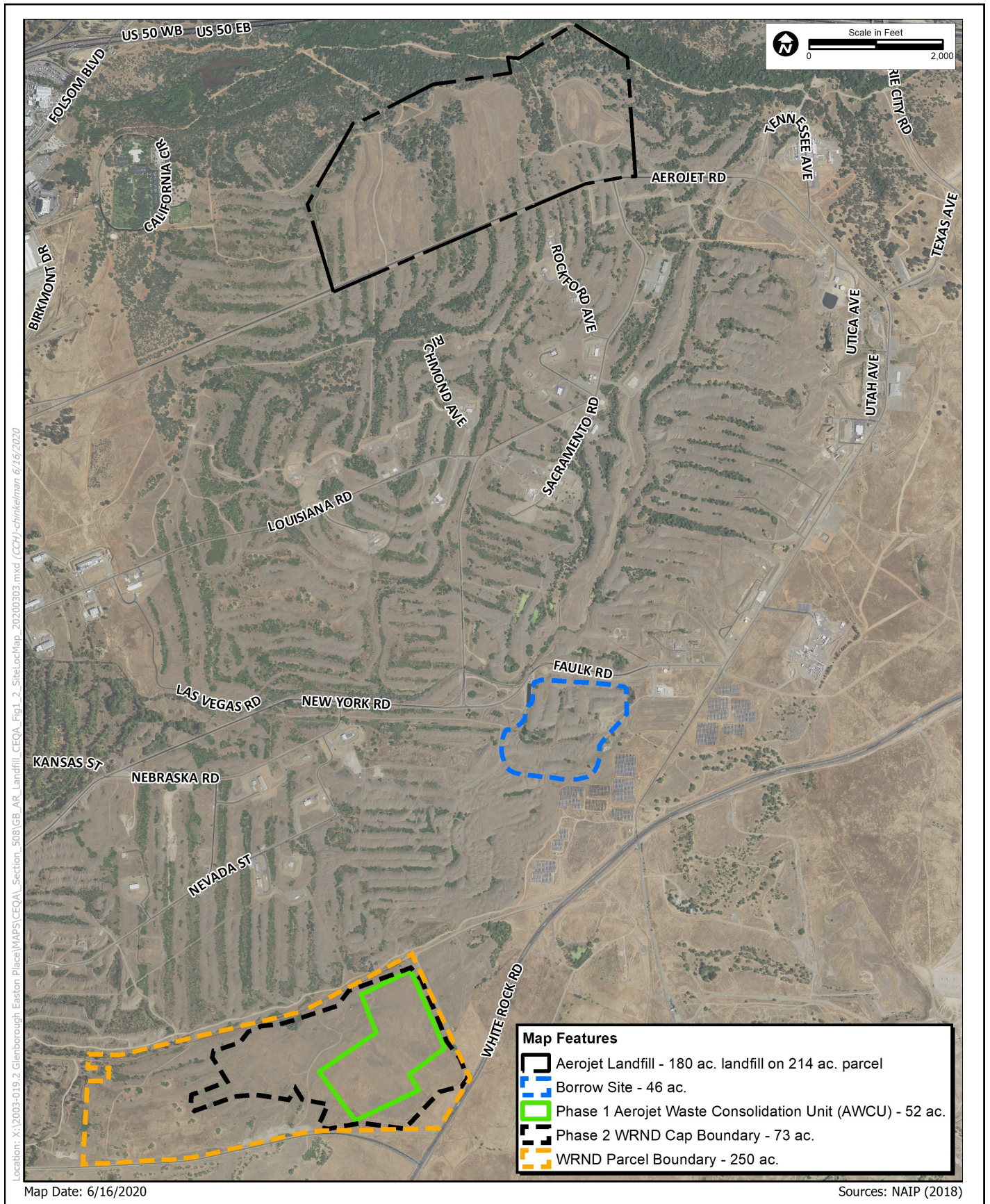
## SECTION 1.0 INTRODUCTION

The Central Valley Regional Water Quality Control Board (CVRWQCB) is the Lead Agency for this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Aerojet Rocketdyne, Inc. (Aerojet or AR) Aerojet Waste Consolidation Unit Project (Project or Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a project (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report). Based on the following Initial Study analysis, the Proposed Project qualifies for a Mitigated Negative Declaration.

The Proposed Project is located on an Aerojet owned  $\pm 250$ -acre parcel (referred to as the White Rock North Dump (WRND) parcel) contained within Aerojet's access-controlled property located south of State Highway 50 between the Cities of Rancho Cordova and Folsom in Sacramento County (*Figure 1-1 Project Region and Vicinity* and *Figure 1-2. Site Location*). The Proposed Project would be constructed in two phases. Phase 1 involves construction of a 50-acre (1,000,000 cubic yard or "CY") Class II Landfill, known as the Aerojet Waste Consolidation Unit (AWCU or Phase 1 AWCU), on top of the existing non-operating WRND. The existing non-operating WRND is an approximately 100-acre dump located within the  $\pm 250$ -acre WRND parcel. The Phase 1 AWCU would accommodate 1,000,000 CYs of "Transfer Material" excavated from within the AWCU Service Area, defined as the access-controlled 8,500-acre Aerojet Sacramento facility (*Figure 1-3. AWCU Service Area and Haul Route Map*). Phase 1 also includes transportation of approximately 500,000 CY of Transfer Material from the existing Aerojet Landfill consistent with the separately approved Aerojet Landfill Clean Closure Plan (CCP, Tetra Tech, Inc. 2015) and amendment of the Aerojet Landfill approved CCP offsite haul route. The remaining 500,000 CY capacity of the Phase 1 AWCU would be filled with Transfer Material from other locations within the AWCU Service Area. These additional projects would be required to evaluate environmental impacts associated with excavation and loading of the Transfer Material; however, the benefits to the environment of transporting Transfer Material from other excavation sites within the AWCU Service Area to the AWCU, placement of that Transfer Material into the AWCU, and capping and monitoring that Transfer Material are included in this analysis. Phase 2 involves construction of an approximately 50-acre WRND Cap (Phase 2 Cap) and official closure of the WRND consistent with Title 27 requirements. Any portion of the AWCU that has been utilized or constructed and not filled at the time final closure of both the AWCU and WRND, will be closed under the Phase 2 project that caps the WRND. All other areas of the AWCU that have received wastes will be closed under the Phase 1 project.





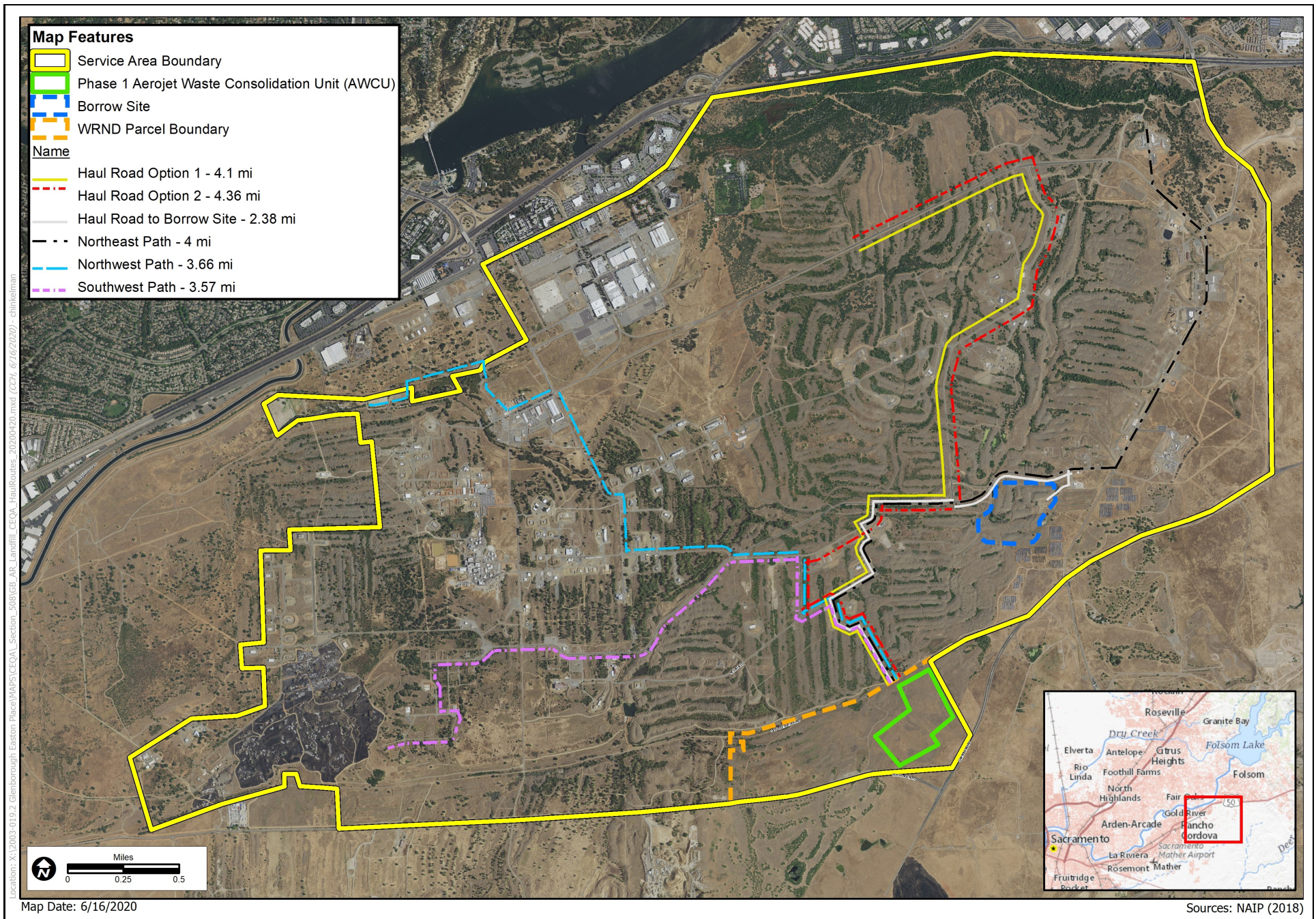


**Figure 1-2. Site Location**  
 2009-165.22 Aerojet Landfill



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**Figure 1-3 AWCU Service Area and Haul Route Map**

*2009-165.22 Aerojet Landfill*



Consistent with the State CEQA Guidelines, this initial study evaluates Phase 1 improvements and construction activities at a “project level,” and Phase 2 improvements at a “program level.” Phase 1 project level analysis covers the Phase 1 AWCU, the Phase 1 Joint Technical Documents (JTDs) (see *Appendix A – Joint Technical Documents*), the Phase 1 AWCU Closure Plan, and the proposed Aerojet Landfill transportation plan CCP amendment. Because the Phase 1 and Phase 2 improvement areas are geographically related, the ultimate size and design of the Phase 2 Cap cannot be determined until Phase 1 improvements are fully constructed.

Because specific project elements cannot be determined at this time for Phase 2, the JTD only includes a 10% design for the Phase 2 CAP (see Appendix A). In lieu of fully developed Phase 2 JTDs and Closure Plan, the Phase 2 analysis assumes a logical progression of WRND Cap and closure improvements and that such improvements would be conducted consistent with the current Title 27 requirements.

This dual level analysis ensures that the effects of implementing the overall Project are not segmented and cumulative effects are considered, while recognizing that the two phases are at different stages of planning and environmental review.

With respect to future Phase 2 development, the State CEQA guidelines require that Phase 2 activities be examined in light of the program analysis contained in this initial study to determine whether additional environmental documentation is required. If Phase 2 improvements would have significant effects that are not examined in the program analysis, subsequent environmental review is required consistent with Sections 15162 through 15164 of the state CEQA Guidelines. Any required subsequent environmental documentation can be “tiered” from the program level analysis contained in this initial study. Should it be determined that Phase 2 components would not result in new effects or the need for new mitigation measures, they can rely on the environmental analysis and mitigation in this initial study and no additional CEQA documentation would be required.

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## SECTION 2.0 PROJECT SUMMARY AND BACKGROUND

### 2.1 Summary Information

<b>Project Title:</b>	Aerojet Rocketdyne, Inc. Waste Consolidation Unit Project (Project)
<b>Lead Agency Name and Address:</b>	Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114
<b>Contact Person and Phone Number:</b>	Alexander MacDonald Senior Water Resources Control Engineer 916-464-4625 amacdonald@waterboards.ca.gov
<b>Project Location:</b>	12353 White Rock Road Sacramento County, CA. 95742 APN: 072-0100-020
<b>General Plan Designation:</b>	Extensive Industrial (EXT IND)
<b>Zoning:</b>	Light Industrial (M-1)
<b>Project Components:</b>	<p>Phase 1 Aerojet Waste Consolidation Unit (AWCU) – 50 acres AWCU Offsite Drainage Improvements AWCU Offsite road improvements AWCU Offsite Electric Improvements AWCU Closure Plan</p> <p>Phase 2 White Rock Road North Dump (WRND) Cap – ±50 acres WRND Closure Plan WRND and AWCU Landscape Screening Plan</p>

## 2.2 Project Overview

The Proposed Project is a proposal by Aerojet to implement the following phased improvements:

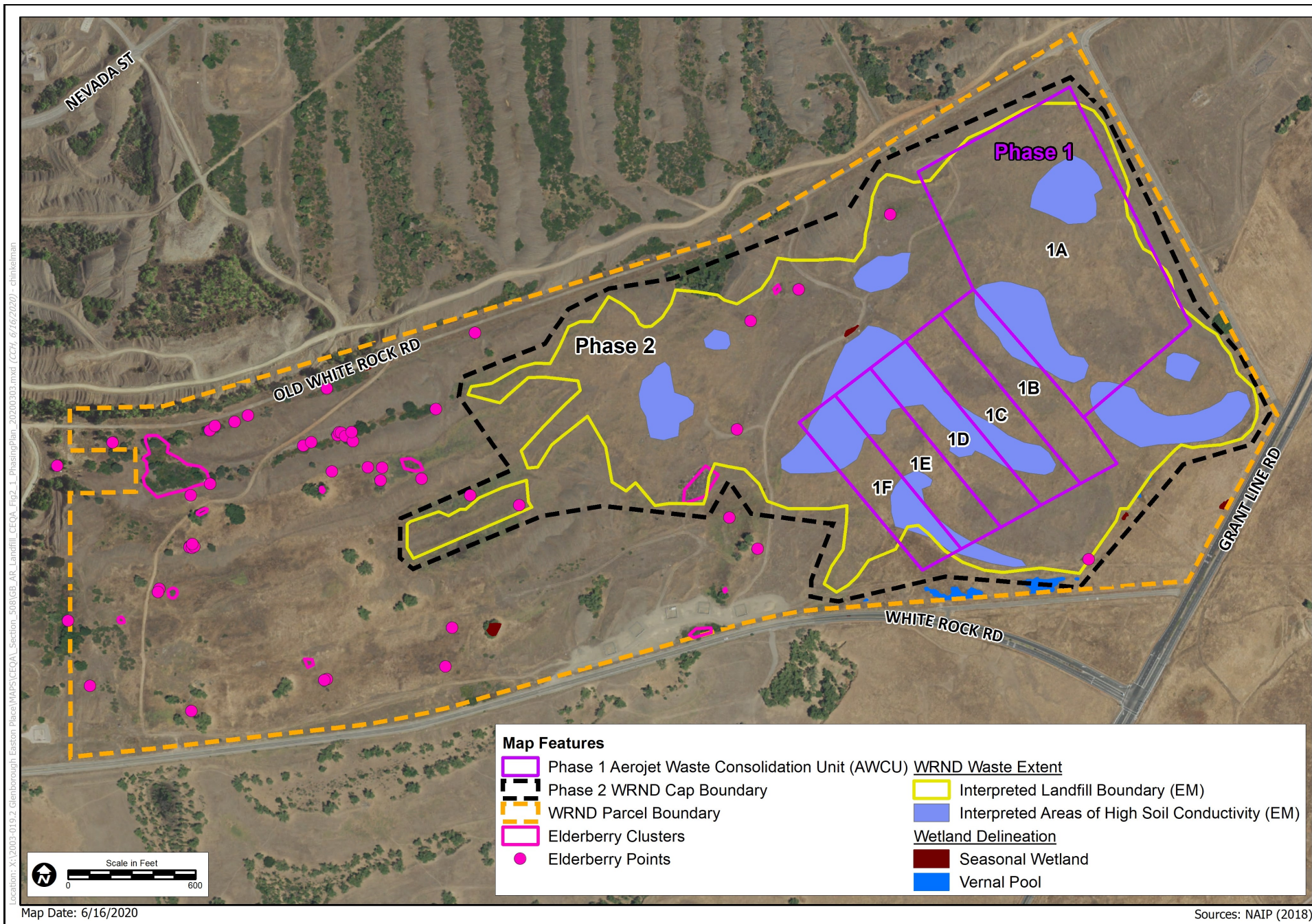
- Phase I AWCU: Construct a Class II Landfill to be known as the AWCU on  $\pm 50$ -acres within an existing Aerojet-owned  $\pm 250$ -acre parcel (WRND parcel). Haul up to 1,000,000 CYs of waste soil that meets the Class II waste requirements and inert construction debris (together referred to as Transfer Material) excavated from within the AWCU service area to the AWCU for disposal. The Transfer Material would be hauled by trucks utilizing primarily existing paved private roads within the access-controlled Aerojet property. Aerojet anticipates that additional Transfer Material would be generated from within the AWCU Service Area in discrete projects. If projects are anticipated to be separated by more than 1 year, the portion of the AWCU filled with that material would be capped consistent with Title 27 requirements. As part of Phase 1, Transfer Material from the Aerojet Landfill would be placed into the AWCU. Although the precise volume of the Aerojet Landfill Transfer Material is not known, prior studies have estimated this volume to be 500,000 CYs; therefore, Aerojet would reserve 500,000 CYs of AWCU capacity for Aerojet Landfill Transfer Material. Following the acceptance of 1,000,000 CYs of Transfer Material or by December 31, 2035, whichever comes first, the entire AWCU would be closed and capped consistent with Title 27 requirements.
- Phase 2 WRND Cap and Closure: Cap and close the remainder of the existing former WRND in accordance with Title 27 requirements ( $\pm 50$  acres within the  $\pm 250$ -acre WRND parcel plus any remaining portion of the AWCU not filled with Transfer Material).

The proposed Project phasing, improvements, requested entitlements and schedule are summarized below.

The WRND is an existing  $\pm 100$ -acre, inactive pre-regulation dump located north of the White Rock Road/Grant Line Road intersection in Sacramento County, wholly contained within the  $\pm 250$ -acre WRND parcel. Prior to any possessory interest in the property by Aerojet, in 1957 the County of Sacramento contracted with the then owner of the property to operate a disposal facility for the benefit of Sacramento County. This operation occurred prior to the promulgation of current landfill regulations. The WRND has not been formally closed with regulatory agencies since operations were discontinued in the early 1970s.

### 2.2.1 Phase 1

As shown in *Figure 2-1. Project Phasing Plan*, the proposed Phase I AWCU would cover up to  $\pm 50$  acres and be constructed on top of the northeast portion of the existing WRND. The Phase 1 project area was located and designed to avoid existing wetland and elderberry biological constraints. As shown in *Figure 2-1*, construction of the AWCU would include an initial 500,000 CY cell (Cell 1A) followed by construction of additional cells in 100,000 CY increments as needed until all Transfer Material has been placed (*Figure 2-1*, Cells 1B through 1F). Any portion of cells 1B through 1F not constructed would become part of Phase 2.



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**Figure 2-1 Project Phasing Plan**

*2009-165.22 Aerojet Landfill*

Once all Transfer Material has been placed in the AWCU, the active AWCU cells would be capped and closed and no additional waste would be added to the AWCU. Currently, the only approved project that identifies Transfer Material is the Aerojet Landfill project; however, Aerojet anticipates additional projects within the AWCU Service Area would also generate Transfer Material that would meet the Class II waste requirements and could be placed in the AWCU. These additional projects would be required to evaluate environmental impacts associated with excavation and loading of the Transfer Material; however, the benefits to the environment of transporting Transfer Material from other excavation sites within the AWCU Service Area to the AWCU, placement of that Transfer Material into the AWCU, and capping and monitoring that Transfer Material are included in this analysis. The AWCU is anticipated to be active until Transfer Material completely fills the 1,000,000 CY capacity; however, the active life of the AWCU will cease prior to the construction of the final cap, which will be completed by December 31, 2035.

The AWCU would be designed in compliance with or exceeding CCR Title 27 requirements. This includes a double liner, a leachate collection and recovery system, a leak detection system, stormwater management system, vapor collection system and other appropriate environmental controls. Because it would be constructed above the existing WRND, in addition to the requirements of Title 27, a study would be conducted to determine if the existing WRND is emitting vapors necessitating the installation of a vapor destruction unit. The AWCU would be capped with a geomembrane-based or "alternative cover" in accordance with Title 27. The JTDs, which comprise the construction plans and specifications for Phase 1 improvements, are included herewith as *Appendix A*.

### **2.2.2 Phase 2**

As shown in *Figure 2-1*, the ±50-acre Phase 2 Cap would completely cover the remaining portions of the 100-acre WRND historic deposits. Excavation of landfill waste and consolidation with existing deeper WRND cells, may occur prior to capping to reduce the overall size of the Phase 2 Cap.

Aerojet intends on completely filling the 1,000,000 CY AWCU with Transfer Material from the Aerojet Landfill and other projects within the AWCU Service Area. However, in the event that the AWCU is not filled, Aerojet commits to completion of the capping of the filled portion of the AWCU and the remainder of the WRND by December 31, 2035, including the advance planning and design efforts required to achieve the capping date. Any portion of cells 1B through 1F not constructed as part of the Phase 1 AWCU (up to an additional 25 acres) could be covered by part of the Phase 2 Cap. Although not yet fully designed, the Phase 2 Cap would be Title 27-compliant. It would provide protection to waste deposits associated with the WRND from being exposed to precipitation and soil erosion and prevent potential human contact.

Beneath the constructed Phase 1 AWCU, the WRND final cover would consist of the AWCU improvements which include a double liner installed on top of the WRND beneath the newly constructed AWCU in addition to the final geosynthetic-based cover of the AWCU.

### **Entitlements and Clean Closure Plan Amendments**

Phase 1 includes an amendment to Aerojet's Special Planning Area (SPA) chapter of the County zoning code. The proposed SPA amendment would add the WRND parcel into the SPA "Industrial Zone." This



amendment would effectuate a zone change from the existing Light Industrial (M-1) to "Aerojet Industrial Zone" as defined by the Aerojet SPA, thus allowing construction of the proposed AWCU landfill. The Phase 1 Project also includes an amendment to the 2015 County-approved Aerojet Landfill CCP Appendix F Transportation Plan. This amendment would incorporate and ensure consistency with hauling operations described for the proposed Project.

### **Schedule**

Aerojet anticipates the entire Project lifecycle not to exceed 15 years from the issuance of the solid waste facility permit. The construction of AWCU cell 1A (500,000CY) is anticipated to take four to six months from start to finish. Construction would be timed to ensure the AWCU is ready to receive Transfer Material when the first project generating Transfer Material is initiated. Aerojet currently anticipates that this first project would be the Aerojet Landfill removal project; however, based upon real estate market timing and COVID-19 concerns, alternate projects may move ahead of the Aerojet Landfill project. Regardless, 500,000 CYs of the 1,000,000 CY AWCU volume would be set aside for the Aerojet Landfill project. In order to maximize the benefit of the AWCU, Aerojet intends on completely filling the 1,000,000 CY AWCU. Although Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to an AWCU closure within 15 years or by December 31, 2035.

While most operations and construction tasks would occur Monday through Friday between the hours of 7:00am to 6:00pm, some deviation may be necessary. For example, there may be the need to periodically enter the landfill for inspections and/or to respond to issues such as a security fencing breach or pump failure. There is also the potential that required monitoring activities, such as stormwater runoff sampling, could occur on weekends/holidays. These type of "ancillary activities" would not normally require operation of heavy machinery, but could require vehicle access, task lighting and mechanic tools to facilitate minor repair activities. These type of "ancillary activities" would not result in offsite impacts and are allowed 7 days per week, 24 hours per day.

As discussed further in Section 3.2.4 Construction Tasks, Personnel and Equipment, in addition to ancillary activities, AWCU liner construction/installation (which is temperature sensitive) may require a start time earlier than 7:00a.m. This work would involve use of heavy-duty construction equipment and related impacts are evaluated in Section 5.1 Aesthetics and 5.13 Noise.

The preferred schedule for implementation of the WRND Phase 2 Cap is to begin when 1,000,000 CY of Transfer Material have been placed in the AWCU. At this time, the WRND Phase 2 Cap would be constructed. However, since Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to the completion of Phase 2 within 15 years or by December 31, 2035. If, at the time that the Phase 2 project needs to be implemented, AWCU capacity remains, Aerojet may propose to consolidate some of the WRND waste material into the AWCU in order to reduce the footprint of the WRND Phase 2 Cap.

## 2.3 Project Setting and History

The Project is located in northeast Sacramento County and involves the following existing facilities: 1) the Aerojet Landfill; 2) the Aerojet Borrow Site; and, 3) the WRND (*Figure 2-2. Site Location and Aerojet Landfill Haul Route Map*). The regulatory and land use history of each of these facilities is described below.

### 2.3.1 Aerojet Landfill

The ±180-acre Aerojet Landfill is a closed, inactive landfill on a 250-acre Aerojet-owned parcel situated within the greater Aerojet access-controlled land holding located approximately 17 miles east of Sacramento. As shown in *Figure 2-3. Aerojet Landfill - Site Conditions* the site is located north of Aerojet Road and south of Highway 50, in Sacramento County.

The site includes a combination of natural, gently rolling terrain, and areas of significant disturbance resulting from historic mining activities and the waste management units (WMUs) associated with the landfill. While the WMUs are mostly at ground level, site elevation ranges from approximately 200 to 280 feet above mean sea level. The linear dredge tailing piles range up to several hundred feet in length. Vegetated areas are interspersed between tailing piles and the WMUs, and include foothill pine-oak woodland, Fremont cottonwood-oak woodland, Valley foothill riparian, Fremont cottonwood woodland, willow scrub, and coyote brush scrub. Tree species on the site include blue oak, interior live oak, foothill pine, Fremont cottonwood, white alder, and Oregon ash. A variety of shrubs, annual grasses and other herbaceous species including elderberry, poison oak, coffeeberry, coyote brush, Himalayan blackberry among others are found on the site.

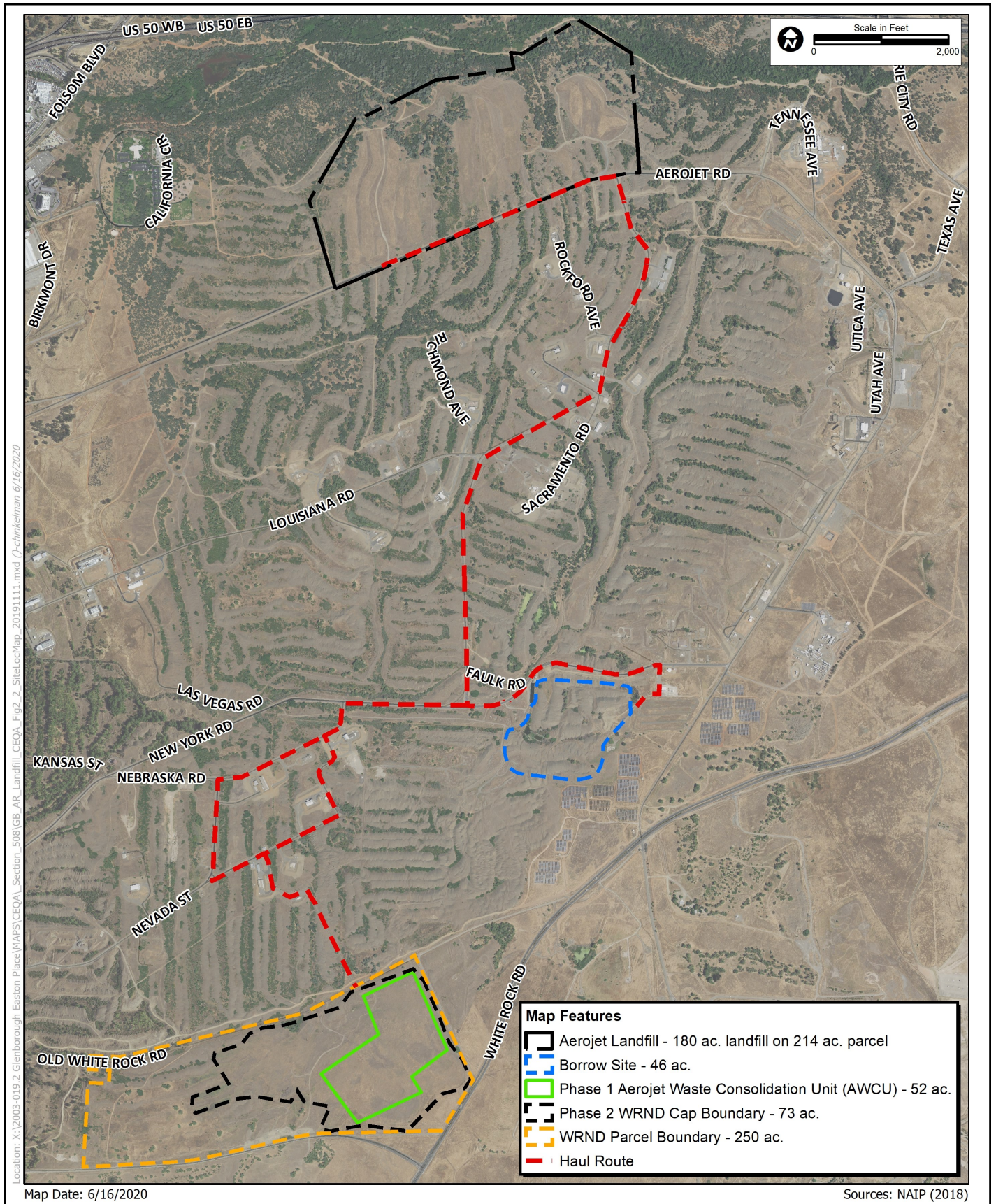
The area immediately surrounding the Landfill is managed as passive open space. Approximately 1/3 mile north of the landfill and on the north side of US Highway 50 is a mixture of industrial, commercial and residential development. The landfill is within the development known as Glenborough at Easton, a master planned development approved by Sacramento County. The Aerojet property, within which the Aerojet Landfill is located, is surrounded and secured by fencing and entrance to the property is controlled through access gates and guard stations. *Figure 1-3* depicts the proposed AWCU service area boundary which is fully contained within Aerojet's privately-owned property. Access to the Aerojet Landfill, as well as the balance of the access-controlled property, must be prearranged and authorized by appropriate Aerojet personnel.

### Landfill Background

Since the 1950s, Aerojet has primarily designed, developed, and tested solid and liquid rocket propulsion systems. To support these industrial activities, the company also operated several administrative office buildings. As a result of these operations, municipal solid wastes were generated, and the Aerojet Landfill was used as a disposal location.

There are three landfill classifications according to state regulation: Class I Landfills may accept hazardous and nonhazardous wastes; Class II Landfills may accept "designated" and nonhazardous wastes; and, Class III Landfills may accept nonhazardous waste.





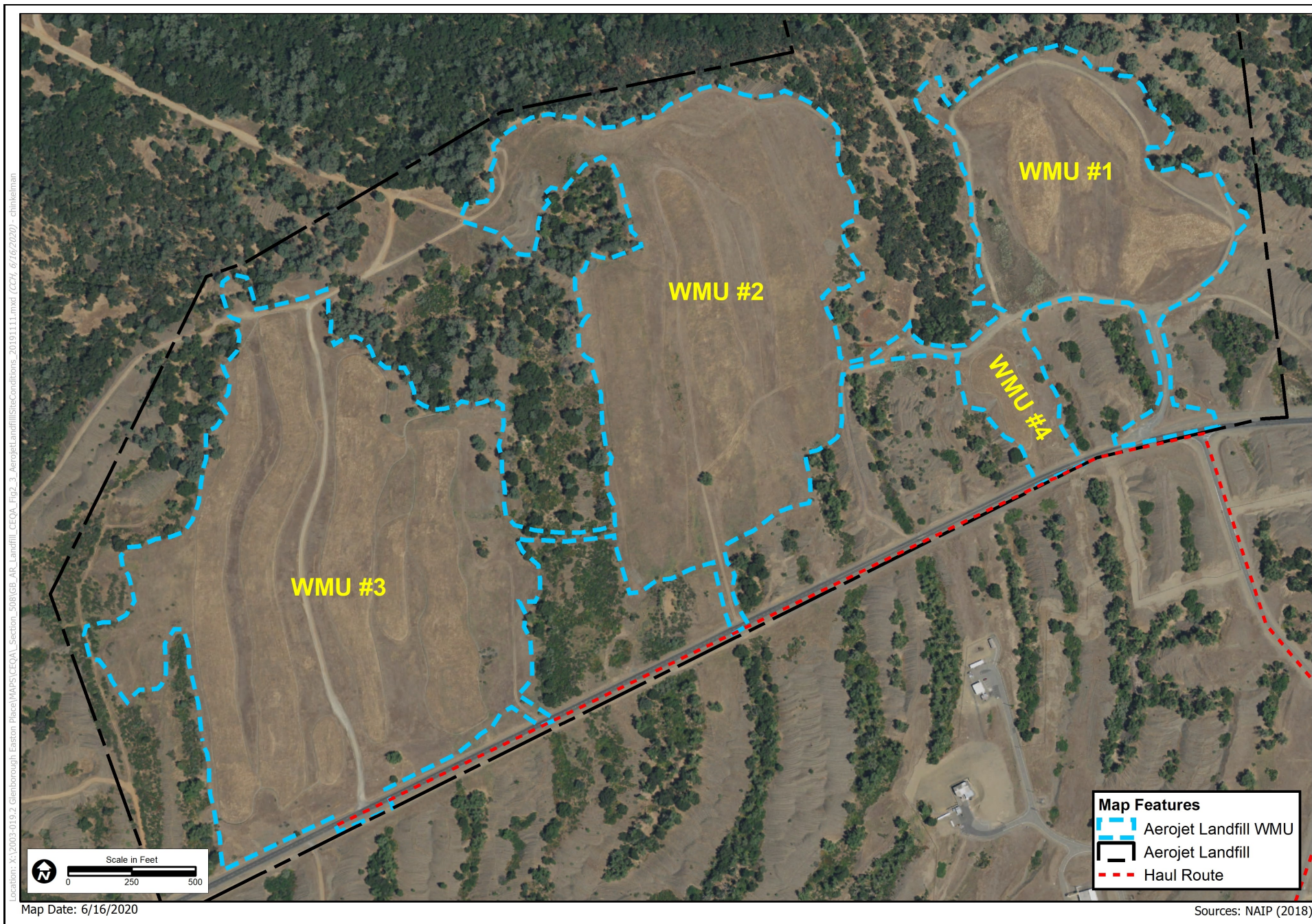
**Figure 2-2. Site Location and Aerojet Landfill Haul Route Map**

2009-165.22 Aerojet Landfill



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**Figure 2-3. Aerojet Landfill - Site Conditions**

*2009-165.22 Aerojet Landfill*



According to the Initial Study Addendum prepared for the Aerojet Landfill CCP (Sacramento County, February 2016), waste disposed in the Aerojet Landfill is understood to include primarily items such as: kitchen or restaurant garbage; cardboard and paper products; glass, plastic, wood, and metal items; scrap from construction work and demolition waste; and green waste. Although previous site characterizations have determined that disposal of hazardous wastes was not allowed in the landfills, during investigations associated with Aerojet Landfill closure plans, several drums of chemicals and a rocket motor casing were found in the landfill. Additionally, there is a potential to encounter soil containing hazardous chemicals associated with such items as toxic or corrosive materials, sewage or septic waste, infectious medical waste, pesticides and their containers, and oil containers, and other materials that require special handling and proper disposal. Aerojet Landfill investigation results indicate that some of the soil surrounding this waste, if removed, would be classified as contaminated, nonhazardous Class II waste. This Class II waste soil and some of the scrap from construction work and demolition debris is referred to in this document as "Transfer Material."

The Aerojet Landfill consists of four WMUs. WMUs 1 through 3 contain waste classified as Class III, and WMU-4 contains waste classified as Class III, with asbestos-containing material. The WMUs were constructed between the tailings piles that were remnants of gold dredging initiated in the early 1900s. The gold dredging created valleys, where waste was eventually deposited by Aerojet starting in the 1960s. The gold dredging also generated mounds of cobble and soil, which was used for daily cover of the waste. In the 1990s, the four WMUs were capped and closed with waste in place according to the requirements presented in the governing regulations at the time, namely Titles 14 and 23 CCR. Titles 14 and 23 were subsequently combined into Title 27, which became effective on July 18, 1997. In-place closure activities included construction of a low permeability soil cover layer over the landfilled waste to reduce the amount of precipitation percolating into the landfill and installation of drainage features to direct surface water away from the landfill. In-place closure was overseen by the County of Sacramento and CVRWQCB. In accordance with CVRWQCB and County-approved Post-Closure Maintenance Plan activities, the landfill is currently maintained as non-irrigated open space.

### **2008 Closure Modification Plan/2015 Clean Closure Plan**

In 2008 Aerojet proposed a Closure Modification Plan (CMP) (ERM-West, Inc., May 2008) in order to excavate and remove all waste from the Aerojet Landfill. The CMP modified the prior closure plans<sup>1</sup> for the landfill as these plans consisted of closure with waste in place. The CMP was updated in 2015 and retitled as the CCP (Tetra Tech, Inc.) and is included herewith as *Appendix B*.

The CCP was submitted to the California Integrated Waste Management Board (CIWMB) and the California CVRWQCB for approval, with concurrence by the Local Enforcement Agency (LEA), to change the final closure and post closure maintenance plans for the Aerojet Landfill. The Sacramento County Environmental Management Department (EMD) was the authorized LEA under Division 30 of the Public Resources Code (PRC) and Title 14 of the CCR. Sacramento County EMD also acted as the CEQA Lead

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<sup>1</sup> Final Closure and Post-Closure Maintenance Plan, WMU Areas 1 and 2 and Final Closure Plan, Aerojet Propulsion Division Class III Landfill WMU Areas 3 and 4

Agency. CEQA compliance included adoption of the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration (IS/MND, 04-PPE-0135) and the follow-on Aerojet Landfill CCP Addendum Initial Study (Control Number PLER2015-00061).

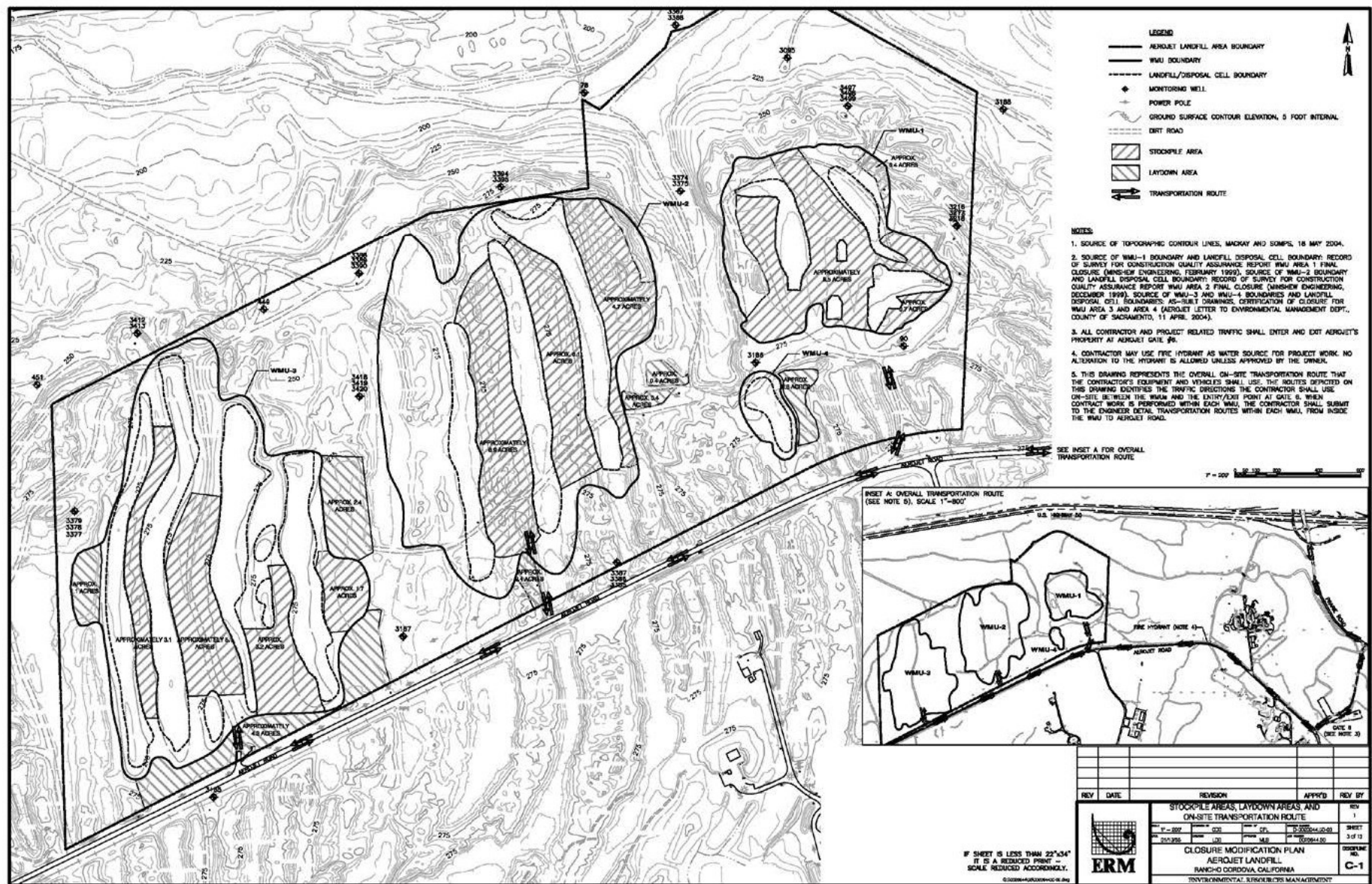
The approved CCP is provided as *Appendix B*. The fully approved CCP authorizes the excavation, onsite sorting, stockpiling, processing and offsite hauling and disposal of Aerojet Landfill Transfer Material. *Figure 2-4. Approved Clean Closure Stockpile and Staging Areas* identifies the CCP-approved WMU cell boundaries and waste removal stockpile and laydown areas. The proposed Project is consistent with the approved CCP with one exception: revisions to the assumed offsite Transfer Material haul route and final disposal location. This CCP revision is fully described in Section 3.4 *Aerojet Landfill Clean Closure Plan Amendments* and is included as part of the Proposed Project.

### **2.3.2 Aerojet Borrow Site**

The Aerojet Borrow Site is located within Aerojet's access-controlled property approximately 1.5 miles south of the Aerojet Landfill and 0.4 mile west of White Rock Road (see *Figure 2-2*). The Borrow Site would be used as a source of material for construction of several components of the AWCU including: the vapor collection layer, the base layer of the liner system, the cap, and onsite roadways. Access to the Borrow Site is via a driveway from Faulk Road. *Figure 2-5. Aerojet Borrow Site - Site Plan*, depicts the Borrow Site limits for purposes of the proposed Project. The Borrow Site, which has been used historically by Aerojet for other Aerojet project aggregate and soils needs, is highly disturbed and contains several 10- to 20-foot high dredge tailing/soil piles from historic mining activities as well as a leveled/cleared area used for material processing, truck loading and transport operations.

Although the area is mostly devoid of vegetation, 10 elderberry shrubs and 5 native oaks are scattered on the site which is also interspersed with occasional ruderal/weedy species on the tailings. The site also supports a pond near the mid-western boundary. This pond is fed by an east-west trending ditch that passes through the approximate center of the site. These resources would be fenced and avoided during Borrow Site operations.

Borrow Site soil has been sampled by Aerojet in accordance with state Department of Toxic Substances Control (DTSC) Clean Fill Advisory and is approved for use as fill material. Processing activities at the Borrow Site would include crushing and screening of aggregate and soils to segregate material fractions for the different AWCU uses (e.g., vapor collection system, Leachate Collection and Recovery System [LCRS] covers and road base). Onsite Project activities would include operation of transportable rock crushing machinery, screening sieves and heavy equipment for material movement, stockpiling and loading. Haul trucks would enter, circulate through the site for loading, and then exit via the Faulk Road driveway as shown in *Figure 2-2*.



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**Figure 2-4. Approved Clean Closure Stockpile and Staging Areas**  
2009-165.22 Aerojet Landfill







#### White Rock Road North Dump (WRND)

The ±250-acre parcel includes a ±100-acre inactive pre-regulation dump (referred to as the WRND) located north of the White Rock Road/Grant Line Road intersection in Sacramento County, approximately 2.5 miles south of the Aerojet Landfill (see *Figure 2-2*).

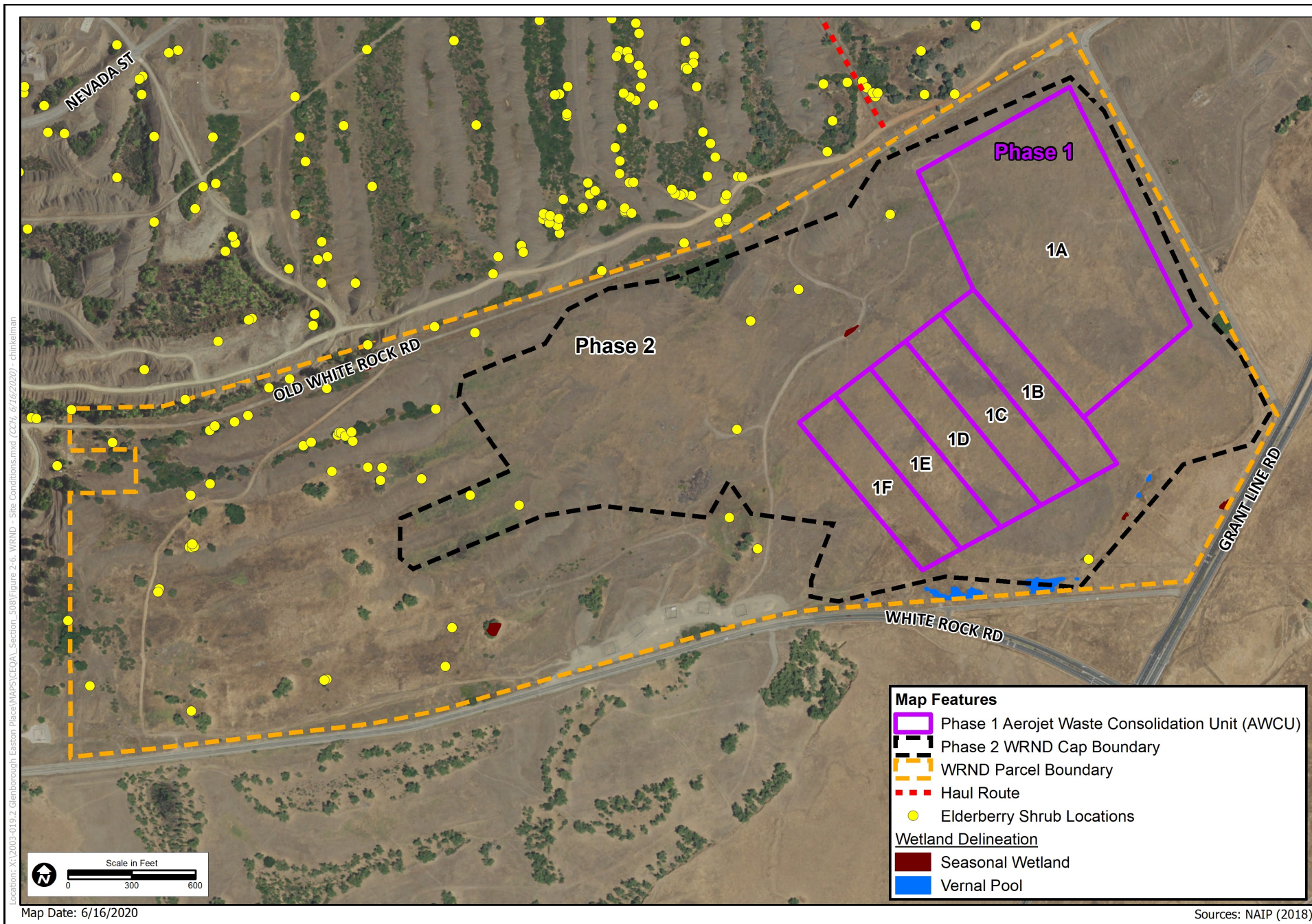
As shown in *Figure 2-6. WRND - Site Conditions*, the parcel is bound on the north by Old White Rock Road (located within Aerojet's access-controlled property), on the south by White Rock Road, and on the east and west by undeveloped property. *Figure 2-7. WRND Existing Conditions Photos* show existing conditions at the site looking northwest as viewed from White Rock Road and *Figure 2-8. WRND Surface Elevation Map and Cross Sections* and accompanying Figures 2-8A, 2-8B, and 2-8C show existing site elevations. As shown, the site is characterized by variable topography/tailing piles due to extensive gold dredging that occurred in the late 1930s and early 1940s. The site is dominated by weedy ruderal plants; native oaks and nonnative trees are scattered within the dredge tailings and pits along the northern boundary. Elderberry bushes are also scattered on the site, primarily on the western half. In 1991 the *Interim Report Former White Rock Road North Dump Sacramento County, California* (Dames & Moore, December 1991) was prepared to characterize the near-surface soils, evaluate the horizontal extent of landfilled areas, and provide preliminary information on air quality.

This information was updated in late 2019 based on electromagnetic and electrical resistivity studies as outlined in the *Geophysical Survey of the Former White Rock North Dump, Rancho Cordova, CA* (hydroGEOPHYSICS, Inc., January 2020). *Figure 2-9. WRND Waste Extent*, identifies the expected extent and distribution of waste within the WRND based on the January 2020 Geophysical Survey Report and information gathered from test pits, field observations, aerial photographs.

According to the Dames and Moore report and as shown in *Figure 2-9*, from 1958 to 1964, waste was placed between piles of dredge tailings and covered with dredged material. The depth of waste is generally three to 10 feet with a maximum depth of 15.5 feet. However, in January 2020 when 8 temporary vapor probes were installed, waste was encountered at a depth of up to 24 feet, indicating that in certain locations waste extends deeper.

During its operational period, the WRND was a disposal site owned and operated by North American Waste Disposal Company under a fifteen-year contract with Sacramento County to accommodate waste collection and disposal for the unincorporated areas of Sacramento County.

According to the 1991 Dames & Moore Interim Report for Former WRND, historically, solid waste placed at the WRND included putrescible waste from hotels, homes, hospitals, restaurants, packing houses, and non-putrescible wastes from construction, demolition and development, and included old appliances and automobiles. Waste was hauled to WRND by Sacramento County, Aerojet General Corporation, private persons, and by North American Waste Disposal Services Company. A small centrally located pond, approximately one acre in size, received liquid waste on a daily basis. Liquid wastes received typically included sewage tank waste, crank case oil, and at least one 3,000-gallon load of trichloroethylene. Ten gallons of diesel and one gallon of creosote were reportedly added to the pond area every other day to control odor and flies (Dames & Moore 1991).



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**Figure 2-6. WRND Site Conditions**

*2009-165.22 Aerojet Landfill*



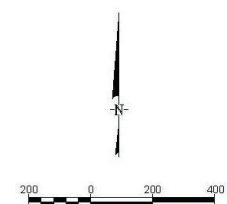
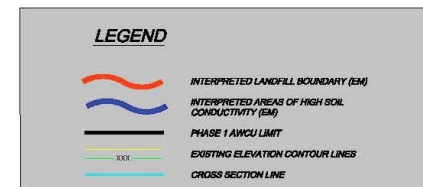
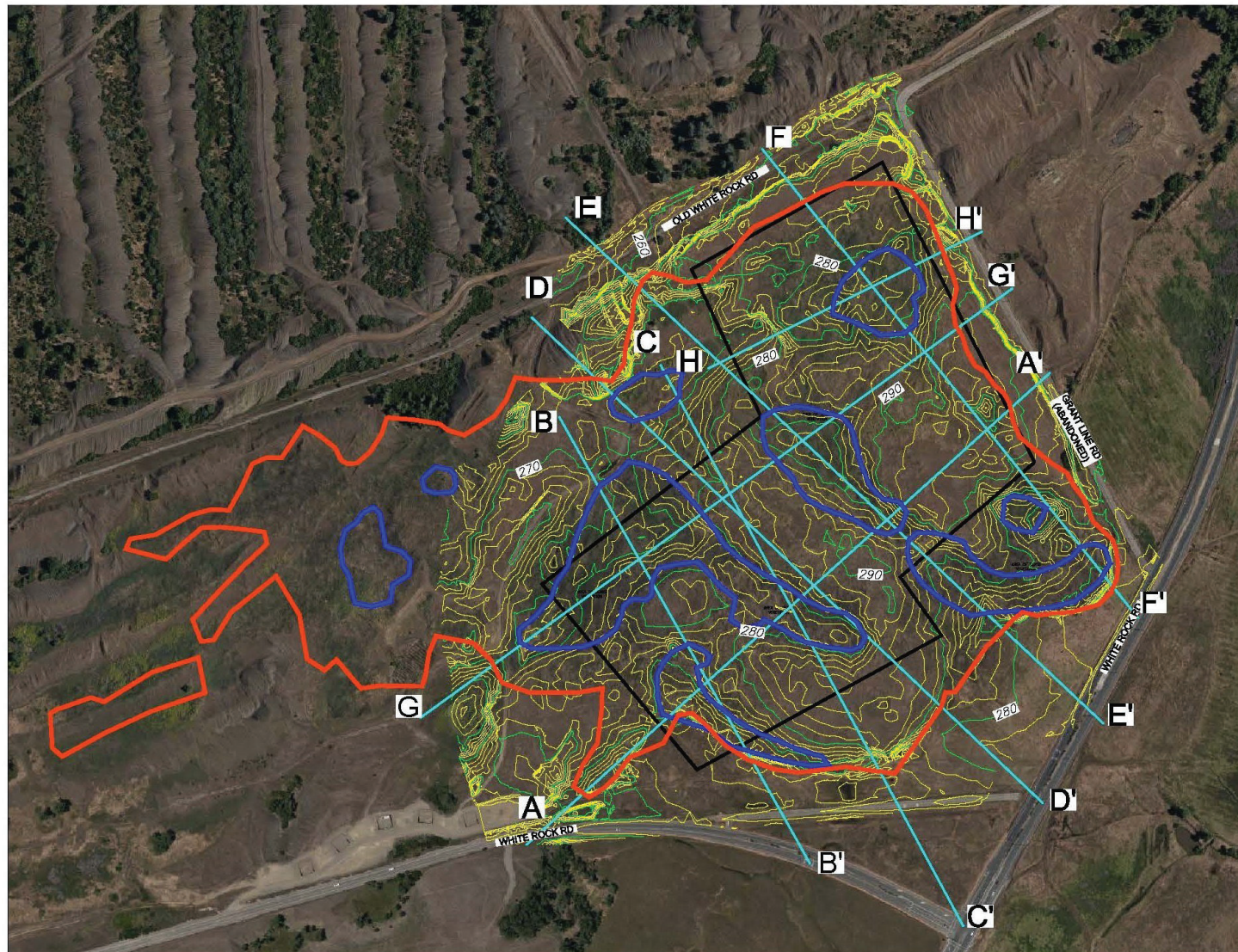


View looking northeast toward AWCU site from north side of White Rock Road/Grant Line Road intersection.

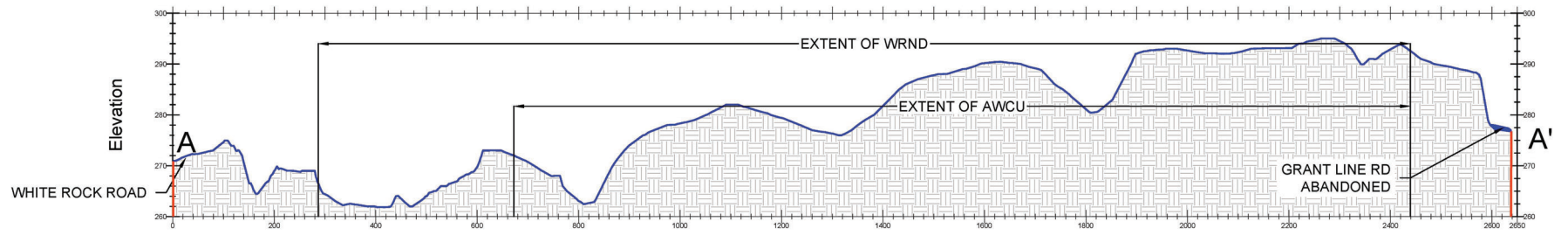


View looking northwest toward AWCU site from west side of White Rock Road/Grant Line Road intersection.

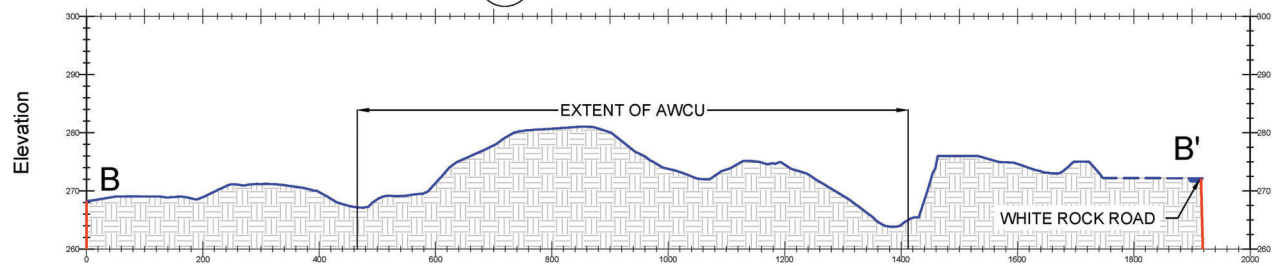




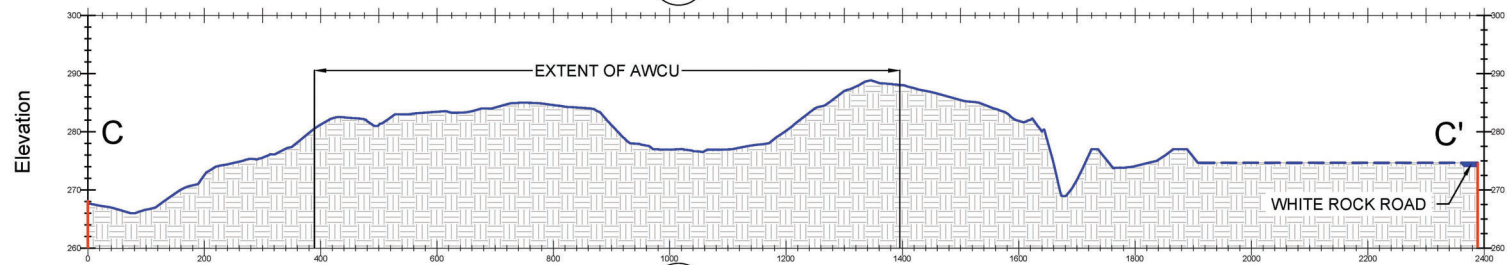




**A**  
3-8 SECTION A



**B**  
3-8 SECTION B



**C**  
3-8 SECTION C

**LEGEND**

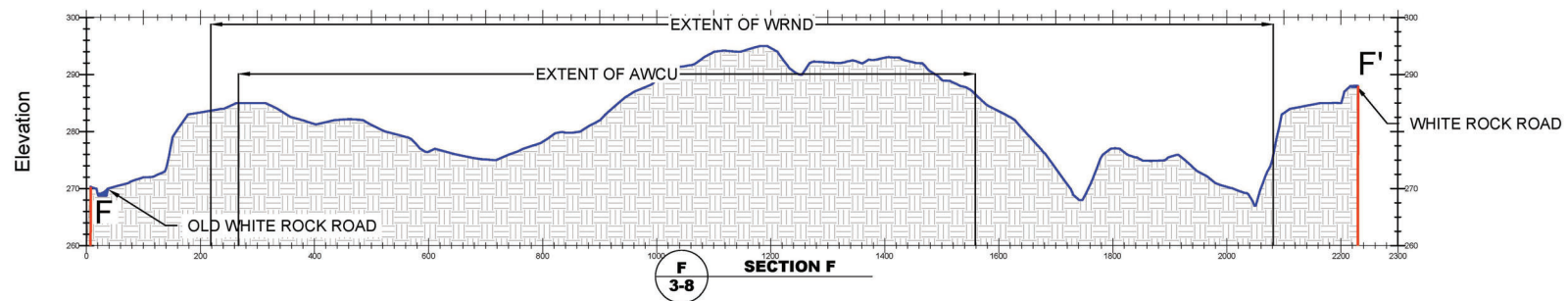
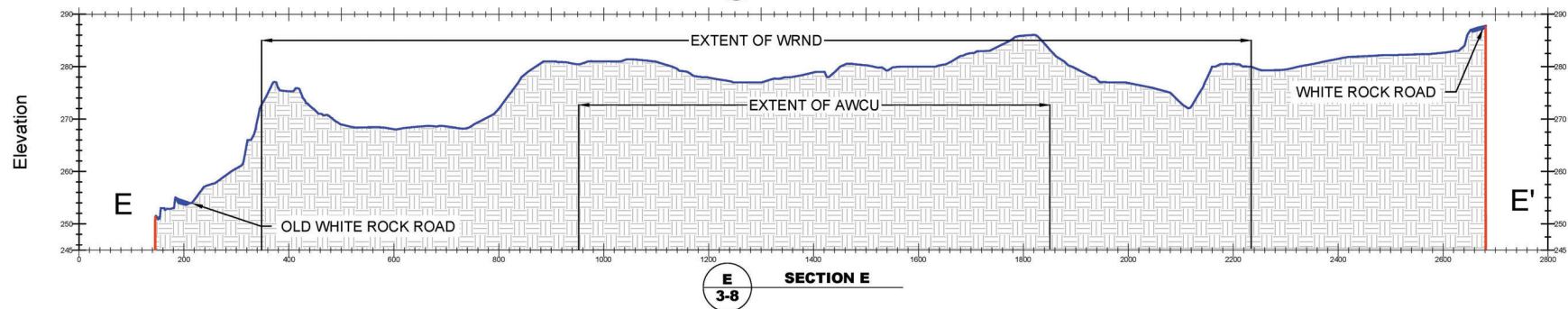
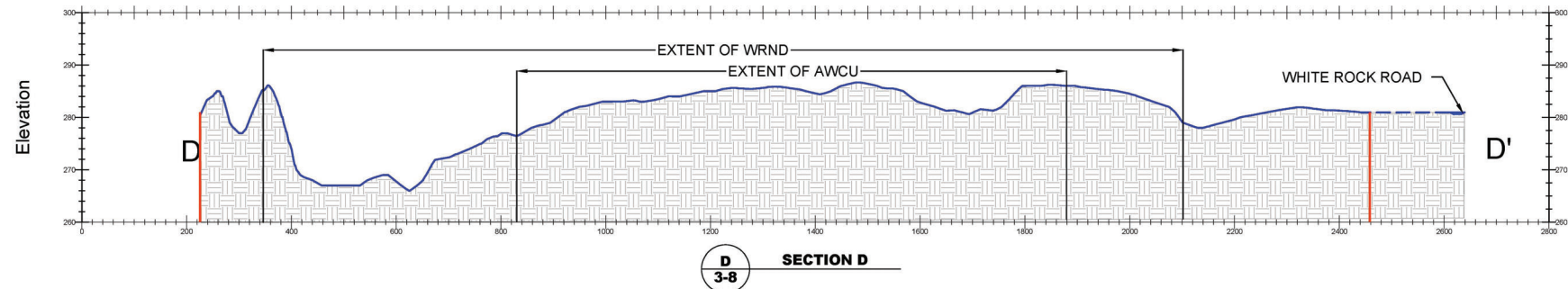
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 LIMIT OF SURVEY DATA ———  
 NATIVE SOIL/OLD LANDFILL [Cross-hatch pattern]

**NOTE**

THE VERTICAL SCALE IS 10 TIMES LARGER THAN  
 HORIZONTAL SCALE FOR CLARITY

Figure 2-8A. WRND Cross Sections A-C

2009-165.22 Aerojet Landfill



#### LEGEND

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EXTRAPOLATED (NO SURVEY DATA)  
LIMIT OF SURVEY DATA  
NATIVE SOIL/OLD LANDFILL

#### NOTE

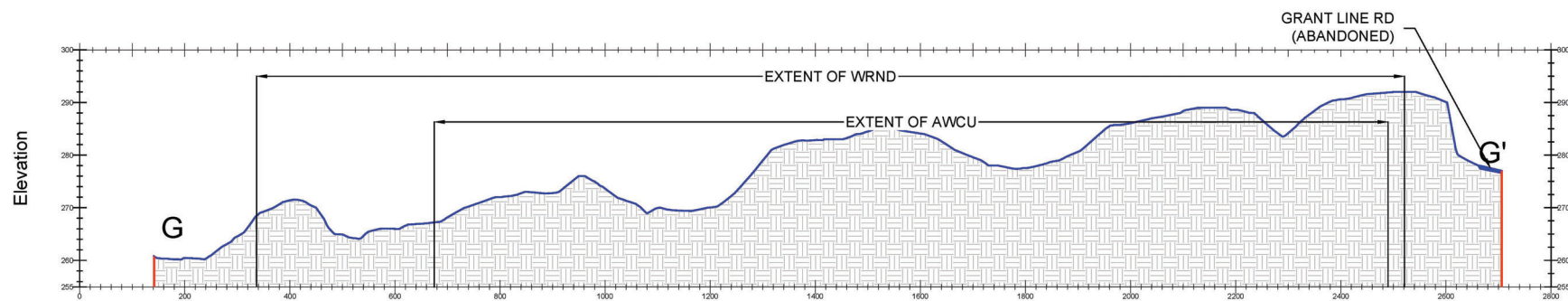
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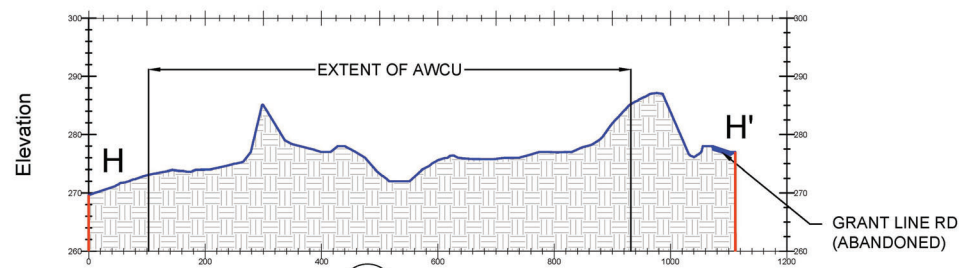
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Figure 2-8B. WRND Cross Sections D-F

2009-165.22 Aerojet Landfill



**G**  
3-8  
**SECTION G**



**H**  
3-8  
**SECTION H**

**LEGEND**

PROFILE ———

LIMIT OF SURVEY DATA ———

NATIVE SOIL/OLD LANDFILL [Cross-hatch pattern]

**NOTE**

THE VERTICAL SCALE IS 10 TIMES LARGER THAN  
HORIZONTAL SCALE FOR CLARITY



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**Figure 2-8C. WRND Cross Sections G-H**

2009-165.22 Aerojet Landfill



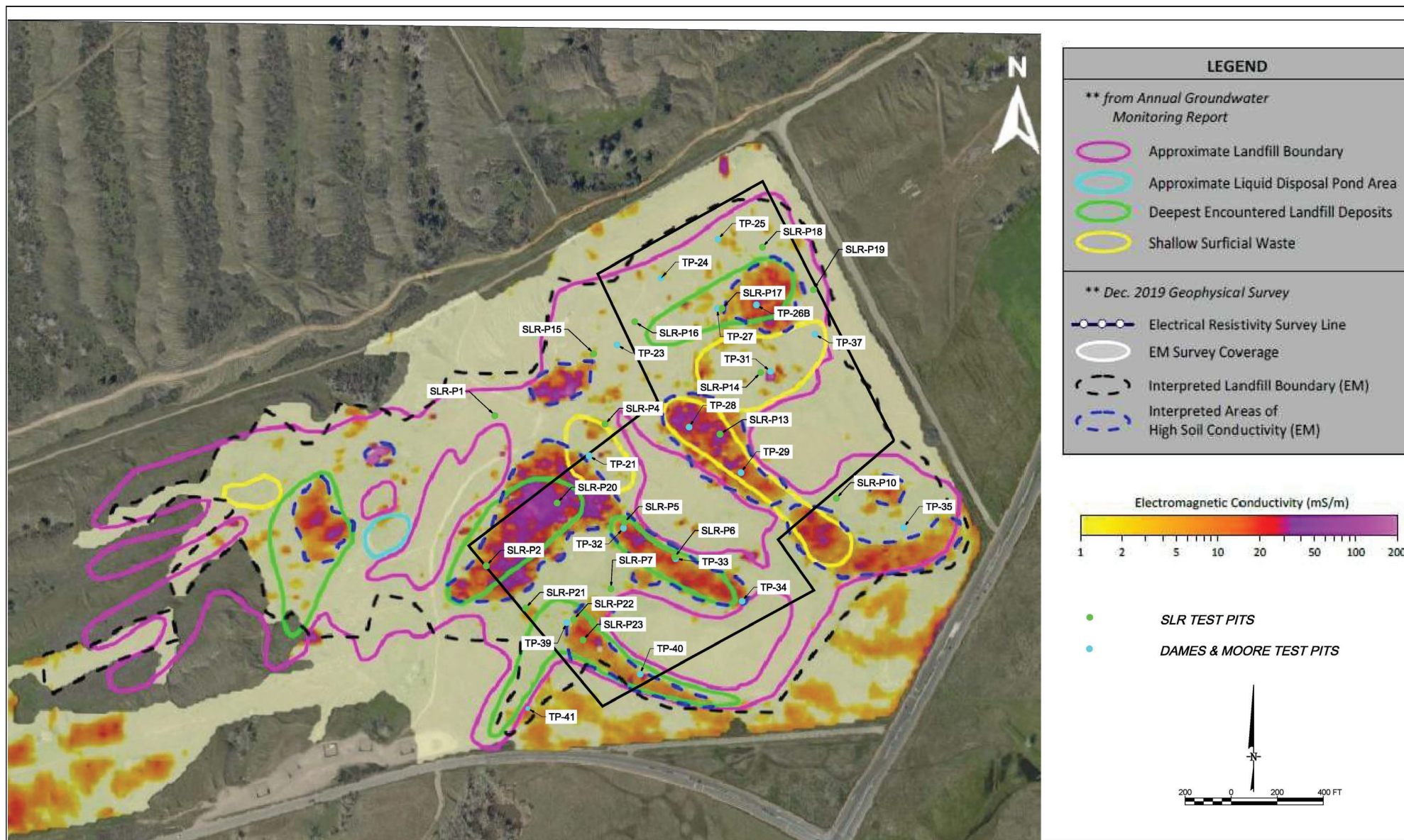


Figure 2-9. WRND Waste Extent

2009-165.22 Aerojet Landfill Closure

The WRND is currently a pre-regulation, non-operating, abandoned dump. According to the Aerojet Exposed Waste Survey Report (February 28, 2017) submitted to the Sacramento County LEA in February 2017, the landfill surface contained exposed waste (i.e., waste that is not completely buried) consisting primarily of construction and demolition debris, scrap metal, abandoned vehicles, tires, hot water heaters and a small amount of miscellaneous waste (e.g., old televisions, car stereos). The Exposed Waste Survey Report identified that the quantity of exposed waste onsite was much greater than anticipated.

According to the December 19, 2019 Closed Disposal Site Inspection Report (Sacramento County, December 19, 2019), during inspection LEA staff observed exposed waste across a multiple-acre section of the eastern portion of the landfill where vegetative cover had been destroyed by an August 2019 grass fire. According to the 2019 inspection report, waste observed by LEA staff within the burn area included glass, metals, portions of tires, and other items typical of the waste disposed onsite during pre-regulation operations. The inspection report noted that waste within the burn area appeared to be homologous with the rest of the waste under the surface versus superficial waste that is separated from subsurface waste by a distinctive cover layer. The report also noted that within the “burn area” it appeared only a thin cover layer was applied to the top before it was vegetated.

## **2.4 Aerojet Waste Consolidation Unit Project Purpose and Need**

The purpose of the proposed Project is twofold: 1) permit and construct the AWCU Class II Landfill at the WRND to accept and dispose of Transfer Material from within the AWCU service area, including that from the Aerojet Landfill, and 2) cap and close the WRND and AWCU in accordance with current Title 27 regulations.

During Project planning, use of existing offsite landfills for disposal of Transfer Material was considered. However, due to recent wildfires, existing disposal facilities in the region have received unanticipated large volumes of debris, resulting in diminishing available landfill space. Landfills in the region have been receiving large volumes of waste and are reluctant to commit to accepting Project-generated material. Furthermore, the transport of up to approximately 1,000,000 CYs of waste over public streets and highways to an existing offsite landfill that would accept it raised concerns. The concerns are related to the potential impacts to roadways, air quality and public safety associated with thousands of truck trips to and from the offsite landfill(s), with each round trip being approximately 120 miles. These concerns are discussed further below.

Due to the issues described above, Aerojet conducted a feasibility study to identify a preferred location for construction of the proposed AWCU. This study included review of the WRND site, which was ultimately selected for the proposed Project.

As discussed above, Sacramento County and the CVRWQCB have expressed the desire for the WRND to be closed in accordance with current regulations. To address the need for closure and to minimize offsite transportation, fuel consumption, safety, and air quality impacts, the WRND was selected as the preferred location for the AWCU to dispose of Transfer Material from the Aerojet Landfill. Use of the WRND site has the following benefits:

- Substitutes an approximate 8.5-mile roundtrip for a 120-mile roundtrip for trucks hauling Aerojet Landfill Transfer Material to a Class II landfill, thereby reducing by ninety-seven percent (97%) the vehicle miles traveled – from 4.3M miles to approximately 113,000 miles, a reduction of 4.19M miles.
- Eliminates approximately 22,000 truck trips throughout the project and approximately 250 truck trips per day, from local public roads and state highways in favor of private roadways entirely within the Aerojet controlled property.
- Eliminates emissions from approximately 4.19M miles of diesel truck hauling.
- Eliminates truck traffic departing and returning to the site every 90 seconds, six hours a day, five days a week, on public roads.
- The WRND and proposed AWCU would be closed in accordance with current Title 27 regulations.
- Reduces accident risks on public roads by eliminating from public right-of-way all truck trips associated with relocation of Transfer Material between the two landfills.
- Relieves stress on offsite landfills.
- Provides opportunity to establish an AWCU service area facilitating other waste consolidation efforts without the need to access the public transportation system.

## **2.5 Project Objectives**

The Project objectives were developed in consideration of CEQA, the Sacramento County General Plan, the approved land use master plans, and the County's and CVRWQCB's desire to ensure a process for official closure of the WRND. The Project objectives include the following:

- Amendment of the Aerojet SPA to add the existing WRND parcel, now owned by Aerojet, to the "Aerojet Industrial Zone";
- Closure of the Aerojet Landfill consistent with the approved CCP and as modified by the proposed Project;
- Approve, construct, cap and close a Title 27 compliant AWCU at the WRND to receive Transfer Material from within the AWCU Service Area;
- Complete the excavation and relocation of Transfer Material from the Aerojet landfill to WRND within 24 months of implementing the CCP, and closure of the portion of the AWCU that received transfer material within 12 additional months;
- Complete both Phases 1 and 2 activities necessary to cap and close the AWCU and remaining portions of the WRND consistent with Title 27 requirements by December 31, 2035;
- Minimize environmental impacts related to energy use, offsite transportation, safety and air quality;

**Draft Initial Study and Mitigated Negative Declaration  
Aerojet Waste Consolidation Unit Project**

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- Relieve stress on offsite landfills; and,
- Ready the Aerojet Landfill property for development consistent with the Sacramento County General Plan.

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## SECTION 3.0 PROJECT DESCRIPTION

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### 3.1 Project Overview

The Proposed Project is a proposal by Aerojet to implement the following major construction and waste relocation activities.

*Phase 1:*

1. Construct the AWCU – a ±50-acre Title 27 compliant Class II Landfill located on the northeastern portion of the existing ±250-acre WRND parcel containing the ±100-acre inactive WRND dump.
2. Haul up to 1,000,000 CYs of Transfer Material from various locations within the proposed 8,500-acre AWCU Service Area, including the Transfer Material from the Aerojet Landfill, to the proposed Class II AWCU for disposal and close the portion of the AWCU filled by the Transfer Material consistent with an agency approved closure plan.

*Phase 2:*

3. Construct the WRND Phase 2 Cap and close the existing WRND consistent with regulatory requirements existing at that time.

The Project site is located on the Aerojet owned ±250-acre WRND parcel (the WRND parcel) contained within Aerojet's access-controlled property located south of State Highway 50 between the Cities of Rancho Cordova and Folsom in Sacramento County (see *Figures 1-1 and 1-2*). The Proposed Project would be constructed in two phases. Phase 1 involves construction of the up to a 50-acre AWCU on top of the existing ±100-acre non-operating WRND. Phase 1 improvements are designed to avoid sensitive resources and the need for federal Endangered Species Act Section 7 consultation and federal Clean Water Act (CWA) Section 404 Permitting. The Phase 1 AWCU would accommodate "Transfer Material" excavated from various locations within the AWCU Service Area, defined as within the 8,500-acre Aerojet Sacramento facility, inclusive of Transfer Material from the Aerojet Landfill consistent with the separately approved Aerojet Landfill CCP and related CEQA document<sup>2</sup>. As discussed in the JTDs (See Initial Study Appendix A, JTDs Section 2.2.3 and table of constituents of concern included in JTDs Appendix A.3), when Transfer Material is generated, it would be sampled and analyzed for chemicals of concern based upon generator knowledge to profile the waste accordingly. The waste would be sampled to confirm it is non-hazardous. If the results confirm the Transfer Material is non-hazardous, it would be disposed in the AWCU. If the results indicate Transfer Material is hazardous, it will be hauled offsite to a Class I facility.

Phase 1 also includes a minor amendment to the Aerojet Landfill approved CCP offsite haul route. Phase 2 involves construction of an approximately 50-acre WRND Cap (Phase 2 Cap) and official closure of the

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<sup>2</sup> Final Clean Closure Plan, Aerojet Rocketdyne Landfill (Tetra Tech, Inc.). The related CEQA document is the: Aerojet Landfill Closure Modification Plan Negative Declaration and Addendum (Sacramento County NOD dated 3/21/2016. State Clearinghouse Number 2007072011).

WRND consistent with Title 27 requirements. The WRND Phase 2 Cap has not yet been fully designed but would cover all portions of the WRND not covered by, or otherwise consolidated into, the Phase 1 AWCU. The Phase 2 Cap would be designed to accommodate final site drainage, access, controls, maintenance, and monitoring requirements.

### **3.2 Phase 1 Project Components - AWCU**

JTDs outlining construction plans and specifications for the Phase 1 AWCU and preliminary (approximately 10% complete) plans for the Phase 2 Cap are included as *Appendix A*. JTDs are evaluated as part of this Initial Study's environmental analysis and are subject to approval by the following CEQA lead and responsible agencies: CVRWQCB, Sacramento County LEA, and CalRecycle.

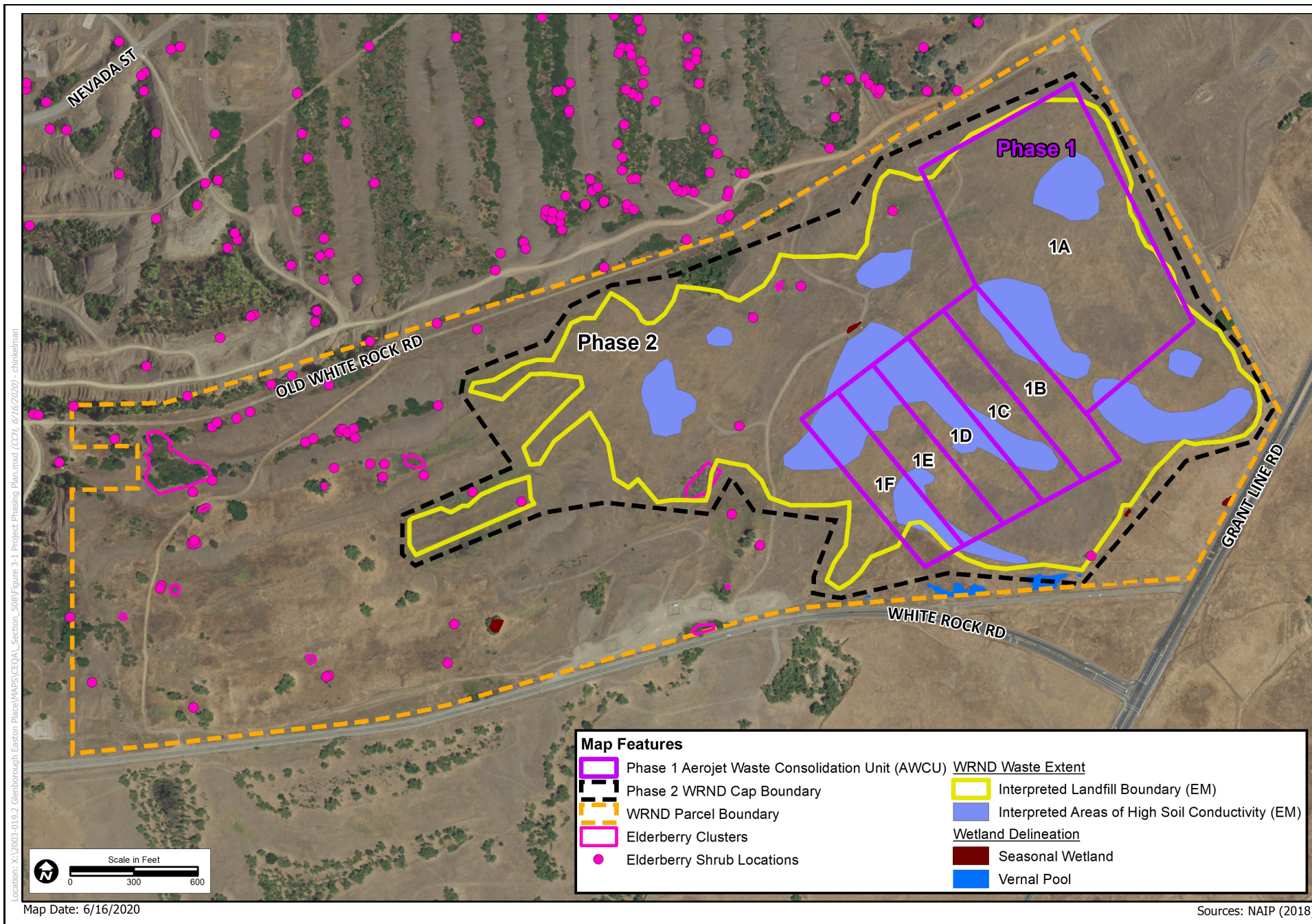
The proposed Phase 1 Project components and construction approach are described below.

#### **3.2.1 Aerojet Waste Consolidation Unit**

As shown in *Figure 3-1. Project Phasing Plan*, the Phase I AWCU would cover up to  $\pm 50$  acres and be constructed on top of the eastern portion of the existing  $\pm 100$ -acre WRND landfill. As shown in *Figure 3-1*, because the total volume of Transfer Material cannot be precisely determined, construction would be completed in phases. Construction of the AWCU would include an initial 500,000-CY cell (Cell 1A). This would be followed by construction of additional cells in 100,000-CY increments as needed until Transfer Material has filled the AWCU 1,000,000 CY capacity (*Figure 3-1, Cells 1B through 1F*). Should any portion of cells 1B through 1F not be filled prior to the project end date (December 31, 2035), those areas would become part of the Phase 2 WRND Cap Project.

A plan view of the AWCU layout is shown in *Figure 3-2. AWCU Conceptual Site Plan*. From the bottom up, design of the AWCU includes a lower clay liner, High Density Polyethylene (HDPE) liner leak detection system, upper HDPE liner, and LCRS. The AWCU would be capped with a geosynthetics-based or alternative final cover consistent with Title 27 requirements. Upon completion of AWCU construction, the slopes of final cover facing White Rock Road would be undulated to offer a softened more aesthetically pleasing look.

The JTDs describing the plans and specifications for the Phase 1 AWCU and related improvements are included herewith as *Appendix A*. All Phase 1 AWCU improvements would be constructed consistent with the JTDs and related Waste Discharge Requirements (WDRs). The existing WRND groundwater monitoring wells are proposed to serve as the groundwater monitoring network for the AWCU. Additional monitoring wells may be required as part of the project's WDRs. Construction of the above proposed improvements and filling the AWCU would require hauling significant quantities of soil, stone, aggregate and waste. *Table 3-1* identifies the haul material type and import/export volume by construction phase/task. The details of the AWCU components are described below.

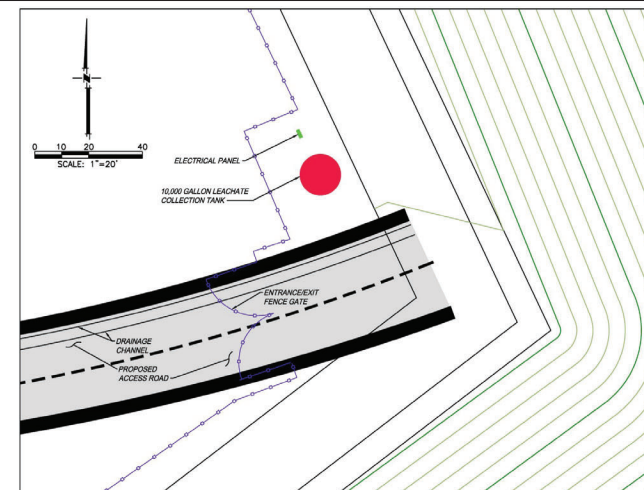
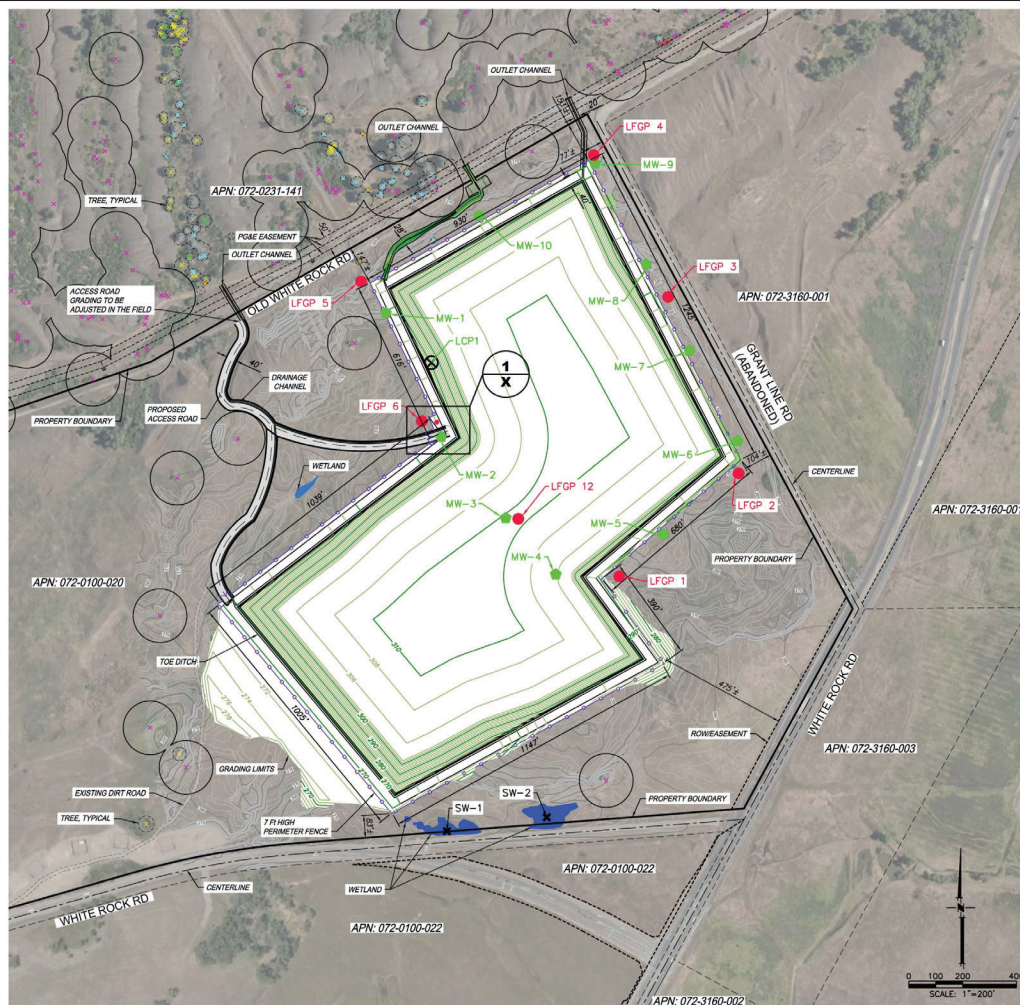


**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

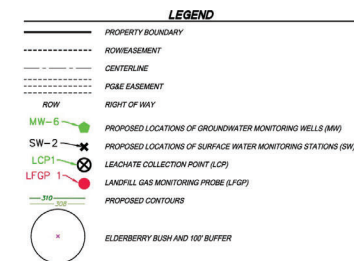
**Figure 3-1. Project Phasing Plan**

*2009-165.22 Aerojet Landfill*





**1**  
**X** **DETAIL 1**  
SCALE 1"=20'



**NOTE:**  
MONITORING WELLS MW-3 AND MW-4 ARE ANTICIPATED TO BE LATER REMOVED TO FACILITATE CONSTRUCTION OF CELLS 18 THROUGH 19.

SERVICE PROVIDERS	
STORMWATER UTILITY	SACRAMENTO COUNTY WATER RESOURCES
REFUSE	SACRAMENTO COUNTY WASTE MANAGEMENT & RECYCLING
FIRE	SAC METRO
PARK	CORDOVA
SCHOOL	FOLSOM CORDOVA UNIFIED
WATER	CITY OF FOLSOM WATER
ELECTRICITY	SACRAMENTO METROPOLITAN UTILITY DISTRICT (SMUD)
TELEPHONE	AT&T
GAS	PACIFIC GAS & ELECTRIC (PG&E)
SEWER	SACRAMENTO AREA SEWER DISTRICT

**PARCEL INFORMATION:**  
 ADDRESS: WHITE ROCK ROAD, RANCHO CORDOVA, CA 95742  
 APN: APN: 072-0100-020  
 ZONING: M-1 - LIGHT INDUSTRIAL  
 LAND USE: EXT IND-EXTENSIVE INDUSTRIAL  
 FLOOD ZONE: ZONE X - AREA OF MINIMAL FLOOD HAZARD - PANEL 06067C025H

## SITE PLAN AEROJET WASTE CONSOLIDATION UNIT (AWCU)

**Aerojet Rocketdyne**

City of Rancho Cordova  
Scale 1"=200'

**MACKEY & SOMPS**  
ENGINEERS PLANNERS SURVEYORS  
1000 University Blvd., Suite 100, Rancho Cordova, CA 95742 (916) 777-3300

California  
April 23, 2020  
27777.360

## Vapor/Gas Collection System

The presence and extent of landfill gas emanating from the existing WRND is not completely known. Aerojet is currently conducting a landfill gas investigation to better characterize the amount of gas emanating from the WRND. Following is a summary of the proposed vapor/gas collection system components.

<b>Table 3-1. AWCU Material Hauling and Truck Trip Generation</b>					
<b>Construction Phase/Task</b>	<b>Import/Export Material Type and Volume</b>	<b>Origin/Borrow Site Location</b>	<b>Destination or Off-Haul Location</b>	<b>One Way Trip Length (miles)</b>	<b>Total Round Trips</b>
Clearing and Grubbing (completed with grading)	Export construction & demolition debris, appliances, automobiles/parts and/or unknown regulated items. Up to 1,352 CY or 2,700 Tons	WRND AWCU	Various <sup>1</sup>	7.4-62.4 <sup>2</sup>	150 <sup>3</sup>
Vapor/Gas Collection System/Layer Installation	Import: aggregate/stone 161,332 CY	Aerojet Landfill and/or Aerojet Borrow Site	N/A	3.31 <sup>4</sup>	14,028 <sup>5</sup>
Haul and placement of Transfer Material	Transfer Material Up to 1,000,000 CY	Aerojet Landfill and Other Service Area Sites	WRND AWCU	4.23	65,217 <sup>6</sup>
AWCU Cover/Cap	Import select fill cover soil 200,000 CY	Aerojet Borrow Site	N/A	2.38	13,043 <sup>7</sup>
Access Road Improvements	Import aggregate base 3,600 CYs	Aerojet Borrow Site	N/A	2.38	228

- <sup>1</sup> Recyclable metal would be sent to the Schnitzer Steel facility in Rancho Cordova, CA or other appropriate recycling facility. Non-hazardous solid waste would be transported to Kiefer Landfill or other Class III landfill facility. Designated non-hazardous waste materials would be disposed of at Potrero Hills Landfill, Forward Landfill or other Class II Landfill facility. While not expected, should any Class I material be discovered it would be transported to an appropriate facility such as the Chemical Waste Management – Kettleman Hills Landfill. The Kettleman Hills Landfill is located west of I-5 and north of Highway 41 approximately 219 miles south of the project site. Because haul trips to Kettleman Hills Landfill are not anticipated, related mileage is not included in the average trip length range calculation.
- <sup>2</sup> A trip length of between 7.4 and 62.4 miles one way is assumed. The low end of the range is the average trip length to Schnitzer Steel Recycling (8.6 miles) and Kiefer Landfill (6.1 miles); the high-end range is the average length to Potrero Hills Landfill (67 miles) and Forward Landfill (57.8 miles) as identified in note 1.
- <sup>3</sup> Assumes 50 acres of clearing and prep and 1-3 truck trips per acre = 50-150 haul trips.
- <sup>4</sup> A trip length of 3.31 miles is assumed which is the average of the Aerojet Landfill and Aerojet Borrow Site trip lengths.
- <sup>5</sup> Assumes a soil density of 2.0 tons/CY and average payloads between 23 to 40 tons per tractor, the number of round trips from onsite landfill to AWCU is estimated as follows: 50 Acres (1M CY Construction) Requires 161,332 CY or 322,664 tons of stone = ~8,076 to 14,028 round trips.
- <sup>6</sup> Assumes soil density of 1.5 tons/CY and average payloads between 23 to 40 tons per tractor load, the number of round trips from Aerojet landfill and other locations within the access-controlled 8,500-acre Aerojet Sacramento facility to AWCU is estimated as follows: 1M CY or 1,500,000 tons of waste material = ~37,500 to 65,217 round trips.
- <sup>7</sup> Assuming a soil density of 1.5 tons/CY and average payloads between 23 to 40 tons per tractor, the number of round trips from the borrow area is estimated as follows: (1M CY Landfill) 200,000 CY or 300,000 tons = 7,500 to 13,043 round trips. These haul trips account for additional material to create drainage features, anchor trenching fill, etc.

A vapor/gas collection system/layer would be installed below the proposed AWCU. As shown in *Figure 3-3. Liner and Cover Details*, this would include a one- to two-foot layer of rough graded stone. A network of slotted high-density polyethylene (HDPE) piping would be installed within this stone layer. The piping would work as a passive system. If needed, the pipes would be manifolded together to a central location where gas could actively be drawn and managed/treated.

The level of gas management/treatment would be based upon concentrations detected in the vapor collection system.

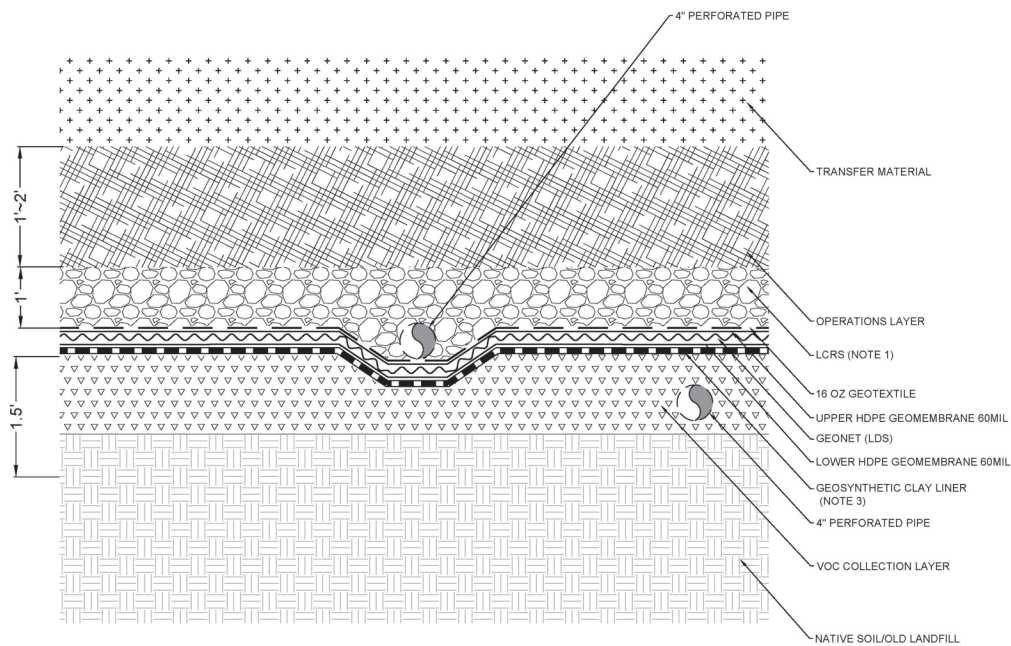
As shown in *Table 3-1*, a total of 161,332 CY of stone and up to 14,028 truck haul round trips are required to construct the vapor/gas collection system. Clean stone would be obtained from either the Aerojet Landfill or the Aerojet Borrow Site and transported via the haul route shown in *Figure 3-2*.

## **Liner**

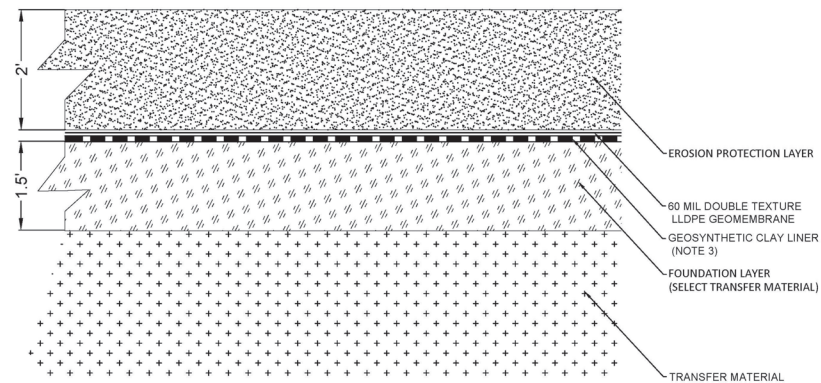
As shown in *Figure 3-3*, a double liner system would be constructed above the vapor/gas collection system and would consist of the following from bottom to top:

1. A lower composite liner:
  - a. A geosynthetic clay liner (GCL), which consists of a layer of bentonite clay encased between two geotextiles. The bentonite has a low hydraulic conductivity (on the order of 10<sup>-8</sup> cm/s). The GCL is the third protection against leaks. The GCL would act as a barrier to leachate having gone through two geomembranes and not captured by the leak detection system.
  - b. A 60-mil-thick linear low-density polyethylene (LLDPE) geomembrane. Virtually impervious, the geomembrane is placed on top of the GCL as a second protection against potential leaks.
2. A 200-mil thick geodrain acting as the leak detection system (LDS). The geodrain is a grid that would allow flow of liquid and is connected to a sump. Any leachate passing through the top geomembrane would be collected in the LDS.
3. An Upper liner consisting of a 60-mil-thick LLDPE geomembrane. Virtually impervious, this upper geomembrane is the first protection against any leachate leaking out of the landfill.
4. A 16-ounces-per-square-yard geotextile. This cloth-like material will be a protective cushion between the geomembrane and the LCRS gravel
5. A LCRS consisting of a one-foot-thick gravel layer equipped with collection pipes. The LCRS would collect the leachate (liquid) present in the waste so it does not accumulate on top of the upper liner. The LCRS drains to sumps equipped with pumps that would pump the leachate out of the landfill into an appropriate holding tank for disposal at an approved offsite location.
6. A one-foot-thick operation layer consisting of select fill. This layer protects the LCRS and the geosynthetics from any waste that could penetrate and damage the liner system.





**LINER SYSTEM DETAIL**  
NOT TO SCALE



**COVER SYSTEM DETAIL**  
NOT TO SCALE

**NOTES:**

1. LEACHATE COLLECTION AND REMOVAL SYSTEM.
2. SPACING BETWEEN GEOSYNTHETICS COMPONENTS EXAGGERATED FOR CLARITY.
3. GCL IS PROPOSED AS AN ALTERNATIVE TO LOW PERMEABILITY SOIL LAYER.

One vadose zone monitoring lysimeter would be installed under the LCRS and leak detection sumps. The purpose of the lysimeter is to monitor if any leachate escaped and has reached the soil beneath the landfill.

A strict Construction Quality Assurance monitoring program would be in effect during construction of the different liner system elements.

### **Access Road Improvements**

Onsite access roads are shown in *Figure 3-2*. As shown, site access would be provided via a gate from Aerojet's access-controlled facility along Old White Rock Road. A perimeter road and other internal roads would provide onsite vehicle access to AWCU infrastructure to facilitate AWCU construction, and long-term inspection and maintenance. Onsite access roads would generally be 20 feet wide, graded, compacted, and surfaced with gravel, recycled concrete or asphalt.

As shown in *Table 3-1*, a total of 3,600 CY of aggregate would be used to construct onsite access roads and up to 288 truck haul round trips are required to import this material. Clean base material would be obtained from either the Aerojet Landfill or the Aerojet Borrow Site and transported via the haul route shown in *Figure 2-2*.

### **AWCU Cover/Cap**

A cap of up to ±50 acres would be constructed over the final footprint of the AWCU. As shown in *Figure 3-1* and discussed in *Section 3.2 Phase 1 - Aerojet Waste Consolidation Unit*, the extent of this cap would depend on the number of cells constructed and would serve as the final cap for the WRND within the limits of the Phase 1 Project. The cap is designed to protect the AWCU contents and waste deposits associated with the WRND beneath the AWCU from being exposed to precipitation and soil erosion.

As shown in *Figure 3-1*, the WRND interpreted landfill boundary line weaves in and out of the AWCU Phase 1A northern and eastern cell boundary. To maximize efficiencies for Phase 2 Cap implementation, during Phase 1A AWCU construction, existing WRND waste that extends slightly beyond (outside) the AWCU Phase 1A boundary may be excavated and consolidated to be within the footprint of the Phase 1A AWCU. Doing so eliminates the need for construction of Phase 2 Cap "sliver" pieces adjacent the AWCU Phase 1A northern and eastern boundaries.

As shown in *Figure 3-3*, the AWCU final cover would be designed in accordance with Title 27 and would consist of the following, from bottom to top:

1. Two feet of select Transfer Material soil from the Aerojet Landfill (foundation layer) devoid of construction materials or aggregate that could damage the geosynthetics. This layer allows for a smooth and firm surface on which to deploy the geosynthetics.
2. A GCL. This material has a very low hydraulic conductivity and would act as a barrier to any rainwater that may have percolated through the two feet of cover soil and the geomembrane.

3. A 60-mil LLDPE geomembrane. This virtually impervious membrane provides for a watertight cover on top of the waste and matches the hydraulic performance of the geomembranes used in the liner system.
4. A two-foot layer of clean soil obtained from the Aerojet Borrow Site would be placed over the surface of the membrane system. This layer protects the geosynthetics, controls drainage and infiltration through evapotranspiration, and allows some vegetation growth.

The geosynthetic materials would be installed, welded or connected, and tested in accordance with established panel plans and project specifications as contained in an agency-approved Construction Quality Assurance plan.

As shown in *Table 3-1*, 200,000 CY of cover soil and up to 13,043 truck haul round trips via the Haul Route shown in *Figure 3-2* are required to construct the Phase 1 AWCU cap .

### **Drainage Improvements**

As shown in *Figure 3-2* and *Figure 3-4. Conceptual Cross-Section of Landfill, Drainage Channel, and Perimeter Road*, the final AWCU cover would be graded to drain toward a perimeter channel that would convey water via gravity to the north side of the site. On the north side, the perimeter channel would drain to ditches that would convey stormwater to the north side of Old White Rock Road. All ditches and drainage facilities located north of the AWCU are considered "offsite improvements" and are described in greater detail below in *Section 3.1.2 Offsite Improvements*.

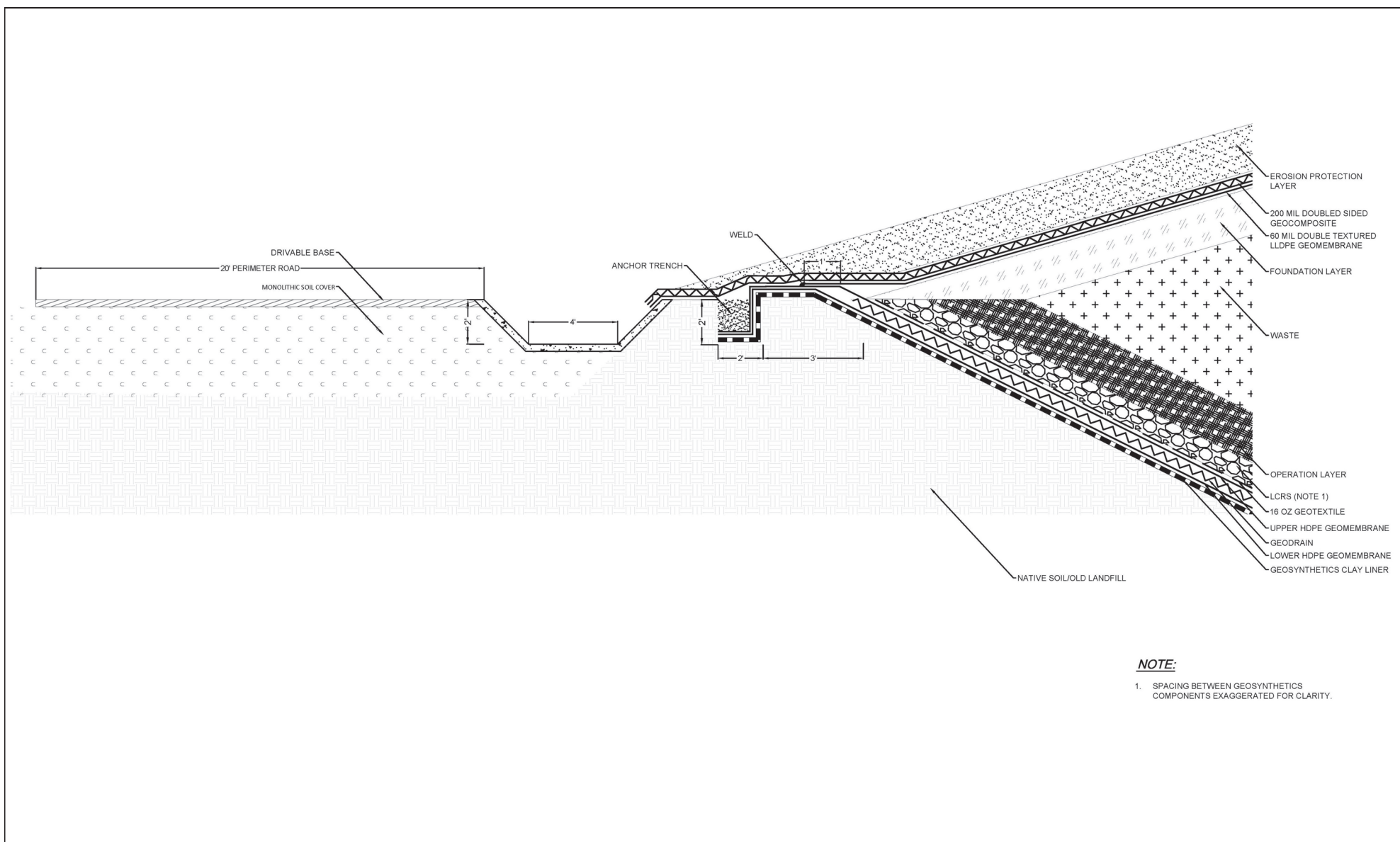
### **Fencing/Security**

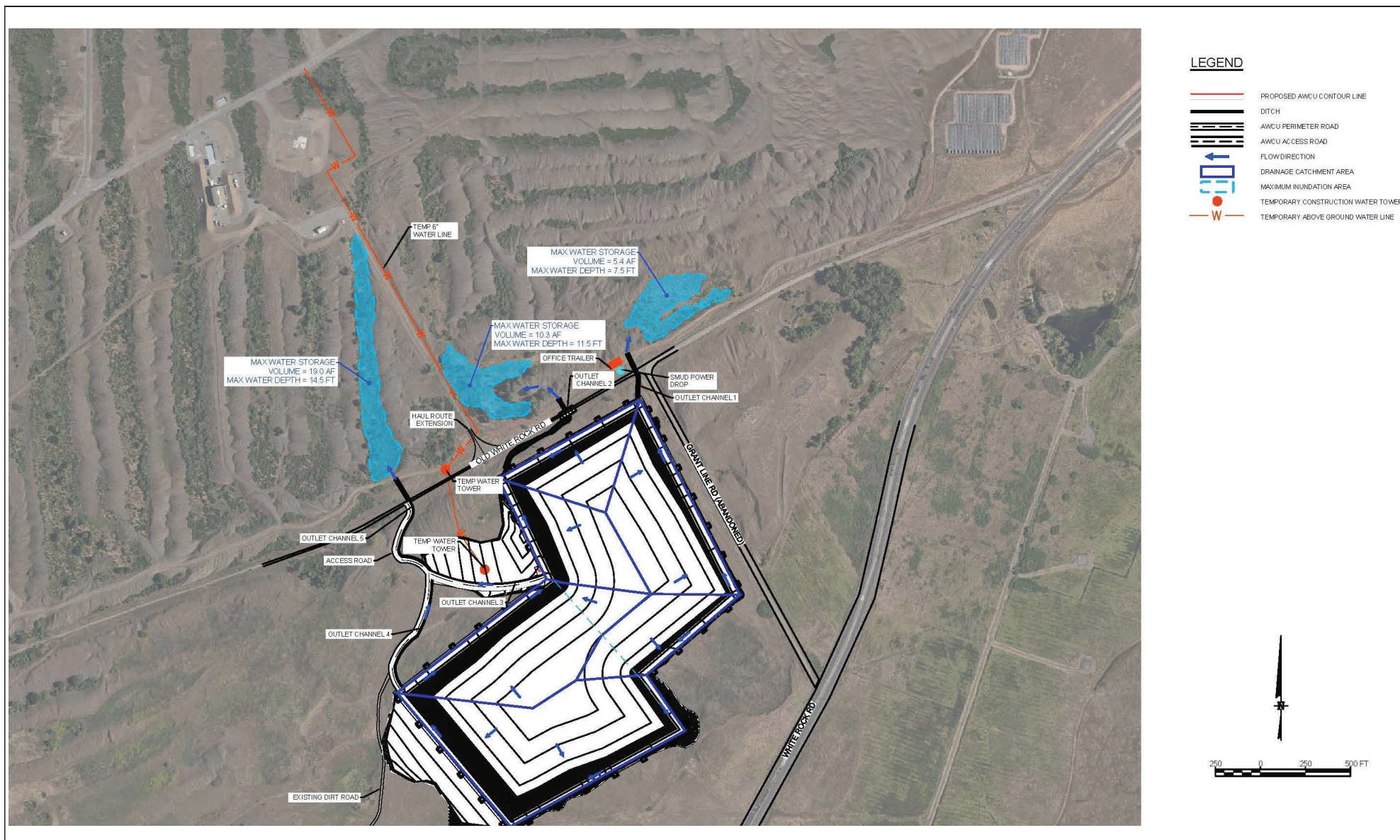
The AWCU would be surrounded and secured with a six-foot-tall chain-link fence with three strands of barbed wire on top (see *Figure 3-2* for location). The fence would include multiple large gates allowing for the passage of passenger vehicles and heavy equipment, as well as several three- or four-foot-wide personnel gates. Fencing would secure the AWCU from unwanted visitors or intruders and ensure only approved vehicles have access to the area to avoid membrane damage or erosive activities. A landscape plan designed to screen the new AWCU and security fencing from adjacent public roadways would also be installed as part of Phase 2 improvements.

#### **3.2.2 Offsite Improvements**

As shown in *Figure 3-5. Offsite Improvements*, the proposed Project includes the following offsite improvements: 1) Haul Route Improvement area for transport of Transfer Material; and, 2) Offsite Access Roads, Grading and Drainage Improvements.







**Figure 3-5. Offsite Improvements**

2009-165.22 Aerojet Landfill



### **Haul Route Improvement Area**

A minor extension of the southern end of the proposed Transfer Material Haul Route is required to connect the Haul Route with the WRND and Phase 1 AWCU. As shown in *Figure 3-5*, this would entail construction of a 0.02-mile (approximately 105-foot-long) road connection between the Haul Route's existing southern terminus and Old White Rock Road. *Figure 3-5* shows the connection location and associated disturbance limits. This road connection would be constructed of aggregate base material. This would include placement of geotextile fabric on the graded surface followed by approximately eight inches of compacted aggregate. Clean road construction material would be sourced from either the Aerojet Landfill or the approved Borrow Site.

### **Access Road, Stormwater Transmission and Infiltration Areas**

As shown on *Figure 3-5*, onsite drainage facilities would collect and convey stormwater from a theoretical 1,000-year 24-hour storm event to the northern boundary of the AWCU. From that point, the proposed drainage system would be constructed as an offsite improvement. As shown in *Figure 3-5*, five channels averaging 4-feet wide would convey stormwater from the AWCU to the north side of Old White Rock Road. Outlet channels 1 and 3 would serve the eastern half of the AWCU and Channels 3, 4 and 5 would serve the western half. The two western channels (Channels 3 and 4) would be constructed adjacent proposed access roads and would be combined into a single channel prior to reaching Old White Rock Road. Channels 1, 2 and 4 would employ an "Arizona Crossing" (above ground crossing) of Old White Rock Road which is a private Aerojet owned access-controlled road that also serves as a fire break in the Project Area. After crossing Old White Rock Road, stormwater would discharge to low infiltration areas located between historic dredge piles on the north side of the road. The discharge areas are comprised primarily of cobble with high infiltration. During the design storm event, stormwater discharge is expected to create inundation areas between 8.5 and 13 feet deep and temporarily occupy those areas shown on *Figure 3-5* before receding from infiltration.

Finally, the offsite grading areas shown in *Figure 3-5* between the AWCU and north side of Outlet Channel 3 and near the southwest and southeast ends of the AWCU are required to accommodate the above described access road, associated drainage improvements and AWCU itself.

### **Utilities**

Phase 1 construction would require temporary electric and water service and long-term operation would require electric service to power AWCU leachate collection and recovery system pumps. These utility services would require offsite improvements as shown in *Figure 3-5*. As shown, temporary electric power for contractor trailer/construction support facilities would be provided by extending a temporary overhead electric line with service drop to the AWCU contractor staging area from the existing SMUD line running along Old White Rock Road. Also as shown in *Figure 3-5*, establishment of the construction water supply would include placing 5,000 gallon "water towers" at select locations (to be identified by the contractor). Water towers would be filled via a 6-inch approximately 2,820-foot-long temporary above ground HDPE pipe. As shown in *Figure 3-5*, this pipe would extend from an existing above ground pipe located on the south side of Nevada Street south along the east side of the unnamed Haul Route road to the water tower locations.



The required permanent electric service line would be extended to the AWCU site from the existing power line located along the north side of Old White Rock Road.

Portable toilets would be brought in for sanitary sewer needs during construction. The Project does not require potable water or wastewater (sewer) collection or treatment facilities.

### **3.2.3 Construction Approach**

Because the timing of projects generating Transfer Material is unknown, Project construction would begin when the first project generating Transfer Material is defined. When this project is defined, Project construction would begin with the 500,000 CY Cell 1A shown in *Figure 3-1*. This would be followed by phased construction, as needed, of cells 1B through 1F in up to 100,000CY increments for a total capacity of 1,000,000 CYs. 500,000 CY of AWCU capacity would be reserved for Transfer Material removed from the Aerojet Landfill.

The AWCU design allows for the concurrent construction and filling of each cell; partial/interim closure of each cell while awaiting Transfer Material arrival and associated landfilling; and, easy connection of the LCRS and LDS from cell 1A to each adjacent cell. Each additional cell (if required) would be constructed and filled in a similar manner, so the sequence of events described in this section is applicable to each regardless of size; however, production rates, staffing, and work pace may vary based on the volume of waste available to manage.

### **Environmental Stewardship Measures**

During construction, the Project would implement a variety of Environmental Stewardship Measures (ESMs) designed to avoid short- and long-term effects on the physical and human environment. These activities are considered part of the Project, would be included in contract specifications and implemented during construction to ensure water quality, aquatic habitats and sensitive wildlife species and other environmental resources are protected consistent with regulatory standards. ESMs that would be implemented by the Project are presented below and are considered, and cross referenced as applicable, in the impact analysis presented in Chapter 5, Environmental Checklist Discussion. It should be noted that the Project would be required to implement agency-approved Construction and Industrial Stormwater Pollution Prevention Plans (SWPPPs), as well as an agency-approved SWPPP for post closure conditions. ESMs 3 and 4 below refer to Construction SWPPP requirements.

#### **ESM-1: Conduct Environmental Awareness Training for Construction Personnel**

Before any work occurs in the Project area, including grading, a Qualified Biologist will conduct mandatory contractor/worker awareness training. The awareness training will be provided to all construction personnel to brief them on the need to avoid impacts on biological resources and the penalties for non-compliance. If new construction personnel are added to the Project, the Aerojet will ensure that the personnel receive the mandatory training from the biologist before starting work.

**ESM-2: Install Construction Barrier Fencing to Protect Environmentally Sensitive Areas**

The Project contractor would install orange construction barrier fencing to identify site limits and environmentally sensitive areas. Environmentally sensitive areas in and adjacent to the construction area could include elderberry shrubs, native oak trees greater than four inches diameter breast height (DBH), wetlands, drainages, and any trees or habitat that supports migratory bird or raptor nests. Before construction, the Project contractor will work with a resource specialist to identify the locations for the barrier fencing and will place stakes around the environmentally sensitive areas to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following note will be included in the construction plans:

"The contractor's attention is directed to the areas designated as "environmentally sensitive areas" on the Project site. These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the Aerojet project manager. The Project contractor's project managers will take measures to ensure that construction crews do not enter or disturb these areas, including giving written notice to crew members."

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as directed by the Project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least four feet high (Tensor Polygrid or equivalent).

**ESM-3: Establish Construction Equipment Fueling and Maintenance Areas**

The Project contractor will establish a fueling and maintenance/storage area within the Phase 2 area away from surface waters and protected from accidental release. All construction equipment fueling will be conducted within this designated area. All hazardous construction materials, fuels, lubricants, solvents, and other possible contaminants kept onsite will be stored within the fueling and maintenance/storage area, or within an alternate storage area established by the Project contractor with similar secondary containment protections consistent with agency-approved Construction SWPPP requirements.

**ESM-4: Avoid and Minimize Disturbance of Surface Waters and Associated Aquatic Habitat and Restore all Temporarily Disturbed Areas**

To the extent possible, the Project contractor will minimize impacts to surface waters and associated aquatic habitat by implementing the following:

- a. All heavy equipment will be checked by the construction inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.
- b. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering surface waters or channels.
- c. During construction, the Project contractor will not dump any material in surface waters or stream channels (without appropriate authorizations and/or permits). All such debris and waste will be

picked up daily and properly disposed of. All construction debris and associated materials will be removed from the work site upon Project completion.

- d. Consistent with the Project's approved Construction SWPPP, erosion controls will be installed in appropriate locations to reduce the introduction of sediment into surface water during construction.
- e. After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project's approved Construction SWPPP.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in the Project's approved Construction SWPPP. Such precautions may entail the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures will be taken. The sediment barrier(s) will be maintained in good operating condition throughout the construction period. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Non-biodegradable silt barriers (such as plastic silt fencing) shall be removed after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season).

**ESM-5: Construct Outside of Nesting Season or Conduct Pre-Construction Nesting Surveys**

To avoid disturbance of breeding and nesting activity, including nesting of sensitive raptors or ground nesting species, project activities will be avoided during the typical breeding season of February through August, to the extent feasible. If construction must take place during the typical nesting season, construction surveys will be conducted by a Qualified Biologist consistent with the May 31, 2000 Swainson's Hawk Technical Advisory Committee Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (to the extent feasible based on schedule constraints). Surveys will be conducted to determine if active nesting is occurring on or directly adjacent to the study area. If active nests are found on or immediately adjacent to the site, survey results will be submitted to the California Department of Fish and Wildlife (CDFW) and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, project activities may proceed.

**ESM-6: Avoid the Introduction or Spread of Noxious Weeds in the Project Area**

To avoid the introduction or spread of noxious weeds into previously uninfected areas, the Project contractor will revegetate disturbed areas immediately after construction is complete using certified weed-free native and nonnative mixes.

**ESM-7: Proper Handling of Hazardous Materials**

Construction documents will identify materials that are considered hazardous consistent with the Project approved JTDs. The Project contractor will be required to develop a Health and Safety Plan that addresses release prevention measures; employee training, notification, and evacuation procedures; and emergency



response protocols and cleanup procedures consistent with requirements of the JTDs. The contractor will comply with the California Occupational Safety and Health Administration (Cal-OSHA) standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in California Labor Code, Division 5, Chapter 2.5.

**ESM-8: Prepare and Implement a Fire Suppression and Control Plan**

The Project contractor will coordinate with Sacramento County Fire to ensure a fire control plan is prepared and implemented to reduce the risk of fires during construction. The fire prevention and control plan will include requirements for onsite extinguishers; roles and responsibilities of Aerojet, the Project contractor; specification for fire suppression equipment and other critical fire prevention and suppression items.

**ESM-9: Prepare and Implement a Construction Traffic Management Plan**

As necessary, Aerojet will require the Project contractor(s) prepare a Traffic Control Plan in accordance with Sacramento County requirements, the Aerojet Landfill CCP (as amended by the proposed Project), any applicable emergency evacuation plans, and professional engineering standards prior to construction. The Traffic Control Plan could include the following requirements:

- a. Traffic controls required within Aerojet's access-controlled property and where approved haul and material deliver routes may intersect with the public transportation system, shall be provided. Adequate provisions shall be made for the protection of the traveling public. All traffic control, including devices and personnel requirements, will be consistent with the current State of California Manual of Traffic Controls for Construction and Maintenance Work Areas.
- b. Emergency services access to local land use shall be maintained for the duration of construction activities.
- c. Access for all area public and private land uses and open space/agricultural lands shall be maintained during construction activities.

**ESM-10: Utilization of Existing Infrastructure for Storage and Power**

Temporary service lines shall be utilized for all construction activity stationary equipment to the extent feasible.

**ESM-11: Implement a Recycling Program with a Local Recycler/Landfill Operator**

Project recycling requirements outlined in the JTDs shall be implemented through agreements executed with a local recycling or landfill operator (e.g., Schnitzer Steel in Rancho Cordova and/or Kiefer Landfill).

**ESM-12: Implement Measures to Minimize Air Quality Impacts**

The Project contractor will be required to implement the following measures to minimize air quality impacts:

- a. Install cobble at construction site entrance/exit.
- b. Suspend grading during high wind.
- c. Maintain adequate moisture in disturbed or stockpiled materials, apply water mist and spray to control fugitive dust emissions.
- d. Compact or utilize soil stabilizers and/or temporary cover materials to protect disturbed or stockpiled materials.

**ESM-13: Perform Air Quality Monitoring to Protect Construction Workers**

Aerosol meters and other local air monitoring devices would be employed during Transfer Material placement to ensure emission compliance and worker safety. Five gas meters with photo ionization detector functions will be utilized during excavation and other remedial efforts to monitor for typical conditions and contaminants of concern that might be encountered. Results of soil vapor/gas monitoring would be used to refine protections as warranted. For example, should landfill gas or other vapor contaminants be present, additional monitoring equipment will be installed or issued to crew members in order to monitor conditions in real-time consistent with Project permits and Occupational Safety and Health Administration (OSHA) requirements.

Perimeter air monitoring for visible dust and other contaminants will be established on a case-by-case basis or as required in association with issued permits.

**ESM-14: Conduct Construction Worker Cultural Resources Awareness Training**

A consultant and construction worker cultural resources awareness brochure and training program for all personnel involved in ground-disturbing activities will be developed and disseminated by an archaeologist to all operators of ground-disturbing equipment prior to construction commencing. The program will include relevant information regarding sensitive cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations. The worker cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located in the Project Area and will outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program will also underscore the requirement for confidentiality and culturally appropriate treatment of any find of significance to Native Americans. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training. A copy of the form shall be provided to the CVRWQCB as proof of compliance.

**3.2.4 Construction Tasks, Personnel and Equipment**

The major construction tasks/phases, anticipated crew size, production rate, and equipment allocations for AWCU construction and Transfer Material hauling are shown in *Table 3-2*, which includes the following major phases and tasks. The construction approach for each is described in detail below.

- Mobilization and Site Set-up

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- Clearing and Grubbing
- Rough Grading of the AWCU Area
- Vapor/Gas Collection System/Layer Installation
- Liner System Installation
- Haul and Placement of Transfer Material Waste
- AWCU Phase 1 Cap/Cover System Installation

**Table 3-2. AWCU Construction Personnel and Equipment by Task**

<b>Construction Phase/Task and Production Rate/Duration</b>	<b>Required FTE Personnel and Equipment</b>
<p>Mobilization and Site Set Up</p> <p>Production Rate: Production rate is level of effort, 10 days to address mobilization. Survey clearances and ESM installation drive duration.</p>	<p>1 Foremen 3 Heavy Equipment Operators 4 Technicians/Laborers 2 300 series Excavators 2 4 CY Wheeled Loaders 1 9K Telescopic Forklift</p>
<p>Clearing and Grubbing (completed with grading)</p> <p>Production Rate: Assumes clearing 4 acres per day in coordination with grading efforts.</p>	<p>2 Foremen 5 Heavy Equipment Operators 4 technicians/Laborers 9 Truck Drivers 2 D6 Dozers 1 300 series Excavator 2 4 CY Wheeled Loaders 2 9K Telescopic Forklift 2 Backhoe with Bush hog Attachment 6 10 Wheeled Dump Trucks or Similar 2 4,000-Gallon Water Trucks 1 10,000-Gallon Water Pull</p>
<p>Rough Grading of AWCU Area</p> <p>Production Rate: Assumes Excavating and placing 7,200 CY of soil per day.</p>	<p>2 Foremen 6 Heavy Equipment Operators 4 technicians/Laborers 9 Truck Drivers 2 D6 or D8 Dozers 2 300 series Excavator 2 4 CY Wheeled Loaders 1 Motor Grader 2 815 Compactor 6 10 Wheeled Dump Trucks or Similar 2 4,000-Gallon Water Trucks 1 10,000-Gallon Water Pull</p>



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<b>Table 3-2. AWCU Construction Personnel and Equipment by Task</b>	
<b>Construction Phase/Task and Production Rate/Duration</b>	<b>Required FTE Personnel and Equipment</b>
<p>Vapor/Gas Collection System/Layer Installation</p> <p>Production Rate: Assumes Excavating and placing 7,200 CY of soil per day.</p>	<p>3 Foremen 6 Heavy Equipment Operators 4 technicians/Laborers 16 Truck Drivers</p> <p>3 D6 or D8 Dozers 2 300 Series Excavator 2 4 CY Wheeled Loaders 2 Smooth Drum Compactor 3 4,000-Gallon Water Trucks 1 10,000-Gallon Water Pull 12 Material Transfer Trucks</p>
<p>Liner System Installation</p> <p>Production Rate: 1 acre installed every 2 days.</p>	<p>1 Foremen 2 Heavy Equipment Operators 4 technicians/Laborers 18 Liner Crew Members</p> <p>2 200 Series Excavators 4 9K Telescopic Forklift 2 4 CY Wheeled Loaders 2 Tracked Skid Steer 1 4,000-Gallon Water Truck</p>
<p>Haul and Placement of Transfer Material Waste</p> <p>Production Rate: 8,000 CYs (or 12,000 tons) per day transfer and placement.</p> <p>23 Tons per truck trip Up to 520 truck trips per day</p>	<p>2 Foremen 4 Heavy Equipment Operators 4 technicians/Laborers 8 Truck Drivers 12 Liner Crew Members</p> <p>2 D8 Dozers 2 400 Series Excavators 2 5 CY Wheel Loader 3 4,000-Gallon Water Trucks 1 10,000-gallon water pull 12 Material Transfer Trucks</p>
<p>AWCU Phase 1 Cap/Cover System Installation (including drainage system)</p> <p>Production Rate: 1.5 acres of 2-foot cover soil installation each day.</p>	<p>2 Foremen 9 Heavy Equipment Operators 4 Technicians/Laborers 8 Truck Drivers 12 Liner Crew Members</p> <p>3 300 Series Excavators 1 Power screen Unit 4 9K Telescopic Forklift 1 4 CY Wheeled Loader 2 D6 LGP Dozer 2 Tracked Skid Steer 3 4,000-Gallon Water Trucks 1 10,000-gallon water pull 5 Material Transfer Trucks</p>

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<b>Table 3-2. AWCU Construction Personnel and Equipment by Task</b>	
<b>Construction Phase/Task and Production Rate/Duration</b>	<b>Required FTE Personnel and Equipment</b>
Onsite Access Road Improvements  Production Rate: Assumes installation of 1,200 tons of asphalt base per day.	1 Foremen 2 Heavy Equipment Operators 1 technician/Laborer 2 Truck Drivers  1 Smooth Drum Roller 1 Skip Loader 1 Motor Grader 2 2,000-Gallon Water Trucks
Site Security/Fencing Installation  Production Rate: Work would be completed intermittently as AWCU is completed; production not critical.	1 Foremen 1 Heavy Equipment Operator 2 technicians/Laborers  1 Skid Steer with Auger 1 4K Telescopic Forklift 1 2,000-Gallon Water Truck
Borrow Site Crushing Operations	Borrow Site Crushing Operations  1 Foreman 5 Heavy Equipment Operators 2 Technicians/Laborers 1 Truck Driver  1 D8 Dozer 1 400 Series Excavator 2 5-CY Loader 1 Power Screen Unit 1 Rock/Concrete Crushing Unit 1 4000-Gallon Water Truck

Source: America Integrated Services Inc.

- Onsite Access Road Improvements
- Site Security/Fencing Installation
- Borrow Site Crushing Operations

### **Mobilization, Site Set-up**

Mobilization and site set-up events would include, but are not limited to, the following:

- Contractor orientation and safety awareness training.
- Fencing and protecting sensitive environmental avoidance areas.
- Delivery of heavy equipment to the construction area.
- Establish construction water supply. Aerojet's industrial water supply would be used for construction and closure of the AWCU and for dust control at the Aerojet Landfill and Borrow Site. Establishment of the construction water supply would include placing 5,000 gallon "water

towers” at select locations (to be identified by the contractor) to serve the project’s construction water needs as further described in Section 3.2.5 Utilities below

- Establish temporary electric power for contractor trailer/construction support facilities. This would include extending a temporary overhead electric line with service drop to the AWCU contractor staging area from the existing SMUD line running along Old White Rock Road as further described below in section 3.2.5 Utilities. All temporary contractor staging would be located within the Phase 2 boundary in areas void of resource constraints.
- Clearing and grubbing of construction support and staging areas. Phase 1 construction staging would be established within the Phase 2 footprint in areas that are free of biological constraints and where appropriate setbacks from environmentally sensitive areas can be maintained.
- Set-up of temporary offices and sanitary facilities (i.e., field trailer with power, internet, office equipment).
- Installation of preconstruction storm water erosion control measures such as silt fence, straw wattles, stabilized construction entrances, and containment structures.
- Detailed geophysical survey of disturbance areas to identify any subsurface infrastructure of interference items.
- Survey of the work area and layout of AWCU limits, cut and fill-lines. Establishment of survey control points, if not already in place.
- Completion of preconstruction photography and documentation of site conditions establishing construction and dust control water infrastructure.
- Installation of site security measures.

Note that mobilization events may occur multiple times through the course of the construction envisioned, and while some elements previously described may change, the process would generally conform to this description.

### **Establish Waste Transport and Construction Fill Borrow Site Haul Routes**

Example Haul Routes from within the AWCU Service Area, the Aerojet Landfill and Borrow Site to the AWCU are shown on Figure 1-3. The Haul Routes are located entirely on Aerojet private roads within Aerojet access-controlled property. As part of this construction phase, signage to advise of hauling activities would be installed along the routes described below. Establishing the Haul Route would also include constructing an offsite improvement consisting of an approximately 105-foot southerly extension of the unnamed road that heads south from Nevada Street to connect with Old White Rock Road. This road extension is noted below and more fully described in *Section 3.2.6 Offsite Improvements*.

#### *Transfer Material Haul Route*

Although the locations of future projects are not known at this time, Aerojet determined that the maximum Haul Route distance for any future project is shorter than the Haul Route required for the



Aerojet Landfill Transfer Material. As such, the Haul Route from the Aerojet Landfill, described in this document, is the worst-case condition. Soil removed from the Aerojet Landfill would be transported to the new AWCU following a 4.23-mile Haul Route. The Haul Route follows paved private roads contained entirely within Aerojet owned and access-controlled property. The Haul Route begins at the Aerojet Landfill southern boundary on Aerojet Road at Sacramento Road. From that point, the route heads south on Sacramento Road to Louisiana Road, then veers southwest on Louisiana Road to New York Road. At that point, the route turns south on New York Road, then turns west on New York Road to Nebraska Road. At that point, the route turns south on Nebraska Road and continues to New Hampshire Avenue. At New Hampshire Avenue the route turns south to Nevada Street, then turns east on Nevada Street before turning south on an unnamed road. The route continues south on the unnamed road to its terminus just north of Old White Rock Road. From that point an approximately 105-foot-long road extension would be constructed south to Old White Rock Road. The route then heads west approximately 480 feet on Old White Rock Road, then turns south into the WRND parcel and follows an existing access road to the proposed AWCU site. This offsite improvement is further described above in *Section 3.2.6 Offsite Improvements*.

Additionally, Nevada Street between Nebraska Street and New Hampshire Avenue could be used as an alternate route to allow for haul truck return trip “coordinated” safe passing.

#### *Borrow Site Haul Route*

Soil, stone and aggregate imported to the AWCU for construction would be sourced from the Aerojet Borrow Site. The Aerojet Borrow Site location and Haul Route are also shown in Figure 2-2. As shown, the Haul Route from the Aerojet Borrow Site to the AWCU heads north following an existing access road to Faulk Road. At Faulk Road the route heads west to New York Road. The route continues southwesterly on New York Road to Nebraska Road. At that point, the route turns south on Nebraska Road and continues to New Hampshire Avenue. At New Hampshire Avenue the route turns south to Nevada Street, then turns east on Nevada Street before turning south on an unnamed road. The route continues south on the unnamed road to its terminus just north of Old White Rock Road. From that point an offsite, approximately 105-foot-long road extension would be constructed south to Old White Rock Road. The route then heads west approximately 480 feet on Old White Rock Road, then turns south into the WRND parcel and follows an existing access road to the proposed AWCU site. As discussed for the Waste Material Haul Route above, this offsite improvement is further described in *Section 3.2.6 Offsite Improvements*. The total length of the Aerojet Borrow Site Haul Route is 2.38 miles.

### **Clearing and Grubbing**

The first construction phase would include clearing and grubbing of the AWCU site including removal of surface vegetation from the planned work and support areas. Dozers, wheel loaders, forklifts, and high weed mowers/tractors would be utilized to separate and consolidate green waste into manageable piles. This material would be hauled offsite to an appropriate disposal location.

Clearing and grubbing/grading would be conducted to establish a roughly level 25-acre area for emplacement of the AWCU. During these operations, large exposed waste items present in the WRND such as construction and demolition debris, appliances, automobiles/parts, or unknown regulated items

would be extracted using heavy equipment such as telescopic forklifts, excavators, or wheel loaders. These items would be taken to a prepared receiving area and segregated for processing (down-sizing), recycling, or offsite disposal.

Segregated waste would be managed in accordance with applicable state and federal laws and regulations; however, non-hazardous, contaminated soils and construction debris consistent with Phase 1 AWCU acceptance criteria and specifications may be processed and eventually placed in the new AWCU. Waste that is not suitable for onsite consolidation would be transported offsite.

Segregated waste or recycling materials would be loaded directly into roll-off waste bins or trailers and transported to appropriate, approved facilities under a bill of lading or manifest. Recyclable metal would be sent to the Schnitzer Steel facility in Rancho Cordova or other appropriate recycling facility. Non-hazardous solid waste would be transported to Kiefer Landfill or other Class III landfill facility. Designated non-hazardous waste materials would likely be disposed of at Potrero Hills Landfill or Forward Landfill. Should any Class I materials be discovered it would be transported to an appropriate facility such as the Chemical Waste Management – Kettleman Hills Landfill. As shown in *Table 3-1*, up to 1,352 CY or 2,700 tons of this material is expected to be hauled offsite generating up to 150 round trips.

Note that rough grading of the AWCU area with large dozers, excavators, and motor graders is anticipated to reveal additional items to be managed as described. Given the current AWCU design, which contains a one- to two-foot layer of stone to facilitate vapor collection below the new liner system, geosynthetic material protection and large item removal are anticipated to be minimal at that time. In this case, rough graded surfaces positioned below the AWCU would not require screening or extensive waste removal efforts as the vapor collection system would provide adequate protection for the geosynthetics assuming they do not protrude from the prepared surface.

### **Rough Grading of the AWCU Area**

The design of the AWCU seeks to minimize the amount of grading and shaping required to meet the specified design criteria, while allowing for efficient closure. As previously described, the 500,000-CY Cell 1A would be constructed first. The proposed design allows for additional adjacent cells to be connected allowing for consolidated leachate collection systems, stormwater run-off management, intermittent filling, temporary closure, final closure, and restoration.

The grading and shaping effort would include the use of hydraulic excavators, motor graders, and dozers to “relocate” soils from within the planned AWCU footprint creating the necessary berms and sloping of the bottoms required to seat the vapor capture and liner materials. More specifically, the design is to excavate the minimal amount of soil from the top of the WRND to level the area to the appropriate slope and move the remaining spoil to fill voids and create drainage features or berms comprising the foundation of the AWCU.

### **Vapor/Gas Collection System/Layer Installation**

As the new AWCU would be constructed over portions of the existing WRND, a gas collection system/layer composed of rough graded stone and HDPE piping would be installed below the new AWCU liner. Specifically, a one- to two-foot layer of stone would be delivered from the existing Aerojet Landfill or

Aerojet Borrow Site via haul trucks. Dozers would be used to push this aggregate into position wherever the AWCU liner materials would be installed. A network of corrugated and solid HDPE piping would be installed within this layer of aggregate/stone at a prescribed density. The piping would be manifolded together to a central location where gas could actively be drawn and managed.

The surface of the vapor/gas collection system/layer would be rolled with a smooth drum compactor and prepared to accept the geosynthetic materials that comprise the liner system.

Aggregate for the vapor capture system would be hauled in from either the Aerojet Landfill or the Aerojet Borrow Site. As reflected in *Table 3-1*, approximately 161,332 CY of aggregate material would be transported requiring up to 14,028 round trips.

### **Liner System Installation**

Following completion of vapor/gas collection system and grading, a geosynthetic liner system would be constructed on the prepared surface. As shown in *Figure 3-3*, liner installation (from the bottom up) includes placement of a GCL, followed by 60-mil HDPE/200-mil geodrain/60-mil HDPE system overlain with a 16-ounces-per-square-yard geotextile.

The GCL would be placed using telescopic forklifts or excavators with roller bars suspended from spreaders. The panels would be placed according to the plans developed for the particular section of the liner system. Overlaps would be treated with bentonite as customary to create a proper seal.

Once the GCL is installed, inspected, tested and approved, as shown in *Figure 3-3*, a 60-mil HDPE geomembrane would be installed, followed by a 200-mil geodrain that would function as the leachate detection system, followed by another layer of 60-mil HDPE and finally the 16-ounces-per-square-yard geotextile.

Similar to the GCL, the materials would be installed, welded or connected, and tested in accordance with established panel plans, Project specifications, and a Construction Quality Assurance plan.

As the liner system elements are installed, leachate collection transport and storage elements would also be installed to manage any leachate that might be generated above the HDPE liner system. This would include transport piping to move any developing leachate from common collection trenches to the perimeter of the landfill and eventually into a common sump. The piping would be composed of appropriately sized corrugated and solid HDPE piping sloped for passive collection and transport.

As discussed in the schedule section above, AWCU liner construction/installation is a temperature sensitive activity. Extreme temperature (i.e., >100°F) can prevent liner seams from joining correctly. Therefore, should AWCU construction occur during hot summer months (June/July/August) a construction start time as early as 12 midnight could be required during liner system installation. This work would involve those construction personnel and heavy-duty equipment listed in *Table 3-2*. This could involve up to 25 construction workers and up to 11 pieces of machinery to achieve a production rate of up to 1 acre of liner installed every 2 days. Nighttime liner installation would not involve major grading/earthwork as the surface would be prepared during daytime construction reducing the potential for nighttime dust generation. In addition to the equipment listed in *Table 3-2*, because this work would occur at night,



"directional" diesel powered light towers would also be required. Impacts related to potential night-time construction are evaluated in Sections 5.1 Aesthetics and 5.13 Noise. No nighttime deliveries would be required as all necessary construction material and equipment would already be onsite. Therefore, night work would not result in transportation impacts or potential impacts to other environmental issues other than aesthetics and noise.

### **Haul and Placement of Transfer Material Waste**

Transfer Material generated from other project sites located within the AWCU Service Area would follow the shortest and most practical paved roads, examples of which are shown on Figure 1-3, and then merge with the Haul Route to access the AWCU. Aerojet determined that the maximum Haul Route distance for any future project is shorter than the Haul Route required for the Aerojet Landfill Transfer Material. As such, the Haul Route from the Aerojet Landfill, described in this document, is the worst-case condition.

Transfer Material would be loaded into haul vehicles at the project sites within the AWCU Service Area utilizing heavy hydraulic excavators or large wheel loaders supported by a large dozer to continuously push stockpile material to this loading equipment maximizing the removal rate and loading efficiency.

Transfer Material haul trips from project sites within the AWCU Service Area, including from the Aerojet Landfill, to the proposed AWCU would be accomplished utilizing a variety of trucks and tractor combinations based on the materials being transported. Soils would be moved by on- or off-highway tractors towing multiple belly or side dump trailers with combined payloads of between 18 and 60 tons or in articulating off-road haulers with payloads of 23 to 45 tons. As shown in *Table 3-1*, up to approximately 65,217 round trips would be required for the hauling of 1,000,000 CY of Transfer Material from the Aerojet Landfill to the AWCU. This represents a worst-case hauling scenario since only approximately 500,000 CYs of Transfer Material is expected to originate from the Aerojet Landfill with the balance expected to originate from locations closer to the AWCU.

Filling and placement of Transfer Material would be conducted in a specific sequence and spatial arrangement. Transfer Material would be placed in a linear fashion within the new AWCU. Trucks would enter the cell from access roads running around the perimeter of the AWCU and drop material on a prepared deck. In general trucks would travel east to west or west to east from perimeter road to perimeter road. Managing trucking in a loop is meant to minimize maneuvering time and maximize the number of loads possible in the course of a day. Heavy dozers and compactors would then be used to level and compact the Transfer Material in an organized manner with appropriate slopes to allow for vertical construction of the cell while maintaining a minimal working face exposed to the elements that can be efficiently closed as appropriate. Landfill construction would proceed from north to south to facilitate leachate collection and surface water control. Water mist would be used to control fugitive dust emissions and achieve appropriate compaction of placed materials. Aerosol meters and other local air monitoring devices would be employed to ensure emissions compliance and worker safety.

Daily cover consistent with Title 27 requirements would be specified in either the project's WDRs or in a future agency approved "Daily Cover Plan." Daily cover would be applied at the end of each filling day using a dozer or special deployment equipment.

### **AWCU Phase 1 Cap/Cover System Installation**

Upon filling of each cell, the cover system would be installed allowing for the temporary closure of the cell, or permanent closure following emplacement of all Transfer Material. The cover system in this case would be constructed of a two foot-thick layer of select Transfer Material soil from the Aerojet Landfill or clean fill from the Aerojet Borrow Site devoid of construction materials or aggregate that could damage the geosynthetics serving as the foundation layer.

The foundation layer would be placed as part of AWCU cell filling effort, whereby portions of Transfer Material that meet Project specifications would be used. This layer would be compacted/rolled to achieve a proper surface for geosynthetics placement. Haul trips associated with this layer are included as part of Transfer Material hauling identified in *Table 3-1*.

As shown in *Figure 3-3*, the GCL would be installed, followed by the 60-mil LLDPE geomembrane. These materials would be installed, welded or connected, and tested in accordance with established panel plans project specifications, and a Construction Quality Assurance plan.

Finally, a two-foot layer of select fill soil would be placed over the surface of the membrane system utilizing low ground pressure equipment, dozers and skid steers, to push soil over the surface in prescribed lifts from working decks or reinforced access paths. This select fill soil would be delivered to the "working face" of the cover on heavy roadways that allow for wheeled equipment access; however, wheeled equipment would never work or travel over the membrane where reinforced (appropriately thick) roadways have not been created. As shown in *Table 3-1*, approximately 200,000 CY of select fill soil would be hauled in belly dump trailers or articulated off-road haulers from the Aerojet Borrow Site to the AWCU generating up to 13,043 round trips.

Once the cover system is in place, the surface of the soil would be hydroseeded with selected seed mix and amendment to promote desired vegetative growth.

### **Onsite Access Road Improvements**

As shown in *Figure 3-4*, roadways would be constructed around the AWCU allowing for construction traffic and regular access for inspection and maintenance. Initially the roadways would be compacted soil to facilitate heavy truck and off-road equipment travel. When off-road construction is complete, or sequencing allows exclusively for light vehicle traffic, roadways would be graded and constructed of aggregate base material. In this case, a geotextile fabric would be placed on the roadway surface and approximately eight inches of compacted aggregate base would be placed on the geotextile. Road construction material would be sourced from either the Aerojet Landfill (note, this does not include contaminated soil from the Aerojet Landfill) or the approved Borrow Site. Any required processing/crushing of aggregate base material would occur at the source location (either the Aerojet Landfill or Borrow Site) and be hauled to the AWCU in belly dump trailers or articulated off-road haulers. Water mist would be used to control fugitive dust emissions during processing and loading operations. Additionally, aerosol meters would be employed to monitor emissions and alert the crew to potential issues.

As shown in *Table 3-1*, approximately 3,600 CY of aggregate base is required for onsite road construction generating 288 round trips. A combination of dozers, skip loaders, compactors, and motor graders would be used to shape the roadways and place aggregate base as described.

### **Site Security/Fencing Installation**

The AWCU would be surrounded with a six-foot-tall chain-link fence with three strands of barbed wire running across the top. The fence would include multiple large gates allowing for the passage of construction equipment, as well as several three- or four-foot-wide personnel gates. The intention of this fence is to secure the location from unwanted visitors or intruders and ensure only approved vehicles have access to the area.

Permanent fence construction is envisioned to occur after landfill closure, or in part when partial landfill construction is suspended for significant periods of time and only some portion of temporary fence is required. Fencing installation would typically include the use of skid steers fitted with hydraulic augers and forklifts to deliver materials, and concrete trucks to deliver anchor material to excavated post holes.

### **Borrow Site Operations**

Borrow Site processing operations could include crushing and screening of aggregate and soils to segregate material fractions for the different AWCU uses (e.g., vapor collection system, LCRS covers). Related onsite activities would include operation of transportable rock crushing machinery, screening sieves and heavy equipment for material movement, stockpiling, loading and dust control. The equipment needs for Borrow Site operations are listed in *Table 3-2*.

#### **3.2.5 Utilities**

Construction water for the Project would be fed by Aerojet's industrial water treatment system, which is supplied by the Groundwater Extraction and Treatment (GET) AB facility. This system is required by the Perimeter Groundwater Operable Unit Unilateral Administrative Order and is used to capture the chemical plume emanating from the Aerojet Superfund Site in Sectors A and B. Aerojet has been operating this system since the late 1980s and, over the past 7-8 years, Aerojet has continuously pumped and treated over 2000 gallons of water per minute or just under three million GPD. This rate is not anticipated to decline over the next 10 years. The current daily demand on the industrial system is 1.5MG and the system includes 4.5M gallons of storage to deal with periodic shutdowns and peak daily demands.

Establishment of the construction water supply would include placing 5,000 gallon "water towers" at select locations (to be identified by the contractor) to serve the project's construction water needs. As shown in *Figure 3-5*, at this time one water tower is expected to be located north of Old White Rock Road and west of the Haul Route road improvement site; and one is expected to be located south of Old White Rock Road and west of the proposed AWCU. These water towers would be filled via an approximately 2,820-foot-long temporary above ground HDPE pipe. This pipe would extend from the existing above ground pipe located on the south side of Nevada Street south along the east side of the unnamed Haul Route road to the water tower locations.

Electric power would be required during construction and during long-term operation of the AWCU Leachate Collection and Recover System pumps. The construction contractor would establish a full-time office (contractor trailer) at the AWCU site for information system support, reproduction and other administrative needs. This trailer is expected to be located just north of Old White Rock Road near the north corner of the WRND parcel. A permanent electric source would also be required to power the AWCU Leachate Collection and Recover System pumps. Existing electric service in the Project area is provided by the Sacramento Municipal Utilities District (SMUD). The required temporary and permanent service lines would be extended to the construction trailer and AWCU site from the existing power line located along the north side of Old White Rock Road. Existing infrastructure would be utilized whenever possible to avoid internal combustion engine generated power during construction.

Portable toilets would be brought in for sanitary sewer needs during construction. The Project does not require long-term potable water or wastewater (sewer) collection or treatment facilities.

### **3.2.6 Offsite Improvements**

As shown in *Figure 3-5*, offsite improvements would include construction of the Haul Route road extension and stormwater transmission facilities. These construction tasks are considered minor in comparison to the overall project and construction equipment and personnel already onsite would be utilized to complete these improvements. The Haul Route access road extension would be completed with personnel and equipment utilized for initial mobilization and site setup activities. The access road would be graded, surfaced with an aggregate base, and would include a standard construction entrance with cobble to reduce soil tracking from outbound equipment. The stormwater channels would be installed with personnel and equipment utilized for rough grading and/or cover system installation efforts. Where ditches are proposed adjacent to the haul route temporary access road(s), they would be installed as part of access road construction, or during final drainage improvements.

## **3.3 Closure Plan\Long-Term Maintenance**

### **3.3.1 Closure Plan**

Following hauling and placement of 1,000,000 CYs of Transfer Material or by December 31, 2035, whichever occurs first, the portion of the AWCU that accepted Transfer Material would be closed consistent with Closure Plan requirements approved by the LEA. These requirements are typically administrative and would not result in additional ground disturbance or construction activities beyond those required for project construction. Typical anticipated long-term maintenance and monitoring requirements are listed below.

### **3.3.2 Maintenance and Monitoring**

It's anticipated the final Closure Plan would require regular maintenance, monitoring and inspection of the AWCU including the following:

- Stormwater monitoring and testing in accordance with an agency approved SWPPP;
- Landfill gas monitoring;



- Leachate and Groundwater monitoring;
- Landfill gas collection and destruction (if necessary);
- Leachate collection and management (if necessary);
- Site inspection in support of erosion and sediment control measures;
- Settlement surveying;
- Vegetation management; and,
- Repair of settlement and erosion issues.

Stormwater monitoring and testing efforts would be under the purview of a State Certified Qualified SWPPP Practitioner (QSP) per California Stormwater Quality Association guidelines. Aerojet's contractor would act to make repairs or changes to the AWCU and supporting infrastructure based on the recommendations of the QSP or eroded site conditions observed during normal site visits. Gas and leachate collection, management and destruction (if necessary) would be performed by licensed geologists and engineers under direction of the LEA and Sacramento Metro Air Quality Management District consistent with Title 27 and the State Water Resources Control Board's Land Disposal Program requirements.

Settlement surveys would be completed by a licensed surveyor and the information incorporated into the programmatic surveying file for the AWCU.

Repairs and vegetation management would be handled by qualified construction personnel at regularly scheduled intervals. Repairs and vegetation would be managed by a small crew with select equipment to install or repair stormwater best management practices (BMPs), conduct minor AWCU cover system and roadway grading, mow or clear vegetation, and respond to anticipated heavy weather events. *Table 3-3. Long-Term AWCU Maintenance and Management Personnel and Equipment*, outlines the anticipated staffing and equipment required for long-term maintenance.

<b>Table 3-3. Long-Term AWCU Maintenance and Management Personnel and Equipment</b>	
<b>Management Task and Frequency/Duration</b>	<b>Required FT Personnel and Equipment</b>
Maintenance	1 Foremen 2 Heavy Equipment Operators 2 technicians/Laborers 1 Skid Steer with Auger 1 4K Telescopic Forklift 1 2,000-Gallon Water Truck
Program Management	1 Project Manager 1 Site Superintendent 1 Site Safety Officer 0.75 Quality Control Manager 1 Field Engineer 1 Clerk

### **3.4 Aerojet Landfill Clean Closure Plan Offsite Haul Route Amendment**

The approved Aerojet Landfill CCP identifies procedures for Transfer Material removal, transport and clean closure consistent with all federal, state, and local regulations.

Because the receiving location for Transfer Material was not known at the time, the CCP transportation plan (included as Appendix F to *Appendix B – Clean Close Plan*) specified a haul route following Prairie City Road to Highway 50 and from there to a landfill appropriate for the types of materials to be disposed.

The Proposed Project includes an amendment to Appendix F of the CCP to clarify that, as discussed in Section 3.2.4. *Construction Tasks, Personnel and Equipment*, waste transport vehicles would no longer access the public transportation system and instead would remain on Aerojet access-controlled property and utilize existing Aerojet private paved roads for waste transport as identified in this Initial Study.

### **3.5 Phase 2 Project Components - WRND Cap and Closure Plan**

Following completion of the Phase 1 AWCU improvements, the balance of the WRND would be capped and the entire dump closed as part of the WRND Phase 2 Cap and Closure project. The Phase 2 Cap and Closure Plan is addressed programmatically in this Initial Study, relying on the Phase 1 AWCU design and Title 27 requirements that can reasonably be expected to apply to Phase 2, while acknowledging what has been stated elsewhere in this description, that is, that specific, detailed design components and schedule criteria have not yet been developed. JTDs for the Phase 2 WRND Cap (see *Appendix A*) design are currently approximately 10 percent complete and provide the basis for this initial study's programmatic analysis. Final plans for the WRND Cap would be developed as part of Phase 2 design efforts. In addition to submittal to and approval by the local, state and, to the extent necessary, federal regulatory agencies, supplemental CEQA analysis and state and federal permitting for wetland impacts and Endangered Species Act Section 7 Consultation for elderberry impacts would be required prior to Phase 2 Cap implementation.

The proposed Phase 2 Cap project includes the following construction activities:

1. Construct the ±50-acre WRND Phase 2 Cap to include coverage of all remaining WRND waste disposal areas not addressed by the ±50-acre Phase 1 AWCU. It should be noted that existing WRND waste may be consolidated into a smaller footprint prior to capping.

The Phase 2 Cap project would also include closure of the existing WRND consistent with then current Title 27 regulatory requirements. The WRND Phase 2 Cap would be designed to accommodate final site drainage, access, controls, maintenance, monitoring requirements and landscape screening plan consistent with a WRND Closure Plan. The preferred schedule for implementation of the WRND Phase 2 Cap is to begin when 1,000,000 CYs of Transfer Material have been placed in the AWCU. At this time, the WRND Phase 2 Cap would be constructed. However, since Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to the completion of Phase 2 within 15 years or by December 31, 2035. If, at the time that the Phase 2 project needs to be implemented, AWCU capacity remains, Aerojet may propose to consolidate some of the WRND waste material into the AWCU in order to reduce the footprint of the WRND Phase 2 Cap. It is anticipated a refined project schedule for

the Phase 2 Cap would be determined as part of the CVRWQCB WDRs developed for the WRND Closure Plan.

A programmatic description of the proposed Phase 2 Cap improvements, and construction approach are provided below.

### **3.5.1 Phase 2 WRND Cap**

As shown in *Figure 3-1*, the  $\pm 50$ -acre Phase 2 Cap would completely cover the remaining portions of the WRND historic waste deposits not covered by the AWCU. This would include any portion of cells 1B through 1F not constructed prior to Phase 2. Therefore, the Phase 2 cap would be between approximately 50 and  $\pm 75$  acres depending on the ultimate size of the Phase 1 AWCU. Although not yet fully designed, the Phase 2 Cap would be Title 27 compliant and is expected to be substantially similar to the Phase 1 AWCU cap design. Therefore, the Phase 2 Cap is expected to include a low permeability soil cover, or soil and geosynthetic cover system, or an alternative consistent with Title 27 requirements. It would provide protection to waste deposits associated with the WRND from being exposed to precipitation and soil erosion.

### **3.5.2 AWCU Landscape Screening**

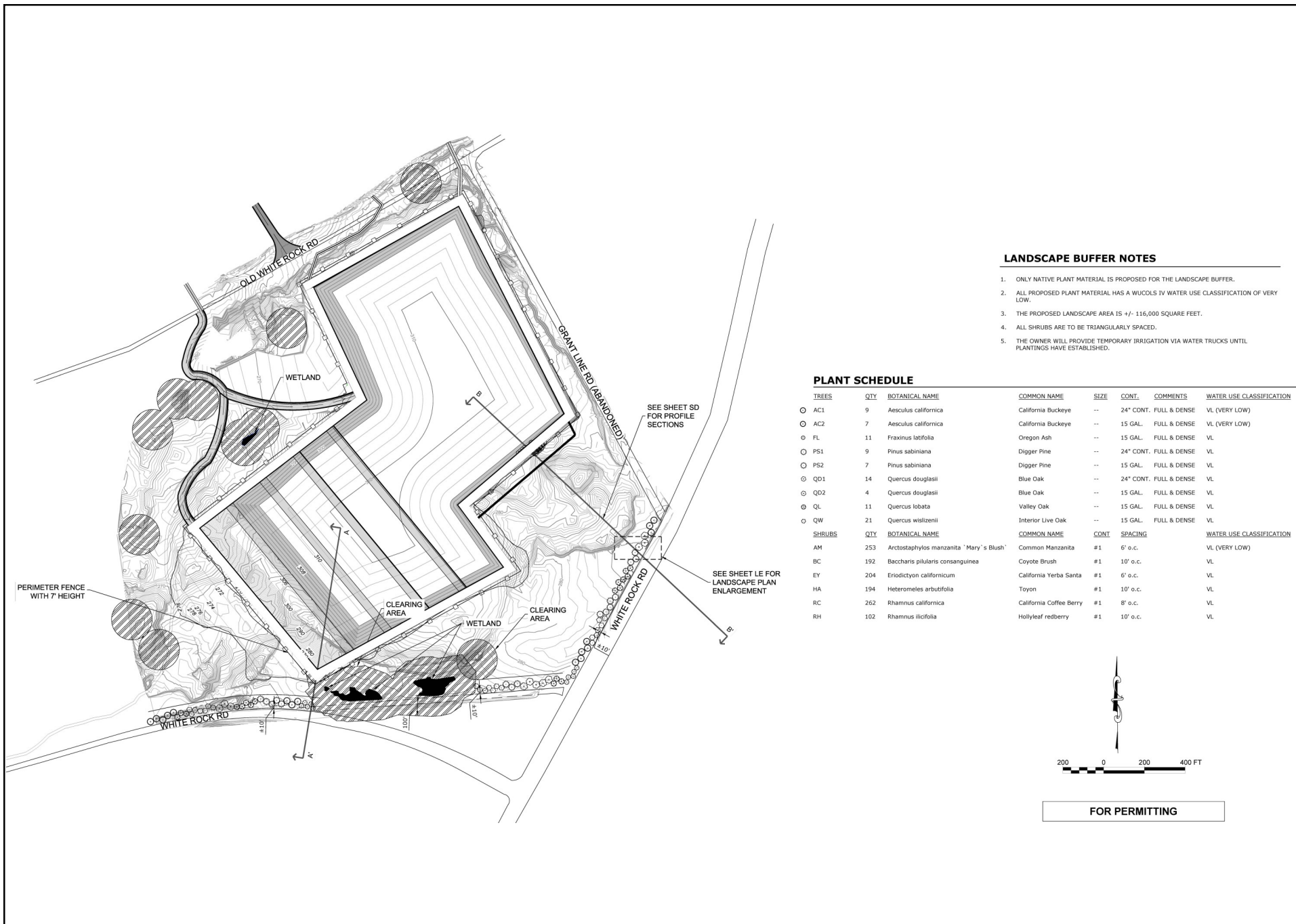
Upon completion of AWCU construction, the slopes of final cover facing White Rock Road would be undulated to soften its appearance to offer a more aesthetically pleasing look. To further enhance and screen public views of the Phase 1 AWCU and associated perimeter fencing, the landscape plan shown in *Figure 3-6. AWCU Landscape Buffer/Screening Plan* would be implemented. As shown, consistent with County zoning, this would include installation of a 10-foot-wide landscape buffer installed adjacent to White Rock Road (and the abandoned section of White Rock Road) outside the Phase 1 AWCU and Phase 2 Cap boundary. Existing wetlands in the area would be avoided and integrated with the landscape plan.

### **3.5.3 Construction Approach**

Soils required to construct the Phase 2 Cap would be obtained from the WRND site, the Borrow Site or other designated location within the AWCU Service Area. Soils would be screened, processed, and possibly amended to achieve the required permeability and other characteristics necessary to achieve Title 27 compliance and long-term stability.

It is anticipated the ESMs outlined in Section 3.2.3. *Construction Approach* above would also be implemented during Phase 2 construction.

The following describes the significant activity elements anticipated in support of the WRND Phase 2 Cap/cover system construction.





## **Mobilization and Site Set-up**

Mobilization and site set-up events would include, but are not limited to, the following tasks and activities that may be partially completed as part of Phase I construction activities:

- Environmentally Sensitive Area fence installation, contractor orientation and safety awareness training
- Delivery of heavy equipment to the construction area
- Clearing and grubbing of support areas
- Set-up of temporary offices and sanitary facilities (e.g., field trailer with power, internet, office equipment)
- Installation of preconstruction storm water erosion control measures such as silt fence, straw wattles, stabilized construction entrances, and containment structures
- Delivery and set-up of mobile truck scales
- Detailed geophysical survey of disturbance areas to identify any subsurface infrastructure of interference items
- Survey of the work area and layout and limits of the WRND waste deposits, cut and fill-lines

Establishment of survey control points, if not already in place

- Completion of preconstruction photography and documentation of site conditions
- Establishing construction and dust control water infrastructure
- Installation of site security measures

Note that mobilization events may occur multiple times through the course of the construction envisioned, and while some elements previously described may change, the process would generally conform to this description.

## **Clearing and Grubbing**

To facilitate earthmoving operations and cover system construction, surface vegetation would be cleared and grubbed from the planned work and support areas. Dozers, wheel loaders, forklifts, and high weed mowers/tractors would be utilized to separate and consolidate green waste into manageable piles. This material would be hauled offsite to an appropriate disposal location.

Given the presence of numerous elderberry shrubs (which provide habitat for the federally listed Threatened Elderberry Long-Horn Beetle) and seasonal wetlands within the Phase 2 construction area, some amount of transplanting or other compensatory mitigation (i.e., purchase of mitigation credits) may be required prior to clearing and grubbing operations. This could include on and/or offsite mitigation requirements which would be conducted in conformance with appropriate resource agency permits and accompanying federal Endangered Species Act Section 7 Consultations.

### **Rough Grading of the WRND Phase 2 Cap/Cover Area**

The design of the cover system for the WRND seeks to minimize the amount of grading and shaping required to meet the specified design criteria. In general, rough grading would provide for a consistent surface on which the actual cover system can be constructed. The cover system surface would be designed to shed water to designated areas, resist erosion, and blend in with the surrounding landscape to the extent practical.

Grading and shaping efforts would include the use of hydraulic excavators, articulated off-road trucks, motor graders, and dozers to “relocate” soils and waste materials from within the planned cover system footprint. Large objects or non-conforming waste materials uncovered during this process would be removed to a designated segregation and handling area for processing and then either incorporation into the AWCU (if capacity exists) and/or offsite disposal/recycling.

### **WRND Phase 2 Cap/Cover System and Landscape Plan Installation**

After rough grading is complete, the Phase 2 Cap/Cover system would be installed providing for permanent closure of the WRND landfill. The cover system is anticipated to be constructed of low permeability soil or geosynthetic materials with a soil overlay, or alternative, consistent with Title 27 requirements. Regardless of the final design, soils and cover system materials would be installed over the rough graded surface of the WRND to provide a cohesive system that minimizes water infiltration and secures the existing waste in conformance to the referenced standard (those in place at that time).

Soil for the Phase 2 Cap/Cover would be delivered to the WRND per the design specification and placement plan. To that end, Aerojet anticipates constructing “roadways” or stabilized construction pads that would allow for wheeled equipment access (haul trucks) to the working area without damaging the underlying grade or cover system elements. Prepared soils would be “pushed” from these roadways or pads to construct the cover system using dozers or other low ground pressure equipment in the event geomembrane materials are utilized, otherwise dozers, compactors and grading equipment would be employed.

Soils for this effort are anticipated to come from the Borrow Site or another approved location within the AWCU Service Area. This soil would be transported to the WRND in belly dump trailers or articulated off-road haulers using a combination of the routes identified in Figure 1-3. Additional amendments, such as bentonite or clay may be imported from an approved offsite source should such materials be required.

Concurrent with Phase 2 Cap installation or immediately following, the landscape plan (*Figure 3-6*) would be installed.

### **WRND Cover System Hydroseed and Planting**

Once the Phase 2 Cap/Cover system is in place, the surface of the soil would be hydroseeded with selected seed mix and amendment to promote desired vegetative growth or covered with native rock and other materials to achieve desired aesthetics and erosion control.

### 3.6 Schedule

Aerojet anticipates the entire project lifecycle not to exceed 15 years from the issuance of the solid waste facility permit. The construction of AWCU cell 1A (500,000 CY) is anticipated to take four to six months from start to finish. Construction would be timed to ensure the AWCU is ready to receive Transfer Material when the first project generating Transfer Material is initiated. Aerojet currently anticipates that this first project would be the Aerojet Landfill removal project; however, based upon real estate market timing and COVID-19 concerns, alternate projects may move ahead of the Aerojet Landfill project. Regardless, 500,000 CYs of the 1,000,000 CY AWCU volume would be set aside for the Aerojet Landfill project. In order to maximize the benefit of the AWCU, Aerojet intends on completely filling the 1,000,000 CY AWCU. Although Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to an AWCU closure within 15 years or by December 31, 2035.

The preferred schedule for implementation of the WRND Phase 2 Cap is to begin when 1,000,000 CYs of Transfer Material have been placed in the AWCU. At this time, the WRND Phase 2 Cap would be constructed. However, since Aerojet does not know the exact timing of all projects that would generate Transfer Material, Aerojet commits to the completion of Phase 2 within 15 years or by December 31, 2035. If, at the time that the Phase 2 project needs to be implemented, AWCU capacity remains, Aerojet may propose to consolidate some of the WRND waste material into the AWCU in order to reduce the footprint of the WRND Phase 2 Cap.

### 3.7 Regulatory Requirements, Permits, and Approvals

The CEQA Lead Agency for the proposed Project is the CVRWQCB. *Table 3-4. Required Permits and Approvals*, identifies the discretionary agency approvals required for the Project. Additional approvals may be necessary.

Table 3-4. Required Permits and Approvals	
Permit	Approval
<b>Phase 1</b>	
Aerojet SPA amendment with rezone to Aerojet Industrial Zone for the WRND parcel	Sacramento County
Title 27 Permit approval for the Proposed Phase 1 AWCU	Sacramento County/CalRecycle
AWCU Closure Plan approval	Sacramento County/CalRecycle/CVRWQCB
AWCU Waste Discharge Requirements	CVRWQCB
SWPPP approval	CVRWQCB
AWCU Operations Permit	Sacramento County
Air Permit approval for Operation of Landfill Gas Monitoring System	SMAQMD
Amendment to the Aerojet Landfill CCP	Sacramento County/Cal Recycle/ CVRWQCB
Joint Technical Documents approval	Sacramento County/CalRecycle/ CVRWQCB
<b>Phase 2</b>	
CWA Section 404 Permit approval	USACE
CWA Section 401 Water Quality Certification	CVRWQCB

<b>Table 3-4. Required Permits and Approvals</b>	
<b>Permit</b>	<b>Approval</b>
<b>Phase 1</b>	
Aerojet SPA amendment with rezone to Aerojet Industrial Zone for the WRND parcel	Sacramento County
Title 27 Permit approval for the Proposed Phase 1 AWCU	Sacramento County/CalRecycle
AWCU Closure Plan approval	Sacramento County/CalRecycle/CVRWQCB
Section 7 Consultation/Biological Opinion	USFWS
WRND Phase 2 Cap/Cover and Landfill Closure Plan approval	Sacramento County/CalRecycle/ CVRWQCB
Waste Discharge Requirements	CVRWQCB
SWPPP approval	CVRWQCB
Joint Technical Documents approval	Sacramento County/CalRecycle/ CVRWQCB

### **3.8 Consultation with California Native American Tribe(s)**

The following California Native American tribes traditionally and culturally affiliated with the Project area have been notified of the project:

- Alturas Rancheria of Pit River Indians
- Buena Vista Rancheria of Me-Wuk Indians
- Colfax-Todds Valley Consolidated Tribe
- Lone Band of Miwok Indians
- Middletown Rancheria
- Nashville-Enterprise Miwok-Maidu-Nishinam Tribe
- Pit River Tribe of California
- Santa Rosa Rancheria Tachi Yokut Tribe
- Shasta Indian Nation
- Shingle Springs Band of Miwok Indians
- Tsi Akim Maidu
- United Auburn Indian Community of the Auburn Rancheria
- Wilton Rancheria

The Wilton Rancheria and Shingle Springs Band of Miwok Indians tribes have requested consultation pursuant to PRC § 21080.3.1. A summary of the consultation process, to date, is provided in *Section 4.18 Tribal Cultural Resources* of this Initial Study.



## SECTION 4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

### Environmental Factors Potentially Affected

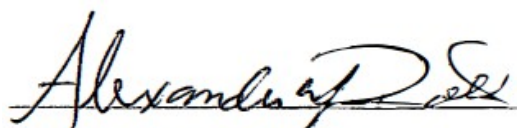
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Hazards/Hazardous Materials	<input type="checkbox"/> Recreation
<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Transportation
<input checked="" type="checkbox"/> Air Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Tribal Cultural Resources
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Utilities and Service Systems
<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Wildfire
<input type="checkbox"/> Energy	<input type="checkbox"/> Paleontological Resources	<input type="checkbox"/> Mandatory Findings of Significance
<input checked="" type="checkbox"/> Geology and Soils	<input type="checkbox"/> Population and Housing	
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Public Services	

### Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	<input type="checkbox"/>
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	<input type="checkbox"/>

  
Alexander MacDonald

Date

6-22-2020

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## SECTION 5.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

### 5.1 Aesthetics

#### 5.1.1 Environmental Setting

This section of the environmental checklist describes the aesthetic, or visual, setting of the project area and vicinity; identifies substantial changes to the visual setting directly or indirectly caused by the Project; and recommends mitigation measures to reduce or eliminate any impacts found to be significant. The discussion contained in this chapter is based upon a qualitative description of the setting derived from photographs, satellite imagery, and site visits.

#### Regional Setting

The visual character of the region in which Proposed Project activities would occur is defined by the heavily developed Sacramento and Folsom metropolitan areas to the west and along the U.S. Highway 50 corridor; areas highly disturbed by historic dredge mining activities south of US Highway 50; and sparsely developed expanses of native grassland that extend south along the base of the Sierra Nevada foothills. Panoramic views from any given location can include paved roadways, unpaved private access roads, densely vegetated riparian corridors, commercial and industrial facilities, office parks, homes, roads, utility lines, oak woodlands, agricultural fields, mine tailings consisting of extensive "hedgerows" of sparsely vegetated cobble piles, and views of the foothills to the east.

#### *State Scenic Highways*

#### *State- and County- Designated Scenic Roadways*

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. There are no designated state scenic highways within view of the Proposed Project site (California Department of Transportation [Caltrans] 2020).

Sacramento County has one route, River Road (Highway 160), in its Scenic Highway Program (Sacramento County 2017). This road runs along the Sacramento River levees in the Delta from the Sacramento City Limits to the southern tip of the Delta. This road is not within view of any element of the Project.

#### Visual Character of the Project Site

As described in the Project Description of this IS/MND, activities associated with the Proposed Project would occur in five general locations: the WRND Parcel where the Phase 1 AWCU and Phase 2 Cap would be constructed; haul roads between the AWCU and the Aerojet Landfill, other haul routes within the AWCU service area; the "borrow site;" and the Aerojet Landfill site.

Views of the AWCU site (Phases 1 and 2) are dominated by relatively flat expanses of grassland. Some remnants of previous landfill activities are visible, largely in the form of excavated depressions in the

landscape and scattered exposures of landfill contents. The Phase 1 portion of the AWCU site is within clear view of users of White Rock Road, a four-lane County public roadway, immediately northeast of the road's intersection with Grant Line Road. Views of the Phase 1 site from White Rock Road west of its intersection with Grant Line Road are also relatively unobstructed, although somewhat more distant from this section of roadway. Views of the Phase 2 Cap area are more prominent from White Rock Road west of the Grant Line intersection and generally unobstructed, although the topography of the site in the Phase 2 area is more variable. Additionally, several small fenced industrial sites that occur along White Rock Road west of the White Rock/Grant Line intersection obscure portions of the view and alter the relatively rural nature of the site from other viewpoints along White Rock Road.

Due to the relatively flat nature of the WRND site and surrounding properties and sparsity of tree cover, long distance views to the northeast and north from White Rock Road are relatively unobstructed. Views from White Rock Road northeast and west of the WRND site contain distant views of open grassland to the west and south and the foothills to the east. Views to the north are dominated by dredger tailing hedgerows, oak woodlands and a variety of industrial complexes on the AR properties.

Public views of the haul routes to be used under the Project are extremely limited due to the routes' central location within the AR property. No public roadways intersect or are adjacent to the proposed haul routes. Distant views of the haul routes from public roadways are obscured by topography and/or vegetation. Views along the routes are dominated by open grassland, patches of oak woodland, sparsely vegetated dredger tailing hedgerows and a small number of AR industrial facilities.

The proposed borrow site is situated within an area of dredger tailing hedgerows. An extensive array of solar collectors is immediately south of the borrow site, between the site and White Rock Road. An AR industrial facility is adjacent to the northeast corner of the borrow site. The upper portion of the tailing piles along the southern boundary of the borrow site can be seen briefly by travelers moving past the site along White Rock Road; however, views are largely obscured by the solar complex and area topography.

The Aerojet Landfill site contains a formerly active landfill for which a clean closure plan has been approved. The views of and on the landfill site are dominated by relatively flat areas of disturbed grassland and unpaved access roads interspersed with areas of densely vegetated oak woodland. A network of unpaved access roads traverses the site. Remnants of mining tailing hedgerows that occur throughout the region remain on the site in areas not altered by previous landfill activities. Public views of the Aerojet Landfill are very limited due to its location entirely within private land. Views from the nearest public roadway, US Highway 50, are nearly entirely obstructed by topography and dense oak woodland and riparian vegetation adjacent to Alder Creek, which parallels U.S. Highway 50 to the north of the Aerojet Landfill site.

## **Regional Setting**

### *State Scenic Highways*

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be



seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view (Caltrans 2020).

#### *Sacramento County General Plan Designated Scenic Highways and Scenic Corridors*

The Sacramento County General Plan designates a Scenic Highway and Scenic Corridor system. According to the General Plan, the nearest designated scenic highway and/or scenic corridor is U.S. Highway 50, located approximately 2.8 miles north of the WRND Parcel. This road is not within view of any element of the Project.

### **5.1.2 Aesthetics (I) Environmental Checklist and Discussion**

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<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

#### **Less than significant Impact**

Discussion:

#### **Phase 1**

##### *Construction and filling*

Given that views of the AWCU Phase 1 site and beyond from White Rock Road contain relatively contiguous expanses of open grassland interspersed with patches of well-developed oak woodland, these views can, arguably, be considered a scenic vista. The quality of this vista, however, is limited by the presence of roadways, visible remnants of previous landfill activities, and the presence of various industrial installations on AR lands that can be seen from White Rock Road. Under Phase 1 of the Project, solid waste would be placed above the existing WRND ground surface, compressed and capped with soil in the area of the WRND closest to White Rock Road east of its intersection with Grant Line Road. During the process of placement and capping, views of the Phase 1 site from White Rock Road would contain mid-range or distant views of heavy equipment, solid waste, and barren soil on capped areas. The height of the proposed fills and capping would extend roughly 30 to 40 feet above the existing ground surface at its highest point (see *Figure 3-2*). While fill and capping activities would adversely affect the quality of the existing views from White Rock Road, the effect would be temporary and somewhat mitigated by the limited quality of the existing view.

Prior to the start of solid waste placement on the Phase 1 site, perimeter fencing would be installed around the Phase 1 site and include several large gates. Fencing would be six-foot-tall cyclone fencing topped with three strands of barbed wire and is intended to protect the site from trespass during active fill placement. The installation of fencing, particularly in close proximity White Rock Road, could substantially alter the rural nature of the current view and present more of an industrial impression of the site, which in turn could adversely affect scenic vistas from White Rock Road. Currently, the site is

bounded by low-profile three-strand barbed wire. To minimize the effect of the proposed fence on viewer attention along White Rock Road, fencing would be placed a minimum of 200 feet from the public roadway. The fencing as proposed would have limited impact on scenic views from the roadway, particularly against the backdrop of the proposed fill, which would further mitigate the visual effect of the proposed fencing on the scenic vista during active fill operations.

As described in the Project Description of this IS/MND, a Haul Route Temporary Access Road and Stormwater Transmission and Outfall Facilities would be constructed at or near the AWCU Phase 1 site. None of these facilities would be within near- or mid-range views of White Rock Road and, therefore, would have **no impact** on any scenic vista observable from the roadway.

#### *Liner System Installation Night Work*

As discussed in the Project Description, should AWCU construction occur during hot summer months (June/July/August) a construction start time as early as 12 midnight could be required during liner system installation. This work would involve up to 25 construction workers and up to 11 pieces of machinery to achieve a production rate of up to 1 acre of liner installed every 2 days. In addition to the equipment listed in *Table 3-2*, because this work would occur at night, "directional" diesel powered light towers would also be employed. This lighting could be required a maximum of 100 days (based on a 50-acre AWCU and 1 acre of liner installed every 2 days) and would be focused on the active construction area. Should liner system installation occur when the daily high temperature is less than 100 degrees, the period of night work could be shortened, or eliminated completely.

Due to use of a light tower, liner installation nighttime work would be visible from White Rock Road. It is not expected that direct views of night work would be visible from other offsite public locations, however a "glow" from the area may be noticeable. Mid-range or distant views of construction lighting from White Rock Road would dominate the view shed and illuminate onsite heavy equipment, barren soil and related activities. However, the AWCU site is mostly isolated from public view and construction lighting would be a temporary effect during early morning hours when public views of the site are at their lowest. Further, light towers would be equipped with cut off "shielding" to focus lighting on the construction area. While nighttime construction would introduce an illuminated construction site and could adversely affect the quality of dark sky views in the immediate area, the effect would be temporary and considered less than significant.

#### *Closure Plan/Long-Term Maintenance*

With the completion of fill and capping operations at the AWCU Phase 1 site, the site would contain an elevated hillock extending approximately 30 to 40 feet above the existing ground surface and with contoured slopes along each side. A simulated view of the Project site after completion of the closure plan from White Rock Road is shown in *Figure 5.1-1. AWCU Photo Simulation*. Given the final height of the fill area and that the highest point of the fill area would be no closer than 1,000 feet from the northern shoulder of White Rock Road, the Phase 1 site would not substantially impinge on distant views observed from White Rock Road.



Looking northeast at current conditions of AWCU southernmost point.



Photo simulation of post-project view of AWCU southernmost point.

The Phase 1 site would be revegetated with grasses consistent in appearance with grass cover in areas adjacent to the site. Perimeter fencing would remain, but, as described in the Project Description, a landscape buffer would be established as part of Phase 2 improvements along the site perimeter. The proposed landscape vegetation as it matures would serve to screen views of the perimeter fencing thus reducing the long-term effect of fencing on any scenic vistas observed from White Rock Road.

For the reasons presented above, the impact of Phase 1 development of the AWCU site on a scenic vista is considered **less than significant**.

#### *Haul Route Impacts*

As discussed in the Visual Character description above, views along the proposed haul routes are dominated by open grassland, patches of oak woodland, sparsely vegetated dredger tailing hedgerows and a small number of AR industrial facilities. Public views of the haul roads to be used for the Project are extremely limited and use of and improvements to the Project haul roads would affect no scenic vistas that are viewable to the general public or any other sensitive viewers. For these reasons, the impact on scenic vistas would be **less than significant**.

#### *Borrow Site Operations*

The borrow site is located in an area highly disturbed by historic mining activities and adjacent to established industrial operations, including an extensive array of solar panels along White Rock Road and another industrial facility immediately east of the proposed borrow site. As such, the borrow site is not located within a scenic vista. Therefore, the impact of excavation and process of materials at the borrow site would have **no impact** on a scenic vista.

#### *Waste Removal, Sorting and Stockpiling at the Aerojet Landfill*

#### Excavation and Filling

Excavation and loading of materials on the Aerojet Landfill site and offsite transport of those materials would be conducted consistent with operations described in the approved CCP. The Aerojet Landfill site is isolated from public view due to its location surrounded by private land, and views of the site from the nearest public roadway (US Highway 50) are obscured by vegetation and topography. For these reasons, the impact of proposed excavation and fill activities on the Aerojet Landfill site associated with the Proposed Project would be **less than significant**.

### **Phase 2**

The capping and closure of the WRND Phase 2 site would entail rough grading and shaping portions of the Phase 2 site to provide for a consistent surface on which the actual cover system could be constructed. The cover system would be designed to shed water to designated areas, resist erosion, and blend in with the surrounding landscape to the extent practical. Grading and capping activities would include the use of hydraulic excavators, articulated off-road trucks, motor graders, and dozers to "relocate" soils and waste materials from within the planned cover system footprint. While the operation



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of equipment during Phase 2 would adversely affect the quality of existing scenic vistas observed from White Rock Road, this effect would be temporary and is considered less than significant.

Upon closure of the Phase 2 site, the site would be revegetated and would be consistent in appearance with existing views of the site and views of surrounding properties, and the site would contain no features that substantially affect scenic vistas from White Rock Road. As discussed above, Phase 2 construction would also include installation of a landscape plan to screen views of the Phase 1 AWCU and associated fence line from Grant Line Road/White Rock Road public viewing locations. For these reasons, the impact of the Phase 2 Cap on scenic vistas would be **less than significant**.

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<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

### **Phases 1 and 2**

As discussed above in *Section 5.1.1 Environmental Setting*, the Project site is not within view of any state or locally designated scenic highways. In addition, the project would not damage scenic resources including trees, rock outcroppings or historic buildings. The Project, therefore, would have **no impact** on views from such roadways.

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<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

## Phase 1

### *Construction and filling*

As described above, public views of the AWCU Phase 1 site are primarily views of the site afforded to travelers along White Rock Road northeast and west of its intersection with Grant Line Road. The visual character of these views is largely rural, with relatively flat expanses of grassland visible in near and mid-range views from the road, and distant views of oak woodland and dredge tailing hedgerows in view beyond the site. Various industrial complexes associated with AR properties can be seen in the distance beyond the AWCU site. Private access roads on and around the AWCU site area are also visible from White Rock Road. The quality of view of the AWCU site is somewhat limited by the presence of these roadways, visible remnants of previous landfill activities, and the presence of various industrial installations on AR lands that can be seen from White Rock Road, including several small structures adjacent to White Rock Road just west of its intersection with Grant Line Road.

Under Phase 1 of the Project, solid waste would be placed above the existing WRND ground surface, compressed, and capped with soil in the area of the WRND closest to White Rock Road, east of its intersection with Grant Line Road. During the process of placement and capping, views of the Phase 1 site from White Rock Road would contain mid-range or distant views of heavy equipment, solid waste, and barren soil on capped areas. The proposed fills and capping would extend roughly 30 to 40 feet above the existing ground surface at its highest point. While fill and capping activities would adversely affect the quality, i.e., the rural nature of the existing views from White Rock Road, the effect would be temporary and somewhat mitigated by the limited quality of the existing view.

As described above, perimeter fencing would be installed around the Phase 1 AWCU prior to the start of solid waste placement on the Phase 1 site and would include several large gates. Fencing would be six-foot-tall cyclone fencing topped with three strands of barbed wire and is intended to protect the site from trespass during active fill placement and long-term management. The installation of fencing, particularly in close proximity to White Rock Road, could substantially alter the rural nature of the current view and present a more industrial impression of the site, which in turn could adversely affect the character and quality of views from White Rock Road. Currently, the site is bounded by low-profile three-strand barbed wire, which is consistent with other rural properties along White Rock Road. AWCU fencing would be placed a minimum of 200 feet from the public roadway to minimize the effect of the proposed fence on viewer attention along White Rock Road. In addition, a landscape buffer would be installed in close proximity to the proposed fence as part of Phase 2 construction. The landscaping would mitigate the long-term impact of fencing on views by screening the fence from view or by providing a backdrop that would serve to reduce the visual effect of the fencing.

As described in the Project Description of this IS/MND, a Haul Route Temporary Access Road and Stormwater Transmission and Outfall Facilities would be constructed at or near the AWCU Phase 1 site. None of these facilities would be within near- or mid-range views of White Rock Road and, therefore, would have **no impact** on the character or quality of views from the roadway.

#### *Closure Plan/Long-Term Maintenance*

With the completion of fill and capping operations at the AWCU Phase 1 site, the site would contain an elevated hillock extending approximately 30 to 40 feet above the existing ground surface and with contoured slopes along each side. The Phase 1 site would be revegetated with grasses consistent in appearance with grass cover in areas adjacent to the site. Perimeter fencing would remain, but, as described in the Project Description above, a landscape buffer would be established along the site perimeter.

For the reasons presented above, the impact of Phase 1 development of the AWCU site on a scenic vista is considered **less than significant**.

#### *Haul Route Impacts*

As discussed in the Visual Character setting description above, views along the proposed haul routes are dominated by open grassland, patches of oak woodland, sparsely vegetated dredger tailing hedgerows and a small number of AR industrial facilities. Public views of the haul roads to be used for the Project are extremely limited and use of and improvements to the Project haul roads would affect no scenic vistas that are viewable to the general public or any other sensitive viewers. Proposed activities along the haul roads, therefore, would have **no impact** on the visual character of views from public roadways.

#### *Borrow Site Operations*

The borrow site is located in an area highly disturbed by historic mining activities and adjacent to established industrial operations, including an extensive array of solar panels along White Rock Road and another industrial facility immediately east of the proposed borrow site. As such, the visual character of the borrow site is characterized as disturbed and industrial as seen from White Rock Road, and the quality of this view is low. Therefore, the impact of excavation and processing of materials at the borrow site on visual quality and character of views from White Rock Road would be **less than significant**.

#### *Waste Removal, Sorting and Stockpiling at the Aerojet Landfill*

Excavation and loading of materials on the Aerojet Landfill site and offsite transport of those materials would be consistent with operations described in the approved CCP. In addition, the Aerojet Landfill site is isolated from public view due to its location surrounded by private land, and views of site from the nearest public roadway (US Highway 50) are obscured by vegetation and topography. For these reasons, the impact of proposed excavation and fill activities on the Aerojet Landfill site associated with the Proposed Project would be **less than significant**.

### **Phase 2**

The capping and closure of the WRND Phase 2 site would entail rough grading and shaping portions of the Phase 2 site to provide for a consistent surface on which the actual cover system could be constructed. The cover system would be designed to shed water to designated areas, resist erosion, and blend in with the surrounding landscape to the extent practical. Grading and capping activities would include the use of hydraulic excavators, articulated off-road trucks, motor graders, and dozers to "relocate" soils and waste materials from within the planned cover system footprint. While the operation

of equipment during Phase 2 would adversely degrade the existing visual character or quality of public views of the site and its surroundings as observed from White Rock Road, this effect would be temporary and is **considered less than significant**.

Upon closure of the Phase 2 site, the site would be revegetated and would be consistent in appearance with existing views of the site and views of surrounding properties, and the site would contain no features that degrade the existing visual character or quality of public views of the site and its surroundings. As discussed above, Phase 2 construction would also include installation of a landscape plan to screen views of the Phase 1 AWCU and associated fence line from Grant Line Road/White Rock Road public viewing locations. For these reasons, the impact of the Phase 2 Cap on character or quality of public views would be **less than significant**.

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Except as provided in Public Resources Code Section 21099, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

Excavation, transport and fill operations for Phases 1 and 2 Project activities would occur exclusively during daylight hours: therefore, the operation of haul trucks and heavy equipment would not generate new lighting or adversely affect nighttime views. While most construction and filling activities would be conducted during daylight hours, some deviation may be necessary depending on the construction task. For example, liner construction/installation can be temperature sensitive and may require start times earlier than 7:00a.m. which may require temporary construction lighting. As discussed under *Liner System Installation Night Work* in response a) above, temporary nighttime lighting is found to be less than significant. No permanent onsite stationary light sources are proposed for any element of the Proposed Project. Construction-related facilities and proposed perimeter fencing would consist of non-reflective materials only. For these reasons, the impact is found to be **less than significant**.

**5.1.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**5.2 Agriculture and Forestry Resources**

**5.2.1 Environmental Setting**

The WRND parcel is an undeveloped parcel in northeast Sacramento County, historically used by Sacramento County as a pre-regulation dump. The parcel is characterized by variable topography/tailing



piles due to extensive gold dredging that occurred on the property in the late 1930s and early 1940s. Elevations range from 250 to 290 feet above mean sea level. The borrow site location consists of 46.2 acres of existing mine tailings and level undeveloped areas located south of Faulk Road within the Aerojet Campus. Surrounding properties are primarily vacant/undeveloped. The land adjacent to the eastern and southern borders of the WRND parcel are designated general agricultural by Sacramento County General Plan Land Use Element (Sacramento County 2017) and support some agricultural uses including grazing.

## **Regulatory Setting**

### *Farmland Mapping and Monitoring Program*

The California Department of Conservation (DOC) manages the Farmland Mapping and Monitoring Program, which identifies and maps significant farmland. Farmland is classified using a system of five categories including: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The classification of farmland as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is based on the suitability of soils for agricultural production, as determined by a soil survey conducted by the Natural Resources Conservation Service [DOC 2017a]. DOC also manages the California Important Farmland Finder, an interactive website. This website identifies the WRND parcel as being Other Land, defined as land not included in any other mapping category. Common examples include low-density rural developments, brush, timber, wetland, riparian areas not suitable for livestock grazing, among others. The borrow site is also described as Other Land, but a small portion of this area may include Urban and Built-Up Land (not suitable for farmland).

### *Williamson Act*

The Williamson Act (California Land Conservation Act of 1965) is a state agricultural land protection program in which local governments elect to participate. The intent of the program is to preserve agricultural lands by discouraging their premature and unnecessary conversion to urban uses. DOC maintains mapping for Williamson Act contracts by county. As shown on the map for Sacramento County, the Project site is not subject to a Williamson Act contract [DOC 2010].

## **5.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion**

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

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Discussion:

**Phases 1 and 2**

Per the DOC Farmland Mapping and Monitoring Program, neither the WRND parcel nor the Borrow Site include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. This website identifies the WRND parcel as being Other Land, and, therefore, not considered to be agriculturally important land [DOC 2017b]. The borrow site is also primarily made up of Other Land, but a small portion of this area may include Urban and Built-Up Land (not suitable for farmland). Lands adjacent to the eastern border of the WRND parcel do include farmland of local importance, but no adjacent lands would be impacted by the Proposed Project. **No impact** would occur, and no mitigation is required.

---

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

**Phases 1 and 2**

The WRND site is zoned Light Industrial (M-1), but would be rezoned Aerojet Industrial Zone, defined in the Aerojet SPA, Chapter 8, Article 3, in the Zoning Code of Sacramento County, as part of the Proposed Project. Both the current and proposed zoning districts are not intended for agricultural use. The Borrow Site is already part of the Aerojet Industrial Zone. As shown on the DOC Williamson Act Map for Sacramento County, the Project site is not subject to a Williamson Act contract [DOC 2010]. Therefore, the Proposed Project would have **no impact** Williamson Act contract lands or land zoned for agricultural uses. No mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

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Discussion:

**Phases 1 and 2**

The Project site contains no forest or timber resources and is not zoned for forest land protection or timber production. There would be **no impact** and no mitigation is required.

---

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

**Phases 1 and 2**

See answer to c). The Proposed Project would not convert forest land to non-forest use. There would be **no impact** and no mitigation is required.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

The Proposed Project is located within Sacramento County on land designated for industrial use. The WRND site and Borrow Site do not support farming or forest use. Therefore, Project development would not result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Related impacts are considered **less than significant** and no mitigation is required.

**5.2.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.3 Air Quality**

### **5.3.1 Environmental Setting**

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Sacramento Valley Air Basin, which encompasses the Project site, pursuant to the regulatory authority of the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

#### **Sacramento Valley Air Basin**

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Project site is located in the Sacramento Valley Air Basin (SVAB), which is under the jurisdiction of the SMAQMD. The air basin is relatively flat, bordered by mountains to the east, west, and north and by the San Joaquin Valley to the south. Air flows into the SVAB through the Carquinez Strait, moving across the Sacramento Delta, and bringing with it pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storm systems. From May to October, the region's intense heat and sunlight lead to high ozone pollutant concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

#### **Meteorological Influences on Air Quality**

Regional flow patterns affect air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions, such as moderate winds, disperse pollutants and reduce pollutant concentrations. However, the mountains surrounding the SVAB can create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right, and a temperature inversion exists. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical air flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the valley is characterized by stagnant morning air or light winds, with the delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze



transports the airborne pollutants to the north out of the valley. During about half of the days from July to September, however, a phenomenon called the Schultz Eddy prevents this from occurring. Instead of allowing the prevailing wind patterns to move north and carry the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating federal or state standards.

### **Sources of Regional Air Pollution**

Motor vehicle transportation, including automobiles, trucks, transit buses, and other modes of transportation, is the major contributor to regional air pollution. Stationary sources were once important contributors to both regional and local pollution; however, their role has been substantially reduced in recent years by pollution control programs.

### **Criteria Air Pollutants**

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O<sub>3</sub>), coarse particulate matter (PM<sub>10</sub>), and fine particulate matter (PM<sub>2.5</sub>) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>) are considered to be local pollutants because they tend to accumulate in the air locally. Particulate Matter (PM) is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in *Table 5.3-1*.

<b>Table 5.3-1. Criteria Air Pollutants- Summary of Common Sources and Effects</b>		
<b>Pollutant</b>	<b>Major Manmade Sources</b>	<b>Human Health &amp; Welfare Effects</b>
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO <sub>2</sub>	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O <sub>3</sub>	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N <sub>2</sub> O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM <sub>10</sub> & PM <sub>2.5</sub>	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO <sub>2</sub>	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

## Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SoCAB are in compliance with the state and federal one- and eight-hour standards.

## Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides ( $\text{NO}_x$ ). Motor vehicle emissions are the main source of  $\text{NO}_x$  in urban areas.  $\text{NO}_x$  is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to  $\text{NO}_x$  increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of  $\text{NO}_x$ , such as NO and  $\text{NO}_2$ , attribute to the formation of  $\text{O}_3$  and  $\text{PM}_{2.5}$ . Epidemiological studies have also shown associations between  $\text{NO}_2$  concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

## Ozone

$\text{O}_3$  is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROGs and  $\text{NO}_x$  undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust.  $\text{NO}_x$  forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level  $\text{O}_3$  to form. Ground-level  $\text{O}_3$  is the primary constituent of smog. Because  $\text{O}_3$  formation occurs over extended periods of time, both  $\text{O}_3$  and its precursors are transported by wind and high  $\text{O}_3$  concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when  $\text{O}_3$  levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level  $\text{O}_3$  exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

## **Particulate Matter**

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM<sub>10</sub>) and small than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM<sub>10</sub> is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM<sub>10</sub> generally settles out of the atmosphere rapidly and is not readily transported over large distances. PM<sub>2.5</sub> is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO<sub>x</sub>, sulfur oxides (SO<sub>x</sub>) and VOCs. PM<sub>2.5</sub> can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high PM<sub>2.5</sub> and PM<sub>10</sub> levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM<sub>10</sub> and PM<sub>2.5</sub>. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM<sub>10</sub> and PM<sub>2.5</sub>. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

## **Toxic Air Contaminants**

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

## **Diesel Exhaust**

Most recently, CARB identified diesel particulate matter as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes

the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

### **Ambient Air Quality**

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are the pollutant species most potently affecting the Project region. As described in detail below, the region is designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub> (CARB 2018). The Folsom air quality monitoring station, located at 50 Natoma Street approximately 2.5 miles north of the Project site, monitors ambient concentrations of O<sub>3</sub> and PM<sub>2.5</sub>. The Sacramento-Branch Center #2 air quality monitoring station, located at 3847 Branch Center Road, approximately 8.3 miles west of the Project site, monitors ambient concentrations of PM<sub>10</sub>. Ambient emission concentrations would vary due to localized variations in emission sources and climate and should be considered “generally” representative of ambient concentrations in the Project area.

Table 5.3-2 summarizes the published data concerning O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> since 2016 for each year that the monitoring data is provided.

<b>Table 5.3-2. Summary of Ambient Air Quality Data</b>			
<b>Pollutant Standards</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>O<sub>3</sub></b>			
Max 1-hour concentration (ppm)	0.111	0.107	0.105
Max 8-hour concentration (ppm) (state/federal)	0.095 / 0.94	0.87 / 0.86	0.094 / 0.093
<b>PM<sub>10</sub></b>			
Max 24-hour concentration (µg/m <sup>3</sup> ) (state/federal)	44.0 / 45.0	81.0 / 79.0	212.0 / 200.0
Number of days above 24-hour standard (state/federal)	0 / 0	18.4 / 0	24.1 / 6.1
<b>PM<sub>2.5</sub></b>			
Max 24-hour concentration (µg/m <sup>3</sup> ) (state/federal)	25.7 / 25.7	36.7 / 33.2	104.5 / 104.5
Number of days above federal 24-hour standard	0.0	0.0	9.0

Source: CARB 2019

µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million

\* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the Sacramento County portion of the SVAB, which encompasses the Project site, is included in *Table 5.3-3*.

<b>Table 5.3-3. Attainment Status of Criteria Pollutants in the Sacramento County Portion of the SVAB</b>		
<b>Pollutant</b>	<b>State Designation</b>	<b>Federal Designation</b>
O <sub>3</sub>	Nonattainment	Nonattainment
PM <sub>10</sub>	Nonattainment	Attainment
PM <sub>2.5</sub>	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO <sub>2</sub>	Attainment	Unclassified/Attainment
SO <sub>2</sub>	Attainment	Unclassified/Attainment

Source: CARB 2018

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub> (CARB 2018).

### **Sensitive Receptors**

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptors to the Project site are residences located approximately 1.6 miles south of the proposed AWCU in the City of Rancho Cordova.



## Regulatory Setting

### *Federal*

#### Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO<sub>2</sub>) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO<sub>2</sub>.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. *Table 5.3-3* above lists the federal attainment status of the Sacramento County portion of the SVAB for the criteria pollutants.

### *State*

#### California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California’s State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

#### California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and

control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The SMAQMD 2015 *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2015), the *PM<sub>10</sub> Implementation/Maintenance Plan and Re-Designation Request* (2010), and *PM<sub>2.5</sub> Implementation/Maintenance Plan and Re-designation Request for Sacramento PM<sub>2.5</sub> Nonattainment Area* (2013) are air quality attainment plans and reports that constitute the SIP for the Sacramento County portion of the SVAB. These air quality planning documents present comprehensive strategies to reduce the O<sub>3</sub> precursor pollutants (ROG and NO<sub>x</sub>) as well as PM emissions from stationary, area, mobile, and indirect sources.

#### *Local*

#### *Sacramento Metropolitan Air Quality Management District*

The SMAQMD is the air pollution control agency for Sacramento County, including the Project site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the Sacramento County portion of the SVAB. The SMAQMD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for the Sacramento area. The SMAQMD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with SMAQMD rules and regulations, and conducts long-term planning related to air quality. The SMAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities.

The following is a list of noteworthy SMAQMD rules that are required of construction activities associated with the Proposed Project:

- **Rule 402: Nuisance.** The purpose of this rule is to limit emissions which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.
- **Rule 403: Fugitive Dust.** The purpose of this rule is to require that reasonable precautions be taken so as not to cause or allow the emissions of fugitive dust from non-combustion sources from being airborne beyond the property line from which the emission originates.

#### *2008 Closure Modification Plan/2015 Clean Closure Plan*

The fully approved CCP authorizes the excavation, onsite sorting, stockpiling, processing and offsite hauling and disposal of Aerojet Landfill Transfer Material. The Proposed Project is consistent with the

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approved CCP with one exception, which includes revisions to the assumed offsite Transfer Material haul route and final disposal location. Specifically, under the Proposed Project the proposed AWCU would be the final disposal location and the haul route would consist of the existing paved private roads within the access-controlled Aerojet property. Compared with the fully approved CCP as analyzed under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum, the use of the WRND site as proposed by the Project has the benefit of instigating substantially less haul truck trips equating to a reduction of 4.19 million miles traveled.

For the purposes of disclosure, the 2017 version of the Emission FACtor model (EMFAC) developed by CARB was employed to calculate the quantity of air pollutant emissions that would be generated by the 4.19 million miles of haul truck travel that would be eliminated under the Proposed Project. EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources including cars, trucks, and buses in California. EMFAC 2017 includes the latest data on California's truck fleets and travel activity. *Table 5.3-4* identifies the quantity of air pollutant emissions that would be generated by 4.19 million miles of haul truck travel.

<b>Table 5.3-4. Approved CCP-Related Haul Truck Emissions</b>							
<b>Construction Year</b>	<b>Pollutant (pounds per day)</b>						
	<b>ROG</b>	<b>NOX</b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>CO<sub>2e</sub></b>
<b>Pounds per Day</b>							
Approved Haul Trucks	32.91	471.83	81.04	1.11	14.96	10.69	154,965
<b>Tons per Year</b>							
Approved Haul Trucks	2.4	34.9	5.99	0.1	1.1	0.8	8,256

Source: EMFAC2017. Refer to *Attachment A* for Model Data Outputs.

Notes: Emissions projections account for the increase of 4.19 million miles traveled by haul trucks compared to the Proposed Project. The approved CCP estimated 148 days of truck hauling, thus daily vehicle miles traveled equates to 28,513.5 miles  $[4,190,000 \div 148 = 28,310.8]$ . It is noted that Table 2-6 only identifies the quantity of air pollutant emissions that would be generated by 4.19 million miles of haul truck travel, and does not include emissions that would occur from excavating and loading Transfer Material from the Aerojet Landfill as currently allowed under the approved CCP and as analyzed under the previous Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration.

During construction, the Project would implement a variety of Environmental Stewardship Measures (ESMs) designed to avoid short- and long-term effects on the physical and human environment as mandated under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum. These measures are considered part of the Project. Project Environmental Stewardship Measures specific to the generation of air pollutant emissions include ESM-12, *Implement Measures to Minimize Air Quality Impacts*, which requires the Project to implement the several best management practices intended to minimize air quality

impacts, specifically the installation of cobble at construction site entrance/exit, suspending grading during high wind events, maintaining adequate moisture in disturbed or stockpiled materials, applying water mist and spray to control fugitive dust emissions, and compacting or using soil stabilizers and/or temporary cover materials to protect disturbed or stockpiled materials. ESM-13, *Perform Air Quality Monitoring to Protect Construction Workers*, requires the use of aerosol meters and other local air monitoring devices during the placement of Transfer Material in order to ensure emission compliance and worker safety. As part of this Environmental Stewardship Measure, five gas meters with photo ionization detector functions will be utilized during excavation and other remedial efforts to monitor for typical conditions and contaminants of concern that might be encountered. Perimeter air monitoring for visible dust and other contaminants must also be established.

## **Air Quality Emissions Impact Assessment**

### *Thresholds of Significance*

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

- 1) Conflict with or obstruct implementation of any applicable air quality plan.
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- 3) Expose sensitive receptors to substantial pollutant concentrations.
- 4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

### *Sacramento Metropolitan Air Quality Management Thresholds*

The significance criteria established by the applicable air quality management or air pollution control district (SMAQMD) may be relied upon to make the above determinations. According to the SMAQMD, an air quality impact is considered significant if the proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SMAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in *Table 5.3-5*.

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<b>Table 5.3-5. SMAQMD Significance Thresholds</b>				
<b>Air Pollutant</b>	<b>Construction Activities</b>		<b>Operations</b>	
Reactive Organic Gas	-		65 pounds/day	
Nitrogen Oxide	85 pounds/day		65 pounds/day	
Carbon Monoxide	-		-	
Sulfur Oxide	-		-	
Coarse Particulate Matter	80 pounds/day (If all feasible BACT/BMP applied)	14.6 tons/year	80 pounds/day (If all feasible BACT/BMP applied)	14.6 tons/year
Fine Particulate Matter	82 pounds/day (If all feasible BACT/BMP applied)	15 tons/year	82 pounds/day (If all feasible BACT/BMP applied)	15 tons/year

Source: SMAQMD 2019

Notes: BACT = best available control technology; BMP = best management practices

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

#### *Methodology*

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the SMAQMD. Where Project-related criteria air pollutant quantification was required, emissions from offroad equipment and ground disturbance were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Emissions from worker commute trips were also calculated with CalEEMod. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Emissions generated from Project haul truck trips are estimated with the use of the 2017 version of the Emission FACtor model (EMFAC). As previously described, EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources including cars, trucks, and buses in California. EMFAC 2017 includes the latest data on California's truck fleets and travel activity. Project air pollutant emissions were calculated using a combination of model defaults for Sacramento County and Project details contained in *Tables 3-1, 3-2, and 3-3*. The Project is expected to begin construction in the Spring of 2021. Additionally, this analysis assumes the maximum 1,000,000 CY would be hauled.



### 5.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

#### Phases 1 and 2

#### Project Consistency with Air Quality Planning

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project site is located within the Sacramento County portion of the SVAB, which is under the jurisdiction of the SMAQMD. The SMAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the SVAB is in nonattainment. The SMAQMD is required to submit air quality plans and rate-of-progress milestone evaluations in accordance with the federal Clean Air Act. The SMAQMD air quality attainment plans and reports, which include the *2015 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2015), the *PM<sub>10</sub> Implementation/Maintenance Plan and Re-Designation Request* (2010), and *PM<sub>2.5</sub> Implementation/Maintenance Plan and Re-designation Request for Sacramento PM<sub>2.5</sub> Nonattainment Area* (2013), present comprehensive strategies to reduce the ozone precursor pollutants (ROG and NO<sub>x</sub>) as well as particulate matter (PM) emissions from stationary, area, mobile, and indirect sources.

A Project is consistent with regional air quality planning efforts in part if it is consistent with the population and housing assumptions that were used in the development of the SMAQMD air quality plans. The Project would not be contributing to an increase in population or housing growth. Furthermore, as shown in *Tables 5.3-6, 5.3-7, and 5.3-8* below, all Project emissions would fall below SMAQMD significance thresholds.

Furthermore, a comparison of *Table 5.3-4* and *Tables 5.3-6 and 5.3-7* show that Project NO<sub>x</sub> and ROG emissions resulting from Project implementation are substantially reduced compared with the NO<sub>x</sub> and

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ROG emissions that would be generated by haul truck trips currently allowed under the approved CCP. This reduction in O<sub>3</sub> precursor emissions would be a beneficial impact attributable to the Project.

In conclusion, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by SMAQMD to develop its air quality attainment plans. Project emissions would be emitted below SMAQMD significance thresholds. Lastly, it is noted that the Project would reduce the distance of haul truck travel currently approved and result in a reduction of emissions. The Project would not conflict with SMAQMD's air quality planning.

In conclusion, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by SMAQMD to develop its air quality attainment plans. Furthermore, the Project would reduce the distance of haul truck travel currently approved and result in a reduction of emissions. The Project would not conflict with SMAQMD's air quality planning. **There would be no impact**, and no mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**Less than significant with mitigation incorporated.**

Discussion:

**Phases 1 and 2**

**Project Construction-Generated Criteria Air Quality Emissions**

*Construction Significance Analysis*

Emissions associated with Project implementation would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project implementation: operation of the heavy-duty equipment (i.e., excavators, loaders, crushers, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to SMAQMD Rule 403, which, as previously described, requires taking reasonable precautions to prevent the emissions of fugitive dust, such as using water or chemicals, where possible, for control of dust during the clearing of land and other construction activities. The Project also includes

implementation of ESM-12 (Implement Measures to Minimize Air Quality Impacts) which contains similar best management practices to reduce dust.

Emissions associated with Project offroad equipment, worker commute trips, and ground disturbance were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Emissions generated from Project haul truck trips are estimated with EMFAC 2017. See *Appendix C* for more information regarding the construction assumptions, including types of construction equipment used, haul truck mileage and idling rates, and Project duration, used in this analysis. While construction of the AWCU is expected to commence in Spring 2021 and the exact timing of hauling and depositing all the Transfer Material at the WRND is unknown, Aerojet commits to an AWCU closure within 15 years or by the end of 2035. The work involved would not be continuous, and it is estimated that the actual work constructing the WRND and hauling and depositing Transfer Material would occur in fits and starts throughout the 15-year period. However, emissions predictions in this analysis are based on Phase 1 of the Project commencing in the Spring of 2021 and continuing in a single phase spanning 29 months into the end of 2023, and Phase 2 beginning in 2024. This is conservative as while the actual timing of Project implementation would be dictated by several other forces resulting in Project implementation lasting as much as 15 years, CalEEMod and EMFAC incorporates lower emission factors associated with construction equipment and haul trucks in future years due to improved emissions controls and fleet modernization through turnover. Thus, calculating Project emissions to account for Project implementation at the earliest dates provides the highest estimate of daily emissions.

Predicted maximum daily emissions attributable to Project implementation are summarized in *Table 5.3-6*. Such emissions are short-term and of temporary duration, lasting only as long as Project implementation activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SMAQMD's thresholds of significance.

<b>Table 5.3-6. Project Construction/Implementation-Related Emissions (Daily)</b>						
<b>Construction Year</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</b>	<b>NOX</b>	<b>CO</b>	<b>SO2</b>	<b>PM10</b>	<b>PM2.5</b>
<b>Pounds per Day</b>						
<b>Mobilization</b>						
Offroad Equipment & Ground Disturbance	1.33	13.24	11.37	0.02	0.63	0.52
<b>Mobilization Total</b>	<b>1.33</b>	<b>13.24</b>	<b>11.37</b>	<b>0.02</b>	<b>0.63</b>	<b>0.52</b>
<b>Clearing &amp; Grubbing</b>						
Offroad Equipment & Ground Disturbance	4.02	39.44	23.34	0.04	9.20	4.93
Haul Truck Travel & Idling	0.13	5.58	0.95	0.02	0.03	0.03
<b>Clearing &amp; Grubbing Total</b>	<b>4.15</b>	<b>45.02</b>	<b>24.29</b>	<b>0.06</b>	<b>9.23</b>	<b>4.96</b>
<b>Borrow Site Operations</b>						
Offroad Equipment & Ground Disturbance	2.81	24.40	21.28	0.03	4.53	2.79
<b>Borrow Site Operations Total</b>	<b>2.81</b>	<b>24.40</b>	<b>21.28</b>	<b>0.03</b>	<b>4.53</b>	<b>2.79</b>

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<b>Table 5.3-6. Project Construction/Implementation-Related Emissions (Daily)</b>						
<b>Construction Year</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</b>	<b>NOX</b>	<b>CO</b>	<b>SO2</b>	<b>PM10</b>	<b>PM2.5</b>
<b>Rough Grading</b>						
Offroad Equipment & Ground Disturbance	4.15	41.87	22.00	0.04	8.27	4.80
Haul Truck Travel & Idling	0.26	3.61	3.69	0.00	0.00	0.00
<b>Rough Grading Total</b>	<b>4.41</b>	<b>45.48</b>	<b>25.69</b>	<b>0.04</b>	<b>8.27</b>	<b>4.80</b>
<b>Road Access Improvements</b>						
Offroad Equipment & Ground Disturbance	0.83	8.86	5.80	0.01	0.42	0.32
Haul Truck Travel & Idling	0.04	1.09	0.65	0.00	0.00	0.00
<b>Road Access Total</b>	<b>0.87</b>	<b>9.95</b>	<b>6.45</b>	<b>0.01</b>	<b>0.42</b>	<b>0.32</b>
<b>Vapor/Gas System Installation</b>						
Offroad Equipment & Ground Disturbance	4.08	38.44	23.33	0.05	10.81	6.23
Haul Truck Travel & Idling	2.10	44.06	25.65	0.13	0.15	0.14
<b>Vapor/Gas System Total</b>	<b>6.18</b>	<b>82.50</b>	<b>49.98</b>	<b>0.18</b>	<b>10.96</b>	<b>6.37</b>
<b>Liner System Installation</b>						
Offroad Equipment & Ground Disturbance	1.83	16.23	18.58	0.03	0.99	0.75
<b>Liner System Total</b>	<b>1.83</b>	<b>16.23</b>	<b>18.58</b>	<b>0.03</b>	<b>0.99</b>	<b>0.75</b>
<b>Hauling/Placement</b>						
Offroad Equipment & Ground Disturbance	3.17	29.15	19.39	0.04	8.42	4.42
Haul Truck Travel & Idling	1.94	47.93	22.24	0.15	0.20	0.19
<b>Hauling/Placement Total</b>	<b>5.11</b>	<b>77.08</b>	<b>41.63</b>	<b>0.19</b>	<b>8.62</b>	<b>4.61</b>
<b>Phase 1 Cap &amp; Cover Installation</b>						
Offroad Equipment & Ground Disturbance	3.73	32.07	31.94	0.05	7.97	4.52
Haul Truck Travel & Idling	1.04	16.90	14.02	0.01	0.02	0.02
<b>Phase 1 Cap/Cover Total</b>	<b>4.77</b>	<b>48.97</b>	<b>45.96</b>	<b>0.06</b>	<b>7.99</b>	<b>4.54</b>
<b>Site Fencing</b>						
Haul Truck Travel & Idling	0.47	4.33	5.01	0.01	0.21	0.16
<b>Site Fencing Total</b>	<b>0.47</b>	<b>4.33</b>	<b>5.01</b>	<b>0.01</b>	<b>0.21</b>	<b>0.16</b>
<b>Phase 2 Cap</b>						
Offroad Equipment & Ground Disturbance	3.85	34.31	30.83	0.06	9.95	6.03
Haul Truck Travel & Idling	0.99	14.87	14.68	0.04	0.01	0.01
<b>Phase 2 Cap Total</b>	<b>4.84</b>	<b>49.18</b>	<b>45.51</b>	<b>0.10</b>	<b>9.96</b>	<b>6.04</b>
<b>SMAQMD Daily Significance Threshold</b>	-	85 pounds/day	-	-	80 pounds/day (If all feasible BACT/BMP applied)	82 pounds/day (If all feasible BACT/BMP applied)
<b>Exceed SMAQMD Daily Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2016.3.2, EMFAC 2017. Refer to Appendix C for Model Data Outputs.

Notes: BACT = best available control technology; BMP = best management practices.

Emissions estimates account for the anticipated equipment fleet and number of workers identified in Table 3-2, as well as the amount of material movement, haul truck trips, and haul truck trip lengths identified in Table 3-1.

As shown in Table 5.3-6, the highest amount of daily emissions would be generated during the installation of the vapor/gas collection system and during the hauling and placement of 1,000,000 CY of Transfer

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Material. As also shown, the amount of daily emissions would fall below the SMAQMD daily significance threshold for NO<sub>x</sub>. SMAQMD states that projects generating less than 80 pounds of PM<sub>10</sub> and less than 82 pounds of PM<sub>2.5</sub> daily while also implementing SMAQMD's Basic Construction Emission Control Practices, known as Best Management Practices (BMPs) are considered less than significant. The Project would not exceed the SMAQMD significance criterion for NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> with the implementation of Mitigation Measure **AQ-1**. Mitigation Measure **AQ-1** requires best available control technology (BACT) and BMPs to be implemented.

Predicted maximum annual emissions attributable to Project implementation are summarized in Table 5.3-7.

<b>Table 5.3-7. Project Construction/Implementation-Related Emissions (Annual)</b>						
<b>Construction Year</b>	<b>Pollutant (tons per year)</b>					
	<b>ROG</b>	<b>NOX</b>	<b>CO</b>	<b>SO2</b>	<b>PM10</b>	<b>PM2.5</b>
<b>Tons per Year</b>						
Year 2021 (Mobilization, Clearing & Grubbing, Borrow Site Operations & Rough Grading)	0.3	3.1	2.3	0.0	0.6	0.4
Year 2022 (Rough Grading, Road Access Improvements, Vapor/Gas System Installation, Liner System Installation, & Hauling/Placement Operations)	0.3	4.6	3.0	0.0	0.7	0.4
Year 2023 (Hauling/Placement, Phase 1 Cap & Cover Installation, & Site Fencing)	0.3	4.1	3.0	0.0	0.5	0.3
Year 2024 (Phase 2 Cap)	0.1	0.9	0.5	0.0	0.2	0.1
<i>SMAQMD Annual Significance Threshold</i>	-	-	-	-	<i>14.6 tons/year</i>	<i>15 tons/year</i>
<b>Exceed SMAQMD Annual Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to Appendix C for Model Data Outputs.

Notes: BACT = best available control technology; BMP = best management practices.

Emissions estimates account for the anticipated equipment fleet and number of workers identified in Table 3-2, as well as the amount of material movement, haul truck trips, and haul truck trip lengths identified in Table 3-1.

As shown in Table 5.3-7, the amount of annual emissions would fall below the SMAQMD annual significance thresholds.

Criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

Furthermore, as previously described, compared with the fully approved CCP as analyzed under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum, the use of the WRND site as proposed by the Project has the benefit of instigating substantially less haul truck trips equating to a



reduction of 4.19 million miles traveled. *Table 5.3-4* above identifies the quantity of air pollutant emissions that would be generated by 4.19 million miles of haul truck travel. A comparison of *Table 5.3-4* and *Tables 5.3-6 and 5.3-7* show that Project NO<sub>x</sub> and ROG emissions resulting from Project implementation are substantially reduced compared with the NO<sub>x</sub> and ROG emissions that would be generated by haul truck trips currently allowed under the approved CCP. This reduction in O<sub>3</sub> precursor emissions would be a beneficial impact attributable to the Project.

The Project would not exceed the SMAQMD significance criterion for NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> with the implementation of Mitigation Measure **AQ-1**. Mitigation Measure **AQ-1** requires best available control technology (BACT) and BMPs to be implemented. It should be noted the Project also includes ESM-12 (Implement Measures to Minimize Air Quality Impacts) and ESM-13 (Perform Air Quality Monitoring to Protect Construction Workers). These ESMs would further ensure impacts remain less than significant as well as compliance with OSHA requirements.

Criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

### **Project Operations Criteria Air Quality Emissions**

#### *Operational Significance Analysis*

As previously described, it is anticipated the final Closure Plan would require regular maintenance, monitoring and inspection of the AWCU including the following:

- Stormwater monitoring and testing;
- Landfill gas monitoring;
- Leachate and Groundwater monitoring;
- Landfill gas collection and destruction (if necessary);
- Leachate collection and management (if necessary);
- Site inspection in support of erosion and sediment control measures;
- Settlement surveying;
- Vegetation management; and,
- Repair of settlement and erosion issues.

These activities would result in long-term operational emissions of criteria air pollutants such as PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and SO<sub>2</sub> as well as O<sub>3</sub> precursors such as ROGs and NO<sub>x</sub>. Project-generated increases in emissions would be predominantly associated with motor vehicle and equipment use. Operational air pollutant emissions were based on Project details contained in *Table 3-3* above.

Long-term operational emissions attributable to the Project are identified in *Table 5.3-8* and compared to the operational significance thresholds promulgated by the SMAQMD.

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<b>Table 5.3-8. Operational-Related Emissions</b>						
<b>Emission Source</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Summer Emissions</b>						
Long-Term Maintenance	9.94	18.04	21.23	0.03	0.26	0.24
<b>Winter Emissions</b>						
Long-Term Maintenance	7.94	17.97	29.03	0.03	0.26	0.24
<i>SMAQMD Daily Significance Threshold</i>	65 pounds/day	65 pounds/day	-	-	80 pounds/day (If all feasible BACT/BMP applied)	82 pounds/day (If all feasible BACT/BMP applied)
<b>Exceed SMAQMD Daily Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Annual Emissions (Tons per Year)</b>						
Long-Term Maintenance	1.3	2.3	3.2	0.0	0.0	0.0
<i>SMAQMD Annual Significance Threshold</i>	-	-	-	-	14.6 tons/year	15 tons/year
<b>Exceed SMAQMD Annual Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to *Appendix C* for Model Data Outputs.

Notes: Emissions projections are based on Project details contained in *Table 3-3*.

As shown in *Table 5.3-8*, the Project's emissions would not exceed any SMAQMD thresholds for any criteria air pollutants during operation.

As identified in *Table 5.3-3*, the Sacramento County portion of the SVAB is listed as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub>. O<sub>3</sub> is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. PM can adversely affect the human respiratory system. As shown in *Table 5.3-8*, the Proposed Project would result in increased emissions of PM<sub>10</sub> and PM<sub>2.5</sub>; however, the correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the SMAQMD is contained in the SMAQMD 2015 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2015), the PM<sub>10</sub> Implementation/Maintenance Plan and Re-Designation Request (2010), and PM<sub>2.5</sub> Implementation/Maintenance Plan and Re-designation Request for Sacramento PM<sub>2.5</sub> Nonattainment Area (2013). These air quality planning documents present comprehensive strategies to reduce the O<sub>3</sub> precursor pollutants (ROG and NO<sub>x</sub>) as well as PM emissions from stationary, area, mobile, and indirect sources. Each of these air quality planning documents provide control measures that reduce emissions to attain and maintain federal ambient air quality standards such as the application of available cleaner technologies, best management practices, incentive programs, as well as development and

implementation of zero and near-zero technologies and control methods. The CEQA thresholds of significance established by the SMAQMD are designed to meet the objectives of these air quality planning documents and in doing so achieve and maintain attainment status with state and federal standards. As noted above, the Project would increase the emission of certain pollutants, but would not exceed the thresholds of significance established by the SMAQMD for purposes of reducing air pollution and its deleterious health effects.

Per the above discussion and analysis, with implementation of Mitigation Measure **AQ-1** (Section 5.3.3) and **ESM-12** (Section 3.2.3), the Project would result in **a less than significant** cumulative net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less than significant impact.**

Discussion:

### **Phases 1 and 2**

#### **Exposure of Sensitive Receptors to Toxic Air Contaminants**

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project site are residences located approximately 1.6 miles south of the proposed AWCU in the City of Rancho Cordova.

Project implementation would result in temporary, short-term Project-generated emissions of diesel particulate matter from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. For such activity, PM exhaust is the primary TAC of concern. Particulate exhaust emissions from diesel-fueled engines were identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of PM exhaust outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, PM exhaust is the focus of this discussion. According to the SMAQMD (2019), when PM<sub>10</sub> and PM<sub>2.5</sub> emissions generated by a project are less than the mass emission thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> (see *Table 5.3-4*), the project is considered to have a less than significant impact in terms of exposing sensitive receptors to concentrations of air toxics.

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Another important consideration is the proximity of nearby sensitive receptors. Studies show that PM exhaust disperses rapidly (e.g., according to CARB (2005) DPM concentrations decrease by 70 percent at 500 feet from the source), and receptors must be in close proximity to emission sources (over a substantial span of time) in order to be exposed to concentrations of concern. The nearest residential sensitive receptors to the Project site are approximately 1.6 miles south in the City of Rancho Cordova (as measured from the southern boundary of the proposed AWCU). As previously described, emissions of PM exhaust would be generated from different locations on the AR property, rather than a single location, because different types of Project implementation activities would not occur at the same place at the same time.

Lastly, during Project implementation the Project would implement a variety of ESMs, as previously described, designed to avoid short- and long-term effects on the physical and human environment as mandated under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum. These measures are considered part of the Project. Project ESMs specific to the generation of air pollutant emissions include ESM-12, *Implement Measures to Minimize Air Quality Impacts*, which requires the Project to implement the several best management practices intended to minimize air quality impacts, specifically the installation of cobble at construction site entrance/exit, suspending grading during high wind events, maintaining adequate moisture in disturbed or stockpiled materials, applying water mist and spray to control fugitive dust emissions, and compacting or using soil stabilizers and/or temporary cover materials to protect disturbed or stockpiled materials. ESM-13, *Perform Air Quality Monitoring to Protect Construction Workers*, requires the use of aerosol meters and other local air monitoring devices during the placement of Transfer Material in order to ensure emission compliance and worker safety consistent with OSHA requirements. As part of this ESM, five gas meters with photo ionization detector functions will be utilized during excavation and other remedial efforts to monitor for typical conditions and contaminants of concern that might be encountered. Perimeter air monitoring for visible dust and other contaminants must also be established.

Because predicted emissions are below SMAQMD thresholds, and because the nearest sensitive receptors are located over a mile and a half from the most intensive construction activities (occurring at the proposed AWCU), the potential to expose sensitive receptors to substantial pollutant concentrations is considered an impact that is **less than significant**.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

## Phases 1 and 2

### Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project includes the development of a landfill in order to accommodate 1,000,000 CYs of Transfer Material from the existing Aerojet Landfill. The effect of the Project would be to relocate an existing landfill not known to generate odor or have a history of associated public complaints, to a site (the AWCU) located approximately three miles south. The proposed AWCU site is located approximately 1.6 miles from existing residences. Project Transfer Material is comprised of contaminated soil with minimal odor compared to municipal waste. Additionally, a unique aspect of the Proposed Project is that a typical landfill "operational period" would not follow construction. Instead, immediately following completion of waste transport from the Aerojet Landfill, the portion of the AWCU filled by Transfer Material would be officially closed and capped. Lastly, the Proposed Project would also be required to comply with SMAQMD Rule 402 to prevent occurrences of public nuisances. Rule 402 prohibits the discharge from any source that causes nuisance, annoyance, or discomfort to a considerable number of persons. Therefore, the Project's potential odor impacts are considered **less than significant**. No mitigation is required.



### 5.3.3 Mitigation Measures

**AQ-1** The following practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by District Rule 403 and enforced by SMAQMD staff.

- Water all exposed surfaces two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadways, driveways, sidewalks, and parking lots to be paved should be completed as quickly as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

## 5.4 Biological Resources

This section addresses biological resources present or with the potential to occur in the Project Study Area, potential direct and indirect Project impacts on sensitive biological resources, and mitigation measures to mitigate impacts identified as potentially significant. This assessment is based on the *Biological Resources Assessment for the Aerojet Landfill Relocation Project* (BRA) prepared by ECORP (2020) which is included with this Initial Study as *Appendix D*. The Study Area for the BRA includes the WRND Parcel (Project Phases 1 and 2), the Borrow site, AWCU Service area haul routes, and offsite improvements. Proposed changes to the approved Aerojet Landfill CCP offsite transportation plan that would occur under the Project would have no potential for impact on biological resources and is not addressed further in this section. The BRA includes a comprehensive discussion of biological resources regulatory requirements pertaining to Project activities and is hereby incorporated by reference.

### 5.4.1 Evaluation Methods

#### Literature Review

The following resources were reviewed to determine the special-status species that had been previously documented within or in the vicinity of the Study Area:

- CDFW California Natural Diversity Database (CNDDDB) data for the “Buffalo Creek, California” and “Folsom, California” 7.5-minute quadrangles (CDFW 2020).
- U.S. Fish and Wildlife Service (USFWS) list of species and other resources under the USFWS jurisdiction that are known or expected to be on or near the Study Area (USFWS 2020).
- California Native Plant Society’s (CNPS’) electronic Inventory of Rare and Endangered Plants of California was queried for the “Buffalo Creek, California” and “Folsom, California” 7.5-minute quadrangle and the 10 surrounding U.S. Geological Survey quadrangles (CNPS 2020).

### **Field Surveys Conducted**

Qualified biologists from ECORP conducted site assessments on October 29, 2019, February 11, and March 16, 2020. This included an aquatic resources delineation, according to USACE standards, and an elderberry survey for the Phase 1 portion of the Study Area. Aquatic resources and elderberry were evaluated at an assessment level for the Borrow Site and proposed offsite improvements. Within the Phase 2 Study Area, biological resources were evaluated at an assessment-level consistent with programmatic approach for Phase 2 improvements. During these field assessments, meandering transects were walked through the Study Area searching for aquatic resources, potential Waters of the U.S./State, special-status species or their habitat, and natural communities. The findings of this site assessment were incorporated into the BRA.

### **Special-Status Species Considered for the Project**

Special-status plant and animal species considered to have the potential to occur within the region were evaluated for their potential to occur onsite. Species that are tracked in the CNDDDB but do not have any other special status were not assessed.

#### **5.4.2 Environmental Setting**

##### **Vegetation Communities**

Vegetation communities were identified within the Study Area based on the classification system presented in the Manual of California Vegetation (Sawyer et al. 2009). However, following the site assessment, it was determined that the disturbed and nonnative vegetation communities present did not strictly follow the Manual of California Vegetation’s nomenclature. These include annual grasslands and dredge tailings. The following sections describe the vegetation communities and land cover types identified in the Study Area.

##### *Annual Grassland*

The annual grassland is located in the southern portion of the Study Area and is the only vegetation type within the Phase 1 and Phase 2 AWCU. Dominant plants found within the annual grassland include a variety of nonnative grasses and forbs including wild oats (*Avena fatua*), soft brome (*Bromus hordeaceus*), filaree (*Erodium botrys*), yellow star-thistle (*Centaurea solstitialis*), and prickly lettuce (*Lactuca serriola*). Scattered ephemeral wetlands are located within or adjacent to the annual grassland, and these are described in detail below.

### *Disturbed/Dredge Tailings/Old Landfill*

This vegetation community makes up most of the Study Area. These areas are evidence by mounds of cobble and excavated pits. The vegetation found on the cobble mounds includes sparsely distributed nonnative weedy grasses and forbs such as wild oats, vetch (*Vicia* sp.), morning glory (*Convolvulus arvensis*), shortpod mustard (*Hirschfeldia incana*), prickly lettuce, and yellow star-thistle. Dense thickets of shortpod mustard, yellow star-thistle, prickly lettuce, and Italian thistle (*Carduus pycnocephalus*) are abundant in mined areas supporting soil. Scrub-shrub and woodland habitat made up of poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), Himalaya blackberry (*Rubus armeniacus*), Fremont's cottonwood (*Populus fremontii*), gray pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), and Goodding's black willow can be found within excavated pits.

### **Wildlife**

Wildlife use within the Study Area is expected to be moderate. The low frequency of pedestrian and vehicle traffic as a result of the restricted access to the greater Aerojet campus is typically optimal for wildlife but is offset by the low-quality forage and cover supported by the dredge tailings. The Alder Creek corridor, likely a significant wildlife movement corridor, is located to the north but is far removed from the Study Area. Common wildlife species expected to be found onsite include western fence lizard (*Sceloporus occidentalis*), black-tailed jackrabbit (*Lepus californicus*), mule deer (*Odocoileus hemionus*), and coyote (*Canis latrans*). Birds observed onsite during the site visit included northern flicker (*Colaptes auratus*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), Savannah sparrow (*Passerculus sandwichensis*), northern harrier (*Circus hudsonius*), and turkey vulture (*Cathartes aura*).

### **Soils**

According to the Web Soil Survey (NRCS 2020a), there are four soil units mapped within the Project, all of which are considered hydric (NRCS 2020b): (193) Red Bluff-Redding complex, 0 to 5 percent slopes; (195) Red Bluff – Xerarents complex, 0 to 2 percent slopes, (198) Redding gravelly loam, 0 to 8 percent, MLRA 17, and (245) Xerorthents, dredge tailings, 2 to 50 percent slopes, slopes (*Appendix D, Figure 2. Natural Resources Conservation Service Soil Types*).

### **Potential Waters of the U.S.**

A portion the Study Area has been surveyed for aquatic resources according to USACE standards. The entirety of Phase 1 and a portion of Phase 2 was included in this effort. The remainder of the Study Area (including the remainder of Phase 2, the remainder of the WRND parcel, the Borrow Site, the AWCU Service Area haul routes, and offsite improvements) was assessed limitedly during site reconnaissance visits. Acreages presented in this document use both USACE-level data and assessment-level data. *Table 5.4-1* provides the acreages of aquatic resources found within the components of the Study Area, and their locations are shown on *Figure 5.4-1* (sheets 1 and 2). None of these areas have been verified by the USACE. In addition to the Study Area components shown in *Figure 5.4-1* and on *Table 5.4-1*, the area of proposed offsite improvements located north of the Phase 1 AWCU and north of Old White Rock Road were assessed for potential Waters of the U.S and none were found.

**Table 5.4-1. Acreages of Potential Waters of the U.S./Aquatic Resources<sup>1</sup>**

Type	Entire WRND Parcel	Phase 1	Phase 2	Borrow Site
Wetlands				
Seasonal Wetland	0.128	0.000	0.036	0.000
Vernal Pool	0.434	0.000	0.125	0.000
Other Waters				
Ditch	0.000	0.000	0.000	0.075
Pond	0.000	0.000	0.000	1.616
<b>Total:</b>	<b>0.563</b>	<b>0.000</b>	<b>0.162</b>	<b>1.691</b>

<sup>1</sup>The acreages and waters types reported here include field data collected according to USACE delineation standards as well as reconnaissance-level that do not meet USACE standards. These data have not been field verified by the USACE.

## Wetlands

### *Seasonal Wetlands*

Seasonal wetlands are ephemeral wet due to accumulation of incident rainfall and surface runoff within low-lying areas or shallow groundwater. Inundation periods tend to be relatively short (typically confined to winter and spring) and are commonly dominated by nonnative annual, and sometimes perennial, hydrophytic species. As shown on *Figure 5.4-1, Sheet 2*, two seasonal wetlands are located within the Phase 2 Cap area and three are located within the WRND parcel remainder area (outside the Phase 1 and 2 development areas).

### *Vernal Pools*

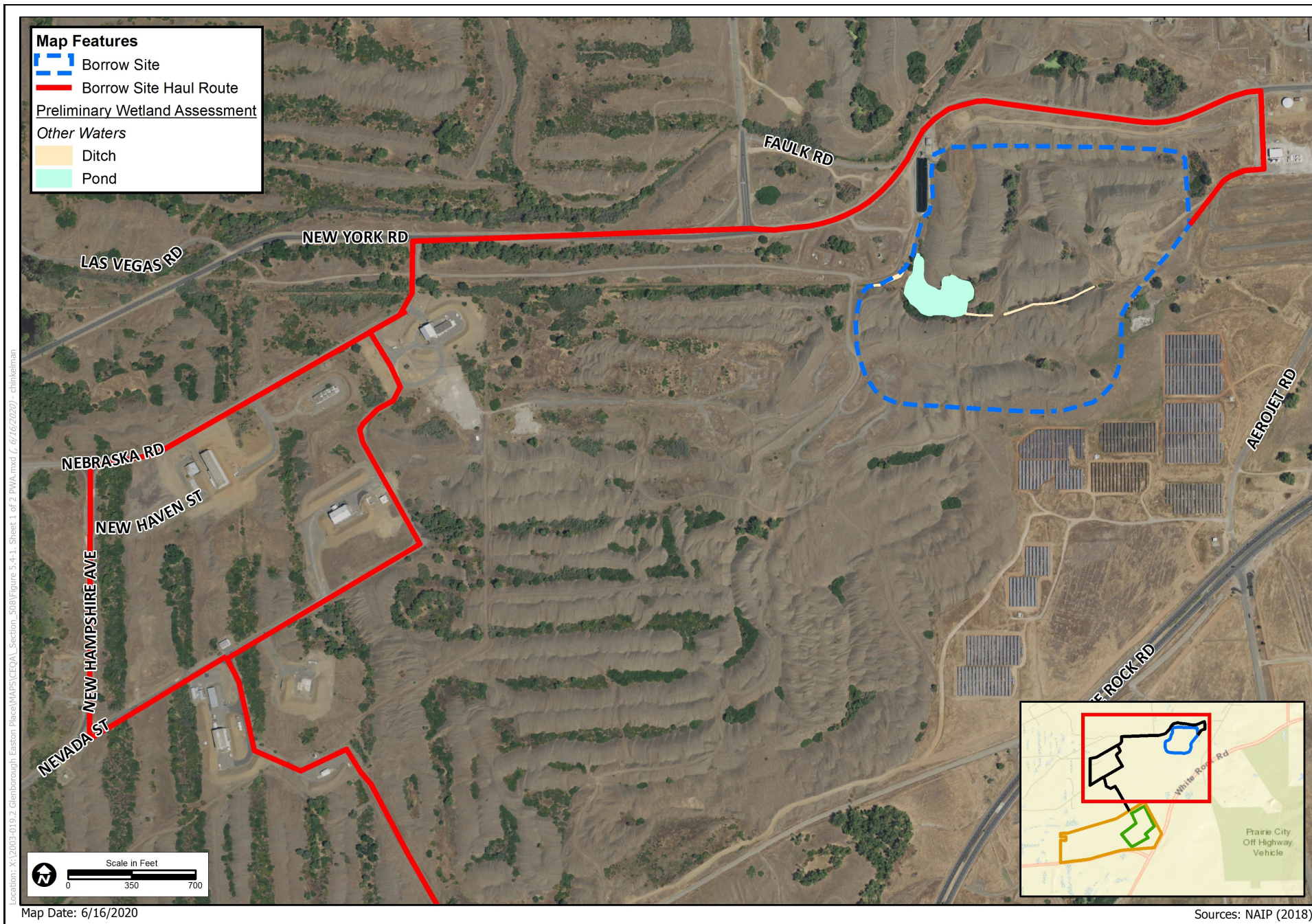
Vernal pools are topographic basins within the grassland community that are typically underlain with an impermeable or semi-permeable hardpan. Direct rainfall and surface runoff inundate the pools during the wet season. The pools typically remain inundated and/or saturated through spring and are dry by late spring through the following wet season. As shown on *Figure 5.4-1, Sheet 2*, two vernal pools are located within the Phase 2 Cap area and one is located partially within and outside the Phase 2 Cap area. At least one additional vernal pool is located within the WRND parcel remainder area (outside the Phase 1 and 2 development areas).

## Other Waters

### *Ponds*

Pond is a depressional area within the dredge tailings. Its inundation is from direct rainfall, runoff from industrial sources, and/or the water table. The pond may or may not support wetland characteristics, but it does have an ordinary high-water mark (OHWM). As shown on *Figure 5.4-1, Sheet 1*, there is one pond located on the Borrow Site.



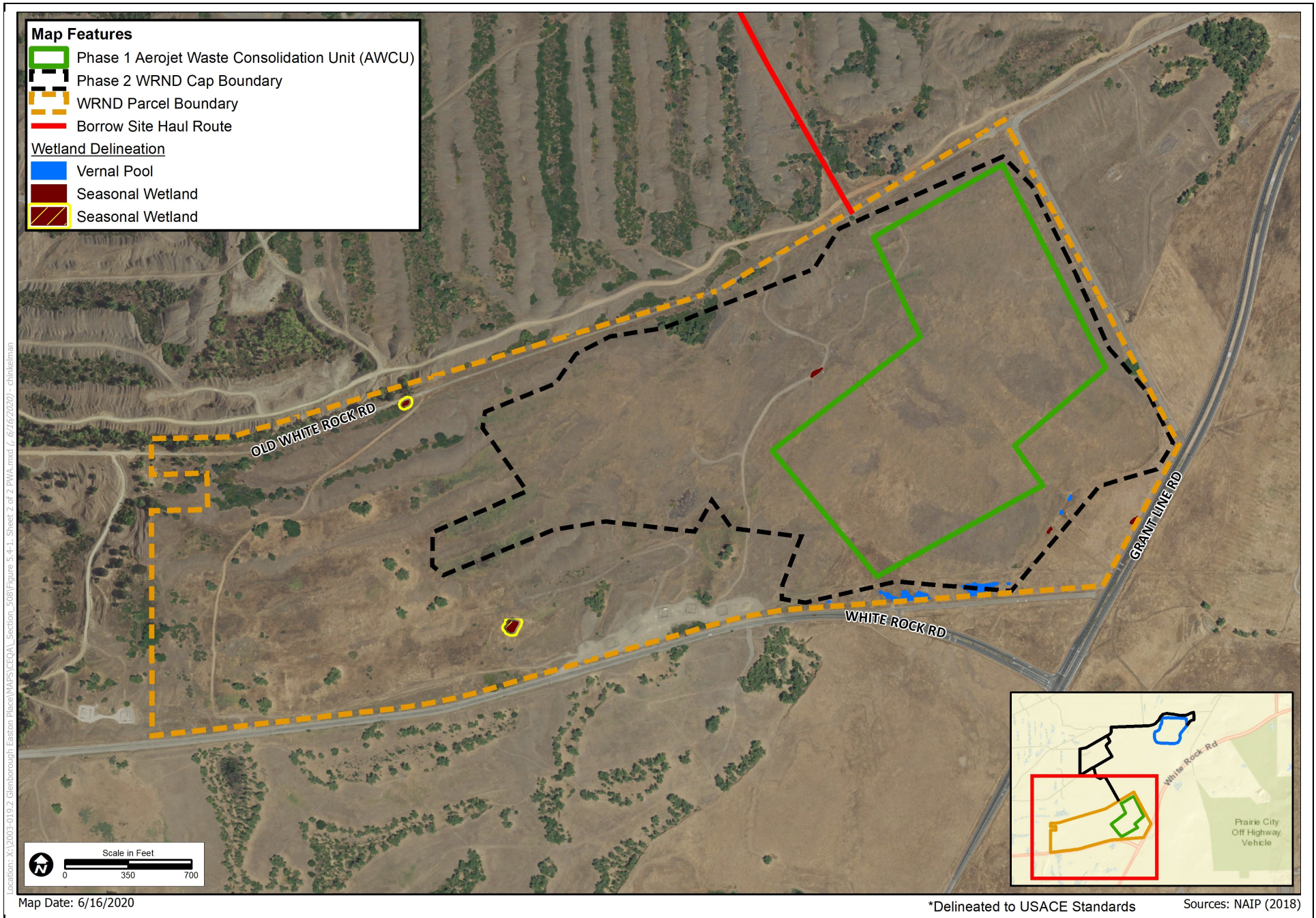


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**Figure 5.4-1. Preliminary Wetland Assessment Sheet 1 of 2**

*2009-165.22 Aerojet Landfill*





### *Ditch*

Ditches are channelized linear features that serve as a means of conveyance for runoff during the wet season or industrial runoff. These may be lined or unlined but support an OHWM. As shown on *Figure 5.4-1, Sheet 1*, there are ditch segments located within the Borrow Site.

## **Special-Status Species**

### *Literature Search for Special-Status Species*

As described in the BRA (*Appendix D* of this Initial Study), there are no special-status species previously documented within the Study Area, but several special-status species are known to occur within an approximate 10-mile radius of the Project (refer to *Appendix D, Attachment A*).

Special-status species found on CNPS, CNDDDB, and USFWS database queries were evaluated for their potential to occur onsite. A comprehensive list of these species is presented in Table 2 of *Appendix D* of this Initial Study. Based upon the vegetation community and habitats present, the Study Area supports habitat for several potentially occurring special-status plants, invertebrates, an amphibian, and one mammal. In addition, there is potential nesting and foraging habitat for a few special-status birds and birds protected under the Migratory Bird Treaty Act (MBTA). These species are described below.

## **Special-Status Plants**

A total of 34 special-status plant species were identified as having the potential to occur in the Study Area based on the literature review (*Appendix D, Table 2*). However, upon further analysis and after the site visits, several species were considered to be absent from the site due to the lack of suitable habitat or because the Study Area is outside the known range of the species. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining 16 species that have the potential to occur within the Study Area are presented below.

### *Big-Scale Balsamroot*

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and occasionally on serpentinite soils (CNPS 2020). Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 148 to 5,102 feet above mean sea level (MSL) (CNPS 2020). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2020).

There are no occurrences of big-scale balsamroot within 10 miles of the Study Area (CDFW 2020); however, there is marginally suitable habitat for this species within the Study Area. big-scale balsamroot has potential to occur within the grasslands in the Study Area.

#### *Valley Brodiaea*

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is a bulbiferous perennial herb that occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools within Valley and foothill grassland (CNPS 2020). Valley brodiaea blooms from April through May (sometimes June) and is known to occur at elevations ranging from 33 to 1,100 feet above MSL (CNPS 2020). Valley brodiaea is endemic to California; the current range of this species includes Butte, Calaveras, Nevada, Placer, Sacramento, San Joaquin, Sutter, and Yuba counties (CNPS 2020).

There are no occurrences of Valley brodiaea within 10 miles of the Study Area (CDFW 2020); however, there is suitable habitat for this species within the Study Area. Valley brodiaea has potential to occur within the grasslands in the Study Area.

#### *Brandegee's Clarkia*

Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is an herbaceous annual that occurs in chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (CNPS 2020). Brandegee's clarkia blooms from May through July and is known to occur at elevations ranging from 246 to 3,002 feet above MSL. Brandegee's clarkia is endemic to California, and the current range of this species includes Butte, El Dorado, Nevada, Placer, Sacramento, Sierra, and Yuba counties (CNPS 2020).

There are three documented occurrences of Brandegee's clarkia within 10 miles of the Study Area (CDFW 2020). Brandegee's clarkia has low potential to occur within the annual grassland in the Study Area.

#### *Dwarf Downingia*

Dwarf downingia (*Downingia pusilla*) is not listed pursuant to either the federal or California ESAs, but has been identified by the CNPS as a List 2B.2 species. This species is an herbaceous annual that occurs in vernal pools and mesic areas in Valley and foothill grasslands (CNPS 2020). Dwarf downingia also appears to have an affinity for slight disturbance since it has been found in manmade features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (Baldwin et al. 2012). This species blooms from March through May and is known to occur at elevations ranging from three to 1,460 feet above MSL (CNPS 2020). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2020).

There is one documented occurrence of dwarf downingia within 10 miles of the Study Area (CDFW 2020). Dwarf downingia has potential to occur within aquatic features in the Study Area.

#### *Tuolumne Button-celery*

Tuolumne button-celery (*Eryngium pinnatisectum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual or perennial that occurs in vernal pools and other mesic conditions in cismontane woodland and lower montane coniferous forests (CNPS 2020). This species blooms from May through August and is known to occur at elevations ranging from 230 to 3,002 feet above MSL (CNPS 2020). Tuolumne button-celery is endemic to California;



the current range of this species includes Amador, Calaveras, Sacramento, Sonoma, and Tuolumne counties (CNPS 2020).

There is one documented occurrence of Tuolumne button-celery within 10 miles of the Study Area (CDFW 2020); the vernal pools and seasonal wetlands within the grasslands in the Study Area represent potential habitat for this species.

#### *Stinkbells*

Stinkbells (*Fritillaria agrestis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a perennial bulbiferous herb that occurs in clay, sometimes serpentine areas in chaparral, cismontane woodland, pinyon and juniper woodland, and Valley and foothill grassland (CNPS 2020). Stinkbells bloom from March to June and is known to occur at elevations ranging from 33 to 5,102 feet above MSL (CNPS 2020). The current range of this species in California includes Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, Stanislaus, Tuolumne, Ventura, and Yuba counties, and is considered to be extirpated from Santa Cruz and San Mateo counties (CNPS 2020).

There is one documented occurrence of stinkbells within 10 miles of the Study Area (CDFW 2020); however, there is marginally suitable habitat for this species within the grasslands in the Study Area. Stinkbells has low potential to occur within the Study Area.

#### *Boggs Lake Hedge-Hyssop*

Boggs Lake hedge-hyssop (*Gratiola heterosepala*) is not listed pursuant to the Endangered Species Act (ESA), listed as endangered pursuant to the California ESA, and a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes, swamps, lake margins, and vernal pools (CNPS 2020). Boggs Lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 33 to 7,792 feet above MSL (CNPS 2020). The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama counties (CNPS 2020).

There are six documented occurrence of Boggs lake hedge-hyssop within 10 miles of the Study Area (CDFW 2020). Boggs lake hedge-hyssop has potential to occur within aquatic features in the Study Area.

#### *Ahart's Dwarf Rush*

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic areas in Valley and foothill grasslands (CNPS 2020). This species also appears to have an affinity for slight disturbance since it has been found on farmed fields and gopher turnings (USFWS 2005a). Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL (CNPS 2020, USFWS 2005a). Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS 2020).

There are two documented occurrences of Ahart's dwarf rush within 10 miles of the Study Area (CDFW 2020). Ahart's dwarf rush has potential to occur within aquatic features in the Study Area.

#### *Red Bluff Dwarf Rush*

Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal mesic areas in chaparral, cismontane woodland, meadows, seeps, valley and foothill grasslands, and vernal pools (CNPS 2020). Red Bluff dwarf rush blooms from March through June and is known to occur at elevations ranging from 115 to 4,101 feet above MSL (CNPS 2020). Red Bluff dwarf rush is endemic to California; the current range of this species includes Butte, Placer, Shasta, and Tehama counties (CNPS 2020).

There are no documented occurrences of Red Bluff dwarf rush within 10 miles of the Study Area (CDFW 2020); however, Red Bluff dwarf rush has potential to occur within aquatic features in the Study Area.

#### *Legenere*

Legenere (*Legenere limosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005b). Legenere blooms from April through June and is known to occur at elevations ranging from three to 2,887 feet above MSL (CNPS 2020). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama and Yuba counties and is believed to be extirpated from Stanislaus County (CNPS 2020).

There are 16 documented occurrences of legenere within 10 miles of the Study Area (CDFW 2020). Legenere has potential to occur within aquatic features in the Study Area.

#### *Hoary Navarretia*

Hoary navarretia (*Navarretia eriocephala*) is not listed pursuant to either the federal or California ESAs and is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs in vernal mesic areas within cismontane woodland and valley and foothill grassland (CNPS 2020). Hoary navarretia blooms between May and June and is known to occur at elevations ranging from 345 to 1,312 feet above MSL (CNPS 2020). Hoary navarretia is endemic to California; its current range includes Amador, Calaveras, El Dorado, Placer, and Sacramento counties (CNPS 2020).

There are no documented occurrences of hoary navarretia within 10 miles of the Study Area (CDFW 2020); however, there is suitable habitat for this species within the Study Area. Hoary navarretia has potential to occur within the grasslands in the Study Area.

#### *Pincushion Navarretia*

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CNPS List 1B.1 species. This species is an herbaceous annual that



occurs in vernal pools that are often acidic (CNPS 2020). Pincushion navarretia blooms in April to May and is known to occur at elevations ranging from 66 to 1,083 feet above MSL (CNPS 2020). Pincushion navarretia is endemic to California; the current range of this species includes Amador, Calaveras, Merced, Placer, and Sacramento counties (CNPS 2020).

There is one documented occurrences of pincushion navarretia within 10 miles of the Study Area (CDFW 2020). Pincushion navarretia has potential to occur within the vernal pools in the Study Area.

#### *Adobe Navarretia*

Adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in clay and sometimes serpentinite substrates in mesic areas in valley and foothill grassland and sometimes in vernal pools (CNPS 2020). Adobe navarretia blooms between April and June and is known to occur at elevations ranging from 328 to 3,281 feet above MSL (CNPS 2020). Adobe navarretia is endemic to California; its current range includes Alameda, Butte, Contra Costa, Colusa, Fresno, Kern, Merced, Monterey, Placer, Sutter, and Tulare counties (CNPS 2020).

There are no documented occurrences of adobe navarretia within 10 miles of the Study Area (CDFW 2020); however, there is suitable habitat for this species within the Study Area. Adobe navarretia has potential to occur within the aquatic features in the Study Area.

#### *Slender Orcutt Grass*

Slender Orcutt grass (*Orcuttia tenuis*) is listed as threatened and endangered pursuant to both the federal and California ESAs, respectively, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS 2020) primarily on substrates of volcanic origin (Crampton 1959, Corbin and Schoolcraft 1989; as cited in USFWS 2005a). This species is known to occur in the same type of vernal pool complexes as Sacramento Orcutt grass in Sacramento County; however, these species have not been observed co-existing in the same vernal pool (USFWS 2005a). The median area of pools occupied by populations studied by Stone et al. (1988, as cited in USFWS 2005a) was 1.6 acres and ranged from 0.2 to 111.0 acres (USFWS 2005a). Slender Orcutt grass blooms from May through October and is known to occur at elevations ranging from 115 to 5,774 feet above MSL (CNPS 2020). Slender Orcutt grass is endemic to California; the current range for this species includes Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties (CNPS 2020).

There are three documented occurrences of slender orcutt grass within 10 miles of the Study Area (CDFW 2020). Slender orcutt grass has potential to occur within the vernal pools in the Study Area.

#### *Sacramento Orcutt Grass*

Sacramento Orcutt grass (*Orcuttia viscida*) is listed as endangered pursuant to both the federal and California ESAs, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS 2020). The median area of occupied pools discovered prior to 1988 was 0.69 acre and ranged from 0.25 to 2.03 acres (USFWS 2005a). Sacramento Orcutt grass blooms from April through September and is known to occur at elevations ranging from 98 to 328 feet above MSL (CNPS

2020). Sacramento Orcutt grass is endemic to California and to the southeastern Sacramento Valley (Keeler-Wolf et al. 1998, as cited in USFWS 2005a), with all known occurrences restricted to Sacramento County. Known occurrences of this species within the general region are limited to a small area east of Mather Field, Phoenix Field Ecological Reserve, Phoenix Park (introduced population), and an area near Rancho Seco Lake (USFWS 2005a).

There are 11 documented occurrences of Sacramento orcutt grass within 10 miles of the Study Area (CDFW 2020). Sacramento orcutt grass has potential to occur within the vernal pools in the Study Area.

#### *Sanford's Arrowhead*

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is a perennial rhizomatous herb that occurs in shallow, freshwater marshes and swamps (CNPS 2020). Sanford's arrowhead blooms from May through October and is known to occur at elevations ranging from sea level to 2,133 feet above MSL (CNPS 2020). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, Tulare, Ventura, and Yuba counties; it is believed to be extirpated from both Orange and Ventura counties (CNPS 2020)).

There are 16 documented occurrences of Sanford's arrowhead within 10 miles of the Study Area (CDFW 2020). Sanford's arrowhead has potential to occur within the pond in the Study Area.

### **Special-Status Wildlife**

#### *Invertebrates*

A total of four special-status invertebrate species were identified as having potential to occur in the Study Area based on the literature review (*Appendix D*, Table 2). However, upon further analysis and after the site visits, conservancy fairy shrimp (*Branchinecta conservatio*) is considered absent from the site due to the Study Area being out of the species' known range. No further discussion of this species is provided within this assessment. Brief descriptions of the remaining three species that have the potential to occur within the Study Area are presented below.

#### *Vernal Pool Fairy Shrimp*

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened in accordance with the federal ESA. Vernal pool fairy shrimp may occur in seasonal ponds, vernal pools, and swales during the wet season, which generally occurs from December through May. This species can be found in a variety of pool sizes, ranging from less than 0.001 to more than 24.5 acres (Eriksen and Belk 1999). The shrimp hatch from cysts when colder water (10°C [50°F] or less) fills the pool and mature in as few as 18 days under optimal conditions (Eriksen and Belk 1999).

At maturity, mating takes place and cysts are dropped. Vernal pool fairy shrimp occur in disjunct patches dispersed across California's Central Valley from Shasta County to Tulare County, the central and southern Coast Ranges from northern Solano County to Ventura County, and three areas in Riverside County (USFWS 2003).

There are 32 documented occurrences of vernal pool fairy shrimp within 10 miles of the Study Area (CDFW 2020). Vernal pool fairy shrimp has potential to occur within the aquatic features in the Study Area.

#### *Valley Elderberry Longhorn Beetle*

The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is listed as threatened in accordance with ESA (USFWS 1980). The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS 1999, 2017). Elderberry plants located within the range of the beetle with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS 1999). The adult flight season extends from late March through July (USFWS 2017). During that time the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007). According to Collinge et. al (2001, as cited in USFWS 2017) the VELB occurs in metapopulations throughout the Central Valley. These metapopulations (subpopulations) occur throughout contiguous riparian habitat which shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB (USFWS 2017). The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills (USFWS 2017). The vast majority of VELB occurrences have been recorded below 500 feet (152 meters); however, rare occurrences have been recorded up to approximately 3,000 feet (USFWS 1999; USFWS 2017).

There are 19 documented occurrences of VELB within 10 miles of the Study Area (CDFW 2020). Elderberry shrubs have also been found scattered throughout the Study Area. As shown on *Figure 5.4-2. Elderberry Shrub Locations*, 12 shrubs are located on the Borrow Site (see Sheet 1) and 8 shrubs and 1 elderberry cluster are located within the WRND Phase 2 Cap area (see sheet 2). No elderberry shrubs are located within the Phase 1 AWCU area (*Figure 5.4-2*, sheet 2) or within the designated haul routes which are all comprised of existing paved roads. Therefore, VELB has potential to occur within the Study Area locations that contain elderberry shrubs.

#### *Vernal Pool Tadpole Shrimp*

The vernal pool tadpole shrimp (*Lepidurus packardii*) is listed as endangered pursuant to the federal ESA. This species inhabits vernal pools containing clear to highly turbid water, ranging in size from 0.001 to 89.0 acres (USFWS 1994). Vernal pool tadpole shrimp are distinguished from other vernal pool branchiopods discussed in this report by a large, shield like carapace that covers the anterior half of their body (USFWS 2003). Cysts hatch during the wet season and the shrimp reach maturity in a few weeks. This species matures slowly and is long lived, relative to other species. Vernal pool tadpole shrimp would continue to grow as long as the pools in which they occur remain inundated, and in some instances can survive for six months or longer (USFWS 2003). The geographic range of vernal pool tadpole shrimp

extends from Shasta County to northern Tulare County in California's Central Valley, and in the central coast range from Solano County to Alameda County (USFWS 2003).

There are 56 documented occurrences of vernal pool fairy shrimp within 10 miles of the Study Area (CDFW 2020). Vernal pool fairy shrimp has potential to occur within the aquatic features in the Study Area including those within the Phase 2 Cap area and WRND parcel remainder area (immediately south of the Phase 2 Cap boundary).

## **Fish**

One special-status fish species was identified as having potential to occur in the Study Area based on the literature review (*Appendix D, Table 2*): Delta smelt (*Hypomesus transpacificus*). However, upon further analysis and after the site visit, the species is considered absent from the Study Area due to the lack of suitable habitat. No further discussion of this species is provided within this assessment.

## **Amphibians**

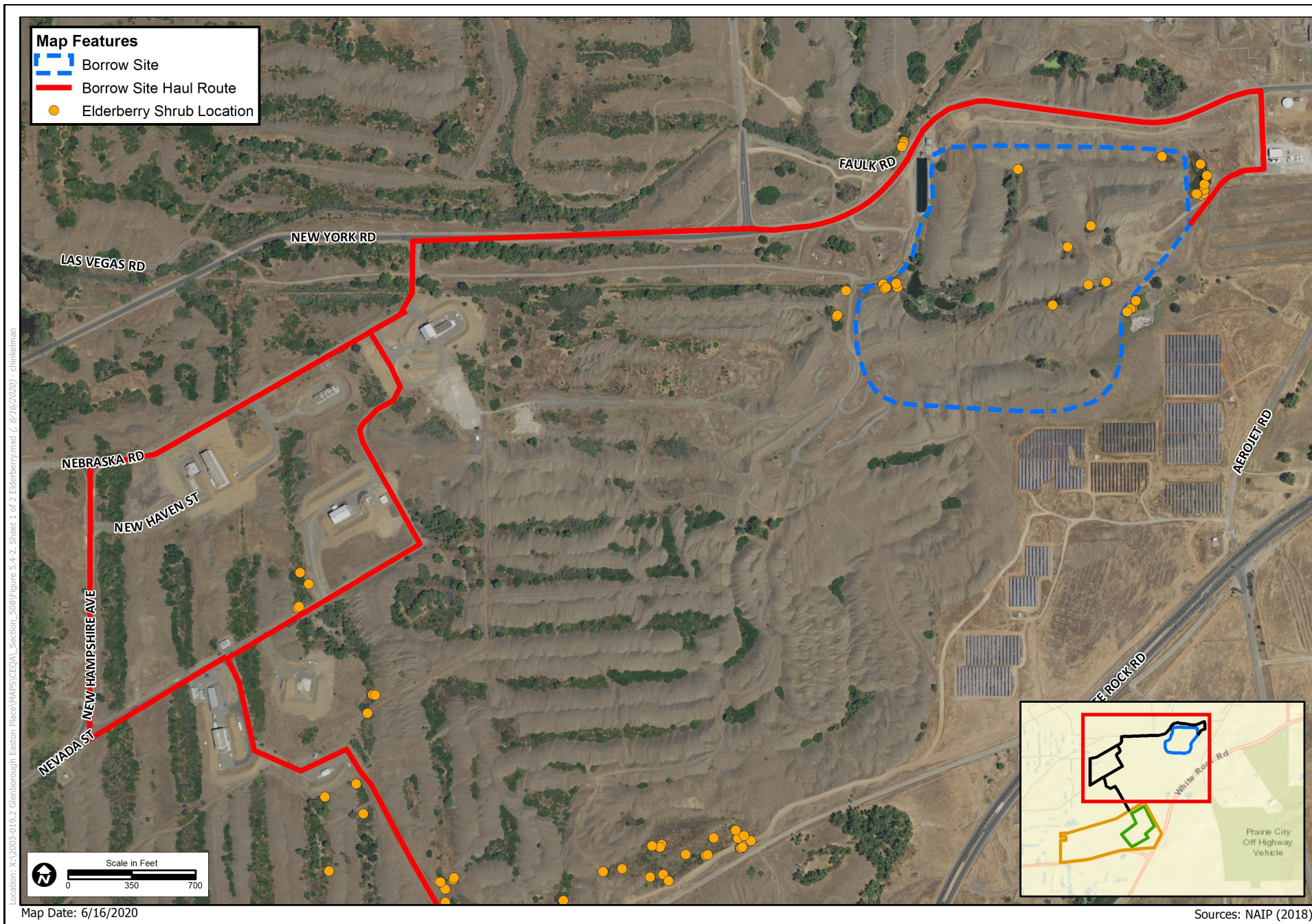
A total of four special-status amphibians were identified as having potential to occur in the Study Area based on the literature review (*Appendix D, Table 2*), including California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana draytonii*), and western spadefoot (*Spea hammondi*). However, upon further analysis and after the site visit, three of these species are considered absent from the Study Area because the Study Area is outside of the known range of the species. No further discussion of these species is provided within this assessment. A brief description of the remaining species that has the potential to occur within the Study Area, western spadefoot, is presented below.

### *Western spadefoot*

The western spadefoot is not listed pursuant to either the federal or California ESAs; however, it is designated as a CDFW species of special concern (SSC). Necessary habitat components of the western spadefoot include loose, friable soils in which to burrow in upland habitats and breeding ponds. Breeding sites include temporary rain pools, such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages (Jennings and Hayes 1994). Spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, western spadefoot toads are known to occur from the Redding area, Shasta County southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes 1994).

There are seven documented occurrences of western spadefoot within 10 miles of the Study Area (CDFW 2020). Western spadefoot has potential to occur within the aquatic features in the Study Area.



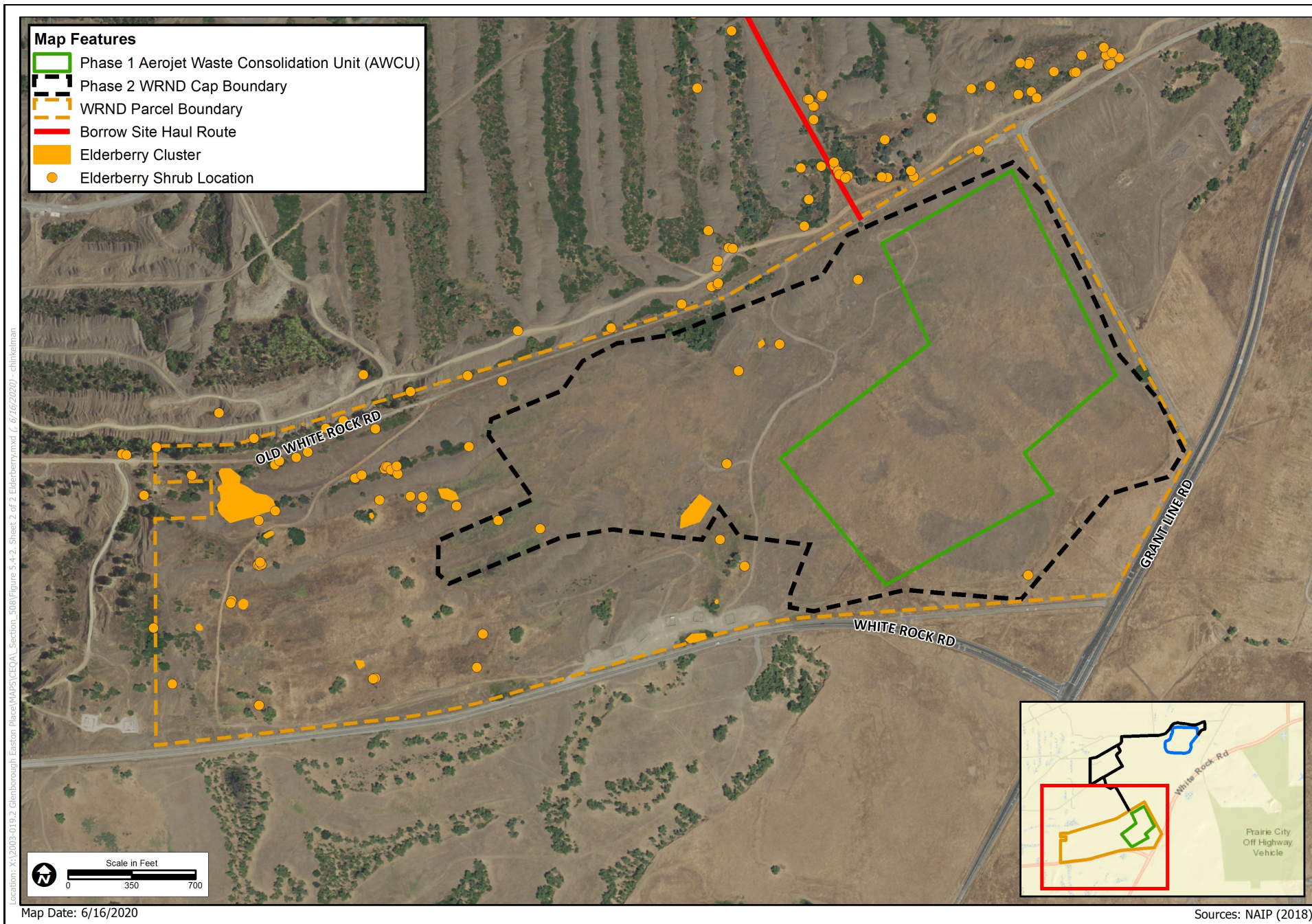


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**Figure 5.4-2. Elderberry Shrub Locations (Sheet 1 of 2)**

*2009-165.22 Aerojet Landfill*





## Reptiles

One special-status reptile was identified as having the potential to occur in the Study Area based on the literature review (*Appendix D, Table 2*): giant garter snake (*Thamnophis gigas*). However, upon further analysis and after the site visit, giant garter snake is considered absent from the site due to the lack of suitable habitat, and the Study Area is outside of its range. No further discussion of this species is provided in this analysis.

## Birds

A total of 28 special-status bird species were identified as having the potential to occur within the Study Area based on the literature review (*Appendix D, Table 2*). However, upon further analysis and after the site visit, 15 were considered to be absent from the site due to the lack of suitable habitat or because the Study Area is outside the known range of the species. No further discussion of these species is provided in this analysis. A brief description of the remaining 13 special-status bird species that have the potential to occur within the Study Area is presented below.

### *White-tailed Kite*

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the federal or California ESAs; however, the species is fully protected pursuant to § 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 1995). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 1995).

There are 18 documented occurrences of white-tailed kite within 10 miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat onsite for white-tailed kite; therefore, the species has potential to occur onsite.

### *Golden Eagle*

The golden eagle (*Aquila chrysaetos*) is not listed pursuant to either the federal or California ESAs. However, it is fully protected according to Section 3511 of the California Fish and Game Code and the federal Bald and Golden Eagle Protection Act. Golden eagles generally nest on cliff ledges and/or large lone trees in rolling to mountainous terrain. Golden eagles nest throughout California except the Central Valley, the immediate coast, and portions of southeastern California (Kochert et al. 2002). Occurrences within the Central Valley are usually dispersing post-breeding birds, non-breeding sub-adults, or migrants. Foraging habitat includes open grassland and savannah. Golden eagles usually do not nest in the region but may occasionally forage within the grassland (or fallow field, meadow, or anything open) communities onsite during winter or migration. Nesting occurs during February through August.

There are three documented occurrences of golden eagle within 10 miles of the Study Area (CDFW 2020). There is suitable foraging habitat onsite for golden eagle; therefore, the species has potential to occur onsite.

#### *Northern Harrier*

The northern harrier is not listed pursuant to either the federal or California ESAs; however, it is considered to be an SSC by the CDFW. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation (Smith et al. 2011). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April through September.

There are no documented occurrences of northern harrier within 10 miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat onsite for northern harrier; therefore, the species has potential to occur onsite.

#### *Cooper's Hawk*

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the federal or California ESAs. However, it is a CDFW "watch list" species and is currently tracked in the CNDDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2019). Breeding occurs during March through July, with a peak from May through July.

There are three documented occurrences of Cooper's hawk within 10 miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat onsite for Cooper's hawk; therefore, the species has potential to occur onsite.

#### *Swainson's Hawk*

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and are protected pursuant to the California ESA. This species nests in North America (Canada, western United States, and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2010). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanoplus* species). Swainson's hawks are opportunistic foragers and would readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep



1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are 27 documented occurrences of Swainson's hawk within 10 miles of the Study Area (CDFW 2020). There is suitable nesting habitat for Swainson's hawk within the Study Area; therefore, the species has potential to occur onsite.

#### *Ferruginous Hawk*

Ferruginous hawks (*Buteo regalis*) are not listed pursuant to either the federal or California ESAs. However, they are a CDFW "watch list" species and USFWS bird of conservation concern (BCC). This species typically occurs in open environments and nests from Oregon to Canada, though nesting has recently been documented in Lassen County, California (Small 1994). For the remainder of the state, including the Central Valley, ferruginous hawk occurrences are restricted to the non-breeding season (approximately September through March) (Small 1994). Winter foraging habitat includes a variety of open communities including annual grasslands, agricultural areas, deserts, and savannahs. Ferruginous hawks do not nest in the region but may occasionally forage within grassland and other open vegetation communities onsite during winter or migration.

There are two documented CNDDDB occurrences of ferruginous hawk within 10 miles of the Study Area (CDFW 2020). There is suitable foraging habitat for ferruginous hawk within the Study Area, therefore, the species has potential to occur onsite.

#### *Burrowing Owl*

The burrowing owl (*Athene cunicularia*) is not listed pursuant to either the federal or California ESAs; however, it is designated as a BCC by the USFWS and an SSC by CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Poulin et al. 2011). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use manmade structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (CDFG 2012). The breeding season typically occurs between February 1 and August 31 (CDFG 2012).

There are 17 documented occurrences of burrowing owl within 10 miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat for burrowing owl within the Study Area; therefore, the species has potential to occur onsite.

#### *Nuttall's Woodpecker*

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed and protected under either federal or California ESAs but is considered a USFWS BCC. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther 2000). Breeding occurs during April through July.

Nuttall's woodpecker is not tracked in the CNDDDB (CDFW 2020). There is suitable nesting and foraging habitat for burrowing owl within the Study Area; therefore, the species has potential to occur onsite.

#### *Prairie Falcon*

Prairie falcons (*Falco mexicanus*) are not listed pursuant to either the federal or California ESAs; however, they are considered to be a CDFW "watch list" species and a USFWS BCC. The breeding distribution of prairie falcons includes the entire state except the extreme northwestern part of the state and coastal areas (Steenhof 2013). Nesting occurs during March through July. However, prairie falcons have not been documented to nest in the Central Valley but may occur as migrants and wintering birds. They nest primarily on shelves, ledges, or potholes in cliffs, but may also use trees, power line structures, buildings, mine highwalls, caves, or stone quarries (Steenhof 2013). Breeding habitat includes open habitat at all elevation up to 3,350 meters in arid plains and stepped, wherever cliffs or bluffs are present (Steenhof 2013).

There are no CNDDDB records of prairie falcon within 10 miles of the Study Area (CDFW 2020). However, the annual grassland onsite represents potential foraging habitat for this species.

#### *Loggerhead Shrike*

The loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the federal or California ESAs; but is considered a BCC by the USFWS and a species of conservation concern by the CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 1996). The nesting season extends from March through July.

There are no CNDDDB occurrences of loggerhead shrike within 10 miles of the Study Area (CDFW 2020). However, the shrubs and trees scattered amongst the annual grassland onsite represents potential nesting habitat for this species.

#### *Yellow-billed Magpie*

The yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either the federal or California ESAs, but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February, which may take up to six to eight weeks to complete, with eggs laid during April-May, and fledging during May-June (Koenig and Reynolds 2009). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2009). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2009).

There are no CNDDDB occurrences of yellow-billed magpie within 10 miles of the Study Area (CDFW 2020). However, the trees found throughout the dredge tailings onsite represents potential nesting habitat for this species.



### *Oak Titmouse*

Oak titmouse (*Baeolophus inornatus*) are not listed and protected under either federal or California ESAs, but are considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2017). They are found in dry oak or oak-pine woodlands, but may also use scrub oaks or other brush near woodlands (Cicero et al. 2017). Nesting occurs during March through July.

There are no CNDDDB occurrences of oak titmouse within 10 miles of the Study Area (CDFW 2020). However, the oak trees onsite represent potential nesting habitat for oak titmouse.

### *Tricolored Blackbird*

The tricolored blackbird (TRBL, *Agelaius tricolor*) was granted emergency listing for protection under the California ESA in December 2014, but the listing status was not renewed in June 2015. After an extensive status review, the California Fish and Game Commission listed TRBL as a threatened species in 2018. In addition, it is currently considered a USFWS BCC and a CDFW SSC. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese et al. 2014). TRBLs nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. TRBL nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Meese et al. 2014). They feed mainly on grasshoppers during the breeding season but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Meese et al. 2014). The nesting season is generally from March through August.

There are 51 occurrences of TRBL in the CNDDDB (CDFW 2020). There is no suitable nesting habitat present within the Study Area. However, the annual grassland represents potential foraging habitat for this species.

## **Mammals**

One special-status mammal species was identified as having the potential to occur within the Study Area based on the literature review (*Appendix D*, Table 2): American badger (*Taxidea taxus*). This species has potential to occur within the Study Area. A brief description is presented below.

### *American Badger*

The American badger is designated in California as an SSC. The species historically ranged throughout much of the state, except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties (Williams 1986). Badgers occupy a variety of habitats, including grasslands and savannas. The principal requirements seem to be significant food supply; friable soils; and relatively open, uncultivated ground (Williams 1986).

There are three documented occurrences of American badger within 10 miles of the Study Area (CDFW 2020). American badger has potential to occur within the Study Area.

### **Migratory Bird Treaty Act Protected Birds**

In addition to all the special-status birds that have potential to occur within the Study Area, all vegetation communities within the Study Area support potentially suitable nesting habitat for birds protected under the MBTA. These could include common species such as northern mockingbird (*Mimus polyglottos*) and house finch, among others.

### **Protected Trees**

While not considered special-status species as previously defined, native oak trees have been included as they are protected under the Sacramento County Code. Oaks found within the Survey Area include interior live oak and blue oak (*Quercus douglasii*). No oaks exist within the Phase 1 area, a few scattered oaks occur in the Phase 2 area, in the Borrow site and in the area of proposed offsite improvements north of Old White Rock Road.

### **Wildlife Movement Corridors**

The Study Area is highly disturbed from historic mining and landfill activities. A majority of the Study Area is dominated by yellow star-thistle, which is generally considered low-quality wildlife habitat; in addition, perennial water features are limited to a few scattered isolated ponds. Dredge tailings provide minimal foraging and cover for most wildlife species due to the irregular distribution of vegetation. Further, the Study Area is located at the intersection of heavily travelled White Rock Road and Grant Line Road. The Study Area does not support a significant wildlife movement corridor and no potential wildlife nursery sites (e.g., deer fawning grounds) were found onsite.

### **Critical Habitat**

There is no designated Critical Habitat within the Project Study Area.

### **5.4.3 Biological Resources (IV) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**Less than significant with mitigation incorporated.**

Discussion:

## Phase 1

### *Construction and filling*

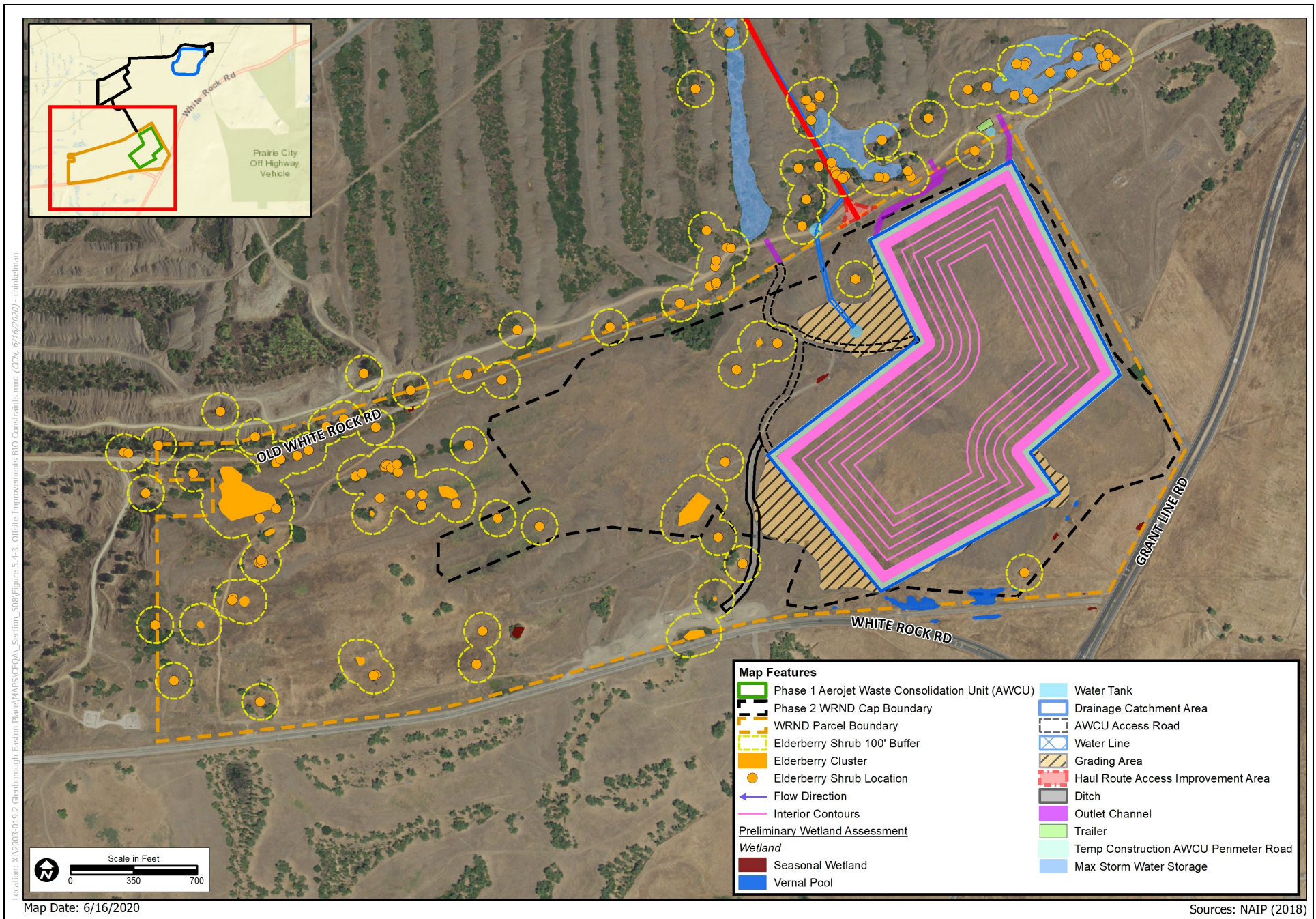
*Special-Status Plants* – Project activities associated with construction of the Phase 1 AWCU could adversely affect several special-status plant species that occur or could potentially occur on or near the Phase 1 site. Implementation of Mitigation Measure **BIO-1**, below, would ensure that, prior to the commencement of construction activities on the Phase 1 site, the locations of onsite sensitive plant species are identified and avoided or, in the event that avoidance is impracticable, additional measures are implemented in consultation with appropriate agencies to appropriately mitigate significant impacts. With implementation of Mitigation Measure **BIO-1**, the impact is considered **less than significant**.

*Valley Elderberry Longhorn Beetle* – Figure 5.4-3, *Offsite Improvement Biological Constraints*, shows the location of elderberry shrubs and seasonal wetlands in the area of the Phase 1 AWCU. As shown, no elderberry shrubs are proposed for removal as part of Phase 1 AWCU construction. The Project includes implementation of **ESM-1** (Section 3.2.3) which would ensure construction workers are properly trained with regard to sensitive species. Further, as discussed in **ESM-2** (Section 3.2.3), the Project contractor would install orange construction barrier fencing to identify environmentally sensitive areas that should be avoided, including elderberries. Before construction, the Project contractor would work with a resource specialist to identify environmentally sensitive fencing locations. Furthermore, the Phase 1 AWCU footprint would maintain a minimum 100-foot buffer from all existing elderberry shrubs. Impacts are **less-than-significant** and no mitigation is required.

*Vernal Pool Fairy Shrimp and Vernal Pool Tadpole* – Figure 5.4-3, shows the location of vernal pools and seasonal wetlands in the area of the Phase 1 AWCU. As shown, suitable habitat for special-status invertebrate species is present within the Study Area including habitat for vernal pool fairy shrimp, and vernal pool tadpole shrimp. However, Phase 1 AWCU construction would avoid all suitable habitat for special-status invertebrates. Furthermore, any staging areas needed for Phase 1 would be located within the Phase 1 or Phase 2 construction footprint and protected from direct and indirect effects as discussed below.

Implementation of **ESM-1** (Section 3.2.3) would ensure construction workers are properly trained with regard to sensitive species. Further, as discussed in **ESM-2** (Section 3.2.3), the Project contractor would install orange construction barrier fencing to identify environmentally sensitive areas that should be avoided, including vernal pools. Before construction, the Project contractor would work with a resource specialist to identify environmentally sensitive fencing locations. Protective fencing would be installed before initiation of construction activities and would be maintained throughout the construction period. **ESM-4** would also be implemented and calls for placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches or enter special aquatic sites that provide suitable habitat for special-status invertebrate species. Therefore, implementation of **ESM-1, 2 and 3** (Section 3.2.3) would ensure impacts to invertebrates remain **less than significant**.





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**Figure 5.4-3. Offsite Improvements Biological Constraints**

*2009-165.22 Aerojet Landfill*

*Amphibians* – There is suitable habitat within the Study Area for one special-status amphibian, western spadefoot. However, suitable habitat is not present in areas affected by Phase 1 AWCU construction and, therefore, the impact on the species is **less than significant**.

*Special Status Birds and MBTA-Protected Birds* – Suitable nesting and/or wintering and foraging habitat for special-status birds is present within the Study Area. If present, construction or other work-related activities on the Phase 1 AWCU site could result in harassment to nesting individuals and may temporarily disrupt foraging activities. All native birds and their active nests, including raptors, are protected under the California Fish and Game Code and the federal MBTA. As such, construction and fill activities could have a significant adverse impact. However, the Project contractor would implement **ESM-5** (Section 3.2.3) which requires that construction occur outside the nesting season, or that nesting surveys be conducted prior to construction and any positive survey results be coordinated with CDFW to determine appropriate avoidance measures. With implementation of **ESM-5**, potential impacts would remain **less than significant**.

*Mammals* – Potentially suitable habitat (e.g., annual grassland) is present onsite for one special-status mammal: the American badger. Phase 1 AWCU construction could adversely affect badger habitat. With implementation of Mitigation Measure **BIO-2**, the impact is reduced to **less than significant**.

*Oak Trees* – There are no protected oak trees on the Phase 1 AWCU site. However, oaks are located within the area of offsite improvements. Impacts to offsite improvements are address separately below.

#### *Offsite improvements*

Construction of the Phase 1 AWCU would include construction of the following offsite improvements shown in *Figure 3-5. Offsite Improvements*: permanent access roads, ditches and outlet channels, Haul Route and electrical improvements; and, temporary construction water, and electric improvements.

*Figure 5.4-3* shows the location of sensitive biological resources in the area of offsite improvements. As shown, offsite improvements would not result in direct impacts to existing wetlands, or elderberry shrubs and all proposed ground disturbance would maintain a minimum 100-foot buffer from elderberry shrubs. In addition, as discussed above, **ESM-1** (Section 3.2.3) would be implemented to ensure construction workers are properly trained with regard to sensitive species, and **ESM-2** (Section 3.2.3) would require that the Project contractor install orange construction barrier fencing to identify and protect nearby environmentally sensitive areas, including wetlands, oak trees and elderberry. **ESM-4** and **5** (Section 3.2.3) would also be implemented and require additional protections for surface waters and aquatic habitat, as well as restoration of all temporarily disturbed habitat and pre-construction nesting surveys. While native oak trees are present in the area of offsite improvements, based on a reconnaissance review, no tree removal would be required for construction of offsite improvements. Therefore, construction of offsite improvements would have a **less-than-significant impact** on sensitive, and/or special status species. Should design refinement or construction access require impacts to Sacramento County protected trees, mitigation measure **BIO-3** would be implemented to ensure impacts remain less than significant.

Part of the offsite improvements include designation of infiltration/inundation areas north of Old White Rock Road to receive stormwater from the AWCU during project operation. Approximately 13-15



elderberry shrubs are located within the maximum infiltration/inundation areas shown on *Figure 5.4-3*. However, these areas are currently subject to flooding under existing conditions, and the addition of AWCU stormwater runoff would not increase either the frequency or depth of flooding to a degree that would constitute a direct or indirect impact. Furthermore, elderberry shrubs typically grow in riparian habitats which are subject to periodic flooding. The minor increased frequency of flooding caused by the proposed project is considered **less than significant**. No mitigation is required.

Offsite improvements would also require placement of an above ground temporary water line and placement of water towers for construction water needs and a temporary "service drop" for contractor trailer electricity. As shown in *Figure 5.4-3*, the temporary 6" water pipe would extend from an existing above ground pipe located on the south side of Nevada Street south along the east side of the unnamed Haul Route road to the water tower locations. A temporary electric power drop from the existing Sacramento Municipal Utility District (SMUD) overhead service line along Old White Rock Road would be implemented for the contractor office trailer (See *Figure 5.4-3*). Temporary improvements would not require removal of existing vegetation nor would they disturb sensitive habitat. With implementation of protections as required by **ESM-1** and **2**, and restoration of disturbed areas and pre-construction nesting surveys consistent with **ESM-4** and **5**, temporary water and electric improvements would have less-than-significant impacts on special-status species.

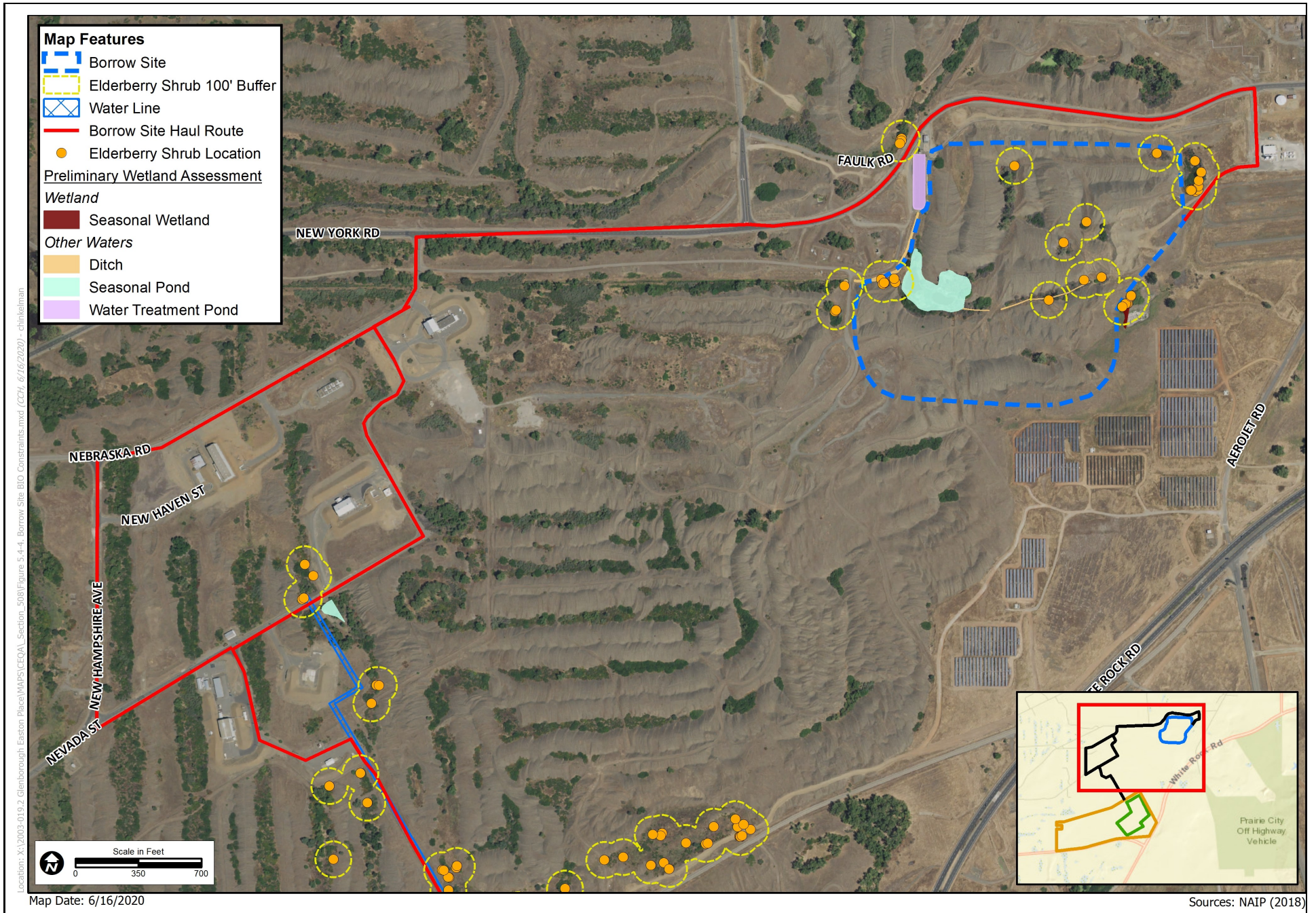
Offsite improvements would result in **less-than-significant** impacts.

#### *Haul Route Use Impacts*

The designated AWCU Service Area and associated haul routes are shown in *Figure 1-3*. The haul routes shown would serve as the primary construction traffic routes between the, WRND, the Borrow Site and other locations where Transfer Material may originate. Where existing, the existing haul routes are entirely paved and currently used as needed by Aerojet and its contractors to carry out normal operations and routine maintenance activities. While construction vehicle travel would increase along the designated haul routes during Phase 1 AWCU construction and filling, use of the existing roads would not adversely affect special- status plants, bird species, and invertebrates. There would be **no impact**, and no mitigation is required.

#### *Borrow Site Operations*

As shown in *Figure 5.4-4. Borrow Site Biological Constraints*, the proposed Borrow Site supports protected waters of the U.S., oak trees, elderberries and potentially special-status plants. As discussed above, the Project includes implementation of **ESM-2** (Section 3.2.3) which requires identification and protection of environmental sensitive areas with temporary construction fencing prior to construction. Therefore, the impact on protected waters of the U.S., oak trees, and elderberries would remain less than significant. There is also the potential for special-status plant species within the Borrow Site. In addition, suitable nesting and/or wintering and foraging habitat for special-status birds is present within the Borrow Site. If present, construction or other work-related activities could result in impacts to special-status plants and/or harassment to nesting individuals and may temporarily disrupt foraging activities. These impacts are potentially significant. With implementation of Mitigation Measure **BIO-1**, **ESM-2** and **ESM-4** and **5** (Section 3.2.3), these impacts are reduced to **less than significant**.



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**Figure 5.4-4. Borrow Site Biological Constraints**  
2009-165.22 Aerojet Landfill



#### *Closure Plan/Long-Term Maintenance*

Following construction and filling, the Phase 1 AWCU would be capped, closed and maintained consistent with the approved Closure Plan. Closure plan activities would include operation of constructed facilities such as monitoring wells, pumps, storage tanks, and related maintenance equipment. Routine maintenance within the developed AWCU site would include addressing any instances of minor erosion, maintenance of onsite roads and storm drainage improvements and vegetation trimming for maintenance access. With implementation of Mitigation Measures **BIO-1** and **ESM-5** (Section 3.2.3) impacts on special-status species due to Phase 1 AWCU Closure Plan implementation and long-term maintenance would be **less than significant**.

#### **Phase 2**

Phase 2 of the proposed Project would construct the 50-acre WRND Phase 2 Cap to include coverage of WRND waste extent areas not addressed by the ±50-acre Phase 1 AWCU. Existing WRND waste may be consolidated into a smaller footprint prior to capping. The WRND Phase 2 Cap would be designed to accommodate final site drainage, access, controls, maintenance, and monitoring requirements consistent with a WRND Closure Plan (to be developed). The precise extent of these activities has not yet been determined; therefore, the potential impact of these activities on sensitive plant and animal species is addressed herein programmatically.

#### *Special-Status Plants*

Phase 2 Cap activities could adversely affect several special-status plant species that occur or could potentially occur on or near the Phase 2 Cap boundary. Implementation of Mitigation Measure **BIO-1** would ensure that the location of sensitive plant species within the Phase 2 footprint are identified and avoided or, in the event that avoidance is impracticable, additional measures are implemented in consultation with appropriate agencies to appropriately mitigate any significant impact. With implementation of **BIO-1**, the impact is considered **less than significant**.

#### *Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp*

As shown in *Figure 5.4-1, Sheet 2*, vernal pools are scattered along the WRND Phase 2 Cap southern boundary and are located both on and offsite. Vernal pools provide habitat for listed branchiopods. Therefore, filling of vernal pools for construction of the Phase 2 Cap would be considered a potentially significant impact. The extent of impact to vernal pools cannot be determined until Phase 2 improvement plans (including the landscape screening plan) are finalized. With implementation of Mitigation Measure **BIO-4**, below, impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp could be reduced to **less than significant**.

#### *Valley Elderberry Longhorn Beetle*

As shown in *Figure 5.4-2, Sheet 2*, Phase 2 cap and closure activities would require removal of approximately 7 elderberry shrubs and 1 elderberry cluster based on current design assumptions. This is considered a potentially significant impact to VELB. However, with implementation of Mitigation Measure **BIO-5, ESM-1 and 2** (Section 3.2.3), this impact is reduced to **less than significant**.

*Amphibians*

There is suitable habitat within the Phase 2 site for one special-status amphibian: western spadefoot. Cap and closure activities on the Phase 2 site could directly or indirectly impact habitat or individuals, which would be considered a potentially significant impact. Implementation of Mitigation Measure **BIO-6** would reduce this impact to **less than significant**.

*Special-Status Birds and MBTA-Protected Birds*

The Phase 2 site supports suitable nesting and/or wintering and foraging habitat for special-status birds. All native birds and their active nests, including raptors, are protected under the California Fish and Game Code and the federal MBTA. If present, WRND Cap and closure activities could result in harassment to nesting individuals and may temporarily disrupt foraging activities, a potentially significant impact. However, the Project contractor would implement **ESM-5** (Section 3.2.3) which requires that construction occur outside the nesting season, or that nesting surveys be conducted prior to construction and any positive survey results be coordinated with CDFW to determine appropriate avoidance measures. With implementation of **ESM-5**, potential impacts would remain **less than significant**.

*Mammals*

Potentially suitable habitat (e.g., annual grassland) is present onsite for one special-status mammal, the American badger. With implementation of Mitigation Measure **BIO-2**, the potential for impact to the badger and its habitat is considered **less than significant**.

*Oak Trees*

Phase 2 Cap and closure activities could directly or indirectly impact protected native oak trees. The exact impact to native oaks cannot be determined until Phase 2 improvement plans can be completed. Implementation of the Mitigation Measure **BIO-3** would reduce this impact to **less than significant**.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with mitigation incorporated.**

Discussion:

## Phase 1

### *Construction and filling*

No riparian habitat or other sensitive natural communities exist within the Phase 1 AWCU site. Related impacts are **less than significant**, and no mitigation is required.

### *Offsite improvements*

No riparian habitat under the jurisdiction of the California Department of Fish and Wildlife or other sensitive natural communities recognized by the US Fish and Wildlife Service exists within the area of proposed offsite improvements. There would be no impact, and no mitigation is required.

### *Haul Route Use Impacts*

The designated AWCU Service Area and associated haul routes are shown in *Figure 1-3*. The haul routes shown would serve as the primary construction traffic routes between the, WRND, the AWCU, the Borrow Site and other locations where Transfer Material may originate. As discussed under Response a) above, the identified haul routes are paved and used by Aerojet for normal operations and routine maintenance activities. While construction vehicle travel would increase along the designated haul routes during Phase 1 AWCU construction, use of the existing roads would not adversely affect any sensitive natural community. There would be **no impact**, and no mitigation is required.

### *Borrow Site Operations*

As shown *Figure 5.4-2 Sheet 1*, the proposed Borrow Site supports 10 onsite elderberry shrubs. As discussed above, VELB are listed as threatened in accordance with the federal ESA, and elderberry shrubs are their primary habitat. However, similar to offsite improvements, Borrow Site activities would be carried out consistent with **ESM-1** and **2** (Section 3.2.3) which requires environmental awareness training for construction personnel and identification and protection of environmental sensitive areas with temporary construction fencing prior to construction. Therefore, Borrow Site activities would avoid direct and indirect impacts to sensitive communities, including elderberry shrubs. Related impacts are considered **less than significant**, and no mitigation is required.

### *Closure Plan/Long-Term Maintenance*

Following construction and filling, the Phase 1 AWCU would be capped, closed and maintained consistent with the approved Closure Plan. As discussed above, Closure Plan activities would include operation of onsite constructed facilities such as monitoring wells, pumps, storage tanks, and related maintenance equipment. Routine maintenance within the developed AWCU site would include addressing any instances of minor erosion, maintenance of onsite roads and storm drainage improvements and vegetation trimming for maintenance access. No sensitive natural communities would exist within the Phase 1 AWCU during implementation of the Closure Plan/long-term maintenance. There would be **no impact** and no mitigation is required.



## Phase 2

Activities associated with the Phase 2 Cap including the borrow site, and haul routes would be carried out exclusively within areas previously disturbed by extensive dredge mining and landfill activities. The Phase 2 Cap "footprint" does not support riparian habitat, however it does support other sensitive natural communities identified in local plans or by CDFW or USFWS. For example, as shown in *Figure 5.4-2*, Sheet 2, 8 elderberry shrubs and 1 elderberry cluster exist within the Phase 2 Cap area and would be directly impacted Phase 2 construction. This would be considered a potentially significant impact. Implementation of mitigation measure BIO-5 would reduce this impact to a **less-than-significant** level. Potential Project impacts on wetlands are addressed in Item c), below.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Less than significant with mitigation incorporated.

Discussion:

## Phase 1

There are no potential Waters of the U.S. within the Phase 1 AWCU area. Additionally, there are no impacts to waters of the U.S. along the haul routes as no improvements to the existing road are anticipated. There are no potential Waters of the U.S. within the offsite improvement areas based on assessment-level site reconnaissance. Therefore, there are no impacts to Waters of the U.S. within the Phase 1 area, haul routes, and offsite improvement areas. There are 1.691 acres of potential Waters of the U.S. within the Borrow Site; however, these would be avoided and protected with implementation of **ESM-1** and **2** (Section 3.2.3). Thus, with implementation of **ESM-1** and **2** the impact is considered **less than significant**.

## Phase 2

As described above and shown in *Figure 5.4-1* (sheets 1 and 2), there are scattered occurrences of Waters of the U.S./State which could be directly or indirectly affected by Phase 2 Project capping and closure activities and associated use of the Borrow Site. This potentially significant impact is reduced to **less than significant** with implementation of mitigation measure **BIO-7**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

As described above, the Study Area is highly disturbed from historic mining and landfill activities. A majority of the Study Area is dominated by yellow star-thistle, which is generally considered low-quality wildlife habitat; in addition, there is only one perennial water feature (a pond) located on the Borrow Site that would not be impacted by project implementation. Dredge tailings provide minimal foraging and cover for most wildlife species due to the irregular distribution of vegetation. Further, the Study Area is located near the intersection of heavily travelled White Rock Road and Grant Line Road. The Study Area does not support a significant wildlife movement corridor and no potential wildlife nursery sites (e.g., deer fawning grounds) were found onsite. The Alder Creek corridor, likely a significant wildlife movement corridor, is located to the north but is far removed from the Study Area. Common wildlife species expected to be found onsite include western fence lizard, black-tailed jackrabbit, mule deer, and coyote.

Aerojet Landfill CCP activities, waste transport on proposed haul roads, offsite improvements and operation of the borrow site during Phase 1 could temporarily disrupt wildlife movement but would not preclude movement through these areas. Construction, fill and capping activities proposed for the AWCU site during Phase 1 and 2, in combination with the placement of permanent perimeter fencing would present both temporary and long-term impediments to wildlife movement across site. As the Phase 1 and 2 sites encompass a maximum of 100 acres, and because corridors for wildlife movement would remain open on all sides surrounding the site, the impact on wildlife movement is considered **less than significant**. No mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with mitigation incorporated.**

Discussion:

**Phase 1**

As discussed above, no protected oak trees occur on the Phase 1 AWCU site and all oak trees within the Borrow Site would be fenced and avoided consistent with **ESM-2** (Section 3.2.3). No oak tree removal is anticipated to implement offsite improvements. Therefore, Phase 1 impacts to oak trees are considered **less than significant**.

**Phase 2**

Phase 2 cap and closure activities could directly or indirectly impact protected native oak trees and thus may conflict with Sacramento County's Oak Tree Preservation Ordinance. Implementation of the Mitigation Measure **BIO-3** would reduce this impact to **less than significant**.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans that are applicable to the Project. The Project, therefore, would have **no impact** and no mitigation is required.

#### 5.4.4 Mitigation Measures

**BIO-1: Special-Status Plant Species:** Prior to Phase 1 or 2 construction activities, the following actions are recommended for avoiding impacts to special-status plant species:

- Perform focused plant surveys according to USFWS, CDFW, and CNPS protocols. Surveys should be timed according to the blooming period for target species and known reference populations, if available.
- The USFWS generally considers plant survey results valid for approximately three years. Therefore, follow-up surveys may be necessary if Project implementation occurs after this three-year window.
- If special-status plant species are found, avoidance zones may be established around plants to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may vary between species and the specific avoidance zone distance would be determined in coordination with appropriate resource agencies (CDFW and/or USFWS).
- If special-status plant species are found within the Project and avoidance of the species is not possible, additional measures such as seed collection and/or translocation may be developed in consultation with the appropriate agencies.
- If no special-status plants are found, no further measures pertaining to special-status plants are necessary.

**BIO-2: American Badger:** Potentially suitable habitat (e.g., annual grassland) is present onsite for one special-status mammal, the American badger. To ensure that there are no impacts to American badgers, the following measures are recommended:

- Conduct a pre-construction survey for American badger. If no evidence (e.g., sign, scat, burrows) of American badger presence is found, no further measures are necessary.
- If evidence of American badger presence is found, consult with CDFW to determine if any additional measures are necessary.

**BIO-3: Native Oak Trees:** The Applicant shall implement the following measures to minimize potential impacts to native oak trees:

- Conduct an arborist survey according to Sacramento County guidelines by an International Society of Arboriculture certified arborist for the Project footprint.
- If no impacts to protected trees are found, no action is required.
- Should the arborist report identify potential impacts to trees protected by County ordinance, prepare and submit an application for a Sacramento County Tree Permit. The tree permit would outline mitigation measures to reduce impacts to protected trees to less-than-significant consistent with County requirements.

- BIO-4: Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp:** The following measures are recommended to minimize potential impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp:
- The Applicant may assume presence of listed large branchiopods. Prior to any construction or work related activities or impacts to any features that provide suitable habitat (vernal pools, seasonal wetlands, and seasonal wetland swales) for the aforementioned listed large branchiopod species, Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
  - If the Applicant does not assume presence of listed large branchiopods, perform protocol level surveys pursuant to the current USFWS Guidelines. The findings of the protocol surveys would dictate mitigation, avoidance, and/or minimization measures through Section 7 consultation with USFWS.
- BIO-5: Elderberry Longhorn Beetle:** The following measure is recommended to minimize potential impacts to VELB:
- Conduct surveys for elderberry shrubs within areas of the Study Area that have not been previously surveyed.
  - If elderberry shrubs would be removed, an evaluation using the 2017 USFWS guidance entitled *USFWS 2017 Framework for Assessing Impacts to the VELB* should be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.
  - Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
- BIO-6: Western Spadefoot:** The following measures shall be implemented to minimize potential impacts to western spadefoot:
- Although no formal survey protocol is required by agencies to determine presence of western spadefoot, it is recommended that nighttime auditory surveys and dip net surveys are made in suitable aquatic habitat during the breeding season (typically late February into April, Shedd 2016).
  - If no western spadefoot is detected during the surveys no further measures are needed.
  - If western spadefoot is detected, additional measures may be developed in consultation with CDFW to avoid impacts to this species. Measures may include preconstruction surveys and/or monitors present during construction activities in and adjacent to suitable aquatic habitat.
- BIO-7: Waters of the United States/Waters of the State.** To minimize potential impacts to Waters of the U.S./State, the following measures shall be implemented prior to Phase 2 construction.



- To compensate for the permanent loss of Waters of the U.S./State, Aerojet shall obtain Section 404 and 401 Permits from the USACE and RWQCB and either create replacement wetland habitat or purchase credits at an agency-approved mitigation bank.
- The wetland compensation ratio Shall be a minimum of 1:1 (one acre of wetland habitat credit for every one acre of impact) to ensure no net loss of wetland habitat functions and values. The project shall also implement the conditions and requirements of the state and federal permits. The actual mitigation ratio and associated credit acreage may be modified based on final design and USACE and RWQCB permitting which will dictate the ultimate compensation for permanent impacts to Waters of the U.S./ State.
- If applicable, Aerojet shall also obtain a Section 1602 Permit from the California Department of Fish and Wildlife.
- If applicable, the Applicant would obtain a 1602 CDFW Streambed Alteration Permit.

## **5.5 Cultural Resources**

### **5.5.1 Environmental Setting**

The WRND site is in northeast Sacramento County, approximately 2.9 miles south of U.S. Highway 50 and northeast of the City of Rancho Cordova. The WRND parcel is undeveloped and was historically used by Sacramento County and Aerojet as a pre-regulation dump. The parcel is characterized by variable topography/tailing piles due to extensive gold dredging that occurred on the property in the late 1930s and early 1940s. Elevations range from 250 to 290 feet above mean sea level. The Borrow Site location consists of 46.2 acres of existing mine tailings and level undeveloped areas located south of Faulk Road within the Aerojet Campus.

Surrounding properties are primarily vacant/undeveloped and support some agricultural uses including grazing. The Prairie City Off-Highway Vehicle Park is located approximately 0.64 mile east, and Teichert Aggregates is located approximate one mile south. The nearest cities include the City of Rancho Cordova, approximately 1.1 miles west, and City of Folsom, approximately 1.7 miles northeast. The nearest existing residential use is a single-family residence located in the City of Rancho Cordova, approximately 1.6 miles to the southeast. Approximately 0.13 mile south of this residence lies an existing residential subdivision within the City of Rancho Cordova.

### **Mining Geology**

The Sierran region claims some of the most extensive placer mining dredge fields in the U.S. In California areas dredged for placer mining are found in alluvial and fluvial deposits, such as where the American, Yuba, and Feather rivers enter the Sacramento Valley and form extensive gravel plains and terraces. Ancient gold-bearing gravels were deposited by a stream system within the American River drainage basin that existed between one million and 10 million years ago, during Pliocene and early Pleistocene times. The Project Area is approximately three miles south of the present American River channel and it falls within the historic American River Mining District, also known as the Folsom Mining District (District). Gold-bearing gravels within the District are either in or near the American River or at the lower contacts of the Laguna and Mehrten formations (Clark 1970). The gravels within the Laguna Formation, which were

deposited approximately three million years ago during the early Quaternary, are inter-bedded with sand, silt, clay, and cobbles and reach a depth of around 100 feet. Volcanic debris of the Mehrten Formation lies beneath these surface stream gravels. In other places, gold-bearing gravels were capped by a hard agglomerate composed predominantly of volcanic debris representing local mud-flow facies of the Miocene Mehrten formation. In the northeasterly margin of the District, a thin veneer of gravels rest on a slate bedrock of Jurassic age.

The gold-bearing Laguna Formation (Pliocene) underlies the Project Area, capped by Holocene alluvium; the fact that so much of the property had been mined indicates that gold-bearing deposits were present. Dredge mining completely obliterated the Holocene alluvium in order to access the underlying Laguna Formation (Clark 1970).

Due to dredging activities in the area, plus the use of the property for a landfill, the soil throughout most of the Project Area has been significantly altered. Because of this alteration, the dredged areas have very low potential for buried cultural resources. The slickens areas between the rows of tailings consist of silty discarded dirt that has settled with water left over from the dredging, thus creating a soil resulting from recent human actions. However, the presence of more deeply buried deposits with potential for bearing archaeological materials may be in alluvium deposited by Buffalo Creek and the American River. There exists a low potential for buried pre-contact archaeological sites in the Project Area because of the likelihood of pre-contact archaeological sites to be located along perennial waterways.

### **Pre-Contact History**

California's Great Central Valley has long held the attention of archaeologists and was a focus of early research in California. The Central California Taxonomic System describes a linear, uniform sequence of cultural succession in Central California, and explicitly defined Early, Middle, and Late horizons for cultural change (Heizer 1949). Fredrickson (1968) further defined three cultural patterns: The Windmill (named after Heizer 1949 and Lillard et al. 1939), the Berkeley, and the Augustine patterns, and assigned them to the Early, Middle, and Late horizons of the Central California Taxonomic System. These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmill pattern of the Early Horizon included cultural patterns dating from 5,000 to 3,000 before present (BP); the Berkeley Pattern of the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns dating from 3,000 BP to AD 500, and the Augustine Pattern of the Late Horizon included the cultural patterns from AD 500 to the historic period.

Fredrickson's (1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal, White, and Sutton (2007). Rosenthal et al.'s recalibrated sequence is divided into three broad periods: The Paleoindian Period (11,550 to 8,550 cal. BC); the three-staged Archaic period, consisting of the Lower Archaic (8,550 to 5,550 cal. BC), Middle Archaic (5,550 to 550 cal. BC), and Upper Archaic (550 cal. BC to cal. AD 1,100); and the Emergent Period (cal. AD 1,100 to Historic) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory.

## Ethnography

Ethnographically, the Project Area is in the southwestern portion of the territory occupied by the Penutian-speaking Nisenan. The territory extends from the area surrounding the current city of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west. In the east, it extended to a general area located within a few miles of Lake Tahoe. As a language, Nisenan (meaning “from among us” or “of our side”) has three main dialects – Northern Hill, Southern Hill, and Valley Nisenan, with three or four subdialects (Kroeber 1925; Wilson and Towne 1978). The Valley Nisenan lived along the Sacramento River, primarily in large villages with populations of several hundred each. Individual and extended families “owned” hunting and gathering grounds, and trespassing was discouraged (Kroeber 1925; Wilson and Towne 1978). Residence was generally patrilocal, but couples actually had a choice in the matter (Wilson and Towne 1978).

Politically, the Nisenan were divided into “tribelets,” made up of a primary village and a series of outlying hamlets, presided over by a more-or-less hereditary chief (Kroeber 1925; Wilson and Towne 1978). Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The chief had little authority to act on his or her own, but with the support of the shaman and the elders, the word of the chief became virtually the law (Wilson and Towne 1978). Subsistence activities centered around the gathering of acorns (tan bark oak and black oak were preferred), seeds, and other plant resources. The hunting of animals such as deer and rabbits, and fishing were also an important part of normal subsistence activities.

The Spanish arrived on the central California coast in 1769 and by 1776 the Miwok territory bordering the Nisenan on the south had been explored by José Canizares. In 1808, Gabriel Moraga crossed Nisenan territory, and in 1813, a major battle was fought between the Miwok and the Spaniards near the mouth of the Cosumnes River. Though the Nisenan appear to have escaped being removed to missions by the Spanish, they were not spared the ravages of European diseases. In 1833, an epidemic – probably malaria – raged through the Sacramento Valley, killing an estimated 75 percent of the native population. The discovery of gold in 1848 at Sutter’s Mill, near the Nisenan village of *Colluma* (now Coloma) on the South Fork of the American River, drew thousands of miners into the area, and led to widespread killing and the virtual destruction of traditional Nisenan culture. By the Great Depression, no Nisenan remained who could remember the days before the arrival of the Euro-Americans (Wilson and Towne 1978).

## Project Area History

The Project Area lies within the 35,000-acre Rio de los Americanos land grant along the southern bank of the American River. The Mexican governor of Alta California issued it to William Leidesdorff in 1844 (Aviña 1976). Leidesdorff was a San Francisco merchant who died in 1848. Joseph L. Folsom, a former U.S. Army captain who came to San Francisco during the Gold Rush, purchased the Rio de los Americanos land grant from Leidesdorff’s estate. Folsom founded the town of Granite City on the land grant. It was renamed Folsom after his death in 1855 (Bright 1998). The same year, the town was being laid out and the Sacramento Valley Railroad was completed from Sacramento to Folsom in 1856. It facilitated shipment of goods from Sacramento to the mining areas to the east (Kyle 2002). The Sacramento Valley Railroad was

acquired by the Southern Pacific Railroad, which extended the line to Placerville in 1888 and became part of the Southern Pacific Railroad in 1889 (Robertson 1998).

After completion of the railroad from Sacramento to Folsom, Folsom became a transportation hub and supply center for gold miners heading east into the Sierra foothills. Stage and freight lines met the train and many commercial enterprises lined Sutter Street to supply the miners. The *Folsom Telegraph*, a local newspaper, has been in continuous publication since 1856 (Folsom Historical Society 2017).

## **Regulatory Setting**

The National Historic Preservation Act and CEQA (Title 14, CCR, Article 5, §15064.5) apply to cultural resources of the historical and prehistoric periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on either the California Register of Historical Resources (CRHR) (Public Resources Code §5024.1, Title 14 CCR, § 4852) or the National Register of Historic Places (NRHP) (36 Code of Federal Regulations [CFR] 60.4). Cultural resources eligible for listing on the NRHP are considered Historic Properties under 36 CFR Part 800 and are automatically eligible for the CRHR. Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

### **5.5.2 Cultural Resources Analysis**

The Project Area included 125 acres of the WRND and the AWCU, plus the approximately four mile Aerojet Landfill Haul Route to the WRND/AWCU along existing roads through the Aerojet campus, and 46.2 acres of a proposed Borrow Site location. The cultural resources analysis was based on a records and literature search conducted at the North Central Information Center of the California Historical Resources Information System at Sacramento State University on October 29, 2019, a search of the Native American Heritage Commission's (NAHC's) Sacred Lands File, a literature review, and a field survey. The field survey of the WRND was conducted October 31 and November 1, 2019; the Haul Route on November 11, 2019, and the Borrow Site on December 12, 2019. The literature search included the results of previous surveys within a 0.5-mile (800-meter) radius of the entire Project location.

In addition to the official records and maps for archaeological sites and surveys in Sacramento County, the following historic references were also reviewed: Historic Property Data File for Sacramento County (Office of Historic Preservation [OHP] 2012); *The National Register Information System website* (National Park Service 2019); *Office of Historic Preservation, California Historical Landmarks website* (OHP 2019); *California Historical Landmarks* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2019); *Caltrans State Bridge Survey* (Caltrans 2018); and *Historic Spots in California* (Kyle 2002). Other references examined include a RealQuest Property Search and historic General Land Office land patent records (Bureau of Land Management 2019). A search of the Sacred Lands File by the NAHC was negative for Native American cultural resources in the Project Area.

The records search, literature review, and field survey resulted in identification of the following historic-period resources in the Project Area:

- The American River Placer Mining District (P-34-335), a regional mining district on paper, which includes not just the current Project Area but the entire Folsom region and is being treated as eligible to the CRHR for the purposes of this Project. No features associated with the District are present within any part of the Project Area.
- Mining Tailings (P-34-4143), which exist in all portions of the Project Area and have been previously determined not eligible for the CRHR and NRHP;
- The WRND (P-34-2147), an historic-period refuse deposit determined to be not eligible for the NRHP or CRHR;
- The Natomas-Aerojet Dredge Fields, (CA-SAC-1013H), a mining district that was previously determined not eligible for the NRHP or CRHR; and
- Two previously unidentified historic-period road segments (L6-001 and L6-001), evaluated as not eligible for the NRHP or CRHR.

## **Cultural Resources**

A Cultural Resources Inventory Report was prepared by ECORP Consulting, Inc. (ECORP 2020, *Appendix E – Confidential*) for the Proposed Project, to determine if cultural resources were present in or adjacent to the Project Area and assess the sensitivity of the Project Area for undiscovered or buried cultural resources. A survey of the area was required to identify potentially eligible cultural resources (i.e., archaeological sites and historic buildings, structures, and objects) that could be affected by the Project. The cultural context of the Project Area, including regional and local pre-contact history (prehistory), ethnography, and regional and Project Area histories can be found in the report in *Appendix E – Confidential* and are the same for all facilities and activities in the Phase I analysis and the Phase II WRND cap and closure.

### **5.5.3 Cultural Resources (V) Environmental Checklist and Discussion**

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**



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Discussion:

**Phases 1 and 2**

As noted, historical Resource P-34-335, American River Placer Mining District, encompasses the entire region; however, no features associated with the District are present within any part of the Project Area. Because no physical features of the American River Placer Mining District lie within the Area of Potential Effects, the Project would not significantly change the characteristics that make the American River Placer Mining District eligible and this project would have a **less than significant** impact on this historical resource under CEQA. No further recommendations for treatment or management of this district are warranted.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**Less than significant with mitigation incorporated.**

Discussion:

**Phases 1 and 2**

No significant archaeological resources were identified in the Project Area by ECORP's cultural resources study. Consistent with Project **ESM-14** (Section 3.2.3) all construction workers would be provided with relevant information regarding sensitive cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations. The worker cultural resources awareness training would also describe appropriate avoidance and minimization measures for resources that have the potential to be located in the Project Area and would outline what to do and whom to contact if any potential cultural resources or artifacts are encountered. Furthermore, specific procedures in the event of an unanticipated discovery would result in a **less than significant impact with the implementation of Mitigation Measures CUL-1 and CUL-2**. This remains the same for all facilities and activities in the Phase I analysis, the Phase II WRND cap and closure and the borrow site.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**Less than significant with mitigation incorporated.**

Discussion:

## **Phases 1 and 2**

No formal cemeteries are located in or near the Project Area and no human remains have been reported in the Project vicinity. Therefore, the Proposed Project has low potential to disturb human remains. The potential exists, however, for previously unknown remains to be unearthed during Project activities, even though the Project includes cultural resources awareness training, which describes appropriate avoidance and minimization measures for resources that may be discovered inadvertently during the Project. This holds the same for all facilities and activities in the Phase I analysis, the Phase II WRND cap and closure and borrow site. The impact on such resources would be **less than significant with the implementation of Mitigation Measure CUL-2.**

### **5.5.4 Mitigation Measures**

**CUL-1: Unanticipated Discovery** - If any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains are encountered during the initial inspection or during any subsequent construction activities, work shall be suspended within 100 feet of the find, and the construction supervisor shall immediately notify the CVRWQCB representative. If the find includes human remains, CVRWQCB shall immediately notify the Sacramento County Coroner and the procedures in Section 7050.5 of the California Health and Safety Code and, if applicable, Section 5097.98 of the Public Resources Code, shall be followed. If the discovery is reasonably associated with Native American culture, CVRWQCB shall coordinate any necessary investigation of the discovery with an appropriate tribal representative and a qualified archaeologist approved by CVRWQCB. As part of the site investigation and resource assessment, CVRWQCB shall consult with appropriate parties to develop, document, and implement appropriate management recommendations, should potential impacts to the resources be found by CVRWQCB to be significant. Possible management recommendations could include documentation, data recovery, or (if deemed feasible by CVRWQCB) preservation in place. The contractor shall implement any measures deemed by CVRWQCB, at its discretion, to be necessary and feasible to avoid, minimize, or mitigate significant effects to the cultural resources.

**CUL-2: Human Remains Discovery** - If human remains of any kind, or remains that are potentially human, are found during any phase on any portion of the Project, a qualified professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant for the project (§ 5097.98 of the Public Resources Code). The designated Most Likely Descendant will have 48 hours from the time access to the

property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the Most Likely Descendant, the NAHC may mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

## **5.6 Energy**

### **5.6.1 Environmental Setting**

#### **Electricity/Natural Gas Services**

SMUD provides electrical services to Sacramento County and parts of Placer County. It is one of the ten largest publicly owned utilities in the United States and provides electric services to an approximately 900-square-mile service area.

The Pacific Gas and Electric Company (PG&E) provides natural gas to the Project area. Its services stretch from Eureka in the north to Bakersfield in the south and from the Pacific Ocean in the west to the Sierra Nevada in the east. PG&E provides 15 million customers with natural gas, spanning roughly 6,700 square miles of California.

#### **Energy Consumption**

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption associated with all non-residential uses in Sacramento County from 2014 to 2018 is shown in *Figure 5.6-1*. As indicated, the demand has decreased since 2014.

<b>Table 5.6-1. Non-Residential Electricity Consumption in Sacramento County 2014-2018</b>	
<b>Year</b>	<b>Non-Residential Electricity Consumption (kWh)</b>
2018	6,183,662,377
2017	6,237,463,959
2016	6,055,674,434
2015	6,188,144,476
2014	6,258,537,182

Source: ECDMS 2019

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The natural gas consumption associated with all non-residential uses in Sacramento County from 2014 to 2018 is shown in *Figure 5.6-2*. As indicated, the demand has increased since 2014.

<b>Table 5.6-2. Non-Residential Natural Gas Consumption in Sacramento County 2014-2018</b>	
<b>Year</b>	<b>Non-Residential Natural Gas Consumption (therms)</b>
2018	110,946,297
2017	109,925,151
2016	105,200,835
2015	102,835,605
2014	100,810,185

Source: ECDMS 2019

Automotive fuel consumption in Sacramento County from 2015 to 2019 is shown in *Figure 5.6-3*. As shown, automotive fuel consumption has remained constant in the County since 2015.

<b>Table 5.6-3. Automotive Fuel Consumption in Sacramento County 2015–2019</b>	
<b>Year</b>	<b>Automotive Fuel Consumption (gallons)</b>
2019	1,759,488,668
2018	1,797,326,227
2017	1,825,616,363
2016	1,862,757,541
2015	1,795,869,259

Source: CARB 2017

## 5.6.2 Energy (VI) Environmental Checklist and Discussion

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

## **Phases 1 and 2**

The impact analysis focuses on the two sources of energy that are relevant to the proposed Project: the equipment-fuel necessary for Project construction and the equipment-fuel necessary for Project maintenance. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project construction and maintenance is calculated and compared to that consumed in Sacramento County.

The amount of automotive fuel use for Project maintenance was estimated using the CARB's EMFAC2017 computer program, which provides projections for typical daily fuel usage in Sacramento County. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. Energy consumption associated with the proposed Project is summarized in *Figure 5.6-4.*

<b>Table 5.6-4. Proposed Project Energy and Fuel Consumption</b>		
<b>Energy Type</b>	<b>Annual Energy Consumption</b>	<b>Percentage Increase Countywide</b>
Automotive Fuel Consumption		
Project Construction and Implementation <sup>1</sup>	252,020 gallons	0.014 percent
Project Maintenance <sup>2</sup>	32,611 gallons	0.001 percent

Source: <sup>1</sup>Climate Registry 2016; <sup>2</sup>EMFAC2017 (CARB 2017)

Notes: The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2019, the most recent full year of data. Fuel consumption calculations are based on California Emissions Estimator Model (CalEEMod) modeling conducted by ECORP Consulting (see *Appendix F – Project Fuel Consumption*).

As shown in *Table 5.6-4*, the Project's fuel consumption during the construction and implementation period is estimated to be 252,020 gallons of fuel, which would increase the annual fuel use in the County by 0.014 percent. This is a conservative estimate since it is a comparison of the total amount of fuel consumed during construction, which would span several years, to one year of fuel use in the County. While construction of the AWCU is expected to commence in Spring 2021 and the exact timing of hauling and depositing all the Transfer Material at the WRND is unknown, Aerojet commits to an AWCU closure within 15 years or by the end of 2035. The work involved would not be continuous, and it is estimated that the actual work constructing the WRND and hauling and depositing Transfer Material would occur in fits and starts throughout the 15-year period. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable to construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would conserve the use of their supplies to minimize costs to their profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine



efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

In addition, as shown in *Table 5.6-4*, Project maintenance is estimated to consume approximately 32,611 gallons of fuel per year, which would increase the annual countywide automotive fuel consumption by 0.001 percent. The amount of fuel use was estimated using CARB's EMFAC2017 computer program, which provides projections for typical daily fuel usage in Sacramento County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during maintenance would be new to Sacramento County. The Project would not result in any unusual characteristics that would result in excessive long-term fuel consumption. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

It should be noted that, as previously described, compared with the fully approved CCP as analyzed under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum, the use of the WRND site as proposed by the Project has the benefit of substantially reducing haul truck trips equating to a reduction of 4.19 million miles traveled. This would result in substantially less energy usage in comparison to the no project alternative.

For these reasons, this impact would be **less than significant**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

The Project would be designed in a manner that is consistent with relevant energy conservation plans in the County designed to encourage development that results in the efficient use of energy resources. The Project would not contribute to an increase in electricity or natural gas consumption in the County. Additionally, implementation of the Project is estimated to eliminate emissions from approximately 4.19 million miles of diesel truck hauling. The Project would not conflict with or obstruct any local or state plans for renewable energy or energy efficiency. For these reasons, this impact would be **less than significant**.

### **5.6.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.7 Geology and Soils**

### **5.7.1 Environmental Setting**

This section describes the geology, soils, and paleontological resources of the Project Area and identifies impacts on these resources. The discussion contained in this chapter is based upon previous geologic and environmental analyses, available literature, and geotechnical investigations conducted by Wallace Kuhl and Associates (2007) and Dames & Moore, Inc. (1991).

#### **Regional Geology**

The AR properties south of U.S. Highway 50 are located within the Sacramento Valley portion of the Great Valley geomorphic province of California. The Sacramento Valley is a northwest-trending basin filled with marine and continentally derived sediments to depths greater than 20,000 feet. The Valley extends roughly from Red Bluff to the north, to the San Joaquin Delta to the south, and is bound by the Sierra Nevada on the east and the Coast Ranges on the west. At the latitude of the site, the Sacramento Valley is approximately 45 miles wide.

Three geologic units are exposed in the site region. Pleistocene-age terrace deposits of the American River are 10-50 feet thick and are composed of a poorly sorted mixture of sand, silt, gravels, cobbles, and clay. In the vicinity of the Proposed Project, these deposits have been disturbed by gold dredging operations (Ecology and Environment 1985). The late Pliocene to early Pleistocene Laguna Formation comprises a heterogeneous assemblage of interbedded silt, clay, and sand with lenses of gravel. These sediments underlie the terrace deposits, range from 100 to 200 feet thick at their eastern boundary, and thicken to the west. The Mehrten Formation of Pliocene age underlies the Laguna Formation and outcrops east of WRND. In the site area, the Mehrten Formation is approximately 200 feet thick and is composed primarily of dark, soft, well-sorted andesitic sands with less frequent lenses of cobbles and gravels.

#### **Site Geology**

The geology at AWCU site was described by Dames & Moore (1991) from numerous borings performed on Aerojet property. Four basic units were identified. The uppermost geologic unit is composed primarily of gravels, cobbles, sands, clays, and silts and is up to 125 feet thick. The upper portions (up to approximately 65 feet) of this unit have been reworked by gold dredging. To the north of Aerojet, this unit contains a thick clay zone that thins to the east and to the south toward the AWCU.

Beneath this coarse material is a geologic unit composed primarily of clay with some lenses of sand and gravel. The thickness of this zone ranges from approximately 10 to 80 feet. On the basis of regional stratigraphic correlation, this clay layer is most likely part of the Laguna Formation (Koelzer Engineering Services 1991).

Beneath the clay layer is a thick sequence of sediments composed primarily of sands and gravels, which contain discontinuous lenses of sandy clay, clay, and silt. The lower part of the unit is composed mostly of dark colored gravels and sands containing lenses of clay and silt. These sediments are approximately 150-200 feet thick and are most likely part of the Laguna-Mehrten transition zone and the Mehrten Formation.

### **Regional Seismicity and Fault Zones**

An “active fault,” according to DOC, Division of Mines and Geology, is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered “inactive.”

The Project Area is situated relatively equidistant from major faults in Northern California and Nevada and is not within or adjacent to an Alquist-Priolo Earthquake Fault Zone or a seismic hazard zone. The nearest known active fault mapped is the Dunnigan Hills fault, located approximately 19 miles northwest of the City of Sacramento, which is estimated to be capable of producing an earthquake with a maximum possible Richter Scale magnitude of 6.0 (Sacramento County 1993). The nearest branches of the active San Andreas Fault system are the Antioch, Green Valley and Concord faults, which are approximately 50 miles southwest of the Project Area. Other major active faults are the Hayward and Calaveras faults to the southwest, the Healdsburg-Rogers Creek fault to the west, the Bear Mountain and New Melones faults to the east, and the Stockton and Greenville faults to the south. Active faulting has not been mapped through or near the Project Area. No known late Quaternary faults pass near or trend directly toward the Project Area as designated by the Alquist-Priolo Earthquake Fault Zone Act (California Geological Survey 2006). Because no major active faults transect the County, surface rupture due to faulting in the project area is not expected to occur.

### **Project Area Soils**

Soil conditions on the AWCU site and in the Project vicinity, historically have been highly modified due, initially, to dredging operations in the 1930s through the 1950s and, subsequently due to landfill activities that were carried out from 1958 to 1964. Dredge tailings covered the entire site except for a narrow area (approximately 2,000 by 100-600 feet) in the southeast corner (Dames & Moore 1991). Based on appearance, there are two types of tailings on the site. On the west half, tailings consist of low, thin, straight ridges of coarse sandy and clayey gravels. Fine materials consisting of silts and clays was observed between the ridges. Tailings on the eastern half of the site are high, broad, and sinuous in appearance with ridges composed of coarse gravels (TP-15 and TP-47). Some fine-grained material was observed between the ridges, however, most of the original dredge tailing topography has been obliterated by landfill activities; therefore, the nature of tailings on this portion of the site is not as well understood. The eastern portion of the site was apparently dredged at some time between 1937 and 1952. (Dames & Moore 1991).

The depth to which dredge tailings extend on the site is not known. Records of dredging operations from the Natomas Company of California for the east Sacramento County area indicate that in 1930, areas approximately one mile north of WRND were dredged to depths of between 50-60 feet. Considering the later dates of activity, dredging may have been slightly deeper on the WRND site due to improved dredging equipment (Dames & Moore 1991).

## **Paleontological Resources**

An online paleontological records search was conducted on February 10, 2020, through the University of California Museum of Paleontology database for the Project and surrounding area (0.5 mile) and a formal letter request for records search was sent to the Museum of Natural History, Los Angeles on February 12, 2020 (ECORP 2020). Following is a summary of the records search results and recommendations.

According to geologic mapping, the surface material at both the Project site and the Phase 1 and 2 site consists of tailings from mining operations that can be up to 80 feet thick. Additionally, material located at the Phase 1 site also includes manmade landfill materials that were deposited when the dump was operational from the 1950s to 1970s. Mine dredge tailings in this area are not likely to contain significant vertebrate fossils.

Surface deposits are likely to be up to 80 feet thick over the natural geologic layers. According to Dr. Mcleod at the Museum of Natural History, Los Angeles, it is highly unlikely that the significant vertebrate fossils would be found in the dredge tailings or within the landfill material located within the Project Area. However, adjacent to the southeastern boundary of the Phase 2 WRND Cap/Cover, there appears to be exposure of the alluvial Pliocene Laguna Formation that could be present beneath the dredge tailings as well as the Phase 1 and 2 landfill materials. The Museum of Natural History, Los Angeles has no vertebrate fossil localities from the Laguna Formation; however due to the relative fine-grained sedimentary deposit found in the Laguna Formation, it has the potential to contain significant vertebrate fossils.

### **5.7.2 Geology and Soils (VII) Environmental Checklist and Discussion**

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii)	Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii)	Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv)	Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

### Phases 1 and 2

As described above, the Proposed Project is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone or a seismic hazard zone. The nearest known active fault mapped is the Dunnigan Hills fault, located approximately 19 miles northwest of the City of Sacramento, estimated to be capable of producing an earthquake with a maximum possible Richter Scale magnitude of 6.0 (Sacramento County 1993). Under Phase 1 of the Project, solid waste would be placed above the existing WRND ground surface, compressed, and covered with soil, gravel and cobble material collected at the AWCU site or collected and processed at the proposed Borrow Site. Slopes of the fill would be no steeper than 2:1 (Horizontal: Vertical) and therefore stable and not subject to failure during seismic events of a magnitude likely to occur in the region. Workers would be present on the AWCU site, proposed haul road routes and at the proposed Borrow Site and processing plant during the AWCU construction period. Upon closure of the AWCU Phase 1 site, the site would be unoccupied except for periodic maintenance and inspection activities; use of the haul roads for transport of Transfer Material to the AWCU site and operation of the Borrow Site for Phase 1 activities would cease. Phase 2 WRND Cap construction would involve capping the existing WRND consistent with Title 27 Requirements. To ensure the Phase 2 Cap would not be subject to failure during seismic events of a magnitude likely to occur in the region, the cap would be designed consistent with recommendations of a site specific geotechnical report.

For the above reasons, potential impacts pertaining to Items a) i) through iv) above, are found to be **less than significant**.

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Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

### Less than significant impact.

Discussion:

### Phases 1 and 2

BMPs would be included as part of the Storm Water Pollution Prevention Plan (SWPPP) prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities (see Hydrology and Water Quality (X.) Environmental Checklist and Discussion). Soil erosion impacts would, therefore, be reduced to a **less than significant** impact.



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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

As discussed in response b) above, a Construction SWPPP would be implemented to manage erosion and the loss of topsoil during construction-related activities and ensure geologic stability. Further, the JTDs (*Appendix A*) outline the construction plans and specifications for all Project related improvements. The JTDs have been prepared in compliance with Title 27 and Sacramento County requirements which were created in part to ensure stability and prevent on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Related impacts are **less than significant**, and no mitigation is required.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

The Proposed Project does not entail the construction of any permanent occupied structures on the project site. The Project, therefore, would have **no impact** relative to Item d), above.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

The Proposed Project would not require the installation of septic systems or other wastewater disposal systems and, therefore, would have **no impact** relative to Item e).

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with mitigation incorporated.**

Discussion:

**Phases 1 and 2**

The Proposed Project is located within an area containing surface dredge tailings from previous mining activities as well as landfill material from the WRND, which that was closed in the 1970's. Any excavations in landfill materials located in the areas of Phases 1 and 2 are not anticipated to encounter paleontological resources. Additionally, the dredging tailings at the surface throughout the Proposed Project Area are highly unlikely to uncover significant fossil vertebrate remains. However, although not anticipated as an activity of the Proposed Project, should deep excavations extending down past the older dredge tailings or landfill material (into the Laguna Formation) be required, there is a possibility to encounter significant vertebrate fossils requiring implementation of **Mitigation Measure GEO-1 to reduce impacts to less than significant.**

### 5.7.3 Mitigation Measures

**GEO-1: Discovery of Unknown Paleontological Resources** - Any deep excavations extending below the surface dredge tailings or landfill materials will be monitored closely by a qualified paleontologist. If any paleontological resources (i.e., fossils) are found during excavation, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until the lead agency, Central Valley Water Quality Control Board, is notified and the area is cleared for future work. A qualified paleontologist will evaluate the findings and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project Site. If the lead agency resumes work in a location where paleontological remains have been discovered and cleared, the lead agency will have a paleontologist onsite to observe any continuing excavation and confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

## 5.8 Greenhouse Gas Emissions

### 5.8.1 Environmental Setting

Greenhouse Gas (GHG) emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps over 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub>. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

The local air quality agency regulating the Sacramento County portion of the SVAB is the SMAQMD, the regional air pollution control officer for the basin. The SMAQMD has recommended an approach for assessing a proposed development's GHG emissions. Specifically, SMAQMD recommends a comparison of a project's annual construction GHG emissions to a significance threshold of 1,100 metric tons per year. Similarly, SMAQMD recommends a comparison of a project's annual operational GHG emissions to a significance threshold of 1,100 metric tons per year. If a threshold is exceeded, then the project may have a cumulatively considerable contribution to a significant cumulative environmental impact, and all feasible

mitigation is required. Additionally, the Project would also be assessed for consistency with the County of Sacramento Climate Action Plan (CAP).

### **5.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

#### **Less than significant impact.**

Discussion:

#### **Phases 1 and 2**

##### *Construction Significance Analysis*

Construction-related activities that would generate GHG emissions include worker commute trips and the operation of the heavy-duty equipment (i.e., excavators, loaders, crushers, haul trucks). GHG emissions associated with Project offroad equipment and worker commute trips were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Emissions generated from Project haul truck trips are estimated with EMFAC 2017. See *Appendix C* for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis. While construction of the AWCU is expected to commence in Spring 2021 and the exact timing of hauling and depositing all the Transfer Material at the WRND is unknown, Aerojet commits to an AWCU closure within 15 years or by the end of 2035. The work involved would not be continuous, and it is estimated that the actual work constructing the WRND and hauling and depositing Transfer Material would occur in fits and starts throughout the 15-year period. However, emissions predictions in this analysis are based on Phase 1 of the Project commencing in the Spring of 2021 and continuing in a single phase spanning 29 months into the end of 2023, and Phase 2 beginning in 2024. This is conservative as while the actual timing of Project implementation would be dictated by several other forces resulting in Project implementation lasting as much as 15 years, CalEEMod and EMFAC incorporates lower emission factors associated with construction equipment and haul trucks in future years due to improved emissions controls and fleet modernization through turnover. Thus, calculating Project emissions to account for Project implementation at the earliest dates provides the highest estimate of emissions.

Predicted maximum annual GHG emissions attributable to Project implementation are summarized in *Table 5.8-1*. Such emissions are short-term and of temporary duration, lasting only as long as Project implementation activities occur, but would be considered a significant air quality impact if the volume of GHG emissions generated exceeds the SMAQMD's thresholds of significance.

Table 5.8-1. Construction-Related Greenhouse Gas Emissions	
Emissions Source	CO <sub>2</sub> e (Metric Tons/ Year)
Year 2021 (Mobilization, Clearing & Grubbing, Borrow Site Operations & Rough Grading)	414
Year 2022 (Rough Grading, Road Access Improvements, Vapor/Gas System Installation, Liner System Installation, & Hauling/Placement Operations)	951
Year 2023 (Hauling/Placement, Phase 1 Cap & Cover Installation, & Site Fencing)	1,037
Year 2024 (Phase 2 Cap)	156
SMAQMD Significance Threshold	1,100
Exceed SMAQMD Threshold?	No

Source: CalEEMod version 2016.3.2; EMFAC 2017. Refer to *Appendix C* for Model Data Outputs.

Notes: Emissions estimates account for the anticipated equipment fleet and number of workers identified in *Table 3-2*, as well as the amount of material movement, haul truck trips, and haul truck trip lengths identified in *Table 3-1*.

As shown in *Table 5.8-1*, the highest amount of annual GHG emissions would be generated during a year of hauling and placement of Transfer Material, Phase 1 cap and cover implementation, and the site fencing installation. The amount of annual GHG emissions are predicted to fall below the SMAQMD annual significance threshold.

Furthermore, as previously described, compared with the fully approved CCP as analyzed under the Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration and the follow-on Aerojet Landfill CCP Initial Study Addendum, the use of the WRND site as proposed by the Project has the benefit of instigating substantially less haul truck trips equating to a reduction of 4.19 million miles traveled. *Table 5.3-4* above identifies the quantity of CO<sub>2</sub>e emissions that would be generated by 4.19 million miles of haul truck travel. A comparison of *Table 5.3-4* and *Table 5.8-1* shows that Project CO<sub>2</sub>e emissions resulting from Project implementation are substantially reduced compared with the CO<sub>2</sub>e emissions that would be generated by haul truck trips currently allowed under the approved CCP. This reduction in GHG emissions would be a beneficial impact attributable to the Project.

The Project would not exceed the SMAQMD significance criterion and related impacts are **less than significant**.

#### *Operational Significance Analysis*

As previously described, it is anticipated the final Closure Plan would require regular maintenance, monitoring and inspection of the AWCU including the following:

- Stormwater monitoring and testing;
- Landfill gas monitoring;



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- Leachate and Groundwater monitoring;
- Landfill gas collection and destruction (if necessary);
- Leachate collection and management (if necessary);
- Site inspection in support of erosion and sediment control measures;
- Settlement surveying;
- Vegetation management; and,
- Repair of settlement and erosion issues.

These activities would result in long-term operational GHG emissions. Project-generated increases in emissions would be predominantly associated with motor vehicle and equipment use. As previously described, operational GHG emissions were based on Project details contained in *Table 3-3* above.

Long-term operational GHG emissions attributable to the Project are identified in *Table 5.8-2*, and compared to the operational GHG significance thresholds promulgated by the SMAQMD.

<b>Table 5.8-2. Operational-Related Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
Long-Term Maintenance	331
<i>SMAQMD Significance Threshold</i>	<i>1,100</i>
<b>Exceed SMAQMD Threshold?</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to *Appendix C* for Model Data Outputs.

Notes: Emissions projections are based on Project details contained in *Table 3-3*.

As shown in *Table 5.8-2*, the Project's emissions would not exceed any SMAQMD thresholds for GHG emissions during operation. This impact is **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

## Phases 1 and 2

The Sacramento County CAP provides a framework and overall policy strategy for reducing GHG emissions and managing resources in order to comply with statewide GHG reduction goals. It also highlights actions already taken to become more efficient, and targets future mitigation and adaptation strategies. The CAP contains policies/goals related to agriculture, energy, transportation/land use, waste, and water. As part of the CAP, Sacramento County prepared a GHG emissions inventory and based on this inventory, developed GHG significance thresholds for land use development projects. Separate thresholds have been included for the Energy sector and Transportation/Land Use sector, the two most potent sources of GHG emissions. The purpose of this division is to provide additional information about the source of emissions.

The County CAP does not promulgate specific thresholds for construction-type projects such as that proposed by the Aerojet Waste Consolidation Project. However, although there would be emissions associated with the Project (see *Tables 5.8-1 and 5.8-2*), Project GHG emissions resulting from construction are substantially reduced compared with the GHG emissions that would be generated by haul truck trips currently allowed under the approved CCP. This reduction would be a beneficial impact attributable to the Project. Thus, since the primary intent of the County CAP is to reduce GHG emissions in the County, the Project is consistent with the intent of the CAP and would in no way conflict with it. **No impact** would occur, and no mitigation is required.

### 5.8.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

## 5.9 Hazards and Hazardous Materials

### 5.9.1 Environmental Setting

The term "hazardous substances" refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency, or if it has characteristics defined as hazardous by such an agency.

The definition of a hazardous waste, as regulated by the California Environmental Protection Agency, Department of Toxic Substances Control, is found in the California Health and Safety Code Section 25141 (b), as follows:

"...as hazardous waste because if its quantity, concentration, or physical, chemical, or infectious characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed."

A hazardous waste is a "solid waste" that exhibits hazardous characteristics. The U.S. Environmental Protection Agency (USEPA) has defined the term "solid waste" to include the following: any gaseous, liquid, semi-liquid, or solid material that is discarded or has served its intended purpose, unless the material is excluded from regulation. Such materials are considered wastes whether they are discarded, reused, recycled, or reclaimed. The USEPA classifies a waste as hazardous if it (1) is listed on the USEPA's list of hazardous waste and (2) exhibits one or more of the following properties: ignitability (including oxidizers, compressed gases, and extremely flammable liquids and solids), corrosivity (including strong acids and bases), reactivity (including materials that are explosive or generate toxic fumes when exposed to air or water), or toxicity (including materials listed by the USEPA as capable of inducing systemic damage in humans or animals).

## **Regulatory Setting**

### *Federal, State, And Local Regulations*

Many agencies regulate hazardous substances. At the federal level, the principal agency regulating the generation, transport and disposal of hazardous waste is the USEPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The USEPA regulates hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). California regulations governing hazardous materials are as stringent as (and in some cases, more stringent than) federal regulations. The state has been granted primacy (primary responsibility for oversight) by the USEPA to administer and enforce hazardous waste management programs. State regulations also have detailed planning and management requirements to ensure that hazardous materials are handled, stored, and disposed of properly to reduce human health and environmental risks. California regulations pertaining to hazardous waste management are published in the CCR, previously called the California Administrative Code. The CCR is updated annually and incorporates all legislation and final regulations enacted during the year, as well as specifying the agencies responsible for enforcing the various regulations.

The Sacramento County Environmental Management Department, Certified Unified Program Agency (CUPA) regulates the use, storage and disposal of hazardous materials in Sacramento County by issuing permits, monitoring regulatory compliance, investigating complaints, and other enforcement activities. The CUPA oversees remediation of certain contaminated sites resulting from leaking underground storage tanks.

### *Resource Conservation and Recovery Act*

The RCRA of 1976 (substantially amended in 1984), administered by the USEPA, is the principal federal legislation regulating hazardous waste. The RCRA imposes reporting, permitting, and operational control requirements on businesses or individuals that generate, treat, store, or dispose of hazardous materials or hazardous waste. The RCRA is implemented by Title 40 of the CFR. The 1984 amendments to the RCRA involve stringent monitoring of landfills and underground storage tanks for hazardous materials and hazardous wastes.

Comprehensive Environmental Response, Compensation and Liability Act

In response to the need to clean up hazardous waste sites created before implementation of the RCRA, Congress enacted CERCLA in 1980. CERCLA is commonly referred to as "Superfund". Subsequently, abandoned hazardous waste sites have to be inspected, cleaned up, and disposed of properly.

Superfund Amendments and Reauthorization Act

The risk of exposure to hazardous waste as a result of RCRA and CERCLA was addressed in the Superfund Amendments and Reauthorization Act (SARA) of 1986. As a result of SARA, OSHA published hazardous waste cleanup regulations in 29 CFR 1910.120.

Department of Toxic Substances Control

22 CCR gives the DTSC responsibility for regulating hazardous waste management at the State level. The DTSC regulates the treatment, storage, and disposal of hazardous waste in accordance with 22 CCR and the RCRA. The DTSC administers the state and federal Superfunds for cleanup of major hazardous waste contamination sites.

Regional Water Quality Control Board

23 CCR charges the nine RWQCBs with responsibility for overseeing water quality control. The RWQCBs are responsible for protecting actual or potential beneficial uses of water, including municipal, industrial, and agricultural water supplies and recreation. Each RWQCB has authority to supervise hazardous waste cleanup at sites referred by local agencies and in cases where water quality is affected or threatened. Either the DTSC or the RWQCB may be responsible for cleanup of sites of significant contamination by hazardous wastes. The two agencies often work together to ensure that their requirements are consistent and are implemented as intended.

California Occupational Safety and Health Administration

Health and safety regulations applying to the investigation and cleanup of sites contaminated with hazardous waste are enforced by the California Occupational Safety and Health Administration (Cal-OSHA) under 8 CCR and the adopted federal regulations (29 CFR 1910).

**5.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion**

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Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

## **Phases 1 and 2**

Temporary construction activities associated with the Project would involve the transport and use of limited quantities of miscellaneous hazardous substances including gasoline, diesel fuel, hydraulic fluid, solvents, and oils. These chemicals would be brought to the Project site, as well as transported along area roadways. Federal and state laws regulate the handling, storage, and transport of these and other hazardous materials, as well as the mechanisms to respond and clean up any spills along local and regional roadways. As discussed in the Project Description, **ESM-7** (Section 3.2.3) would be implemented by the contractor during construction to ensure chemicals required to be onsite would be handled in accordance with applicable federal, state, and local regulations for hazards substances. Therefore, potential impacts are considered **less than significant**.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## **Less than significant impact.**

Discussion:

## **Phase 1**

The Project includes the transport of up to 1,000,000 CY of Transfer Material (including inert construction debris and waste soil that exceeds contamination screening levels) approximately three miles from the Aerojet Landfill to the proposed AWCU for disposal. Measures addressing excavation, processing, sorting and stockpiling of Transfer Material at the Aerojet Landfill prior to transport are contained in the approved Aerojet Landfill CCP and related CEQA document and serve to mitigate potential hazardous material upset and accident conditions that may occur during these operations.

Following excavation and processing activities at the Aerojet Landfill, Transfer Material would be hauled to the AWCU by truck and/or truck and trailer combination in compliance with all applicable hazardous material transport regulations and would utilize existing private paved roads within the Aerojet access-controlled property. Because transport of Transfer Material would not occur over public streets, any accidental release of hazardous materials during transport is unlikely to affect the public. Furthermore, the Project would include implementation of **ESM-7**, **ESM-9**, and **ESM-13** (Section 3.2.3). These measures require that construction documents identify materials that are considered hazardous consistent with the Project's approved JTDs, and require the contractor to develop a Health and Safety Plan that addresses release prevention measures; employee training, notification, and evacuation procedures; and emergency



response protocols and cleanup procedures. During construction, the contractor would also be required to comply with Cal-OSHA standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. In addition, a Traffic Management Plan would be prepared in accordance with Sacramento County requirements, the Aerojet Landfill CCP (as amended by the Proposed Project), any applicable emergency and evacuation plans, and professional engineering standards. These measures would ensure potential impacts to the public and environment during waste transport remain less than significant.

During Transfer Material placement into the AWCU, consistent with **ESM 13** (Section 3.2.3), aerosol meters and other local air monitoring devices would be employed to ensure emission compliance and worker safety. Results of soil vapor/gas monitoring would be used to refine protections as warranted. For example, should landfill gas or other vapor contaminants be present, additional monitoring equipment would be installed or issued to crew members in order to monitor conditions in real-time. Perimeter air monitoring for visible dust and other contaminants would be established on a case-by-case basis, or as required in association with the JTDs and issued permits.

To ensure protection of the public and environment, the proposed AWCU is designed consistent with Title 27 design requirements. This includes, from the bottom up, a lower composite liner, geodrain leak detection system, upper linear low-density polyethylene (LLDPE) liner, and Leachate Collection and Recovery System. The AWCU would be capped with a geosynthetics-based or alternative final cover, would include a network of groundwater monitoring wells, and the entire facility would be fenced to prevent unauthorized access. Finally, the JTDs (provided as *Appendix A*) include a monetary commitment by Aerojet for the long-term monitoring and management of the AWCU consistent with regulatory requirements. Related impacts would be **less than significant**.

## **Phase 2**

The Phase 2 WRND Cap project, scheduled for implementation within 15 years or by the end of 2035, would include the capping and closure of the existing WRND. This would include development of detailed plans for the Phase 2 Cap and a related Closure Plan. The Phase 2 Cap design would accommodate final site drainage, access, environmental controls, maintenance, and monitoring requirements. Because the Phase 2 Cap design, Closure Plan, and JTDs would be developed consistent with then-current Title 27 regulatory requirements, related potential impacts involving the release of hazardous materials are **less than significant**. This impact finding would be confirmed during future Phase 2 project-level CEQA review.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

There are no schools within 1/4 mile of the project site. The nearest school is Folsom High School located in the City of Folsom approximately 3.4 miles northeast of the WRND. Therefore, **no impact** would occur.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

To identify nearby existing hazardous contaminated sites, an *Environmental Data Resources, Inc. Radius Map™ Report* (Environmental Data Resources, Inc., February 5, 2020) was prepared for the WRND parcel and surrounding area. This report, provided as *Appendix G* to this IS/MND, meets the search requirements of USEPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

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As shown on *Figure 5.9-1. Nearby Hazardous Material Sites*, the report identified the following hazardous contamination sites within 0.5-mile of the WRND parcel:

1. The WRND parcel - the Project site.
2. White Rock Dump #2 (WRD-2) – located north of the western portion of the WRND parcel.
3. White Rock Road Landfill –South (White Rock South Dump) – located southeast of the Nimbus Road/White Rock Road Intersection.
4. Aerojet National Priority List Site – the Aerojet access-controlled property located north and west of the WRND parcel.

The proposed Phase 1 AWCU would be constructed on the WRND parcel, a known hazardous materials site. The Phase 1 AWCU would be located over existing waste, and the Phase 2 cap would cover the remaining extent of WRND waste not covered by the AWCU. Although the Project is proposed on a known listed hazardous materials site, because the Phase 1 AWCU and Phase 2 Cap and Closure Plan and related JTDs would be developed consistent with current and future Title 27 regulatory requirements, the project would not create a significant hazard to the public or environment. Related impacts are considered less than significant.

The Project also includes hauling Transfer Material over paved roads located within the AWCU Service Area and operations at the Aerojet Borrow Site. Both the AWCU Service Areas haul routes and Borrow Site are located within the Aerojet National Priority List site identified in *Figure 5.9-1*. Because the haul routes would follow paved roads, transport activities would not create a significant hazard to the public or the environment. Similarly, Borrow Site operations would occur in previously disturbed areas consistent with past practices. Consequently, haul route and Borrow Site operations would not create a significant hazard to the public or environment and related impacts are considered **less than significant**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**No impact.**

Discussion:

### Phases 1 and 2

The Project is not located within an airport land use plan or within two miles of an airport, public or private. The nearest airport is the Mather Airport located approximately six miles southwest of the Project site. There are no safety hazards associated with the Project being in close proximity to an airport. **No impact** would occur.

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Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

### Less than significant impact.

Discussion:

### Phases 1 and 2

The Project Site is located on private property in an unincorporated area of Sacramento County within the access-controlled portion of Aerojet land holdings. Project activities primarily include construction of the Phase 1 AWCU and Phase 2 Cap on the WRND parcel, Borrow Site operations, and hauling of Transfer Material following the routes shown in *Figure 1-3*.

The WRND and surrounding area can be characterized as rural with no residential uses, minimal daytime population and no nighttime population. The nearest concentration of daytime population is related to Aerojet office, research and development, warehouse and supporting operations located approximately two miles northwest of the WRND parcel. Because project construction would be primarily restricted to the WRND parcel, related activities would not physically interfere with any emergency response or evacuation plans. Trucks and/or truck-trailer combinations would utilize the haul routes during Transfer Material hauling, Borrow Site operations, and possibly during Phase 2 Cap construction. Haul route operations would be subject to **ESM-9** (Section 3.2.3), which requires that the contractor(s) prepare a Traffic Control Plan prior to construction in accordance with Sacramento County requirements, the Aerojet Landfill CCP (as amended by the Proposed Project), and any applicable emergency response/evacuation plans. Implementation of **ESM-9** would ensure project activities do not interfere with any adopted emergency response or emergency evacuation plan. Impacts would be **less than significant**.



#### LEGEND

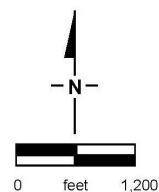
  White Rock North Dump (WRND) Boundary

  Phase I Aerojet Waste Consolidation Unit (AWCU)

#### Known Hazardous Materials Sites (0.5-mile radius)

1. WRND
2. White Rock Road Landfill – South (White Rock South Dump)
3. Aerojet NPL Site

SOURCE: Google Earth, 9/12/2019 imagery and Environmental Data Resources (EDR) Report, 2/5/2020



TITLE: Nearby Hazardous Material Sites – Proposed Waste Consolidation Unit			
LOCATION: Aerojet-Rocketdyne White Rock North Dump (WRND) Rancho Cordova, California			
 <b>TETRA TECH</b>	CHECKED:	BL	FIGURE:  <b>1</b>
	DRAFTED:	KDH	
	FILE:	17-3501058.01	
	DATE:	03-26-20	



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

**Figure 5.9-1. Nearby Hazardous Material Sites**

*2009-165.22 Aerojet Landfill*

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

The Project would be conducted entirely on Aerojet-controlled land and no residences are located within or near by the Project site. The closest existing residential neighborhood is located in the City of Rancho Cordova approximately 1.6 miles south of the proposed AWCU. As discussed in Section 5.20 Wildfire, the Project site is not located in or near state responsibility areas, or lands classified as very high fire hazard severity zones. A grass fire did occur on the eastern portion of the WRND parcel in August 2019 as a result of a car hitting a power pole along White Rock Road. This fire burned approximately three to five acres of grassland, was extinguished quickly, and no structural damage was reported.

As outlined in *ESM-8: Prepare and Implement a Fire Suppression and Control Plan*, the Project contractor would be required to coordinate with Sacramento County Fire to ensure a fire control plan is prepared and implemented to reduce the risk of fires during construction. The fire prevention and control plan would include requirements for onsite extinguishers; roles and responsibilities of Aerojet and the Project contractor; specification for fire suppression equipment and other critical fire prevention and suppression items. In addition, onsite water trucks would be available during construction and could be used in the event of a fire. With implementation of **ESM-8** (Section 3.2.3), the risk of injury from wildfires would be **less than significant**.

**5.9.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**5.10 Hydrology and Water Quality**

**5.10.1 Environmental Setting**

**Regional Hydrology**

The Project site is located in the Sacramento Valley, at the southern end of the Sacramento River hydrologic region. The climate in this region generally consists of cool, wet winters and warm, dry summers. Average annual rainfall is approximately 24 inches per year (Western Region Climate Center [WRCC] 2020). The South American Groundwater Basin (California Department of Water Resources Basin No. 5-21.65) underlies the Project area, south of the American River. Under the Sustainable Groundwater Management Act (SGMA), the South American Basin is a high-priority groundwater basin due to declining



groundwater levels but is not experiencing conditions of critical overdraft (DWR 2020). The Groundwater Sustainability Agency is the Sacramento Central Groundwater Authority.

A Groundwater Sustainability Plan (GSP) that provides details regarding how groundwater would be managed in the basin must be submitted to the California DWR by January 31, 2022.

### **Site Hydrology and Onsite Drainage**

The elevation at the Project site averages approximately 250 feet above mean sea level (ft msl). Surface drainage is generally toward the northwest, with the primary surface drainage being Buffalo Creek. Buffalo Creek flows toward the northwest into the American River. However, due to historic gold dredging activities, much of the surface at and near the Project site has been disrupted by large cobble piles and intervening low areas that may expose localized perched water within the dredge tailings. A 10-year, 24-hour storm event has a magnitude of 3.32 inches, a 100-year, 24-hour storm event has a magnitude of 5.09 inches, and a 1,000-year, 24-hour storm event has a magnitude of 7.27 inches (see *Appendix H – AWCU Phase 1 Hydrologic and Hydraulic Analyses*, SLR International Corporation, February 2020).

Groundwater occurs at depths of approximately 75 to 100 feet below ground surface (ft bgs) beneath the former WRND. Six different groundwater aquifer units have been identified beneath the Project site and surrounding areas, labelled Zones A through F, with Zone A being the shallowest and Zone F the deepest. Groundwater flows toward the south beneath the eastern part of the former WRND (Phase 1 area) and toward the southwest beneath the western part of the former WRND (Phase 2 area).

Figures 1 through 6 of *Appendix I – Site-Wide October 2019 Potentiometric and Fall 2019 Isoconcentration Contour Maps* (Geosyntec Consultants, January 21, 2020) show the groundwater contours for Zones A through F, respectively, for October 2019, the most recent date for which data are available.

The groundwater in each of the aquifer zones has been affected by former rocket manufacturing and testing activities conducted many decades ago. Groundwater plumes of industrial solvents (primarily trichloroethylene [TCE]) and rocket fuel by-products (perchlorate and N-Nitrosodimethylamine) extend underneath the former WRND from upgradient source areas to the northeast. In addition, a plume of TCE originates at the former WRND.

Aerojet Rocketdyne operates Groundwater Extraction and Treatment system AB (GET AB) in the vicinity of the proposed project to remediate the contamination in the groundwater aquifer zones on the southeast side of Aerojet. The GET AB system is one of several GETs that are required by the Perimeter Groundwater Operable Unit Unilateral Administrative Order (USEPA 2018) to achieve the performance standards listed in the Statement of Work. Section II of the Statement of Work (SOW) (USEPA 2011) states that the remedial action objective is to achieve containment of the contaminated groundwater that exceeds the groundwater containment standards. Section V.I. of the SOW states that Aerojet Rocketdyne "...shall conduct effectiveness evaluations of the interim groundwater remedy for OU-5 to ensure that the remedy is...compliant with the RAOs...". Section C.4.1 of the most recent effectiveness evaluation as outlined in the 2019 Annual Report, Perimeter Groundwater Operable Unit (OU-5) Groundwater Remedy, (February 2020) (Geosyntec and RWQCB, 2019) states that the flow of the combined GET AB influent streams in 2018 was approximately 2,193 gallons per minute. Aerojet has been operating this system since the late 1980s and,

over the past seven to eight years, Aerojet has continuously pumped and treated over 2,000 gallons of water per minute, or just under three million (GPD). This rate is not anticipated to decline over the next 10 years.

The treated water from GET AB is conveyed to the Aerojet Rocketdyne industrial water supply system, which would be used during the construction and closure of the AWCU. The daily demand on Aerojet's industrial water supply system is 1.5 million GPD, so about 1.5 million GPD of water is currently available for other short term uses, such as the proposed Project. Figures 10 through 12 of *Appendix I* show the perchlorate, TCE, and N-Nitrosodimethylamine plume extents, respectively, in Layer B for October 2019, the most recent date for which data are available (Geosyntec Consultants, January 21, 2020).

### **5.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

#### **Less than significant impact.**

Discussion:

#### **Phases 1 and 2**

Construction and closure of the AWCU would result in disturbance of more than one acre of land. Thus, compliance with the State Water Resources Control Board (SWRCB) general permit to discharge storm water associated with construction activity is required. The general permit is known as the SWRCB, Order No. 2009-0009-DWQ (as amended by Orders 2010-0014-DWQ and 2012-006-DWQ), , National Pollutant Discharge Elimination System General Permit No. CAS000002, WDRs for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit). AR would be required to submit a Notice of Intent (NOI) for coverage under the General Permit and prepare a SWPPP.

The SWPPP would need to address any Project-related activities that have the potential to release pollutants, including sediment, in stormwater, such as:

- Excavation work;
- Material stockpiling;
- Waste and soil screening;
- Loading and hauling of waste and construction materials; and
- Winterization of incomplete activities.

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The SWPPP must identify the Best Management Practices (BMPs) that would be implemented during construction and the final closure fieldwork to ensure that polluted stormwater runoff does not leave the site. The SWPPP would also need to include a monitoring program to document the effectiveness of the BMPs. Compliance with the SWPPP and implementation of the BMPs would prevent unacceptable degradation of surface water quality.

The Aerojet Landfill Closure Modification Plan and CCP (*Appendix B*) include requirements to protect surface water during excavation and closure of that facility. The Initial Study Addendum for the CCP included evaluation of potential impacts to surface water during excavation and clean closure of the Aerojet Landfill.

The AWCU would be constructed to meet Class II landfill construction requirements, including the installation of clay and synthetic liner systems, leachate collection and recovery systems, an engineered cover system, and monitoring systems. The monitoring systems would include landfill gas monitoring probes, leachate monitoring, vadose zone monitoring using lysimeters, and groundwater monitoring wells. Existing wells at the WRND may be used for monitoring (see Figure 1. Layer A Groundwater Elevation Contours through Figure 6. Layer F Groundwater Elevation Contours in *Appendix I* for existing well locations). The Regional Water Quality Control Board would issue WDRs for the AWCU and the Local Enforcement Agency would require preparation of a Closure and Post-Closure Maintenance and Monitoring Plan (PCMP). The WDRs and the PCMP would define the specific monitoring requirements and compliance levels to ensure that the facility does not violate water quality standards and waste discharge requirements.

The SWPPP, WDR, and PCMP requirements apply to both Phase 1 and Phase 2 operations and closure.

As shown in Figure 10. Layer B Perchlorate Isoconcentration Contours of *Appendix I*, there is a small area where TCE has historically migrated to groundwater from south side of the WRND. Installation of the Phase 1 and Phase 2 caps would minimize the amount of rainfall that would percolate through the buried waste materials and reduce the potential for contaminants to migrate to groundwater. Thus, the project would potentially contribute to the improvement of groundwater quality beneath and downgradient of the WRND.

As discussed above, the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality and related impacts are **less than significant**. No mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**No impact.**

Discussion:

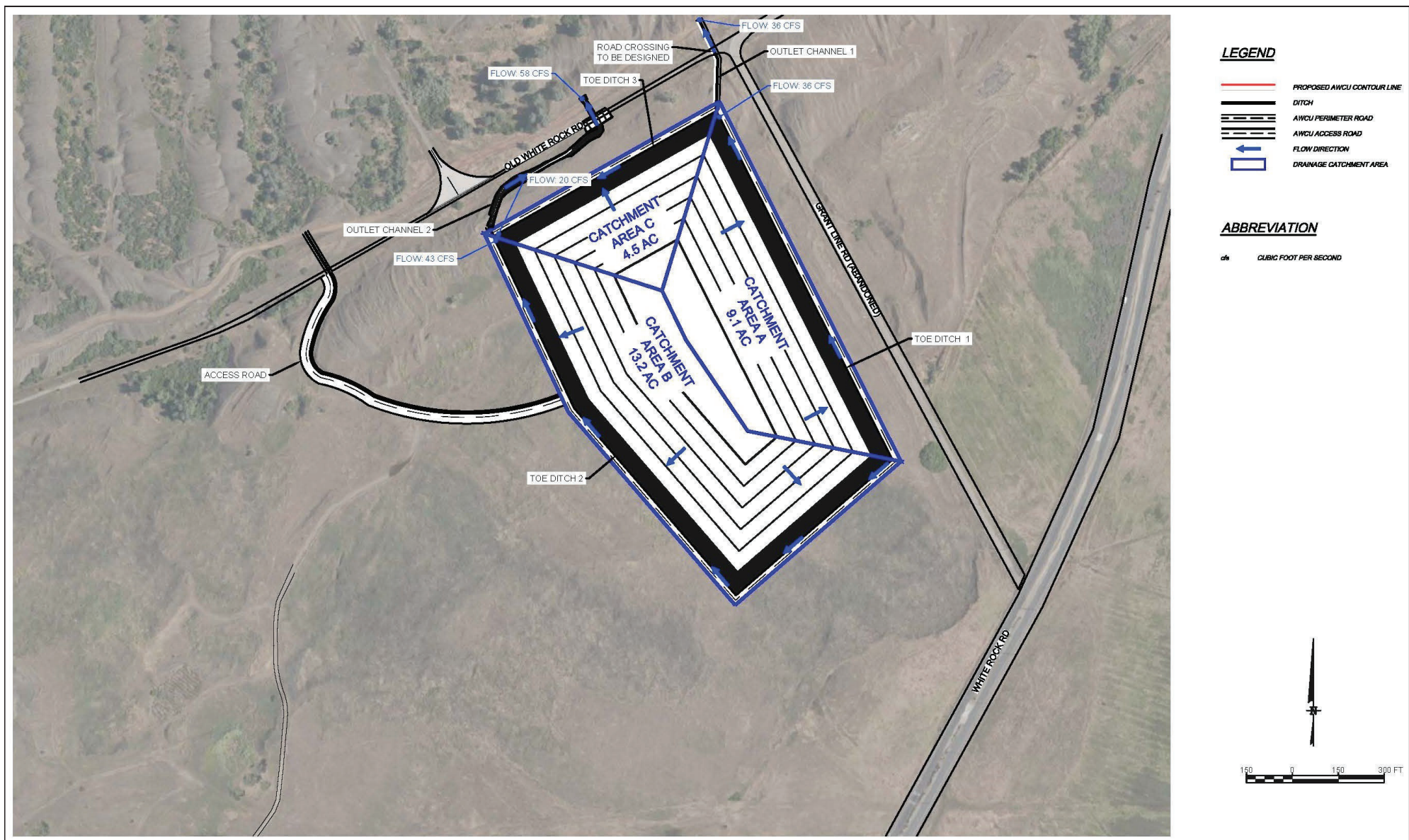
## Phases 1 and 2

As described in Section 3.2.4, the estimated peak water demand during construction would be 100,000 to 150,000 gallons per day. Water would be supplied from the AR industrial water supply system. That system currently has an available excess capacity for short term water demand of up to 1.5 million gallons per day, or at least 10 times the project water needs. The AR industrial water supply system receives treated groundwater from the Aerojet GET wells. Pumping of these wells would occur for several decades to comply with regulatory orders for groundwater cleanup. The Groundwater Sustainability Agency for the South American Groundwater Basin must submit a GSP by January 1, 2022. A GSP for this groundwater basin is not currently posted on the DWR SGMA website. While the specific contents of the GSP are unknown at this time, the regulatorily-required pumping by Aerojet for groundwater cleanup would need to be included in any GSP prepared for the basin. Thus, temporary use of excess water from the AR industrial water supply system for the project would have no impact on available groundwater supplies and would not impede sustainable management of the groundwater basin. Operation of the GET wells and the industrial water supply system are part of the existing environmental setting for the Project.

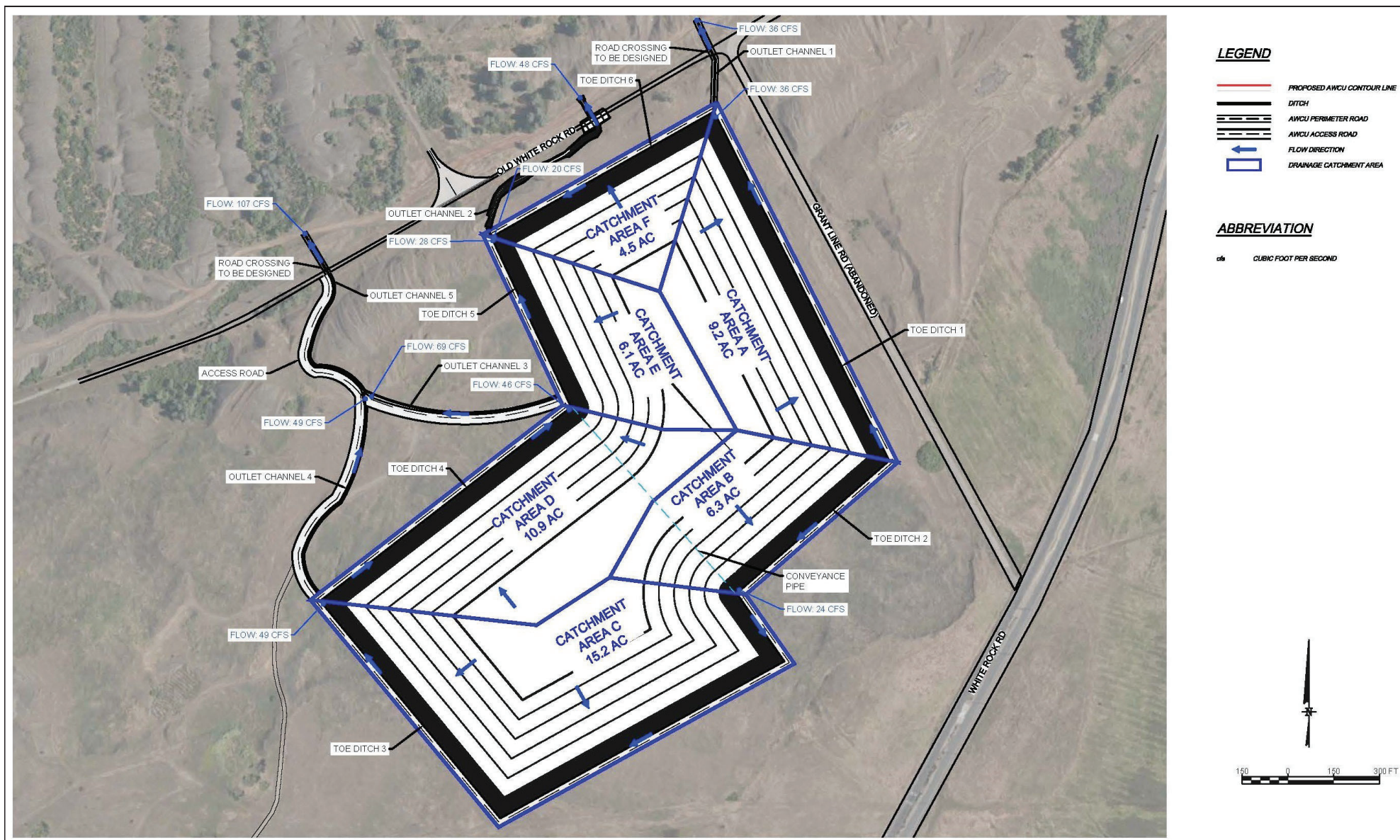
The landfill caps to be installed as part of Phase 1 and Phase 2 would be constructed using low permeability materials. Thus, any percolation of rainfall that currently occurs through the dredge tailings and native soils at the WRND would be impeded by construction of the AWCU and capping of the Phase 2 area of the WRND. The Phase 1 and Phase 2 caps combined would cover up to 100 acres, with the Phase 1 cap covering up to 50 acres and the Phase 2 cap covering the balance of the area. However, the cap areas would be graded to direct stormwater runoff to a series of conveyance channels that would direct the runoff to areas north of the WRND.

*Figure 5.10-1. Cell 1A – Drainage Catchments* shows the grading on the Cell 1A cap surface and the conveyance channels to direct runoff to the north. *Figure 5.10-2. Cell 1F – Drainage Catchments* shows the grading on the complete Cells 1A through Phase 1F cap and the conveyance channels to direct runoff to the north, away from the AWCU. *Figure 5.10-3. Maximum Inundation Areas* shows the areas to the north where the runoff from the Phase 1 cap area would be conveyed. The runoff would be directed into areas between existing dredge tailing cobble piles, where it would be able to percolate into the subsurface.

Similar drainage and conveyance facilities would also be constructed as part of Phase 2. As a result of routing the stormwater runoff from the cap areas to the north, there would be no substantial reduction in groundwater recharge as a result of the project. There would be **no impact**, and no mitigation is required.









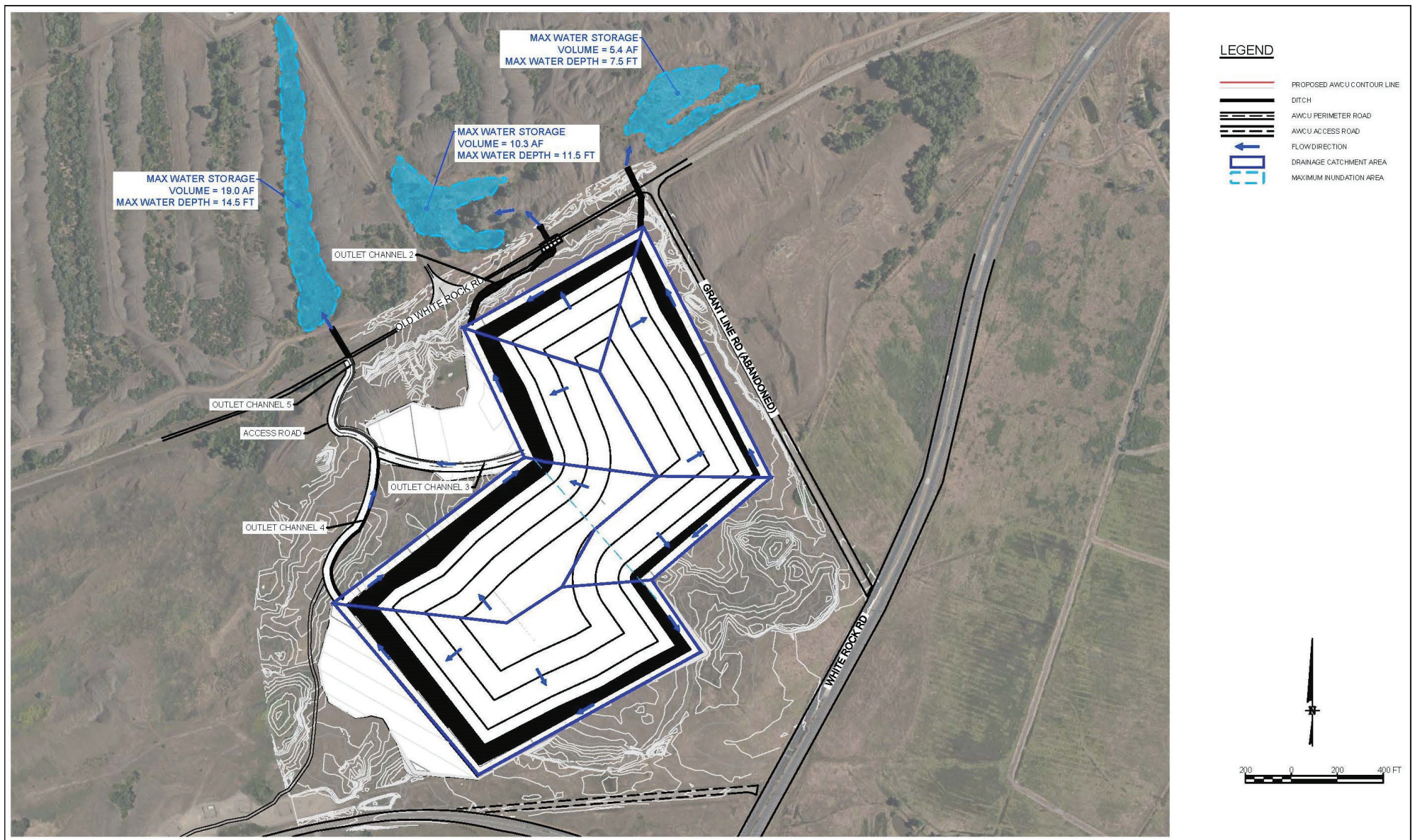


Figure 5.10-3. Maximum Inundation Areas

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**I, ii, iii) Less than significant impact.**

**iv) No impact.**

Discussion:

## Phases 1 and 2

The drainage patterns on the WRND would be altered due to construction of the AWCU and the Phase 2 cap. The low permeability cap material used for both Phase 1 and Phase 2 would also potentially increase the amount and rate of stormwater runoff from the Project area. However, the Project incorporates several measures that would prevent erosion, siltation, or flooding. As described by SLR (2020) in *Appendix H*, the cap would be graded and vegetated in accordance with landfill closure requirements such that the rate of runoff would not cause erosion of the cap, preventing sediment to be carried with the runoff. At the base of the capped areas, the runoff would be conveyed in outlet channels (see *Figure 5.10-1 and 5.10-2*) that have been designed in accordance with requirements of Title 14 of the CCR and the Sacramento City/County Drainage Manual to prevent erosion within the channels (SLR, 2020). The design storm event for the runoff conveyance and discharge facilities is the 1,000-year, 24-hour storm. For the design, SLR (2020) used a design storm event precipitation amount (7.27 inches) published by the National Oceanic and Atmospheric Administration (NOAA) that is over 20 percent higher than the precipitation amount (5.98 inches) provided in Sacramento City/County documents. Therefore, the SLR (2020) analysis is conservative in that it may over-estimate the actual runoff rates and volumes that would occur during the design storm event.

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Aerojet Waste Consolidation Unit Project**

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During construction activities, erosion and siltation would be minimized by the BMPs to be installed in compliance with the SWPPP, as discussed above.

Compliance with the requirements of the SWPPP, Title 14, and the City/County Drainage Manual design standards (using overly conservative rainfall estimates) would prevent erosion or siltation during construction and after the project is completed, in both Phase 1 and Phase 2.

While additional runoff may occur from the Phase 1 and Phase 2 caps due to their low permeability, that additional runoff would be managed in engineered outlet channels that would convey the water to specified areas where it would percolate to the subsurface, without flooding any onsite or offsite facilities.

There are no existing stormwater drainage facilities at the site. The facilities that have been designed to convey stormwater from the Phase 1 and Phase 2 areas have capacities that meet or exceed the regulatory requirements for runoff rates and volumes. These facilities would not impede or redirect flood flows on the WRND site or in other offsite areas not designed to retain the stormwater from the capped areas.

As discussed above, the Project would result in less-than-significant impacts related to substantial erosion or siltation on- or offsite; substantial increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Furthermore, the Project would have **no impact** on flood flows. No mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**No impact.**

Discussion:

**Phases 1 and 2**

The Project site is not located in a flood hazard area, based on Federal Emergency Management Agency (FEMA, 2020), so it is not subject to inundation by flooding.

The Project is not located near the ocean, so it is not subject to inundation by tsunami.

There are no open water bodies, such as ponds or lakes, adjacent to or on the Project site. Therefore, the Project area is not subject to inundation by seiches caused by seismic activity or high-wind events. There would be **no impact**, and no mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

As discussed above, water needed for the project would be sourced from the AR industrial water supply system. The industrial water supply system receives water from the Aerojet GET AB Facility. That system currently has an excess capacity of 1.5 million gallons per day (GPD). Operation of the GET facility would occur for several decades to comply with regulatory orders and requirements for groundwater cleanup at the AR facility. Thus, operation of the GET facility and the water supply system would need to be included in any water quality control plans and sustainable groundwater management plans that address the area of the project. Operation of the GET facility and the industrial water supply system are part of the existing environmental setting and would not be affected by the Project. There would be **no impact** related to obstruction or implementation of any water quality control plan or sustainable groundwater management plan. No mitigation is required.

**5.10.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**5.11 Land Use and Planning**

**5.11.1 Environmental Setting**

The Project site is in northeast Sacramento County, approximately 2.9 miles south of U.S. Highway 50 and northeast of the City of Rancho Cordova. As shown in *Figure 3-2*, the Project site consists of the 50-acre Phase 1 AWCU and surrounding 50-acre Phase 2 WRND Cap. Thus, the footprint of the combined Phase 1 and 2 areas is approximately 100 acres. These project components are proposed on a 250-acre Aerojet-owned parcel commonly known as the WRND parcel (Assessor's Parcel Number 072-0100-020). The WRND parcel is undeveloped and was historically used by Sacramento County and Aerojet as a pre-regulation dump. The parcel is characterized by variable topography/tailing piles due to extensive gold dredging that occurred on the property in the late 1930s and early 1940s.

Surrounding properties are primarily vacant/undeveloped. The Prairie City Off-Highway Vehicle Park is located approximately 0.64 mile east, and Teichert Aggregates is located approximate one mile south. The nearest cities include the Rancho Cordova, approximately 1.1 miles west, and Folsom, approximately 1.7

miles northeast. The nearest existing residential use includes a single-family subdivision located in the City of Rancho Cordova approximately 1.6 miles to the southeast.

### **Sacramento County General Plan**

The WRND parcel (APN 072-0100-020) is within the Cordova Community Plan area of Sacramento County. As shown in *Figure 5.11-1. Land Use Designations*, the WRND parcel and Project site are designated Extensive Industrial (EXT IND) by the Sacramento County General Plan. Adjacent land use designations include Extensive Industrial to the north and west; and General Agriculture (80 acres) to the south and east.

The EXT IND land use designation allows activities that require large areas of land and do not require urban levels of services. EXT IND areas are not located within the urban portion of the County and do not need urban services. An urban level of public infrastructure and service is not expected to be extended to these areas during the planning period.

The General Agriculture (80 acres) designation identifies land that is generally used for agricultural purposes, but less suited for intensive agricultural than Agricultural Cropland. The minimum size allowable is 80 acres, large enough to maintain an economically viable farming operation. Typical farming activities include dry land grain and irrigated and dry land pasture. Most soil classes range between IV and VI on the Soil Conservation Service scale. Constraints found in areas with this designation include shallow soils, uncertain water supply, moderate slopes, fair to poor crop yield, and farm unit fragmentation. Only agricultural production is permitted in areas with this designation. The General Agriculture/80 acres designation allows single family dwelling units at a density no greater than 80 acres per unit.

### **Sacramento County Zoning**

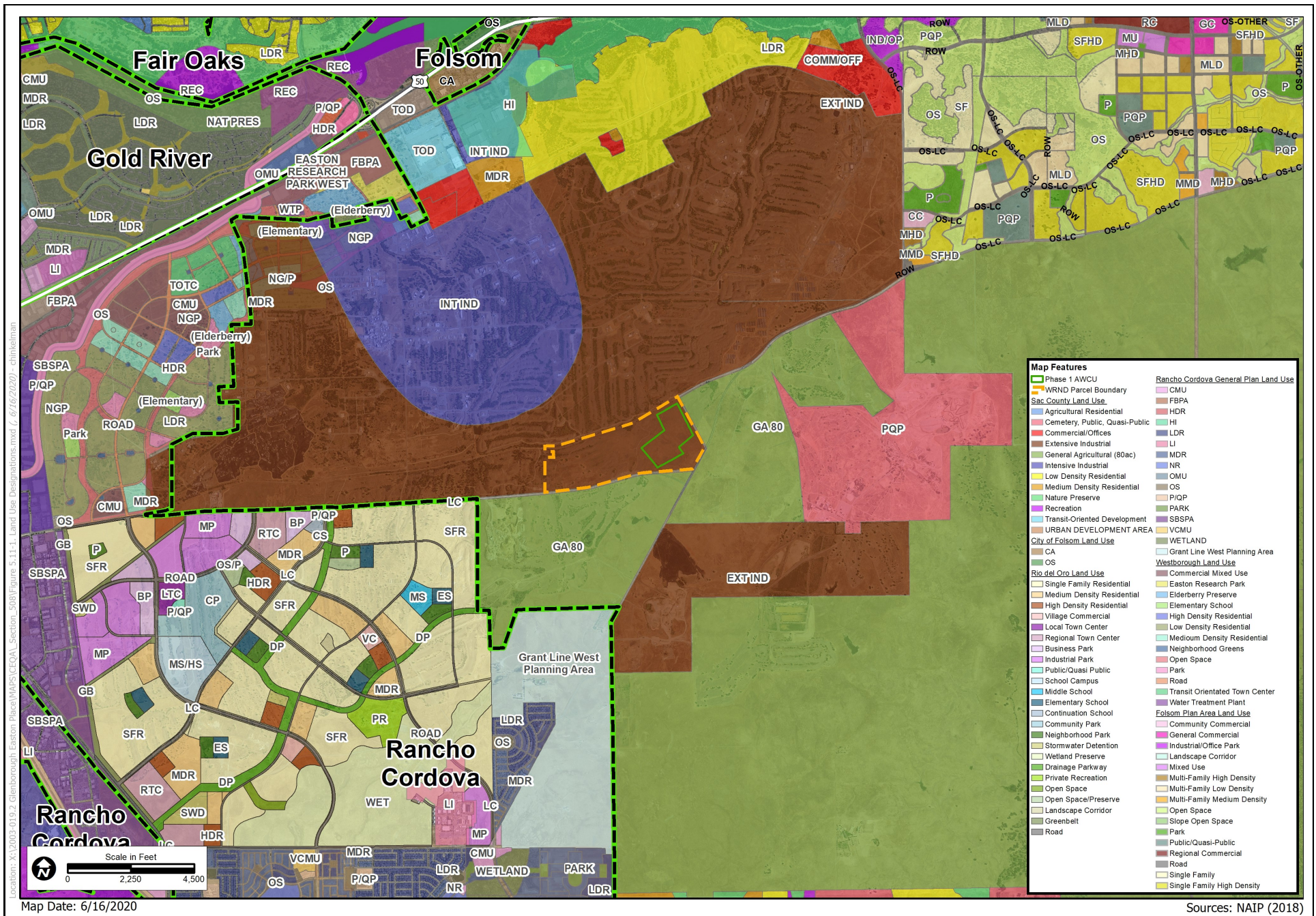
The WRND parcel is currently zoned Light Industrial (M-1). According to the Sacramento County Zoning Code, the M-1 Zone is intended to provide for development of industrial uses that include fabrication, manufacturing, assembly, or processing of materials that, for the most part, are already in processed form and that do not in their operation create smoke, gas, odor, dust, sound, or other objectionable influences that might be obnoxious to persons conducting business or residing in this or any other zoning district and land uses related to or compatible with the permitted uses.

As shown in *Figure 5.11-2. Aerojet Special Planning Area Designations*, zoning for the areas immediately adjacent the WRND parcel to the north, east and west are governed by the Aerojet SPA<sup>1</sup>. According to the Aerojet SPA, these adjacent areas are zoned "Aerojet Industrial Zone." Existing zoning to the south of the WRND parcel is IR (SM) - INTERIM-AGRICULTURAL RESERVE/SURFACE MINING.

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<sup>1</sup> Per Title V, Chapter 8, Article 3 of the Zoning Code of Sacramento County.

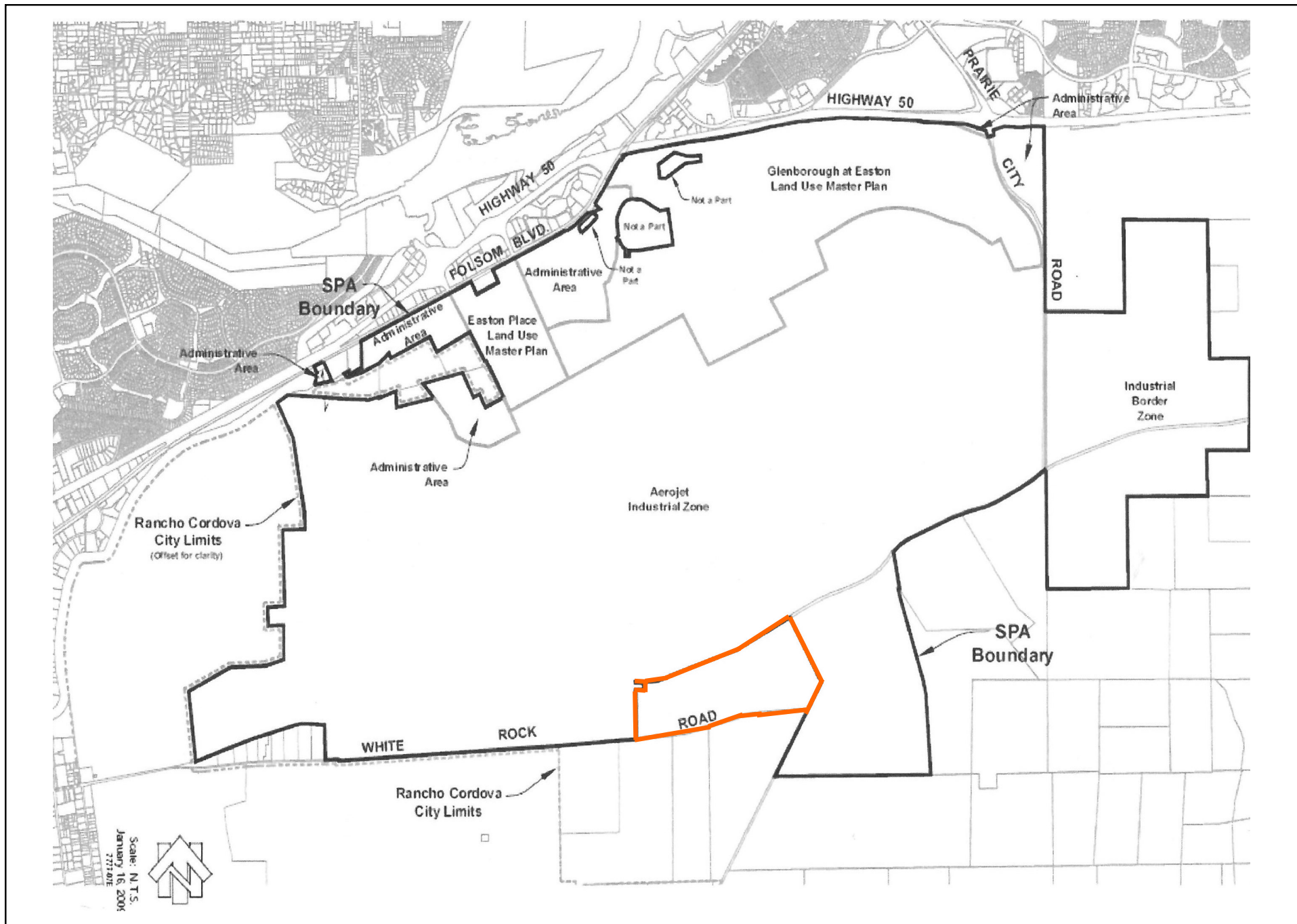




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ENVIRONMENTAL CONSULTANTS

**Figure 5.11-1. Land Use Designations**  
*2009-165.22 Aerojet Landfill*





**Figure 5.11-2. Aerojet SPA Designations**

## State Regulations

Chapter 3 in CCR Title 27, "Criteria for All Waste Management Units, Facilities, and Disposal Sites," includes policies related to the approval of post-closure land uses in Section 21190. All proposed post-closure land uses (other than non-irrigated open space) on sites that are closed or are implementing closure must be reviewed and approved by the local planning department, RWQCB, local AQMD pursuant to 27 CCR 21190 requirements and Local Enforcement Agency if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low-permeability layer, or irrigation over waste. The nearest existing structures to the WRND are owned by Aerojet and located approximately 1,650 feet north within the Aerojet access-controlled property.

### 5.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### No impact.

Discussion:

#### Phases 1 and 2

The Proposed Project is located on Aerojet-owned and access-controlled property and involves construction of the proposed AWCU (Class 2 landfill) over the existing non-operating WRND, capping and closure of the existing WRND, and a Zoning Ordinance Amendment to add the WRND parcel to the Aerojet SPA "Aerojet Industrial Zone." All Proposed Project activities would occur on private property owned by Aerojet. Proposed Project activities would not divide any established community. There would be **no impact**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less than significant impact.

Discussion:

## **Phases 1 and 2**

The Project proposes construction of the Phase 1 AWCU, a Class II landfill, over the existing WRND, and the Phase 2 cap closure of the WRND. Phase 1 also includes a Zoning Ordinance Amendment to add the WRND parcel to the Aerojet SPA "Aerojet Industrial Zone." This amendment would effectuate a zone change from the existing Light Industrial (M-1) to "Aerojet Industrial Zone" as defined by the Aerojet SPA.

Landfill is an allowed use within the Aerojet SPA "Aerojet Industrial Zone." With the exception of a minor amount of electricity needed for the proposed AWCU leachate collection pumps, the Proposed Project would not require extension of public services to the landfill site. Furthermore, there are no existing structures within 1,000 feet of the proposed AWCU landfill boundary. Thus, the proposed AWCU landfill is considered consistent with the proposed Zoning Ordinance Amendment.

Regarding surrounding land uses, the proposed zone change would be consistent with, and therefore compatible with, existing zoning currently found on parcels to the north, east and west. These parcels are already included within the Aerojet SPA and are currently designated "Aerojet Industrial Zone." Parcels south of the WRND parcel are currently zoned IR (SM) - INTERIM-AGRICULTURAL RESERVE/SURFACE MINING. Because under existing conditions the IR zone is considered compatible with the "Aerojet Industrial Zone," the proposed rezone would also be consistent with surrounding zoning designations.

As discussed above, the proposed zone change would ensure project consistency with the Sacramento County Zoning Code. Potential Project impacts related to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, are found **less than significant**.

### **5.11.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.12 Mineral Resources**

### **5.12.1 Environmental Setting**

The Project region claims some of the most extensive placer mining dredge fields in the U.S. In California areas dredged for placer mining are found in alluvial and fluvial deposits, such as where the American, Yuba, and Feather rivers enter the Sacramento Valley and form extensive gravel plains and terraces. Ancient gold-bearing gravels were deposited by a stream system within the American River drainage basin that existed between one million and 10 million years ago, during Pliocene and early Pleistocene times. The Project Area is approximately three miles south of the present American River channel and it falls within the historic American River Mining District, also known as the Folsom Mining District (District). Gold-bearing gravels within the District are either in or near the American River or at the lower contacts of the Laguna and Mehrten formations (Clark 1970). The gravels within the Laguna Formation, which were deposited approximately three million years ago during the early Quaternary, are inter-bedded with sand, silt, clay, and cobbles and reach a depth of around 100 feet. Volcanic debris of the Mehrten Formation lies

beneath these surface stream gravels. In other places, gold-bearing gravels were capped by a hard agglomerate composed predominantly of volcanic debris representing local mud-flow facies of the Miocene Mehrten formation. In the northeasterly margin of the District, a thin veneer of gravels rest on a slate bedrock of Jurassic age.

The gold-bearing Laguna Formation (Pliocene) underlies the Project Area, capped by Holocene alluvium; the fact that so much of the property had been mined indicates that gold-bearing deposits were present. Dredge mining completely obliterated the Holocene alluvium in order to access the underlying Laguna Formation (Clark 1970).

Mineral resources in Sacramento County include natural gas, petroleum, sand, gravel, clay, gold, silver, peat, topsoil and lignite. The principal resources that are in production are aggregate (sand and gravel) and natural gas. The natural gas production areas are located mostly in the Delta's Rio Vista Field, one of California's largest producing areas. Asphaltic and Portland concrete are produced along with free gold and silver recovered from the crushing process. Clay is surface mined as well as topsoil. At present, peat and lignite deposits in the Delta are not commercially mined. Resource conservation issues associated with natural gas production and the lesser minerals are not significant. (Sacramento County 2017)

All of the sand and gravel mined in Sacramento County is used for construction. Construction aggregates are an important, fundamental building material extensively used as a foundation and road base material, and with a Portland cement or asphaltic binder, in all types of road pavement and construction concrete. The Teichert Aggregates mining operation is located approximate one mile south of the Project site. Sacramento County's primary remaining aggregate deposits are located in the Old American River channel south of Rancho Cordova. For most aggregate uses, rock from each of these sources requires varying amounts of processing. Depending on the site, the processing operations may include site preparation, removal of overburden, blasting, excavation, crushing, screening, classifying, washing, and product batching. Additional processing operations used less frequently are those necessary to develop specialty products and remove various deleterious substances.

#### **5.12.2 Mineral Resources (XII) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**



Discussion:

## Phases 1 and 2

In keeping with Section 2761(b) of the California Surface Mining and Reclamation Act of 1975, as amended (SMARA), the State Geologist classifies lands throughout California relative to value of minerals found on those lands. Areas subject to the minerals land classification (MLC) system are divided by the State Geologist into various Mineral Resource Zone (MRZ) categories ranging from MRZ-1 through MRZ-4 that reflect varying degrees of mineral resource potential. The descriptions of each classification are as follows:

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.
- MRZ-2: Areas where adequate information indicates that mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.
- MRZ-3: Areas containing mineral occurrences of undetermined mineral resource significance.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ category. (DOC 2018)

According to Mineral Land Classification maps located on the DOC website, the Project site is located in an area designated as MRZ-3 for aggregate. Recent reclassifications of properties in the vicinity of the Project site from MRZ-3 to MRZ-2 (DOC 2018) attest to the high value of aggregate resources throughout the Folsom-American River dredge field located along and south of the American River in which the Project site is located, though the value and quality of these resources varies from site to site. In total, the Folsom-American River dredge field covers nearly 18,000 acres, ranges in thickness from 40 to 110 feet, and has an estimated volume of one billion CY.

Under the Proposed Project, dredged material would be excavated and processed at the proposed Borrow Site located on AR property east of the AWCU site. The precise volume of material to be removed from the borrow site would depend on a number of variables including the ultimate volume of waste to be covered and capped on the Phase 1 AWCU and Phase 2 WRND sites and the availability of onsite cover material on the AWCU site. The volume of material to come from the Borrow Site, however, is not expected to exceed 700,000 tons. This represents less than one percent of the overall estimated volume of concrete aggregate resources in the Folsom-American River dredge field alone. For this reason, the use of material from the proposed borrow site would have a **less than significant** impact on concrete aggregate resources in the region.

Additionally, the cap and closure of the Phase 1 AWCU and Phase 2 WRND sites would essentially make aggregate resources now present on these sites inaccessible for future use. The current feasibility of using these resources, however, is limited given the sites' past operation as a County landfill. Any adverse

impact of the Proposed Project on this use, therefore, would be insignificant. Given that materials removed from, and processed on, the proposed Borrow Site would be used exclusively for construction of Phases 1 and 2, and given that materials would not be exported from AR properties within the Project site, the proposed operation of the Borrow Site would not be subject to SMARA requirements and a surface mining permit and reclamation plan in keeping with Section 2714 of SMARA, 1975, as amended, would not be required.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

### **Phases 1 and 2**

The Proposed Project site is not delineated in any local general plans, specific plans or other land use plans as an important mineral resource recovery site (Sacramento County 2017). The Proposed Project, therefore, would have **no impact** relative to Item b), above.

### **5.12.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.13 Noise**

### **5.13.1 Environmental Setting**

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in  $L_{eq}$ ) and the average daily noise levels/community noise equivalent level (in  $L_{dn}/CNEL$ ). The  $L_{eq}$  is a measure of ambient noise, while the  $L_{dn}$  and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level ( $L_{eq}$ )** is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- **Day-Night Average ( $L_{dn}$ )** is a 24-hour average  $L_{eq}$  with a 10-dBA “weighting” added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.4 dBA  $L_{dn}$ .
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average  $L_{eq}$  with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FHWA 2008), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the “line of sight” between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

## **Noise Fundamentals**

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and

prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The area immediately surrounding the Project site is managed as passive open space. The nearest noise-sensitive land use includes an existing single-family subdivision located in the City of Rancho Cordova approximately 1.6 miles to the southeast.

#### *Existing Ambient Noise Environment*

The Project site is in a mostly rural area with corresponding low background noise. Mobile noise sources, especially cars and trucks traveling White Rock Road and Grant Line Road, are the most common and significant sources of noise in the Project Area. Other nearby noise sources include the Prairie City Off-Highway Vehicle Park, located approximately 0.64 mile east, and processing activities associated with the Teichert Aggregate facility, located approximate one mile south of the Project site. The Project site is located outside of any airport land use plan. Furthermore, the Project site is located more than two miles from any airport. The Mather Airport is the nearest airport to the Project site, located approximately five miles southwest.

### **Vibration Fundamentals**

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

#### **5.13.2 Noise (XIII) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

## Phases 1 and 2

### *Construction and Implementation Noise Impacts*

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities, trucks hauling transfer material, as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction. Noise generated by construction equipment, including dozers and material handlers, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (i.e., dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site.

Table 5.13-1 indicates the anticipated noise levels of construction equipment. The average noise levels presented in Table 5.13-1 are based on the quantity, type, and acoustical use factor for each type of equipment that is anticipated to be used.

Table 5.13-1. Typical Construction Equipment Noise Levels		
Type of Equipment	Maximum Noise ( $L_{max}$ ) at 50 Feet (dBA)	Maximum 8-Hour Noise ( $L_{eq}$ ) at 50 Feet (dBA)
Crane	80.6	72.6
Dozer	81.7	77.7
Excavator	80.7	76.7
Generator	80.6	77.6
Grader	85.0	81.0
Other Equipment (greater than five horsepower)	85.0	82.0
Paver	77.2	74.2
Roller	80.0	73.0
Tractor	84.0	80.0
Dump Truck	76.5	72.5
Concrete Pump Truck	81.4	74.4
Welder	74.0	70.0

Source: FHWA, Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2008.

Note:  $L_{eq}$  is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night,  $L_{max}$  is the maximum and minimum A-weighted noise level during the measurement period.

As shown, the noise levels from construction equipment at 50 feet range from 70.0 to 82.0 dBA. The nearest noise-sensitive land use includes a residential subdivision located approximately 1.6 miles south



of the Project site in the City of Rancho Cordova. As previously described, sound decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source, such as a construction site. Accounting for an attenuation of 6 dB for each doubling of distance, noise levels from Project implementation are expected to be 38.1 dBA at the nearest sensitive receptor.

The Project site is located in Sacramento County, yet the closest nearby residents are located in the City of Rancho Cordova, approximately 1.6 miles south. Neither Sacramento County nor the City of Rancho Cordova promulgate a numeric threshold pertaining to noise associated with construction. Rather, both agencies limit the time and days that construction can take place. The Sacramento County Code Section 6.680, *Exemptions*, prohibits construction, repair, remodeling, demolition, paving or grading between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and between the hours 8:00 p.m. and 7:00 a.m. on Saturdays and Sundays. The City of Rancho Cordova Municipal Code Section 6.68.090, *Exemptions*, Section E states: Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday; Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday and on each Sunday after the hour of 8:00 p.m.; are exempt from noise standards.

It is typical to regulate construction noise in this manner since construction noise is temporary, short-term, intermittent in nature, and would cease on completion of the Project. Furthermore, Sacramento County and the City of Rancho Cordova are developing urban communities and construction noise is generally accepted as a reality within the urban environment. Additionally, construction would occur throughout the Project site and would not be concentrated at one point. Therefore, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed County or City noise standards. A less than significant impact would occur.

#### *Liner System Installation Night Work*

As discussed in the Project Description, should AWCU construction occur during hot summer months (June/July/August) a construction start time as early as 12 midnight could be required during liner system installation. This work would involve up to 25 construction workers and up to 11 pieces of machinery to achieve a production rate of up to one acre of liner installed every 2 days. Should liner system installation occur when the daily high temperature is less than 100 degrees, the period of night work could be shortened, or eliminated completely. As discussed above, the noise levels from construction equipment at 50 feet range from 70.0 to 82.0 dBA. The nearest noise-sensitive land use includes a residential subdivision located approximately 1.6 miles south of the Project site in the City of Rancho Cordova. As previously described, sound decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source, such as a construction site. Accounting for an attenuation of 6 dB for each doubling of distance, noise levels from liner installation night work are expected to be 38.1 dBA at the nearest sensitive receptor. Thus, the noise levels from liner installation night work would not exceed the Rancho Cordova the nighttime standard of 50 dBA at the nearest residential land use. A less than significant impact would occur.

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*Project Maintenance Noise Impacts*

Once construction and implementation of the Proposed Project is complete, with the exception of minimal maintenance and monitoring, the Project site would not be a source of mobile or stationary noise sources and thus would not be a source of operational noise. This impact is **less than significant**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

**Phases 1 and 2**

*Construction and Implementation Vibration Impacts*

Construction activities have the potential to result in varying degrees of temporary ground vibration and noise levels, depending on the specific construction equipment used and operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels.

According to the Federal Transit Administration (FTA), at 25 feet an impact pile driver has a peak particle velocity (PPV) of 1.518 inches per second; however, that equipment is not necessary due to the nature of this Project. Typical equipment used in the construction and implementation of this Project, such as small bulldozer/tractors and loaded trucks, have a PPV up to 0.089 inches per second at 25 feet (FTA 2018). The County does not regulate vibration associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans' (2013) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for normal buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

It is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest structure. The nearest structure of concern is located approximately 530 feet south of the Aerojet Landfill. Based on typical construction equipment used for the Proposed Project, ground vibration generated by heavy-duty equipment would not be anticipated to exceed a PPV of approximately 0.089 inch per second at 25 feet. Thus, the structures located 530 feet from the site would not be negatively affected. Additionally, Project construction and implementation would require the use of heavy-duty trucks on AWCU Service Area haul route roadways that would be closer than 530 feet to structures, however these vehicles can only generate groundborne vibration

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velocity levels of 0.012 PPV at 50 feet under typical circumstances. Since predicted vibration levels at the nearest structures would not exceed recommended criteria, **no impact** would occur.

*Project Maintenance Vibration Impacts*

Project maintenance would not include the use of any stationary equipment that would result in excessive vibration levels. While the Project would accommodate heavy-duty trucks during minimal maintenance and monitoring, these vehicles can only generate groundborne vibration velocity levels of 0.012 PPV at 50 feet under typical circumstances. Therefore, the Project would result in negligible groundborne vibration impacts during operations. For this reason, **no impact** would occur.

---

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

## **Phases 1 and 2**

The Project site is not located within an airport land use plan and is not within two miles of an airport. The Mather Airport is the nearest airport to the Project site, located approximately five miles southwest. Implementation of the Proposed Project would neither affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. For this reason, **no impact** would occur.

### **5.13.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.14 Population and Housing**

### **5.14.1 Environmental Setting**

The Proposed Project components are located within Aerojet owned property designated as Extensive Industrial (EXT IND) Land Use in the Sacramento County Aerojet SPA subsection of the Zoning Code. The Project would take place entirely on Aerojet-owned land and roadways. As discussed in *Section 2.2 Project Setting and History*, The Sacramento County Board of Supervisors approved the Glenborough at Easton and Easton Place Project on December 7, 2011 (Easton Place and Glenborough at Easton Final Environmental Impact Report (EIR) – December 1, 2008, SCH# 2005062128). That document details

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impacts to population and housing after the completion of the Aerojet Landfill clean closure. This section specifically details impacts to population and housing as a result of the Proposed Project.

The Rio del Oro planning area is a fully entitled development project that is expected to break ground sometime in the 2020-2021 timeframe and is located approximately one mile southwest of the WRND parcel. The AWCU Project would not affect this planning area because material transfer operations, which would be conducted entirely on Aerojet-owned parcels to the northeast, would not use the roads within this planning area.

#### **5.14.2 Population and Housing (XIV) Environmental Checklist and Discussion**

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

#### **Phases 1 and 2**

The Proposed Project does not include new homes or public infrastructure. Some temporary construction employment opportunities would be created by the Proposed Project. However, not to such a substantial degree that additional housing beyond what is already available or planned would be required. The Proposed Project would have **no impact** on long-term population growth, and no mitigation required.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

#### **Phases 1 and 2**

The Proposed Project would not displace any people from the Project site. The Phase 1 AWCU and Phase 2 WRND Cap would be constructed within the WRND parcel, an existing pre-regulation dump. **No impact** would occur, and no mitigation is required.

### **5.14.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.15 Public Services**

### **5.15.1 Environmental Setting**

The Proposed Project is a waste consolidation project located entirely within Aerojet-owned parcels currently maintained as non-irrigated open space for industrial use. The WRND parcel is currently adequately served by fire, police, and other public services.

#### **Police Services**

Sacramento County Sheriff's Department serves the Project Area. The nearest station is located at 2897 Kilgore Road, Rancho Cordova, approximately four miles west of the WRND parcel.

#### **Fire Services**

Sacramento Metropolitan Fire District (Metro Fire) provides fire protection and emergency response services to unincorporated areas and multiple cities within Sacramento County. The nearest station is located at 3180 Kilgore Road, Rancho Cordova, approximately four miles west of the WRND parcel.

#### **Schools**

The closest schools to the Project area are Natoma Station Elementary School and Folsom High School, which are nearly just less than a mile north and northeast of the existing Aerojet Landfill, respectively. There are additional elementary schools 1.5-2.5 miles north of the Aerojet Landfill as well. Vista del Lago High School is 3.7 miles northeast of the Aerojet Landfill.

Natoma Station Elementary School and Folsom High School are 3.5 miles north of the WRND Parcel, and Kinney High School is 4.5 miles to the west. There are also a few trade schools in the immediate vicinity of Kinney High School. Sunrise Elementary School is 3.5 miles southwest of the WRND parcel. There are no schools within 5 miles due east, south, or southeast of the WRND parcel or Aerojet Landfill.



### 5.15.2 Public Services (XV) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less than significant impact.

Discussion:

#### Phases 1 and 2

The Proposed Project would not have a typical operations period that would require additional public services past completion of the Project. The Phase 1 AWCU would conduct operations at the same time that construction occurs and would only be accepting transfer material from within the defined AWCU service area. The Phase 2 WRND Cap is limited to capping the existing WRND historic waste deposits. Implementation of the Proposed Project would not require the construction of any new government facilities or the modification of any existing government facilities to serve the Project. As such, the Project would result in no adverse impacts associated with such public services. Additionally, the Proposed Project would have no impact on residential population growth and, thus, no impact on demand for fire, police, school, park, or other public facilities to serve such growth. Impacts are **less than significant**, and no mitigation is required.

### 5.15.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

## 5.16 Recreation

### 5.16.1 Environmental Setting

The Nimbus Flat State Recreation Area is 2.8 miles northwest of the WRND parcel, on the north side of US Highway 50. Located at the base of the Sierra foothills, the lake and recreation area offer opportunities for hiking, biking, running, camping, picnicking, horseback riding, boating, and fishing. For cyclists, there is a 32-mile-long bicycle path that connects Folsom Lake with many Sacramento County parks before reaching Old Sacramento. The park also includes Lake Natoma, downstream from Folsom Lake, which is popular for crew races, sailing, kayaking and other aquatic sports.

The Prairie City Off-Highway Vehicle Park is located approximately 0.64 mile east of the WRND parcel. The park has flat, open grasslands, rolling hills with native blue oak trees and acres of cobbled mine tailings. The park has trails for motorcycles, all-terrain vehicles, and recreational utility vehicles, plus an All-Terrain Vehicle practice track, a motorcycle practice track, and two practice tracks for kids. The four-wheel drive obstacle course is another feature at Prairie City for Off-Highway Vehicle enthusiasts that includes a rock course, a 4x4 pyramid obstacle, a sand pit, and a mud pit. Prairie City State Vehicular Recreation Area also has several facilities operated by concessionaires, such as a quarter midget track, a Go-Kart track, and the professionally designed and maintained Prairie City Motocross track. There are also shaded picnic sites with barbecues and water.

### 5.16.2 Recreation (XVI) Materials Checklist

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less than significant impact.

Discussion:

#### Phases 1 and 2

There are two parks near the Project site. There are also many City- and County-owned parks in nearby Folsom, but their distance from the Project site leaves them unlikely to be affected by the Proposed Project.

The Proposed Project would not generate any increase in the area population; therefore, it would not significantly increase the use of existing neighborhood or regional parks and recreational facilities. The Proposed Project is not expected to hinder operations of the two nearby parks detailed at the beginning of this section. Impacts would be **less than significant**, and no mitigation is required.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

## **Phases 1 and 2**

The Proposed Project does not include additions or changes to recreational facilities. There would be **no impact**, and no mitigation is required.

### **5.16.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.17 Transportation**

### **5.17.1 Environmental Setting**

Regional access to the access-controlled Aerojet property is primarily provided by White Rock Road, although the site can also be reached by U.S. Highway 50 via Nimbus Road and Albany Avenue. The entrance to the property is controlled through access gates and guard stations. Access to the site must be prearranged and authorized by appropriate Aerojet personnel. Project implementation would occur within Aerojet's access-controlled property and would not involve public roadways.

### **5.17.2 Transportation (XVII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

### **Phases 1 and 2**

The Sacramento County General Plan Circulation Element provides the framework for County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities. However, implementation of the Project would take place entirely on privately owned land, and thus would have a nominal effect on area roadways. Furthermore, once construction and implementation of the Project is complete, the Project site, with the exception of minimal maintenance and monitoring, would not generate vehicle traffic. As necessary, AR would require the Project contractor(s) to prepare a Traffic Control Plan in accordance with Sacramento County requirements, the Aerojet Landfill CCP (as amended by the Proposed Project), any applicable emergency evacuation plans, and professional engineering standards prior to construction. The Traffic Control Plan could include the following requirements:

- a. Traffic controls required within AR's access-controlled property and where approved haul and material deliver routes may intersect with the public transportation system shall be provided. Adequate provisions shall be made for the protection of the traveling public. All traffic control, including devices and personnel requirements, would be consistent with the current State of California Manual of Traffic Controls for Construction and Maintenance Work Areas.
- b. Emergency services access to local land use shall be maintained for the duration of construction activities.
- c. Access for all area public and private land uses and open space/agricultural lands shall be maintained during construction activities.

As such, the Proposed Project would not conflict with any program, plan, ordinance, or policy addressing the circulation system in the General Plan. The Project would have a **less than significant** impact in this area. No mitigation is required.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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### **Less than significant impact.**

Discussion:

### **Phases 1 and 2**

CEQA Guidelines Section 15064.3, subdivision (b) provides criteria for analyzing transportation impacts based on a vehicle mile traveled (VMT) methodology instead of the now superseded (as of January 1,

2019) Level of Service methodology. Pertinent to the Proposed Project are those criteria identified in § 15064.3(b)(1) Land Use Projects. According to this section:

“Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.”

However, Section 15064.3(b)(3) allows an agency to determine a project’s transportation impact on a qualitative basis if a VMT methodology is unavailable, as is the case with the Proposed Project.

Section 15064.3(b)(3) is as follows:

“Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project’s vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.”

Additionally, Section 15064.3(c) allows an agency to use the VMT methodology immediately or defer until July 1, 2020, when the VMT methodology is required of all agencies in the state. Section 15064.3(c) is as follows:

“The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide.”

As previously described, in 2008, AR proposed a CCP in order to excavate and remove all waste from the Aerojet Landfill. The fully approved CCP authorizes the excavation, onsite sorting, stockpiling, processing and offsite hauling and disposal of Aerojet Landfill Transfer Material. CEQA compliance included adoption of the *Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration* and the follow-on *Aerojet Landfill CCP Initial Study Addendum*. The Proposed Project is consistent with the approved CCP with the exception of the offsite Transfer Material haul route and final disposal location. With regard to the Aerojet Landfill, compared with the fully approved CCP, as analyzed under the *Sacramento County Aerojet Landfill Closure Modification Plan Initial Study/Mitigated Negative Declaration* and the follow-on *Aerojet Landfill CCP Initial Study Addendum*, the use of the WRND site as proposed by the Project would result in the following benefits:

- Substitutes an 8.5-mile roundtrip for a 120-mile roundtrip for trucks hauling material to a Class II landfill, thereby reducing by ninety-seven percent (97%) the vehicle miles traveled – from 4.3 million miles to approximately 113,000 miles, a reduction of 4.19 million miles.
- Eliminates approximately 44 truck trips per hour, and approximately 264 truck trips per day, from local public roads and state highways in favor of private roadways entirely within the Aerojet controlled property.

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- Eliminates truck traffic departing and returning to the site every 90 seconds, six hours a day, five days a week, on public roads.
- Reduces accident risks on public roads by eliminating from public right-of-way all truck trips associated with the transfer of waste material between the two landfills.

As shown, implementation of the Project would reduce Aerojet Landfill Transfer Material hauling VMT and truck trips per day within the County. A similar benefit can be assumed for Transfer Material hauling from other potential locations within the defined AWCU service area. Additionally, once construction and implementation of the Project is complete, the Project site, with the exception of minimal maintenance and monitoring, would not generate vehicle traffic. Therefore, the proposed Project would have a **less than significant** impact in this area. No mitigation is required.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

The Project includes construction of the Phase 1 AWCU to consolidate Transfer Material from within a defined service area and construction of a Phase 2 WRND Cap. The movement of materials would take place on privately owned land and would not be incorporating geometric changes to the surrounding landscape. Therefore, the Project would have a **less than significant** impact in this area. No mitigation is required.

<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**



Discussion:

## **Phases 1 and 2**

The Project would not alter the site in any way that would result in inadequate emergency access. Therefore, the Project would have a **less than significant** impact regarding emergency access. No mitigation is required.

### **5.17.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.18 Tribal Cultural Resources**

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs) in the Project Area. The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California Native American Heritage Commission Sacred Lands File Search, November 05, 2019;
- Cultural Resources Inventory, Testing and Evaluation Report for the White Rock Road North Dump, Sacramento County, California (ECORP 2019);
- Ethnographic overviews of the Nisenan (Beals 1933; Kroeber 1925; Littlejohn 1928; Wilson and Towne 1978);
- Confidential AB52 tribal coordination by CVRWQCB with the Wilton Rancheria Tribe.

### **5.18.1 Environmental Setting**

#### **Ethnographic, Religious, And Cultural Context**

Ethnographically, the Project Area is in the southwestern portion of the territory occupied by the Penutian-speaking Nisenan. The territory extends from the area surrounding the current city of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west, and in the east, it extended to a general area located within a few miles of Lake Tahoe. As a language, Nisenan (meaning "from among us" or "of our side") has three main dialects – Northern Hill, Southern Hill, and Valley Nisenan, with three or four subdialects (Kroeber 1925; Wilson and Towne 1978). The Valley Nisenan lived along the Sacramento River, primarily in large villages with populations of several hundred each. Individual and extended families "owned" hunting and gathering grounds, and trespassing was discouraged (Kroeber 1925; Wilson and Towne 1978). Residence was generally patrilocal, but couples actually had a choice in the matter (Wilson and Towne 1978).

Politically, the Nisenan were divided into "tribelets," made up of a primary village and a series of outlying hamlets, presided over by a more-or-less hereditary chief (Kroeber 1925; Wilson and Towne 1978). Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The chief had little authority to act on his or her own, but with the support of the shaman and the elders, the word of the chief became virtually the law (Wilson and Towne 1978). Subsistence activities

centered around the gathering of acorns (tan bark oak and black oak were preferred), seeds, and other plant resources. The hunting of animals such as deer and rabbits, and fishing were also an important part of normal subsistence activities.

The Spanish arrived on the central California coast in 1769 and by 1776 the Miwok territory bordering the Nisenan on the south had been explored by José Canizares. In 1808, Gabriel Moraga crossed Nisenan territory, and in 1813, a major battle was fought between the Miwok and the Spaniards near the mouth of the Cosumnes River. Though the Nisenan appear to have escaped being removed to missions by the Spanish, they were not spared the ravages of European diseases. In 1833, an epidemic – probably malaria – raged through the Sacramento Valley, killing an estimated 75 percent of the native population. The discovery of gold in 1848 at Sutter’s Mill, near the Nisenan village of *Colluma* (now Coloma) on the South Fork of the American River, drew thousands of miners into the area, and led to widespread killing and the virtual destruction of traditional Nisenan culture. By the Great Depression, no Nisenan remained who could remember the days before the arrival of the Euro-Americans (Wilson and Towne 1978).

## **Regulatory Setting**

### *Assembly Bill 52*

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes as “a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004.” This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

- 1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
  - b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
  - c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of an Historical Resource under CEQA, a TCR may also require additional consideration as an Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

#### *Summary of Tribal Consultation*

AB52 consultation requirements went into effect on July 1, 2015 for all projects that have not already published a Notice of Intent to Adopt a Negative Declaration or MND, or published a Notice of Preparation of an EIR (Section 11 [c]). At the time the CVRWQCB was ready to initiate CEQA review, it had received written requests to receive project notices from seven California Native American Tribes, who identified themselves as being traditionally and culturally affiliated with the lands subject to CVRWQCB jurisdiction: Alturas Rancheria of Pit River Indians, Winnemem Wintu Tribe, Wilton Rancheria, United Auburn Indian Community of Auburn Rancheria, Santa Rosa Rancheria Tachi Yokut Tribe, Pit River Tribe of California, and Middletown Rancheria.

On January 28, 2020, CVRWQCB determined that it had a complete project description and they were ready to begin review under CEQA. CVRWQCB mailed notification letters for engaging AB52 consultations with those seven tribes whom have requested consultation on January 29, 2020. In accordance with PRC Section 21080.3.1(d) of the Public Resources Code, responses to the offer to consult were requested within 30 days of the receipt of the letter. No response was received from Alturas Rancheria of Pit River Indians, Winnemem Wintu Tribe, United Auburn Indian Community of Auburn Rancheria, Santa Rosa Rancheria Tachi Yokut Tribe, Pit River Tribe of California and Middletown Rancheria; therefore, no consultation with these tribes occurred.

Additionally, CVRWQCB offered the opportunity for consultation outside of AB52 to seven other tribes with geographic interest via letter on January 29, 2020: Buena Vista Rancheria of Me-Wuk Indians, Colfax-Todds Valley Consolidated Tribe, Lone Band of Miwok Indians, Nashville Enterprise Miwok-Maidu Nishinam Tribe, Shasta Indian Nation, Shingle Springs Band of Miwok Indians, and the Tsi Akim Maidu. No responses were received from any of these tribes as of the date of this draft document; therefore, no consultation with any of these tribes occurred.

#### *Consultation Under AB52*

On February 13, 2020, Wilton Rancheria sent a formal response to CVRWQCB via email stating they would like to initiate consultation under AB52. Their email stated they would like to discuss the type of environmental review being done for the Project, Project alternatives, the Project's significant effects, and mitigation for any direct, indirect, or cumulative effects the Project may cause to TCRs. The email also included a formal request to allow a Wilton Rancheria Tribal representative to observe and participate in all cultural resources surveys including initial pedestrian surveys, and request a copy of all cultural

resource assessments and the results of any records searches that may have been done prior to the first consultation meeting. They stated their policy is to have a tribal monitor present for all ground-disturbing activity if TCRs are present within the property, and they prefer to avoid impacts to all TCRs. The email had suggested mitigation measures attached.

On February 13, 2020, CVRWQCB responded to Wilton Rancheria via email with a letter formally initiating consultation pursuant to PRC Section 21080.3.1 (e). CVRWQCB also sent a copy of the letter via certified mail to Wilton Rancheria. CVRWQCB also sent the cultural resources study and offered to schedule a site visit in their initiation of consultation email. Consultation with Wilton Rancheria was carried out within the context of compliance with AB 52 and is discussed below. Consultation with Wilton Rancheria and Shingle Springs Band of Miwok Indians is ongoing as of the time this document was prepared.

### **5.18.2 Tribal Cultural Resources**

Information about potential impacts to TCRs was drawn from: 1) the results of a search of the Sacred Lands File of the NAHC; 2) existing ethnographic information about pre-contact lifeways and settlement patterns; 3) information on archaeological site records obtained from the California Historical Recourse Information System; and 4) AB52 tribal consultation with Wilton Rancheria.

#### **Sacred Lands File Search**

A search of the NAHC Sacred Lands File was requested on November 5, 2019. The NAHC responded on November 13, 2019, that the sacred lands file search was negative. The NAHC included a list of suggested tribal representatives to contact who may have more information. The Buena Vista Rancheria of Me-Wok Indians, Colfax-Todds Valley Consolidated Tribe, Lone Band of Miwok Indians, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Shingle Springs Band of Miwok Indians, United Auburn Indian Rancheria, and the Tsi Akim Maidu were on the list of contacts; these individual tribes were offered an opportunity for formal consultation; none of these tribes responded to the request.

#### **Ethnographic Information**

The ethnographic information reviewed for the Project, including ethnographic maps (Wilson and Towne 1978, lists the nearest Native American village of the Northern Pomo as *Yoduk*, located on the northern side of the American River, approximately four miles northwest of the Project Area.

#### **Archaeological Site Records**

Approximately 10 percent of the area within a 0.5-mile radius surrounding the Project Area has been subject to cultural surveys; no pre-contact archaeological sites have been previously recorded in the vicinity of any part of the Project Area. Only historic-period cultural resources related to mining, the Aerojet facility, and early water conveyance were within the search radius. Additional information about cultural resources can be found in Chapter 5.5 of this CEQA document.

#### **Tribal Consultation Results**

Consultation with Wilton Rancheria and Shingle Springs Band of Miwok Indians is ongoing as of the time of this draft document.

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In accordance with Section 21082.3(c)(1) of the PRC, "... information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information." Therefore, specific information about tribal cultural resources is not included in this CEQA document and remains within a confidential administrative record and not available for public disclosure without written permission from the tribe.

## **Conclusions**

The searches of the Sacred Lands File by the NAHC did not identify TCRs or sacred lands within or immediately adjacent to the Project area. The ethnographic record for the area indicates that all known village or settlements are at least several miles away from the Project area. Archaeological surveys did not identify pre-contact Native American archaeological site within the project area. Consultation with Wilton Rancheria and Shingle Springs Band of Miwok Indians is ongoing as of the preparation of this document; therefore, it is currently unknown if TCRs are present within the Project area at the time of this draft document. If appropriate, mitigation measures would be formulated accordingly through consultation between CVRWQCB and Wilton Rancheria and Shingle Springs Band of Miwok Indians to reduce the impact to TCRs to less than significant.

### **5.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion**

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

### **Phases 1 and 2**

The Wilton Rancheria and Shingle Springs Band of Miwok Indians tribes have requested Tribal Consultation pursuant to PRC § 21080.3.1. These consultations are in process, including making determination of significance of impacts to tribal cultural resources. Results of Tribal Consultation will be included in the final Initial Study.

#### **5.18.4 Mitigation Measures**

Mitigation measures will be developed (if needed) based on results of AB52 consultation.

### **5.19 Utilities and Service Systems**

#### **5.19.1 Environmental Setting**

##### **Water Service**

The Project site is located in Sacramento County, within the City of Folsom Water service area. The City of Folsom Water Treatment Division produces and delivers high-quality drinking water to residents and businesses within its service area and is responsible for the operations and maintenance of the City's water treatment plant, which has a capacity to treat and deliver up to 50 million GPD). The Water Treatment Division treats drinking water to meet all USEPA and State of California drinking water health requirements.

The Project site is also located within Aerojet's private land holdings located between the cities of Rancho Cordova and Folsom. Within this private access-controlled property, Aerojet operates a groundwater-based industrial water supply system known as the Groundwater Extraction and Treatment AB. The Groundwater Extraction and Treatment AB system would serve as the construction source supply for construction and closure of the AWCU and for dust control at the Borrow Site. This existing system is required by the Perimeter Groundwater Operable Unit Unilateral Administrative Order and is used to



capture the chemical plume emanating from the Aerojet Superfund Site in Sectors A and B. Aerojet has been operating this system since the late 1980s and, over the past seven to eight years, has continuously pumped and treated more than 2,000 gallons of water per minute, or just under three million GPD. This rate is not anticipated to decline over the next 10 years. The current demand on the industrial system is 1.5 million GPD. The industrial water system includes 4.5 million gallons of storage to deal with periodic shutdowns and peak daily demands.

### **Wastewater**

The Project site is not currently served by a wastewater collection system or treatment plant. Temporary wastewater facilities (portable restrooms) would be located within the construction staging area for use by construction personnel.

### **Solid Waste**

Solid waste services in the Project Area are provided by the Sacramento County Waste Management and Recycling division, which operates Kiefer Landfill, the only municipal waste landfill in the County.

## **5.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion**

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

### **Less than significant impact.**

Discussion:

### **Phases 1 and 2**

The Project would result in construction of new stormwater drainage facilities and extension of electric power to the proposed AWCU.

Proposed Phase 1 AWCU stormwater drainage facilities would include new conveyance ditches around the AWCU and to the north side of Old White Rock Road. These ditches would convey stormwater to three new outfalls to be located north of Old White Rock Road, where they would discharge to existing infiltration areas as shown in *Figure 3-5*. As discussed in the Biological Resources section, these improvements would impact nonnative grassland habitat, which is not considered sensitive habitat and does not require resource-based mitigation.

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The extension of electric power to the proposed AWCU would involve a "tap" from the existing SMUD overhead electric line located along Old White Rock Road immediately north of the proposed AWCU. The extension would involve setting approximately two to five new poles to support the overhead line and provide service to the AWCU electrical panel located just north of the ACUW Phase 1A access entrance. There is flexibility locating poles for overhead electric lines; poles for the proposed extension would be arranged in areas that do not support sensitive biological resources, and therefore would not result in significant effects.

Any temporary utilities required for construction of the Phase 2 Cap would similarly be located to avoid sensitive biological resources. The Phase 2 WRND Cap is not expected to require utilities for long term operation.

As discussed above, new stormwater infrastructure and extension of a new electric line feed would not cause significant environmental effects. Related impacts would be **less than significant**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**Less than significant impact.**

Discussion:

**Phases 1 and 2**

As discussed in in Hydrology and Water Quality Section 5.10.2 Response e), construction water needed for the project would be sourced from the AR industrial water supply system. The industrial water supply system receives water from the Aerojet GET AB facility. That system currently has an excess capacity of 1.5 million GPD. Operation of the GET facility would occur for several decades to comply with regulatory orders and requirements for groundwater cleanup at the AR facility. Thus, operation of the GET facility and the water supply system would need to be included in any water quality control plans and sustainable groundwater management plans that address the area of the project. Operation of the GET facility and the industrial water supply system are part of the existing environmental setting and would not be affected by the Project. Impacts related to sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years is **less than significant**. No mitigation is required.

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<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

**Phases 1 and 2**

The Proposed Project would not result in a long-term increase in wastewater generation or require increased wastewater treatment. **No impact** would occur.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Discussion:

**Phases 1 and 2**

The Project does not generate solid waste. The Phase 1 AWCU merely relocates existing Transfer Material waste from within the defined AWCU service area. The Phase 2 WRND Cap would be limited to covering existing waste. Related impacts are **less than significant**.

It should be noted that during Project planning, use of existing offsite landfills for disposal of Aerojet Landfill waste was considered. However, due to recent wildfires, existing disposal facilities in the region have received unanticipated large volumes of debris, resulting in diminishing available landfill space. As a result, landfills in the region are reluctant to commit to accepting Project-generated material over the next two years. Furthermore, the hauling of up to approximately 1,000,000 CYs of Transfer Material to an existing offsite landfill that would accept it raised additional environmental concerns. These concerns are related to potential impacts to roadways, air quality and public safety associated with thousands of truck trips to and from offsite landfills(s), with each round trip being approximately 120 miles.

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Due to the issues described above, AR conducted a feasibility study to identify a preferred location for construction of the proposed AWCU. This study included review of the WRND site, which was ultimately selected for the Proposed Project.

The Project as proposed would not generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Related impacts are **less than significant**.

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<b>Would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

## **Phases 1 and 2**

The Proposed Project is a waste consolidation project and would not generate new waste subject to federal, state, and local management and reduction statutes and regulations. There would be **no impact**, and no mitigation is required.

### **5.19.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **5.20 Wildfire**

### **5.20.1 Environmental Setting**

The Project site is not located within a heavily wooded area, nor is it surrounded by wildlands or forests. According to the Fire Hazard Severity Zones in State Responsibility Area map published by California Department of Forestry and Fire Protection (CAL FIRE), the Project site is located in a Moderate Fire Hazard Severity Zone in Sacramento County. The nearest Very High Fire Hazard Severity Zones are approximately 11 miles to the east, in Cameron Park and Sprekelsville of El Dorado County.

### 5.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

#### Phases 1 and 2

The Proposed Project is not in or near a very high fire hazard severity zone. Additionally, the Proposed Project would be conducted entirely on Aerojet access-controlled land, and would not impair any emergency response or evacuation plans. **No impact** would occur, and no mitigation is required.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Discussion:

#### Phases 1 and 2

The Proposed Project is not in or near a very high fire hazard severity zone. **No impact.**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

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Discussion:

**Phases 1 and 2**

The Proposed Project is not in or near a very high fire hazard severity zone. **No impact.**

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<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, would the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

**No impact.**

Discussion:

**Phases 1 and 2**

The Proposed Project is not in or near a very high fire hazard severity zone. **No impact.**

**5.20.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**5.21 Mandatory Findings of Significance**

**5.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion**

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<b>Does the Project:</b>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant with mitigation incorporated.**



Discussion:

## Phases 1 and 2

As discussed in the preceding sections, with implementation of all recommended mitigation measures and proposed ESMs, the Proposed Project would not cause a significant change to the quality of the environment. The Project involves construction of the proposed AWCU Class II Landfill so that it may receive Transfer Material waste from Phase 1 AWCU defined service area. The AWCU would be constructed over the WRND, an existing abandoned pre-regulation dump which would be capped as part of Phase 2 construction. Beneficial effects of the project include facilitation of the Aerojet Landfill Clean Closure, consolidation of existing waste, and the capping and closure of the WRND consistent with Title 27 regulatory requirements. Because of the AWCU would receive all Transfer Material from within the defined service area, the Project also reduces the currently approved and future truck haul distance resulting in a significant emission reduction compared to hauling Transfer Material to an offsite landfill.

As described in Section 5.4 Biological Resources, biological resources that could be affected by the Project include special-status plant and wildlife resources and oak trees. Recommended **ESMs 1 through 6** (Section 3.2.3) and biological resource Mitigation Measures **BIO-1** through **BIO-9** (Section 5.4.4) would be implemented to ensure all potential impacts sensitive species and their habitats are mitigated to less-than-significant levels. Therefore, the Project would not cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As indicated in *Section 5.5, Cultural Resources*, the Project is expected to avoid direct impacts to known cultural resources. Further, implementation of **ESM-14** (Section 3.2.3) and Mitigation Measures **CUL-1** and **CUL-2** (Section 5.5.4) would ensure historic resources are avoided and protected. Should any cultural resources or human remains be encountered during construction, all construction activities would be halted, and a professional archeologist consulted. Similarly, implementation of Mitigation Measure **GEO-1** (Section 5.7.3) would ensure potential paleontological resource impacts are mitigated to less than significant.

Related impacts are found **less than significant with mitigation incorporated.**

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Does the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

### Phases 1 and 2

All impacts were found to be less than significant, including air quality and greenhouse gas. The Project is limited to construction, filling and closure of the AWCU and capping and closure the WRND. There would be no significant operational impacts following closure of the AWCU and WRND. Therefore, cumulative impacts would be **less than significant**.

---

Does the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

---

**Less than significant impact.**

Discussion:

### Phases 1 and 2

Potential impacts to human beings include increase in ambient noise and air emissions during construction. However, Project noise impacts were found to be temporary and less than significant and air quality impacts were found to be less than significant with implementation of **ESM-13** (Section 3.2.3) and Mitigation Measure **AQ-1** (Section 5.3.3). The consolidation of waste within Title 27 compliant facilities constructed in accordance with agency approved Joint Technical Documents would ensure Project facilities do not cause substantial adverse effects on human beings, either directly or indirectly.

With implementation of recommended mitigation measures and proposed ESMs listed in this Initial Study, direct and indirect impacts to human beings would be **less than significant**.

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---

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