

WELCOME

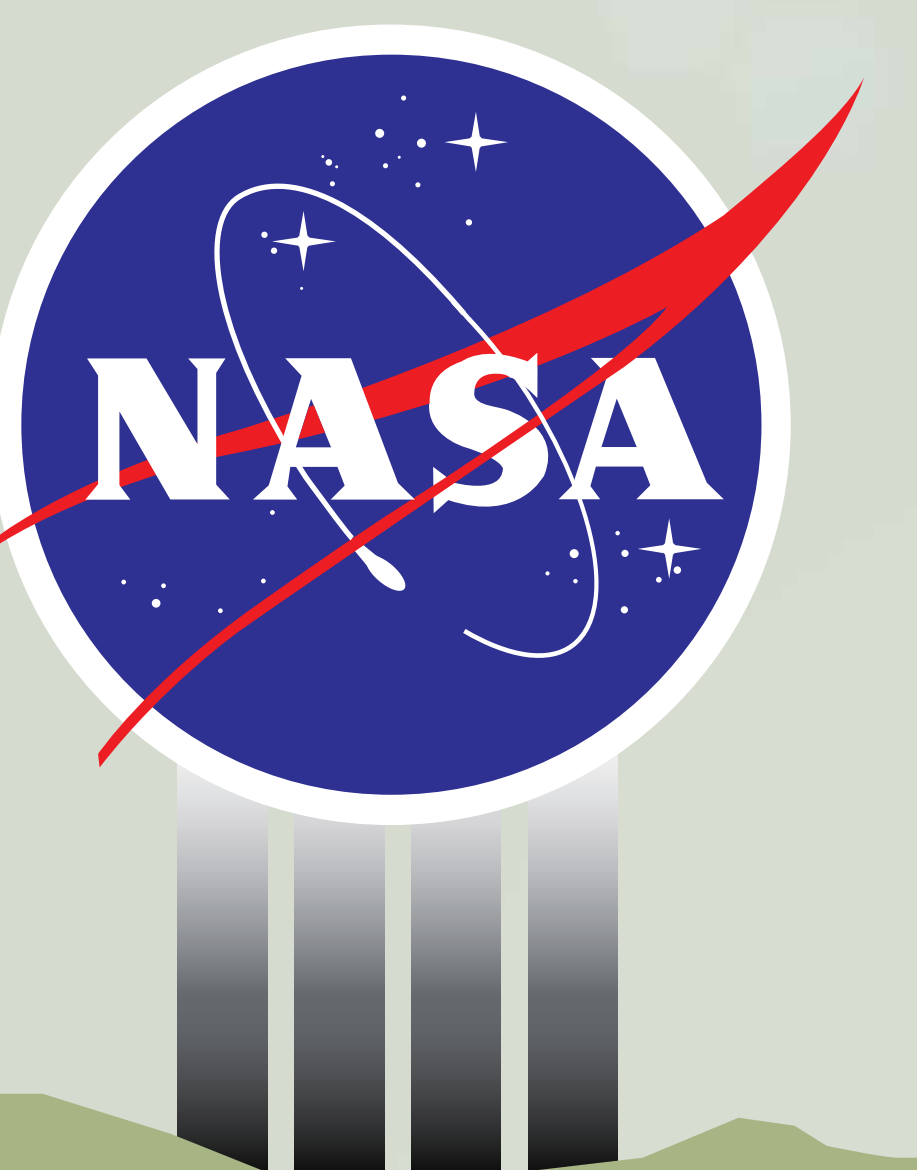
PUBLIC MEETING

for the

NASA Draft Supplemental
Environmental Impact Statement for
Soil Cleanup Activities

at

Santa Susana Field Laboratory



THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) & NASA'S SOIL CLEANUP AT SSFL



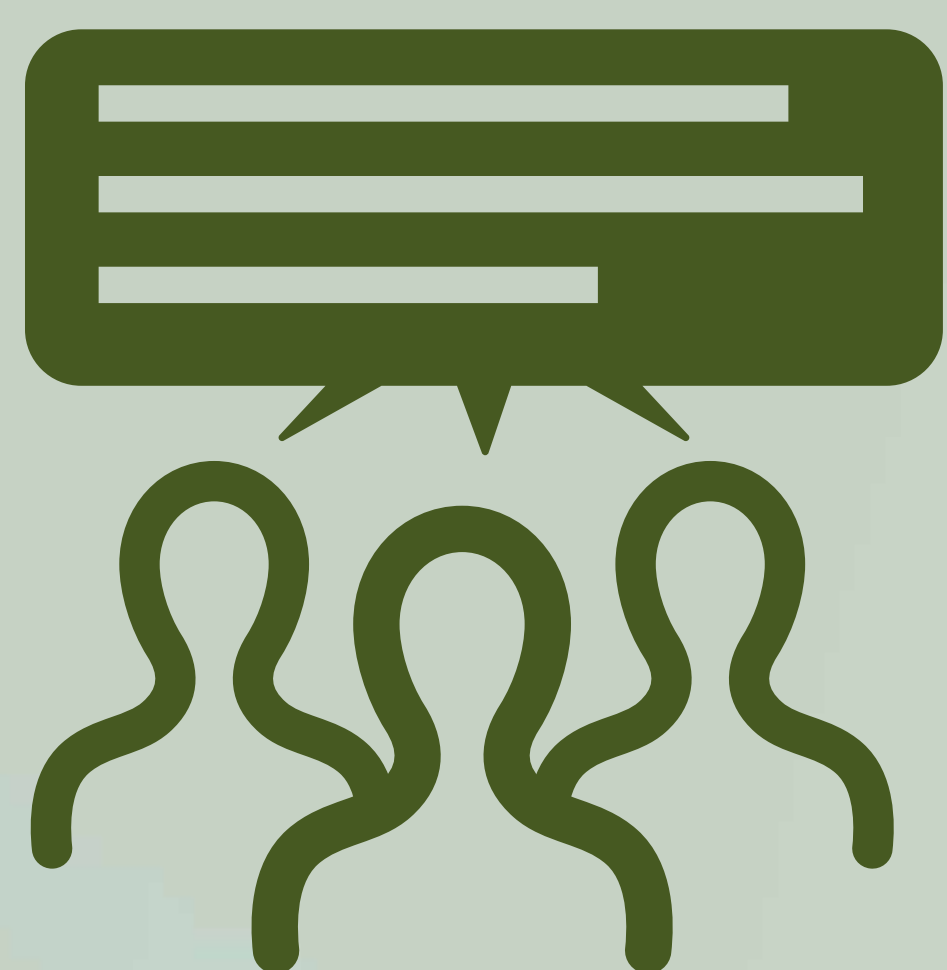
This Supplemental Environmental Impact Statement (SEIS) is a comprehensive evaluation of the environmental impacts of NASA's soil cleanup at Santa Susana Field Laboratory (SSFL).



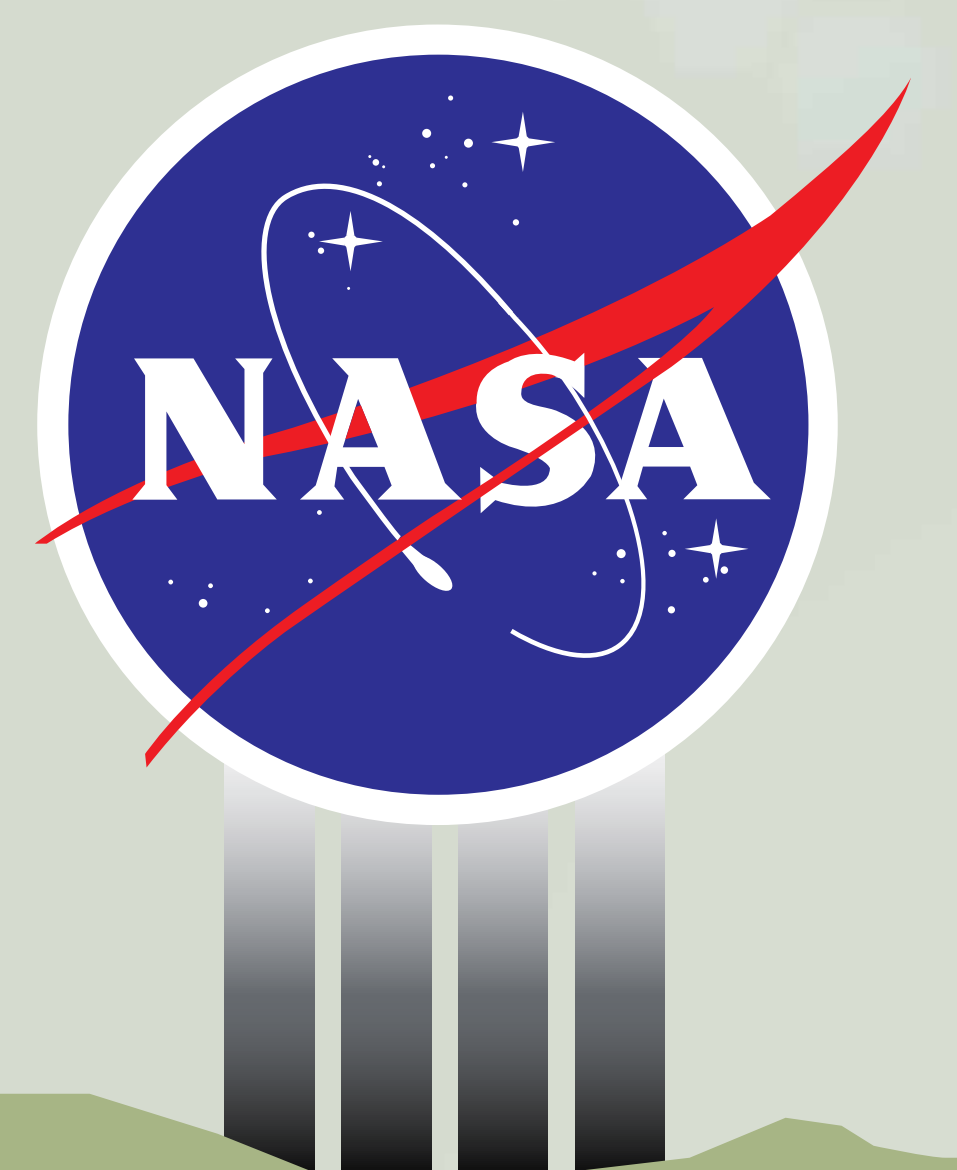
A supplement to the 2014 Final EIS is required per NEPA, due to a significant increase in estimated soil removal quantities.



The purpose of the project is to use the best available science and technology to achieve soil cleanup swiftly and in a manner that reduces impacts to the community and protects public health and the environment.



Your comments will be considered during the finalization of the SEIS.



HOW WE GOT HERE AND NEXT STEPS

NASA NEPA TIMELINE

2014: NASA prepared a Final EIS for Proposed Demolition and Environmental Cleanup Activities at Santa Susana Field Laboratory.

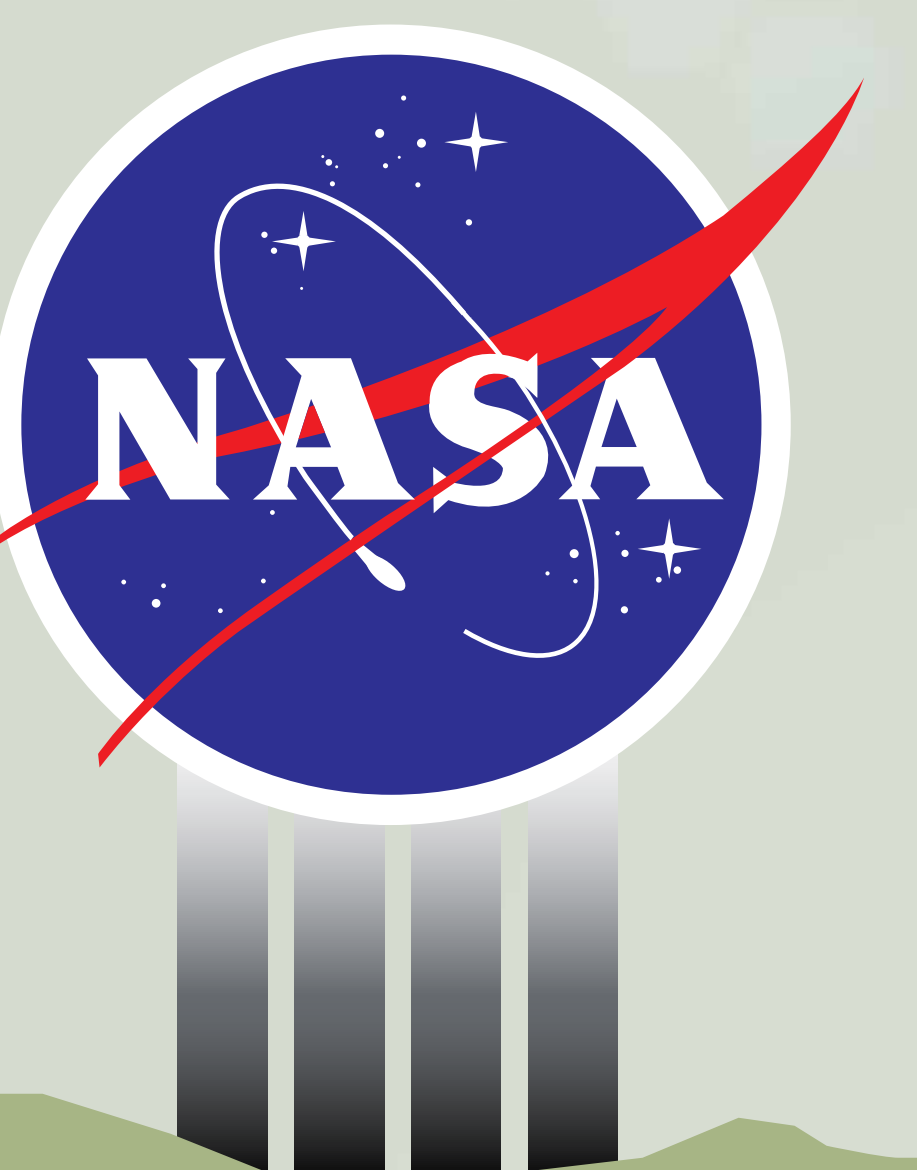
2014: NASA issued a Record of Decision (ROD) to move forward with demolition of facilities after publication of Final EIS. A decision was made to defer issuing RODs for soil and groundwater cleanup until further analysis and planning could be completed.

2018: NASA issued a ROD for groundwater cleanup.

2019: Due to substantial changes in soil volume estimates and environmental concerns, NASA determined an SEIS is required.

NEXT STEPS

NASA Supplemental EIS for Soil Cleanup at SSFL



SOIL TREATMENT TECHNOLOGIES

There are numerous soil cleanup technologies NASA will employ to achieve soil cleanup goals. The actual combination and location of technologies will be developed as part of the soil design planning document, which will be finished after the NEPA process is completed.

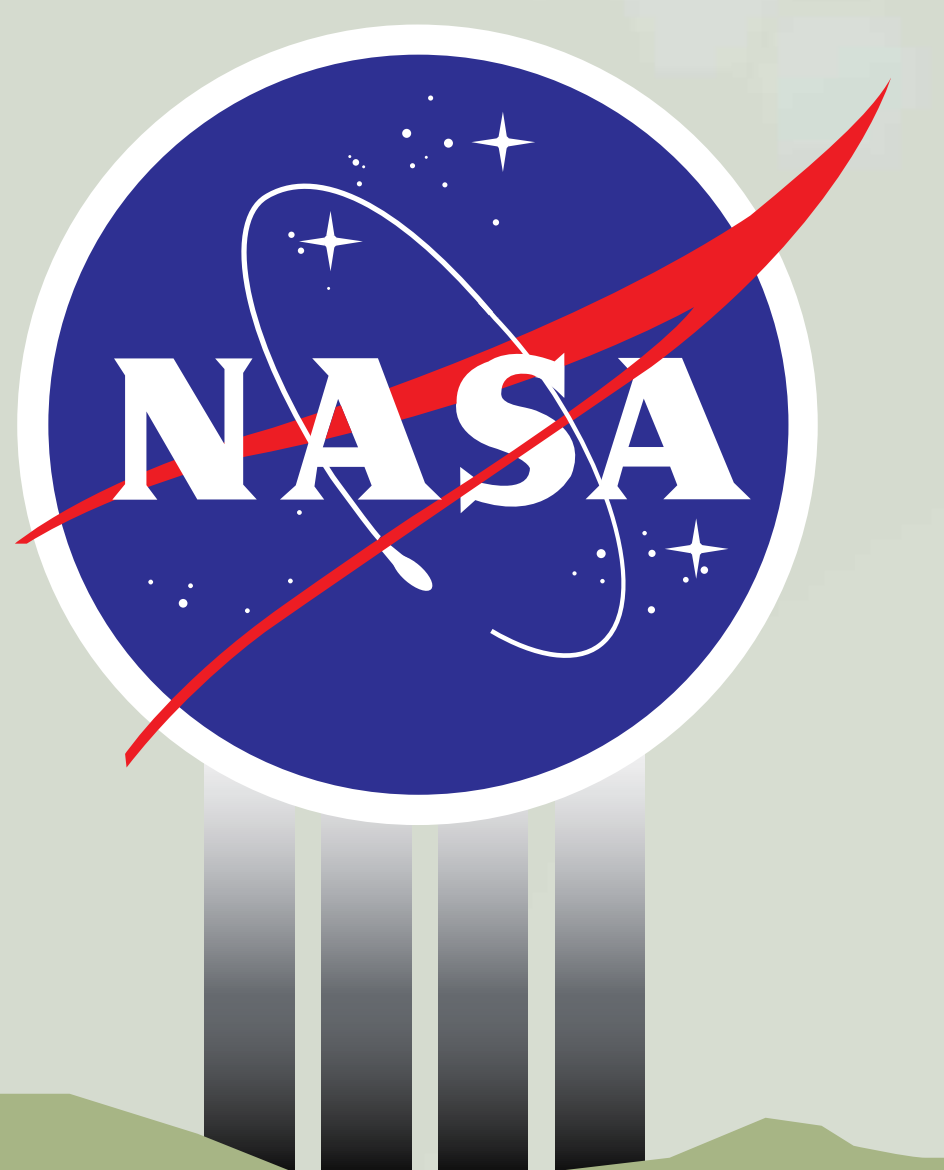
**MOST
IMPACTFUL**

Excavation and Offsite Disposal: involves the excavation, transport and disposal of surface and subsurface soil. Soil would be transported offsite using dump trucks and backfill material would be acquired.

Ex Situ Soil Treatments: involves excavating soil from its original location and moving it to another location on SSFL where it would be treated onsite. Ex situ treatment differs from Excavation and Offsite Disposal in that the soil would be treated at the SSFL site and then used as backfill.

**LEAST
IMPACTFUL**

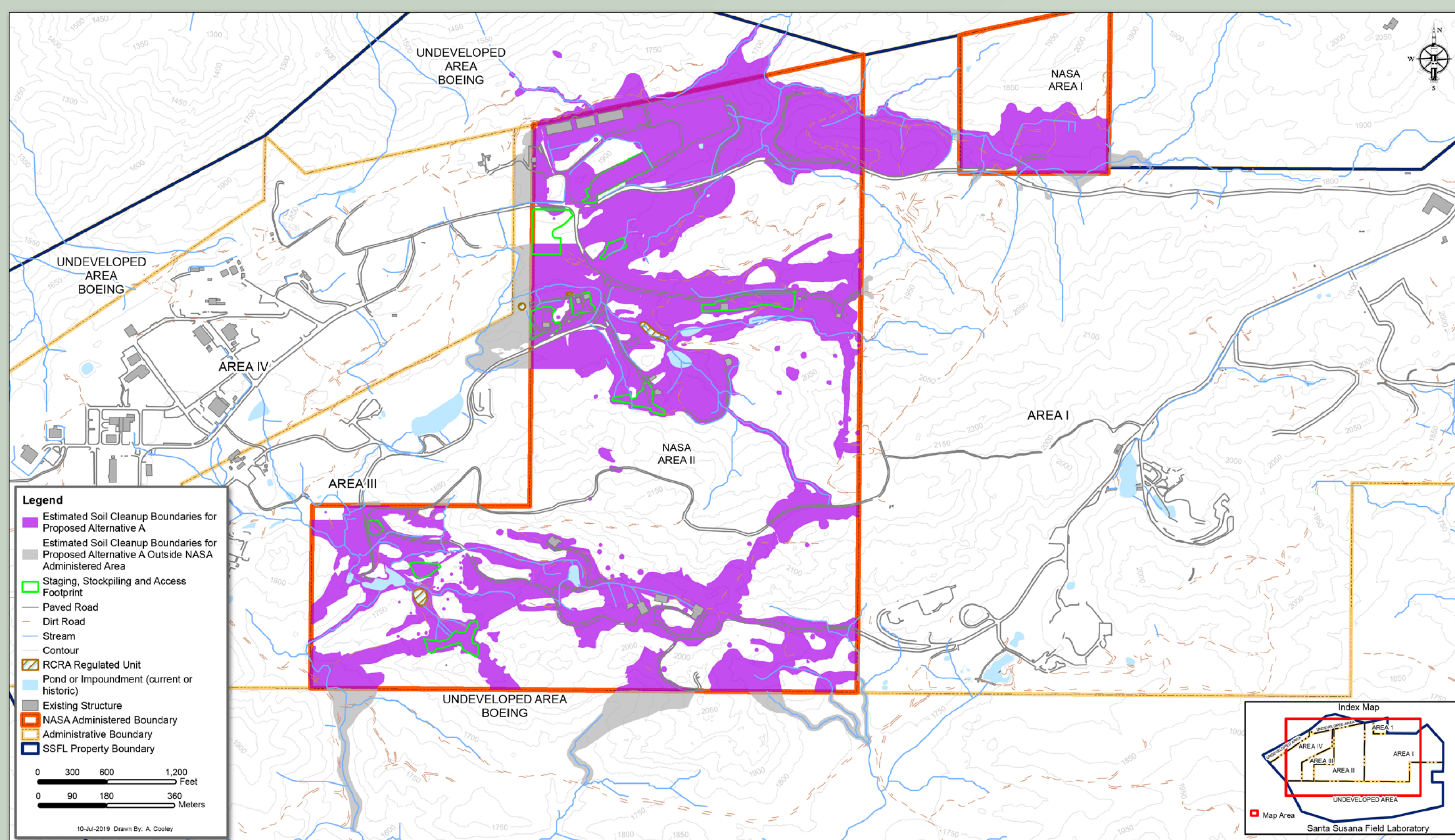
In Situ Soil Treatments: involves treating soil at its original location, allowing native soil to stay in place, with minimal disruption to existing soil structure.



ALTERNATIVE A

ADMINISTRATIVE ORDER ON CONSENT (AOC) CLEANUP

- Alternative A is based on the cleanup levels provided in the AOC Look-Up Table (LUT) values released in 2013.
- In 2010, NASA and DTSC executed an AOC stipulating the specific remedial requirements for soil cleanup in the NASA-administered areas of SSFL to LUT values.
- In 2013, DTSC developed LUT values based on a chemical background study and method reporting limits (MRLs) of laboratory equipment.
- LUT values are not based on known risks to human health or the environment.



870,000 cubic yards of excavation



448,000 cubic yards of backfill volume



99,098 total truckloads



25+ years cleanup duration

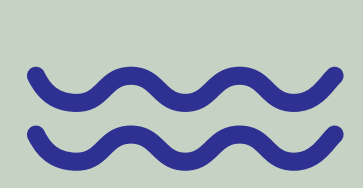
SIGNIFICANT ENVIRONMENTAL IMPACTS:



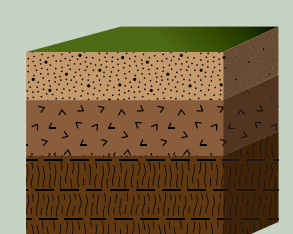
Negative and permanent impacts cultural resources



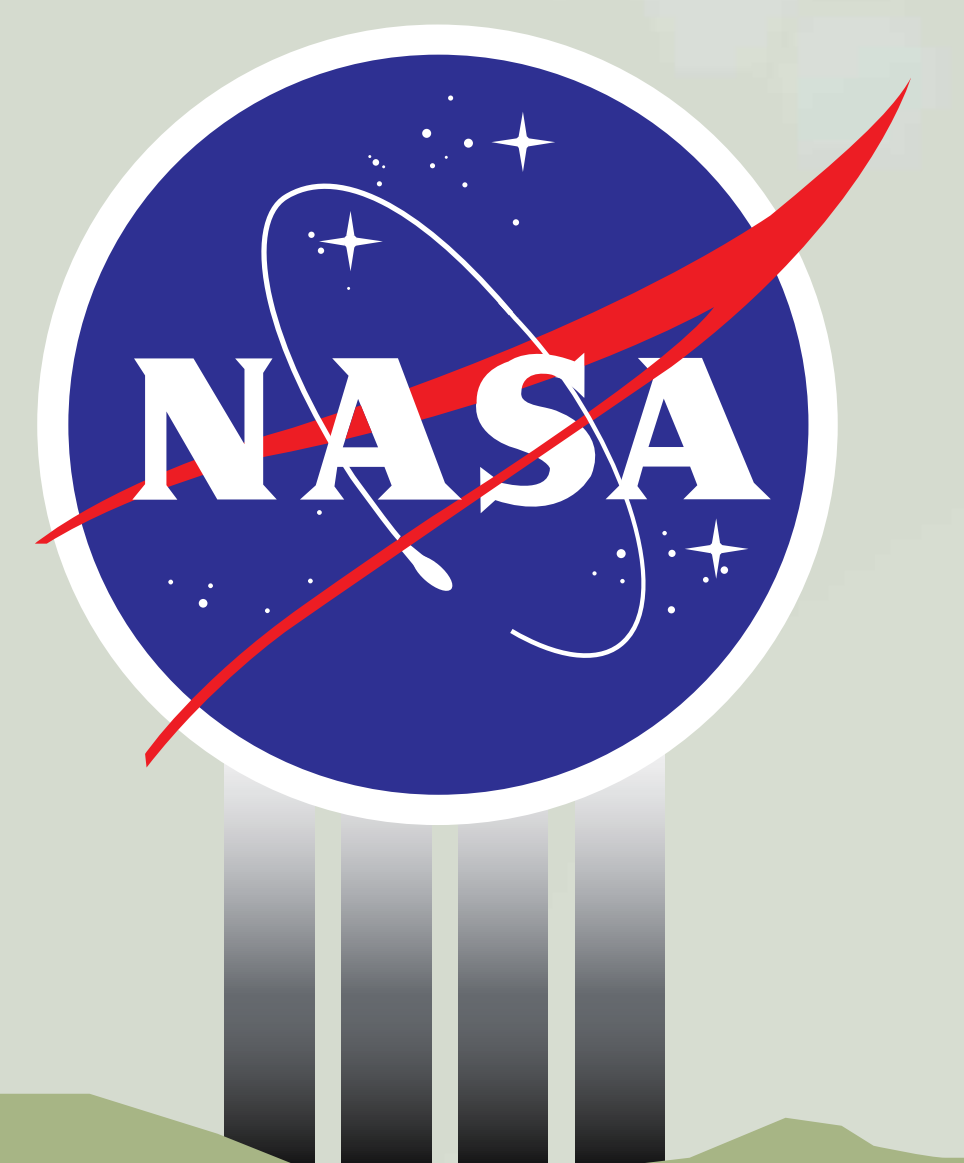
Negative and permanent impacts to the existing ecosystem



Negative and permanent impacts to existing surface water flows



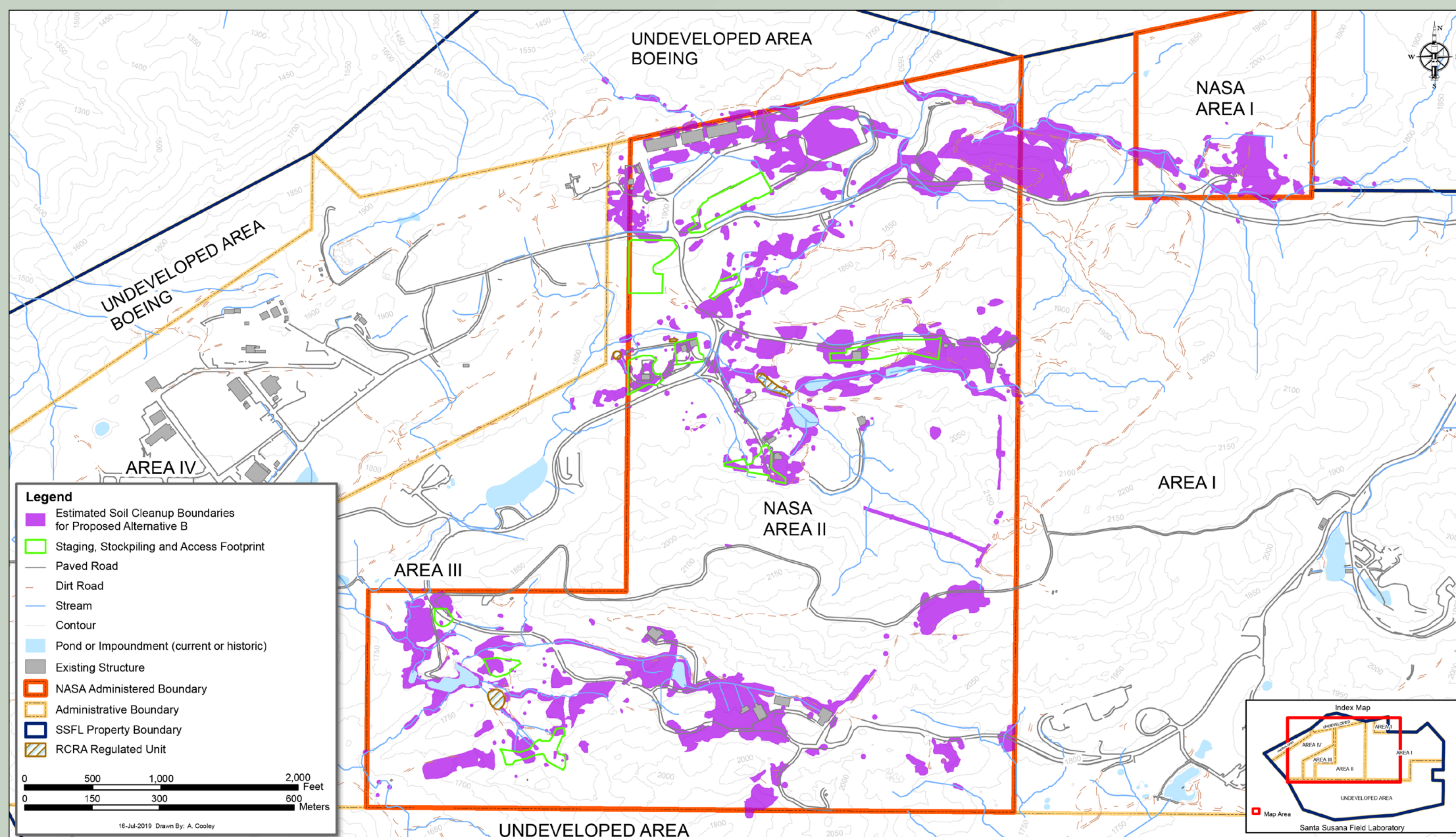
Negative and permanent impacts to soil



ALTERNATIVE B

REVISED AOC LOOK-UP TABLE CLEANUP

- Alternative B is based on a set of revised AOC LUT values for soil cleanup developed using the Cal EPA Office of Environmental Health Hazard Assessment, Los Angeles County screening levels for contaminants, and EPA screening levels for the seven contaminants that result in the greatest disproportionate level of cleanup between the AOC and environmental agency screening levels.
- Eliminates AOC implementation concerns such as availability of backfill, reducing impacts to natural and cultural resources, and reducing unnecessary impacts to the community.



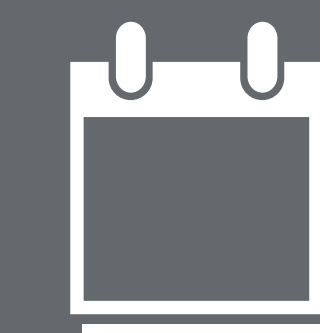
384,000 cubic yards of excavation



253,000 cubic yards of backfill volume



47,895 total truckloads

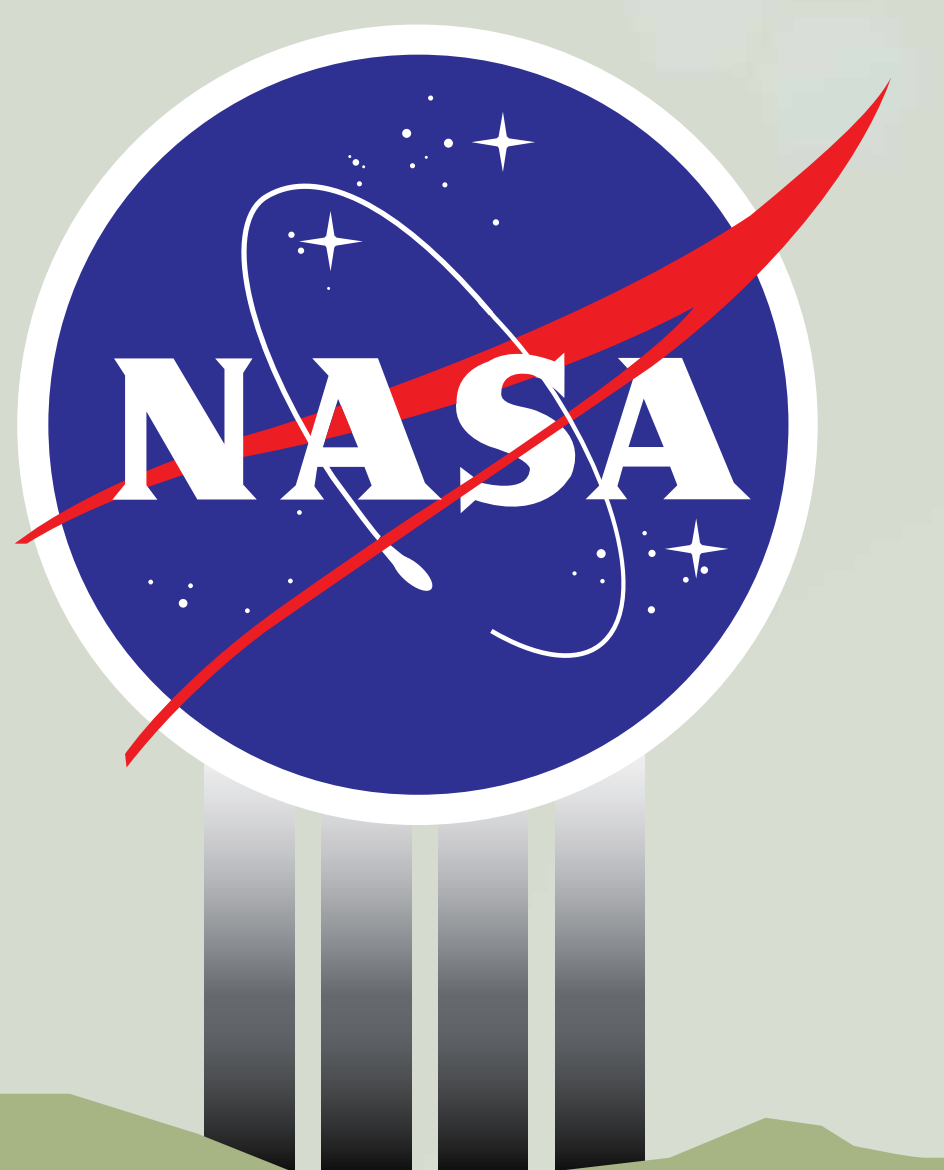


12 years cleanup duration

SIGNIFICANT ENVIRONMENTAL IMPACTS:

➡ Negative and permanent impacts to cultural resources

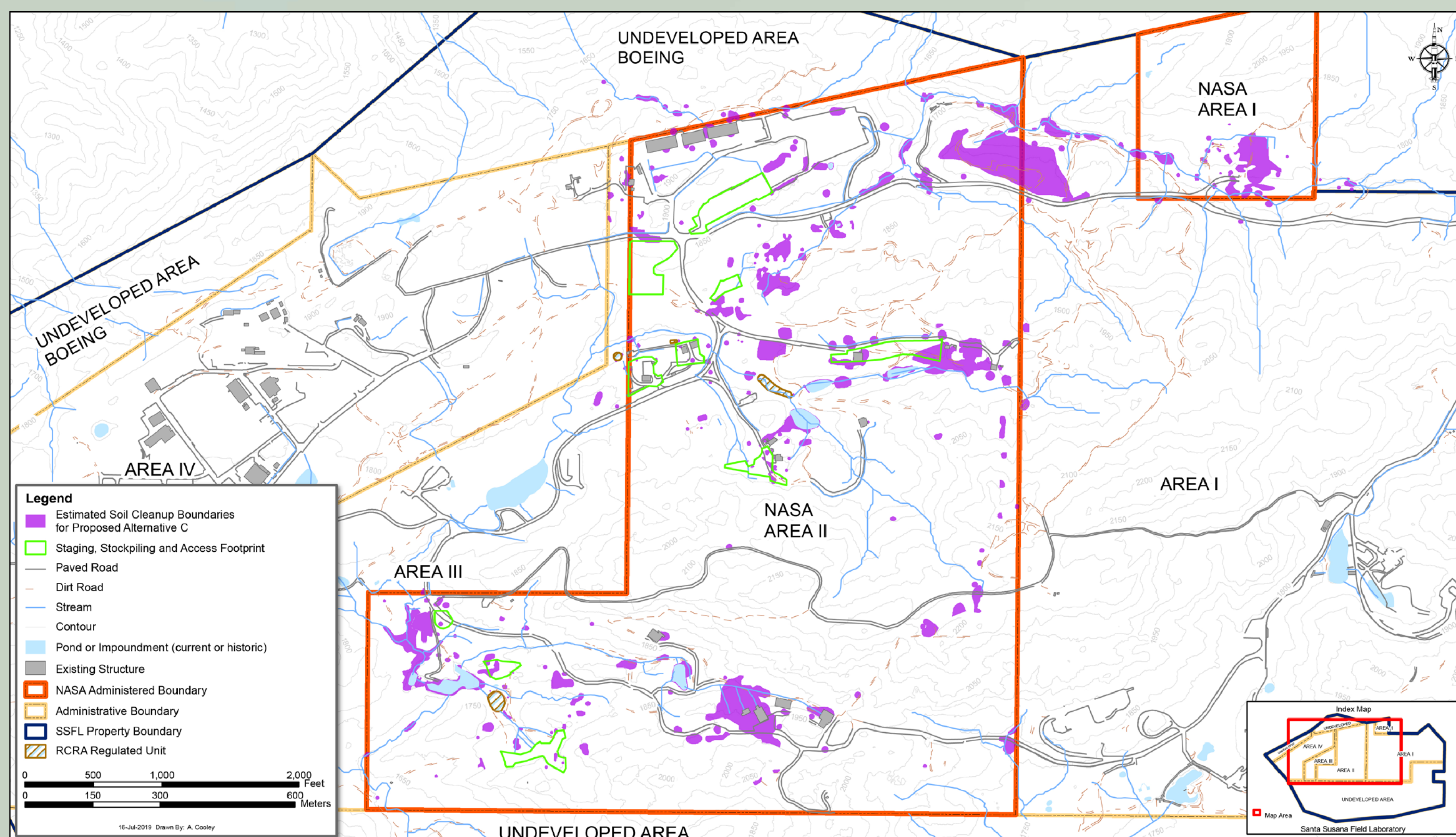
🏠 Negative and permanent impacts to soil



ALTERNATIVE C

SUBURBAN RESIDENTIAL CLEANUP

- Alternative C is based on standard risk assessment procedures and equations provided in the DTSC-approved Standardized Risk Assessment Methodology (SRAM), EPA risk assessment guidance (RAG), and Cal EPA RAG.
- These cleanup levels are derived from equations that incorporate site-specific exposure assumptions for a hypothetical suburban residential land use scenario.



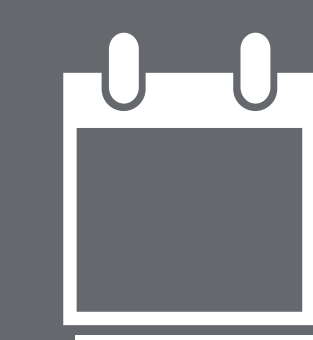
247,000 cubic yards of excavation



189,000 cubic yards of backfill volume

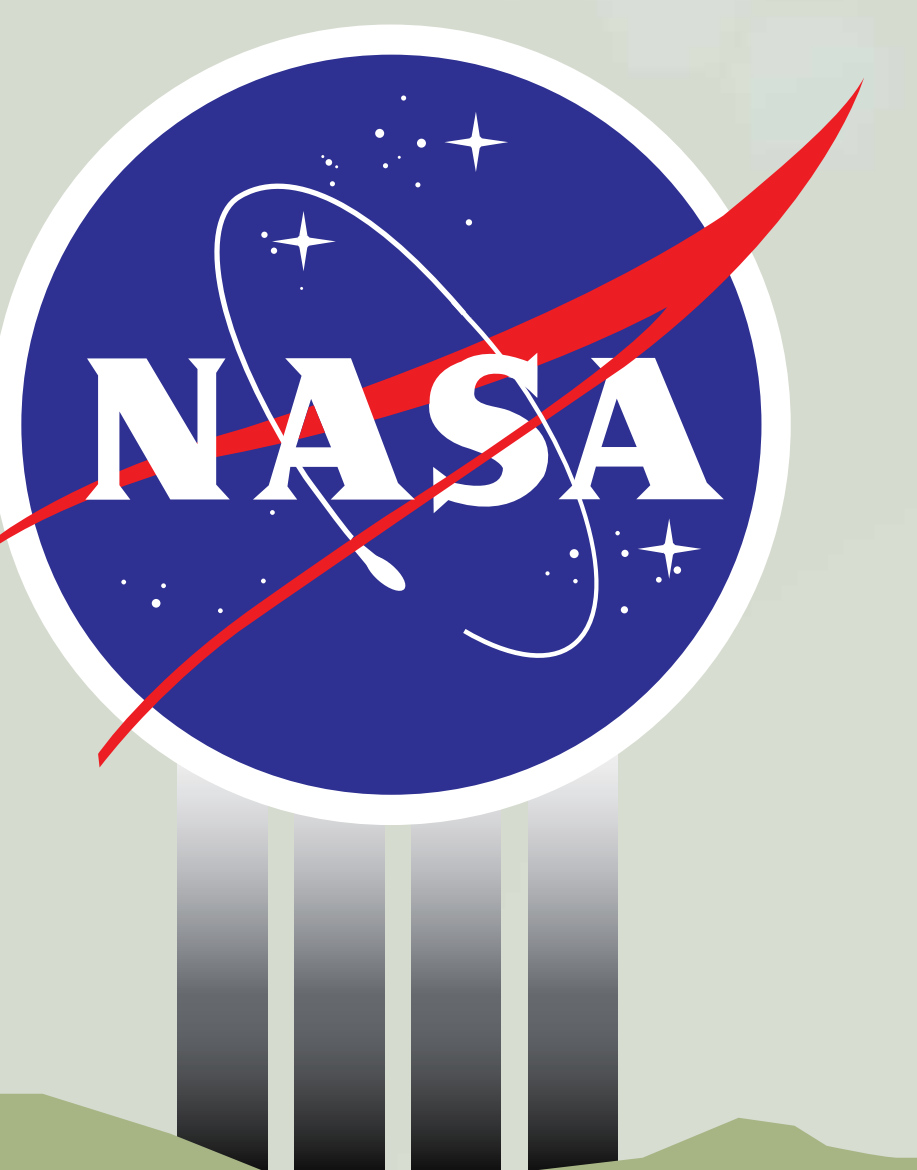


32,782 total truckloads



8 years cleanup duration

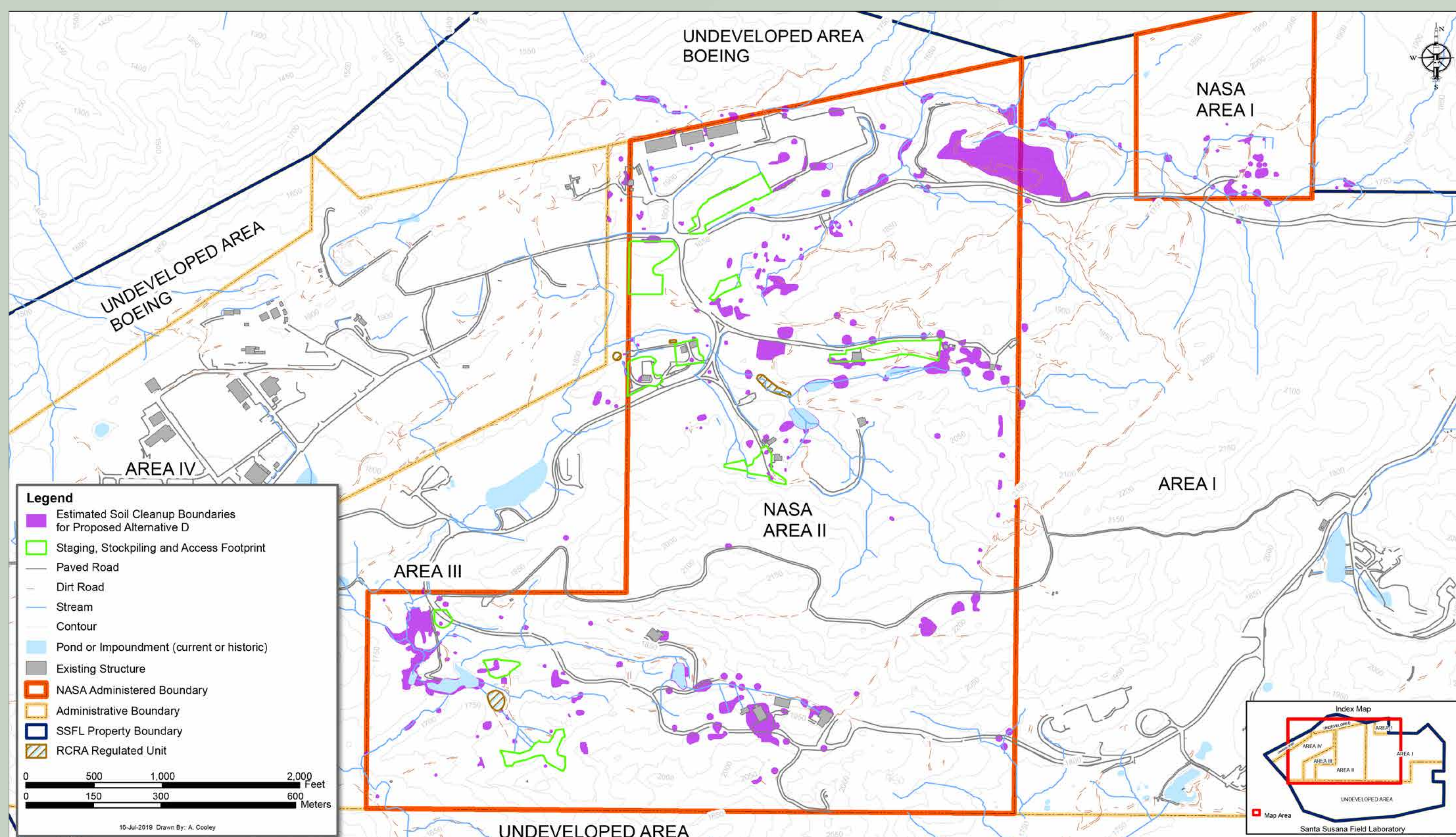
THERE ARE NO SIGNIFICANT NEGATIVE IMPACTS FROM ALTERNATIVE C.



ALTERNATIVE D

RECREATIONAL CLEANUP

- Alternative D is based on standard risk assessment procedures and equations provided in the DTSC-approved Standardized Risk Assessment Methodology (SRAM), EPA risk assessment guidance (RAG), and Cal EPA RAG.
- These cleanup levels are derived from equations that incorporate site-specific exposure assumptions for a hypothetical recreational land use scenario with toxicity factors published by EPA and Cal EPA.



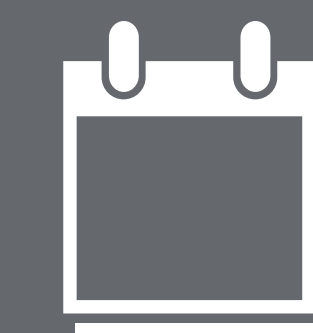
176,500 cubic yards of excavation



141,000 cubic yards of backfill volume

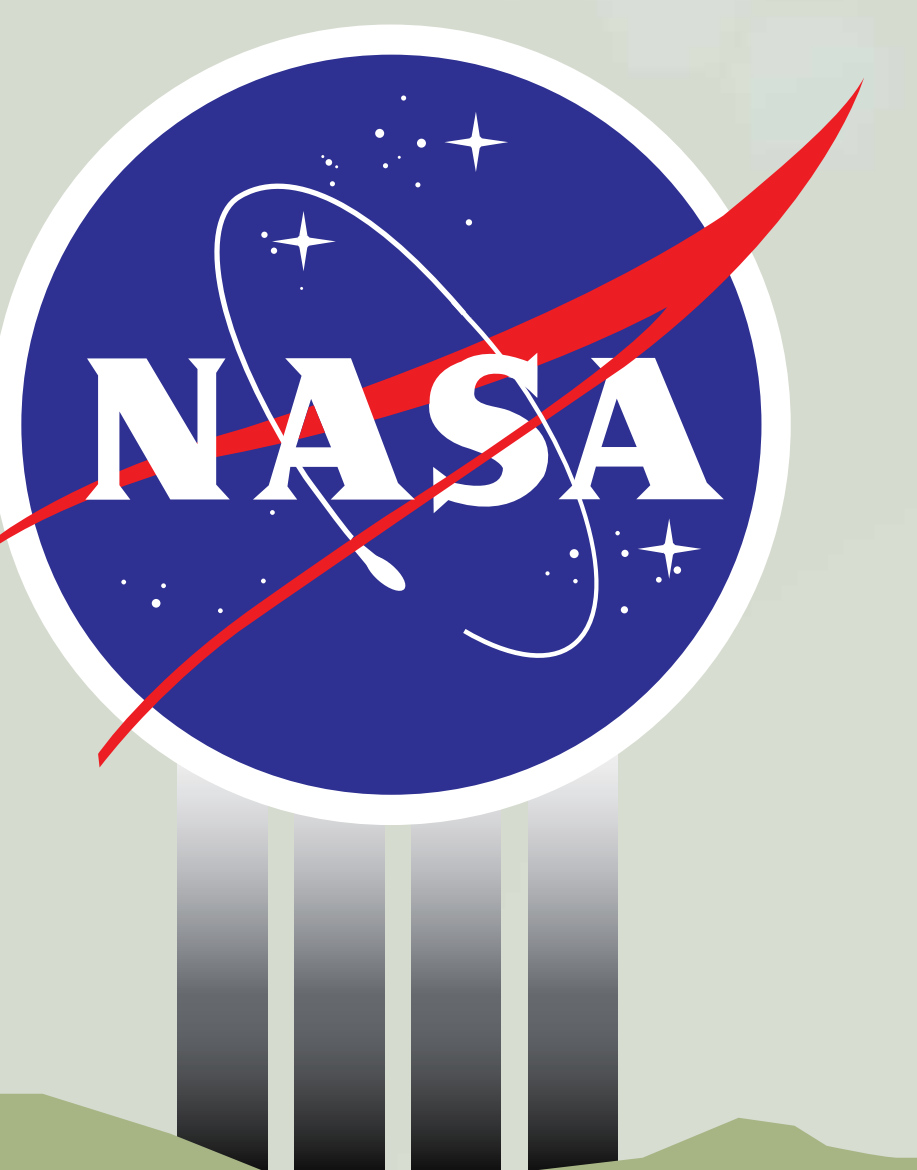


23,873 total truckloads



6 years cleanup duration

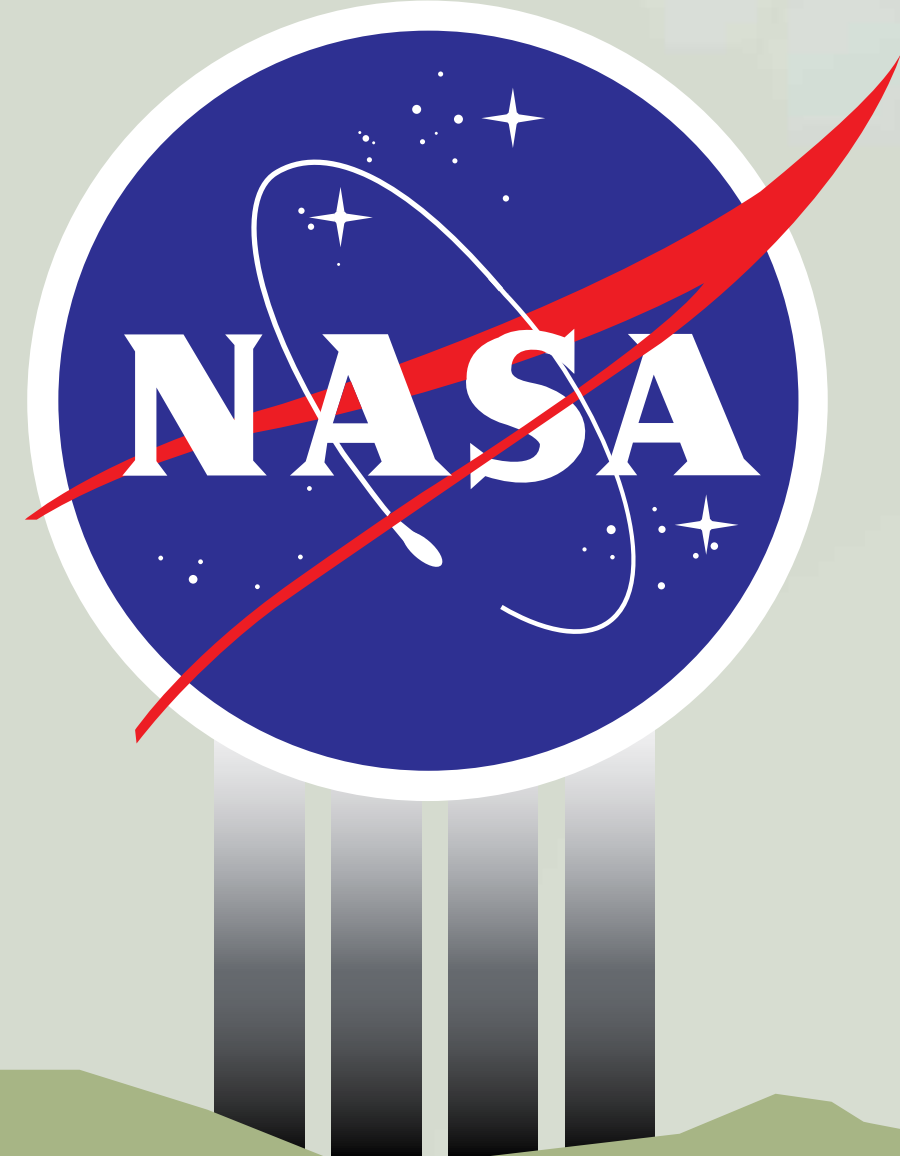
THERE ARE NO SIGNIFICANT NEGATIVE IMPACTS FROM ALTERNATIVE D.



ALTERNATIVES COMPARISON

| | Alternative A | Alternative B | Alternative C | Alternative D |
|---|---------------|--|------------------------------|----------------------|
| Description | AOC Cleanup | Revised Look Up Table (LUT) Levels Cleanup | Suburban Residential Cleanup | Recreational Cleanup |
| Soil Excavation Volume (yd ³) | 870,000 | 384,000 | 247,000 | 176,500 |
| Excavation Footprint (acres) | 220 | 78 | 36 | 26 |
| Significant Impacts After Mitigations | 10 | 7 | 0 | 0 |
| Backfill Volume (yd ³) | 448,000 | 253,000 | 189,000 | 141,000 |
| Truckloads | 99,098 | 47,895 | 32,782 | 23,873 |
| Duration (years) | 25+ | 12 | 8 | 6 |

| | | | Available Alternative Screening Values | | |
|----------------|--------------------------------|-----------------------------------|--|---|--|
| Analyte (soil) | AOC LUT Values (Alternative A) | Revised LUT Value (Alternative B) | Los Angeles County Regional Water Board Soil Screening Level | EPA Regional Screening Level for Residential Soil | California Human Health Screening Level for Residential Soil |
| PAHs | 4.47 µg/kg | 110 | -- | 110 µg/kg | NA |
| TPH | 5 mg/kg | 1,000 mg/kg | 1,000 mg/kg | Varies | NA |
| Dioxins/Furans | 0.912 pg/g | 4.6 pg/g | -- | 4.8 pg/g | 4.6 pg/g |
| Antimony | 0.86 mg/kg | 30 mg/kg | -- | 31 mg/kg | 30 mg/kg |
| Silver | 0.2 mg/kg | 380 mg/kg | -- | 390 mg/kg | 380 mg/kg |
| Cadmium | 0.7 mg/kg | 1.7 mg/kg | -- | 71 mg/kg | 1.7 mg/kg |
| Acetone | 20 µg/kg | 61,000,000 µg/kg | -- | 61,000,000 µg/kg | -- |

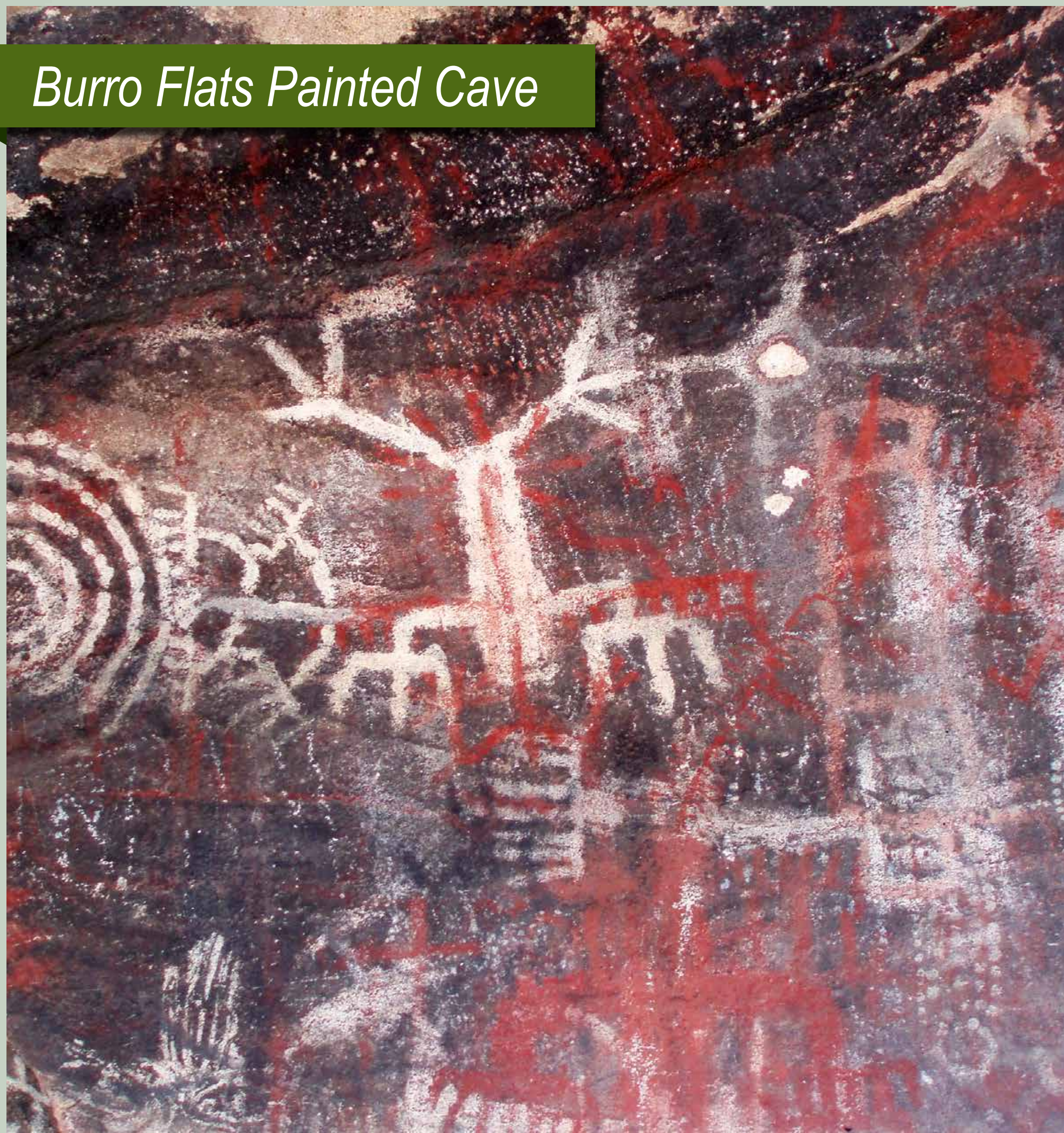


CULTURAL RESOURCES

OVERVIEW

Local Native American communities have indicated that the area was important to their communities historically and is significant to the beliefs, customs, and practices of today's communities.

Burro Flats Painted Cave



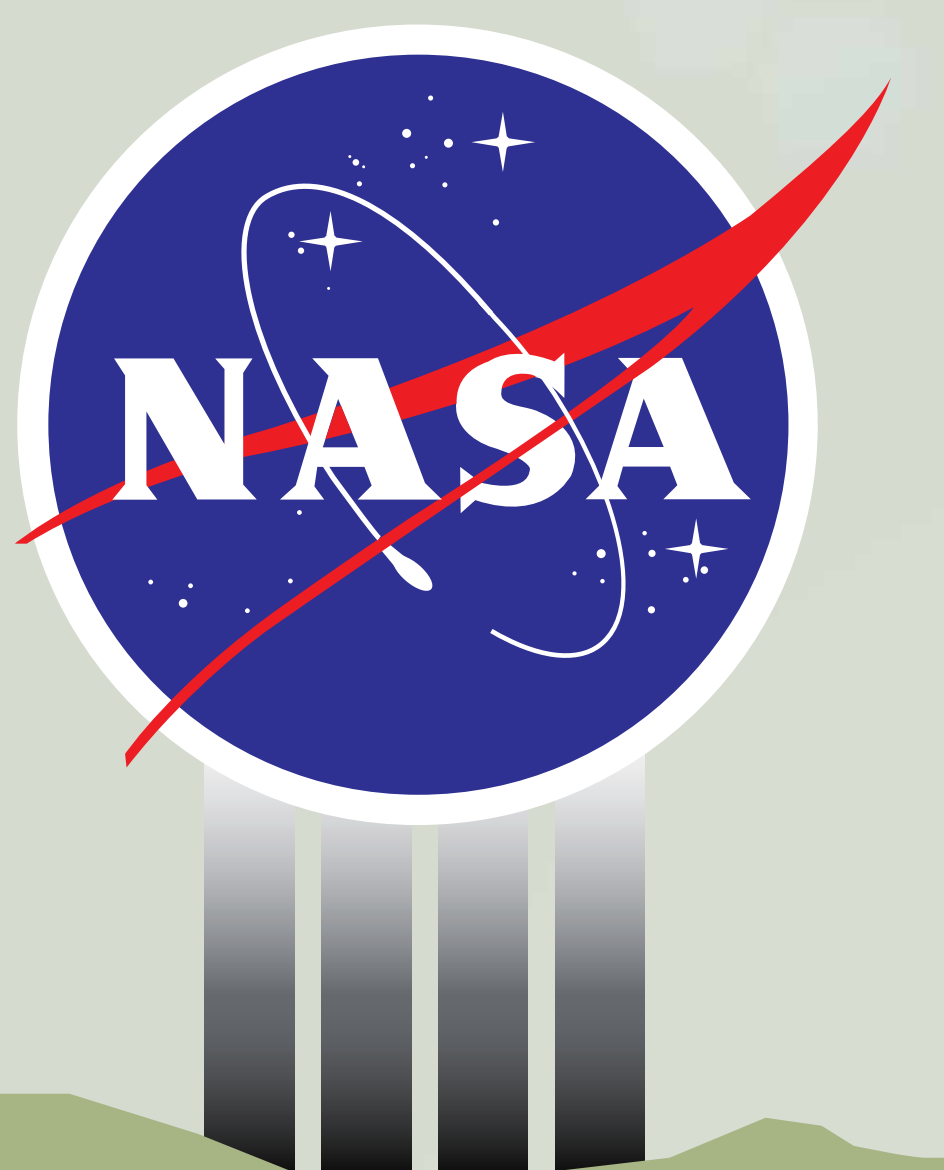
- 1 traditional cultural property
- 3 historic districts (Alfa, Bravo, Coca Test Stand Areas)
- 9 National Register of Historic Places (NRHP) – eligible structures
- 40+ additional archaeological sites
- Burro Flats Site, listed on NRHP

Alfa test stand



SEIS FINDINGS

- Each of the cleanup alternatives would result in effects to cultural resources at SSFL.
- Alternative A (AOC cleanup) would result in the greatest effects to cultural resources.
- NASA has agreements in place with California State Historic Preservation Officer, Advisory Council for Historic Preservation, and the Santa Ynez Band of Chumash Indians, under the National Historic Preservation Act, which establishes NASA's commitments for managing cultural resources at SSFL.

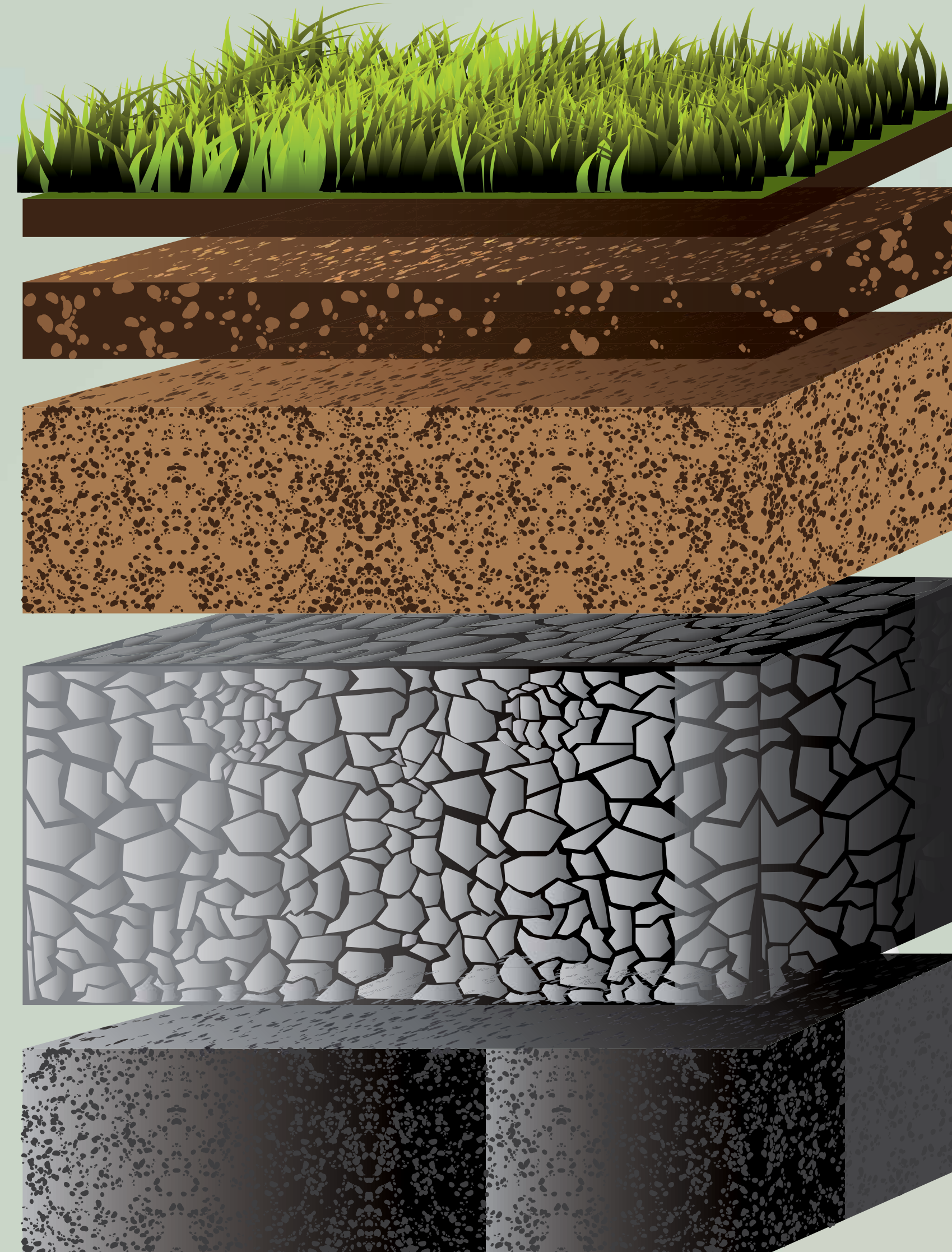


BIOLOGICAL RESOURCES

OVERVIEW

NASA-administered areas at SSFL is rich with diverse species and habitats.

Santa Susana tarplant



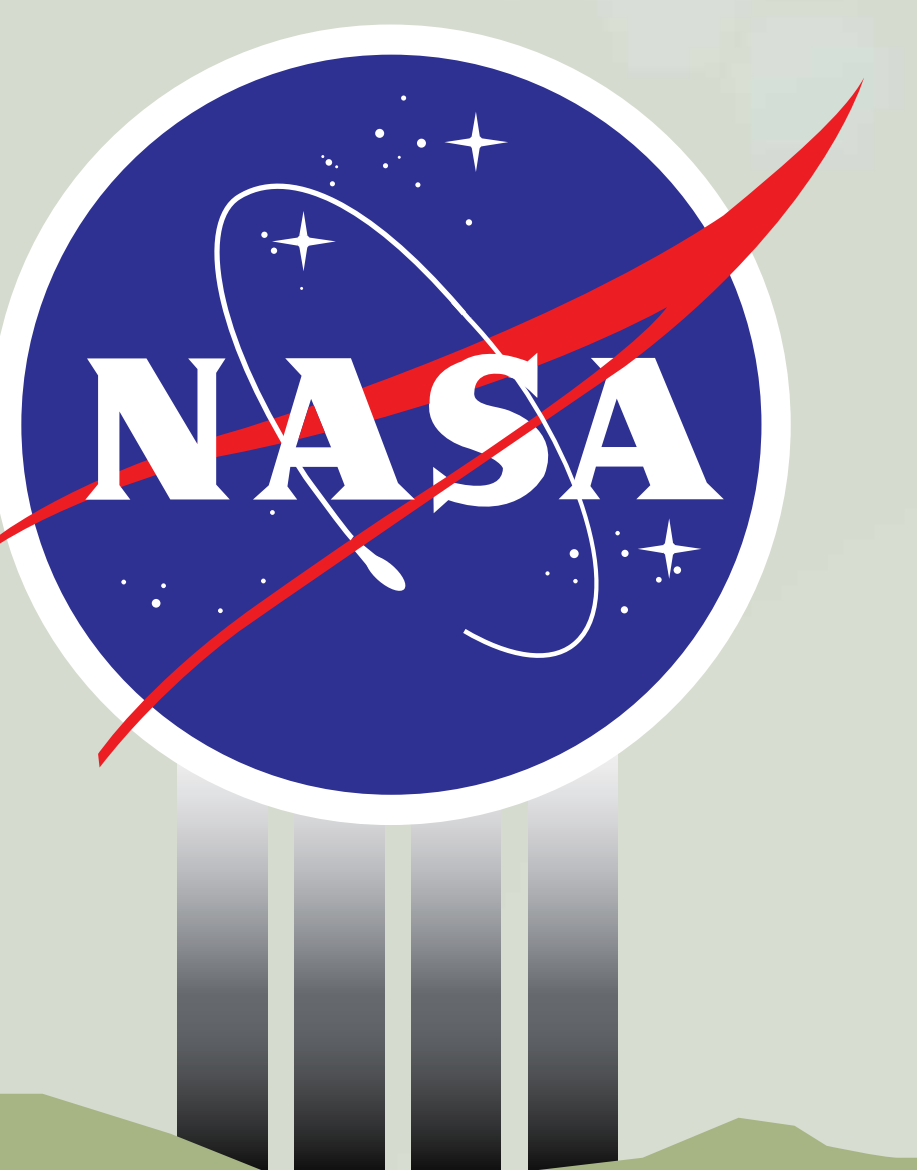
San Diego State University and Cal Poly conducted ecological restoration studies at the site, which show that the feasibility of a full restoration after the AOC is low, given the changes in soil structure and nutrients in available backfill material.

Least Bell's vireo



SEIS FINDINGS

- Alternative A (AOC cleanup) would result in significant, permanent and irreparable impacts to the natural environment at SSFL.
- The quantity of backfill necessary for the AOC cleanup is not readily available and gravel backfill may be necessary in areas.



HEALTH AND SAFETY

All Action Alternatives:

Comply with State and Federal Environmental Laws & Regulations

Reflect EPA standards that are regularly applied across the Nation

Reflect Cal EPA and DTSC standards that are regularly applied across California

The SEIS found no discernible differences to health and safety across the action alternatives

ONSITE IMPACTS

- There is a significant and permanent improvement to human health under all of the action alternatives.
- There are no disproportionate onsite impacts to children or other sensitive populations under any of the action alternatives.

OFFSITE IMPACTS

- There is no exposure from contamination to offsite communities under any of the action alternatives.
- There are no disproportionate offsite impacts to children or other sensitive populations under any of the action alternatives.
- The negative impacts from truck traffic are negligible and temporary under all action alternatives, though the duration of impacts differs significantly:
 - **Alternative A:** AOC Cleanup: 25+ Years
 - **Alternative B:** Revised LUT Cleanup: 12 years
 - **Alternative C:** Residential Cleanup: 8 years
 - **Alternative D:** Recreational Cleanup: 6 years

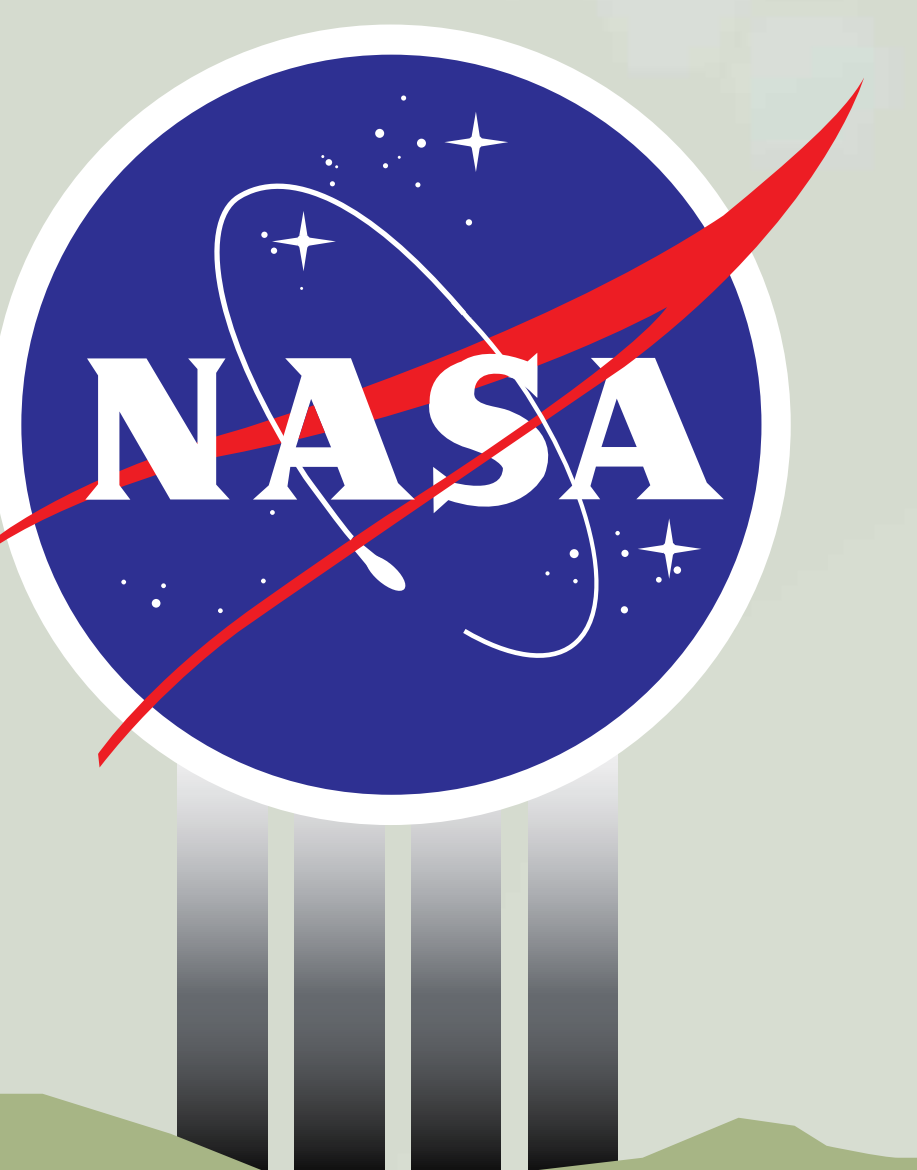
FUTURE ONSITE SCENARIO ASSUMPTIONS:

Residential Exposure:

- 24 hours a day
- 350 days a year
- 26 years

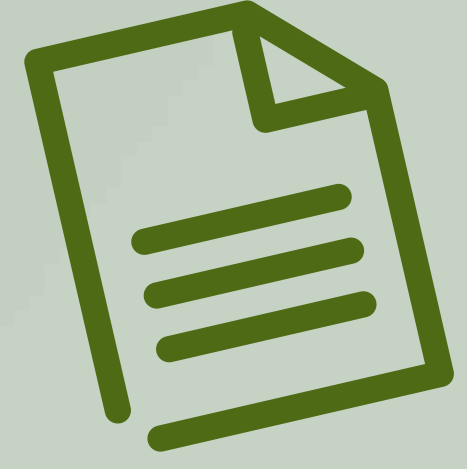


- Several hours a day
- 50 days a year
- 26 years



NASA WANTS TO HEAR FROM YOU

WAYS TO PROVIDE COMMENTS:



Complete a paper comment form tonight.



Provide your comments verbally to a court reporter tonight.



Email comment form to msfc-ssfl-eis@mail.nasa.gov.



**Mail comment form to: Santa Susana Field Laboratory,
5800 Woolsey Canyon Road, Canoga Park, CA 91304.**

Draft SEIS comments will be accepted from **October 25 to December 9, 2019**.
The Final SEIS is planned to be released in Spring 2020.

Your comments will be considered during the finalization of the SEIS.

