

National Aeronautics and Space Administration



**Ames Research Center**  
Moffett Field, California 94035

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Subject: Continuing Section 106 consultation – Project Description Update and Response to November 20, 2017 letter from SHPO Navigational Aids, Airfield Lighting, and Signage Replacement at the NASA Ames Research Center, Santa Clara County, CA (NASA\_2017\_0605\_001)

Dear Ms. Polanco,

Thank you for your response regarding the proposed Navigational Aids, Airfield Lighting, and Signage Replacement (NavAids) undertaking, NASA Ames Research Center, dated September 12, 2017. This letter serves to provide responses and additional information as requested, and to continue consultation in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR Part 800.

It is our hope that these responses and the revised materials included provide enough information to continue with your assessment of effects. We request your concurrence within thirty days of receiving this letter that the Undertaking will have no effect on built historic resources, but will have an adverse effect on one historic property—prehistoric archaeological site P-43-000039/CA-SCL-19— and that measures specified in the Data Recovery Plan will resolve the adverse effect of the Undertaking. We also request SHPO's comments on the Draft Memorandum of Agreement, which was submitted in August 2017.

In addition to providing responses to your request for additional information, we are writing to inform you that the proposed Undertaking has undergone a slight revision since the original Section 106 Technical Report was submitted on August 25, 2017. The original description of the Undertaking outlined the “open trench” construction technique proposed for the installation of the electrical conduits associated with the replacement High Intensity Runway Edge Lights (HIRL) that will be constructed along the entire length of Runway 14L-32R. As of now, this portion of the Undertaking has been revised and the “micro-trenching” construction method will be implemented instead. This will drastically reduce the dimensions of the trench along the asphalt shoulder of the runway from 12” wide and 18-24” deep to 1” wide and 10” deep. By

utilizing the micro-trenching method, the depth of disturbance along the runway will not exceed beyond the existing gravel substrate of the runway with no potential to disturb any below grade resources along its course. These changes, as well as the additional information requested on November 20, 2017 are reflected in the following revised documents. For all documents listed, both a clean copy and redlined copy illustrating all revisions are included with this letter.

*MFA Navigational Aids, Airfield Lighting, and Signage Replacement Section 106 Technical Report* (Revised 2018).

- a. Revised Section 106 Technical Report (Page & Turnbull, revised January 2018)
- b. Appendix A, Maps (August 2017 – unchanged)
- c. Appendix B, *Cultural Resources Assessment Report – NAVAIDS Project, Moffett Federal Airfield* (WSA, revised January 2018), which includes:
  - i. Updated DPR Forms
  - ii. Revised *Data Recovery Plan – NAVAIDS Project, Moffett Federal Airfield* (WSA, revised January 2018).
- d. Appendix C, Existing Conditions Photographs (August 2017 – unchanged)
- e. Appendix D, Selected Drawings (Revised January 2018)

Below are responses to the comments outlined in the November 20, 2017 letter:

1. **Comment:** *The report by WSA states that SCL-17 and SCL-19 were originally recorded as small habitation sites in 1912 and that their “dimensions and exact locations have not been confirmed through subsequent field studies,” although a 1991 survey by Basin Research Associates did not identify any surface evidence of the sites. It’s not clear how the site boundaries depicted on Figure 5 (WSA 2017:23) were defined and if they should be refined based on the evidence from the completed subsurface testing.*

**Response:** The boundaries depicted in Figure 5 associated with sites CA-SCL-17 and CA-SCL-19 are based upon GIS shape files provided by the Northwest Information Center (NWIC). For CA-SCL-17, the test bores conducted by WSA were unable to locate any archaeological material, and WSA was unable to confirm or revise the site boundary as recorded with NWIC. As for CA-SCL-19, Figure 5 depicts a recommended update to the boundaries for the archaeological site based upon the test core results. It is also noted that boundaries are provisional, and the actual physicality of the sites may extend beyond the area surveyed and tested during WSA’s 2017 investigations.

See pages 19-20, 28, 31-35 in WSA’s *Cultural Resources Assessment Report* (CRAR), revised 2018 for further discussion and included with this submittal.

2. **Comment:** *Although the method of subsurface testing seems appropriate, I question if enough tests were placed in areas that will be affected by the undertaking. The limited quantity of the subsurface tests does not seem adequate to determine fully the potential for subsurface deposits to occur in the locations where ground disturbance will take place for the undertaking. Additional information, such as a detailed archaeological sensitivity assessment or additional testing, would aid in better determining the effects of the undertaking on archaeological resources.*

**Response:** The subsurface tests were placed within and adjacent to the mapped locations of previously recorded archaeological sites, spaced to accommodate inaccuracies in site boundary mapping such that a site’s recorded dimensions were greater than the spacing between each test bore. Placement of cores was also selected to avoid disturbing paved and gravel surfaces of active runway. Test cores were also not placed in areas mapped as having Low Archaeological Sensitivity as identified in the 2017 Archaeological Resource Study, prepared by AECOM for NASA and concurred upon in June of said year.

See pages 25-33 in WSA’s *Cultural Resources Assessment Report* (CRAR), revised 2018 for further discussion. The 2017 sensitivity mapping has also been included for clarity.

3. **Comment:** *It is not clear if there is a potential to encounter deposits through horizontal directional drilling in the eastern part of the APE where drilling will occur beneath US-101 and extending into the Sunnyvale golf course. Please provide an archaeological sensitivity assessment for the areas of the APE where subsurface testing has not been conducted.*

**Response:** According to AECOM's 2017 Archaeological Resources Study, the portion of the Undertaking where horizontal directional drilling would occur near and underneath US-101 and the Sunnyvale Golf Course has a Low Archaeological Sensitivity. As such, it is expected that the horizontal directional drilling, particularly the entry and exit points on either side of the US-101, have low potential to disturb buried prehistoric archaeological deposits or materials.

See page 32-33 of WSA's CRAR, revised 2018 for further discussion.

4. **Comment:** *Please provide updated and any previous DPR 523 forms that have been completed for all sites in the APE.*

**Response:** DPR 523 forms are completed and included as Appendix C of WSA's CRAR, revised 2018.

5. **Comment:** *No eligibility recommendation is made for site SCL-17. Please address whether or not this site is potentially extant and will be affected by the undertaking.*

**Response:** WSA's survey and testing did not identify any archaeological deposits associated with CA-SCL-17 within the undertaking area. Due to the absence of evidence uncovered from the test cores renders, WSA had insufficient evidence to make an eligibility recommendation for the subject site in its entirety. Additionally, CA-SCL-17 does not appear to be extant in the Undertaking area based upon these survey efforts, although it is recognized that intact deposits associated with CA-SCL-17 may remain in unsurveyed and untested areas that are located outside of the Undertaking area. Therefore, based upon the most recent testing results produced by WSA, the Undertaking will not adversely affect deposits that could potentially contribute to the NRHP eligibility of CA-SCL-17.

See page 40 in WSA's *Cultural Resources Assessment Report* (CRAR), revised 2018 for further discussion.

6. **Comment:** *The provided eligibility determinations for SCL-19 and SCL-20 are inadequate. Both evaluations provide broad statements that the sites do not meet Criteria A-C without providing any analysis to support this conclusion. In addition, the evaluations include the statement that consideration under Criterion C is "not appropriate" as the sites do not include built environment resources. Archaeological sites can and should be evaluated under all four National Register criteria. Please reference National Register Bulletin 36: Guidelines for Evaluating and Registering Archaeological Properties for guidance. Native American consultation would aid in identifying potential cultural value that should be considered in a complete evaluation.*

**Response:** See pages 43-47 in WSA's CRAR, revised 2018. The eligibility discussions for both CA-SCL-19 and CA-SCL-20 are expanded upon in this section.

7. **Comment:** *The evaluations that conclude that SCL-20 is not eligible and that SCL-19 is eligible for the National Register under Criterion D. Neither of these evaluations refers to a research design or context to explain how the sites do or do not have the potential to answer significant research questions. The evaluation for SCL-19 focuses on the integrity of the deposits, but significance needs to be established before integrity is considered.*

**Response:** Evaluations have been revised. See pages 34-39 in WSA's CRAR, revised 2018 for additional discussion of research context and themes.

8. **Comment:** *The Cultural Resources Assessment Report by WSA (2017:34) states that there may be intact subsurface deposits associated with SCL-20 located outside of the project area. The evaluation in the report is made based on limited testing of a portion of the site. There is not enough information to make an eligibility determination for the site as a whole.*

**Response:** It is acknowledged that evaluating sites in their entirety is preferable where possible, rather than small project-based segments. However, the difficult nature of the site – operational airfield, extensive presence of utility networks, and disturbed conditions of the site – make an extensive investigation of a large potential site, such as CA-SCL-20, infeasible for a project with a limited depth and horizontal extent. It is also acknowledged that intact subsurface deposits related to the site may be extant in areas outside the study areas for the Undertaking. As such, it is agreed that a determination of eligibility for the entire site cannot be made based upon the circumstances presented. The discussion has been revised to make it clear that no archaeological deposits have been identified within the area of direct impact for the undertaking that could contribute to a potential eligibility for the site.

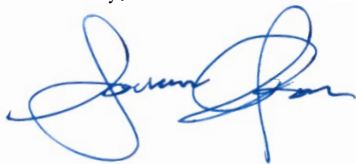
See page 43-44 in WSA's CRAR, revised 2018 for additional discussion.

9. **Comment:** *It may be appropriate to treat SCL-17 and SCL-20 as eligible for the purposes of Section 106 for this undertaking, if additional identification efforts determine that intact deposits associated with these sites will not be impacted by the proposed undertaking.*

**Response:** It is acknowledged in WSA's 2018 revised CRAR that potentially eligible deposits for these sites may be located outside the Undertaking area for both CA-SCL-17 and CA-SCL-20. The CRAR has been updated to include prescribed Environmentally Sensitive Area (ESA) fencing to be installed at all limits of the Undertaking area within the previously recorded boundaries of both CA-SCL-17 and CA-SCL-20, as well as the updated estimated boundary of CA-SCL-19. This fencing will prevent potential ground disturbance from inadvertently resulting in an adverse effect to a potentially NRHP eligible resource. Additionally, the CRAR has been updated to state that observed deposits within the Undertaking area related to these site locations do not contribute to the potential NRHP eligibility of SCL-17 or SCL-20.

Thank you for your thoughtful attention to this project and we look forward to continuing our consultation with you and your staff.

Sincerely,



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Enclosures: One (1) redlined copy and one (1) clean copy of the revised documents (Attachments A-E)