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# **Los Alamos National Laboratory Floodplain Assessment for the Technical Area 72 Expedited Vehicle Inspection Lane Project**

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## **ACRONYMS**

AOC	Area of Concern
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
EO	Executive Order
ft.	feet
ft <sup>2</sup>	square feet
IRT	Integrated Review Tool
LANL	Los Alamos National Laboratory
NM 4	New Mexico State Route 4
NNSA	National Nuclear Security Administration
SWMU	Solid Waste Management Unit
TA	Technical Area
VAP	Vehicle Access Portal

## INTRODUCTION

The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), is proposing new construction in lower Sandia Canyon at Technical Area (TA) 72 at the Guard Post 10 vehicle inspection station at Los Alamos National Laboratory (LANL). The proposed project is intended to provide expedited inspection times for vehicles transporting time sensitive loads, such as concrete and asphalt. The project activities within the 100-year floodplain include installation of 1) installation of an expedited vehicle inspection lane, 2) relocation of a 4-strand wire fence, 3) possible relocation of at least one power pole, and 4) a laydown area (Figures 1 and 2).

NNSA has prepared this floodplain assessment in accordance with 10 Code of Federal Regulations (CFR) Part 1022 *Compliance with Floodplain and Wetland Environmental Review Requirements* (10 CFR Part 1022) (CFR 2003) which was promulgated to implement DOE requirements under Executive Order 11988 *Floodplain Management* (EO 1977). A floodplain is defined in 10 CFR 1022 as “the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands,” and a base floodplain as “the 100-year floodplain, that is, a floodplain with a 1.0 percent chance of flooding in any given year (CFR 2003).” This floodplain assessment evaluates potential impacts to floodplain values and functions from implementation of the proposed action, identifies alternatives to the Proposed Action, and allows for meaningful public comment.

DOE/NNSA has published this Floodplain Assessment for a 15 day for public review and comment period. Please provide comments on this Floodplain Assessment to Kristen Dors at:

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After the close of the public comment period and prior to issuing a floodplain statement of findings DOE/NNSA will reevaluate the practicability of alternatives to the proposed floodplain action, mitigating measures and take into account all substantive comments received during the public comment period. DOE/NNSA will endeavor to allow 15 days of public review prior to implementing the proposed action.

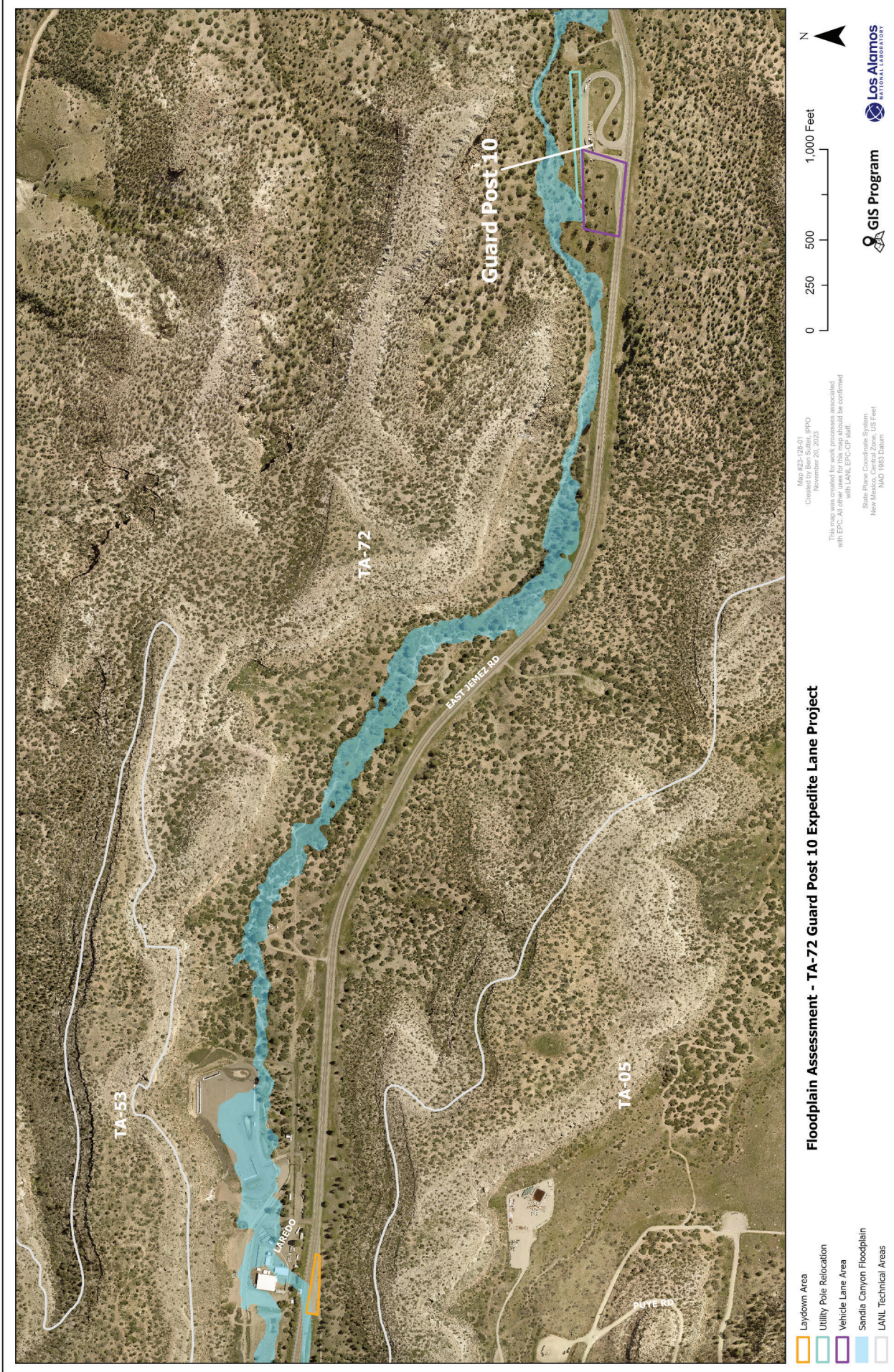
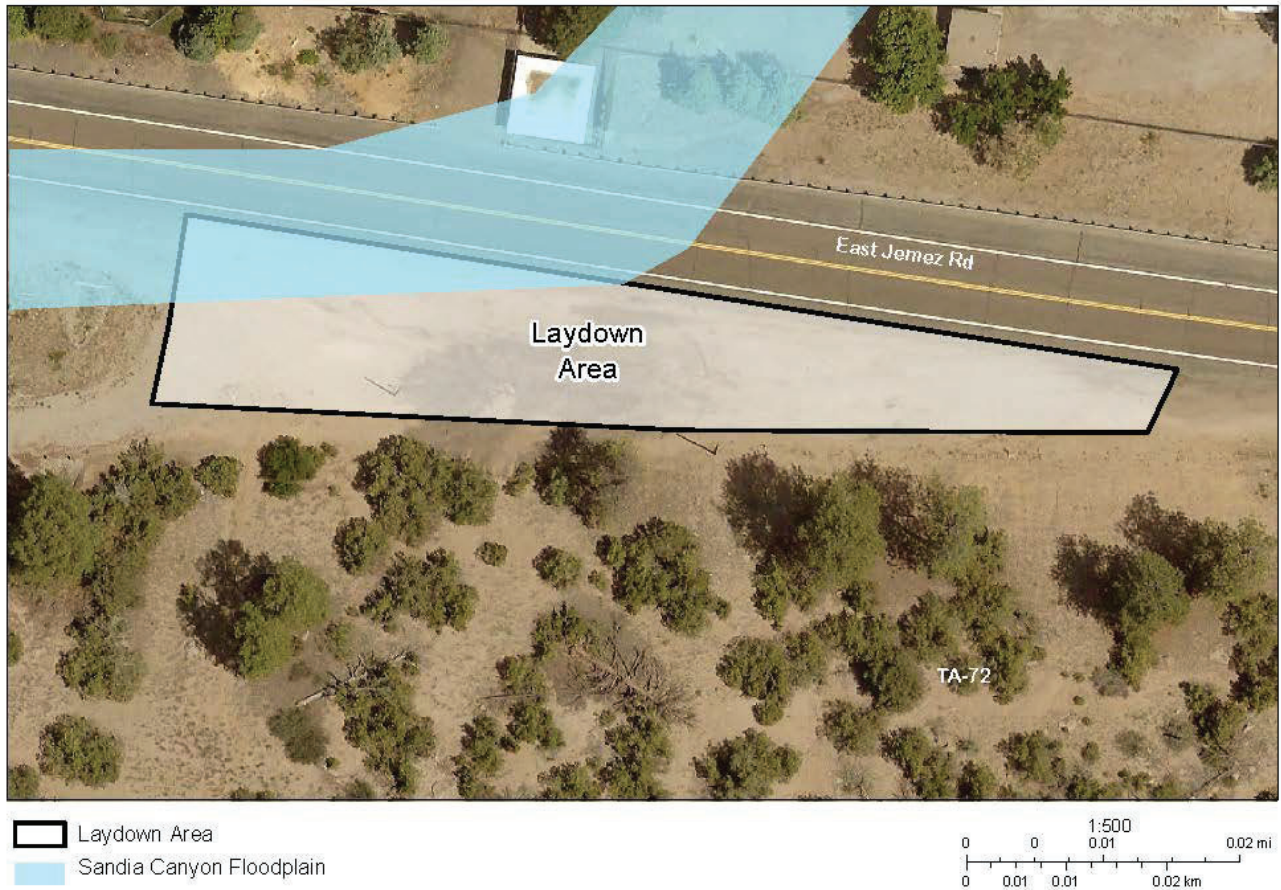


Figure 1. Proposed Expedited Vehicle Inspection Lane Project in Relation to the Sandia Canyon 100-year Floodplain.



**Figure 2. Proposed Expedited Vehicle Inspection Lane Project Laydown Yard in Relation to the Sandia Canyon 100-year Floodplain.**

## BACKGROUND

The TA-72 Guard Post 10 is located on East Jemez Road approximately 0.25 mile west of New Mexico State Route 4 (NM 4). The existing vehicle inspection station has a paved vehicle lane that can be accessed from west bound or east bound traffic on East Jemez Road, a guard post for vehicle inspections, several small trailers for housing Security Officers and equipment storage, a small parking area, and sanitary facilities. Guard Post 10 is a vehicle inspection point for vehicles (e.g., trucks) delivering materials and goods to LANL. This facility is not intended for public use but can be seen and accessed from a public road, East Jemez Road.

An additional vehicle inspection lane is proposed for construction to the west side of the existing TA-72 Guard Post 10. The lane would provide priority vehicle inspection for time sensitive material such as concrete and asphalt which would reduce the risk of materials expiring and becoming waste. A laydown area is proposed on the south side of East Jemez Road south of the TA-72 Firing Range to support construction activities of staging construction equipment and materials.

The two areas of the proposed construction project are partially located within the Sandia Canyon floodplain (Figures 1 and 2). The canyon bottom is a mixture of developed and undeveloped areas. The proposed expedite lane area is relatively undeveloped but has fences and power lines (Figures 3 and 4). The proposed laydown area is a previously disturbed area frequently used as an unofficial vehicle pull-out (Figure 5). The portion of the Sandia Canyon floodplain potentially impacted by this project is approximately 1156 square feet (ft<sup>2</sup>) (0.03 acre) for the expedite lane and 1356 ft<sup>2</sup> (0.3 acre) for the laydown area.



**Figure 3. Location of Proposed Expedited Vehicle Inspection Lane Looking North.**



**Figure 4. Location of Proposed Expedited Vehicle Inspection Lane at Sandia Canyon Floodplain Looking East.**





**Figure 5. Location of Proposed Project Laydown Area Looking West**

## **PROJECT DESCRIPTION**

This assessment focuses on activities occurring in or near the Sandia Canyon 100-year floodplain that include: 1) installation of an expedited vehicle inspection lane, 2) relocation of a 4-strand wire fence, 3) possible relocation of at least one power pole, and 4) one laydown area.

An additional vehicle inspection lane is proposed on the west side of the existing TA-72 Guard Post 10 for expedited vehicle inspections. See Figure 6 for a diagram of the proposed expedited vehicle inspection lane and associated elements. Approximately 500 ft. of vehicle lane in a loop would be constructed of a base course subsurface and an asphalt milling surface 22 ft. wide with a 4 ft. shoulder on both sides of the lane. An additional approximately 200 ft. long section would interface with East Jemez Road and provide a turning lane for large vehicles. The proposed expedited vehicle inspection lane area would be cleared and grubbed with heavy equipment. Base course and asphalt millings would be placed with a belly dump truck and front end loader and compacted with a roller. Rock riprap would be installed along the west lane shoulder to prevent erosion from possible flooding. Vegetation and soil disturbance in the area interior to the loop would be minimized to the extent possible to maintain the vegetation and avoid soil compaction.

A retention pond would be constructed in the northeast corner inside the vehicle lane area. The pond would be sized to capture stormwater runoff from the crown of the lane to the inside

shoulder and vegetated area inside the lane. An excavator would be used for excavating and grading the pond.

An existing 4-strand wire fence runs along East Jemez Rd and around to the north of the existing TA-72 Guard Post 10. A section of approximately 540 ft. of existing fence would be removed and relocated approximately 135 ft. north to the perimeter of the proposed expedited vehicle inspection lane. See Figure 6 for the proposed location of new fence. The fence would be installed either with a hand-held post driver or with a mechanical post driver mounted on a rubber tire vehicle. The 4-strand wire would be re-strung using hand tools.

An overhead electrical utility line running west to east is located on the north edge of the proposed project area. The proposed relocation for several power poles is to the east of the Sandia Canyon floodplain and no floodplain impacts are expected from this activity. However, one power pole is located very close to the northwest corner of the proposed vehicle inspection lane. The Project may need to move this pole approximately 10-20 ft. to the north. The pole would be removed and relocated using a rubber wheeled digger derrick truck with auger attachment.

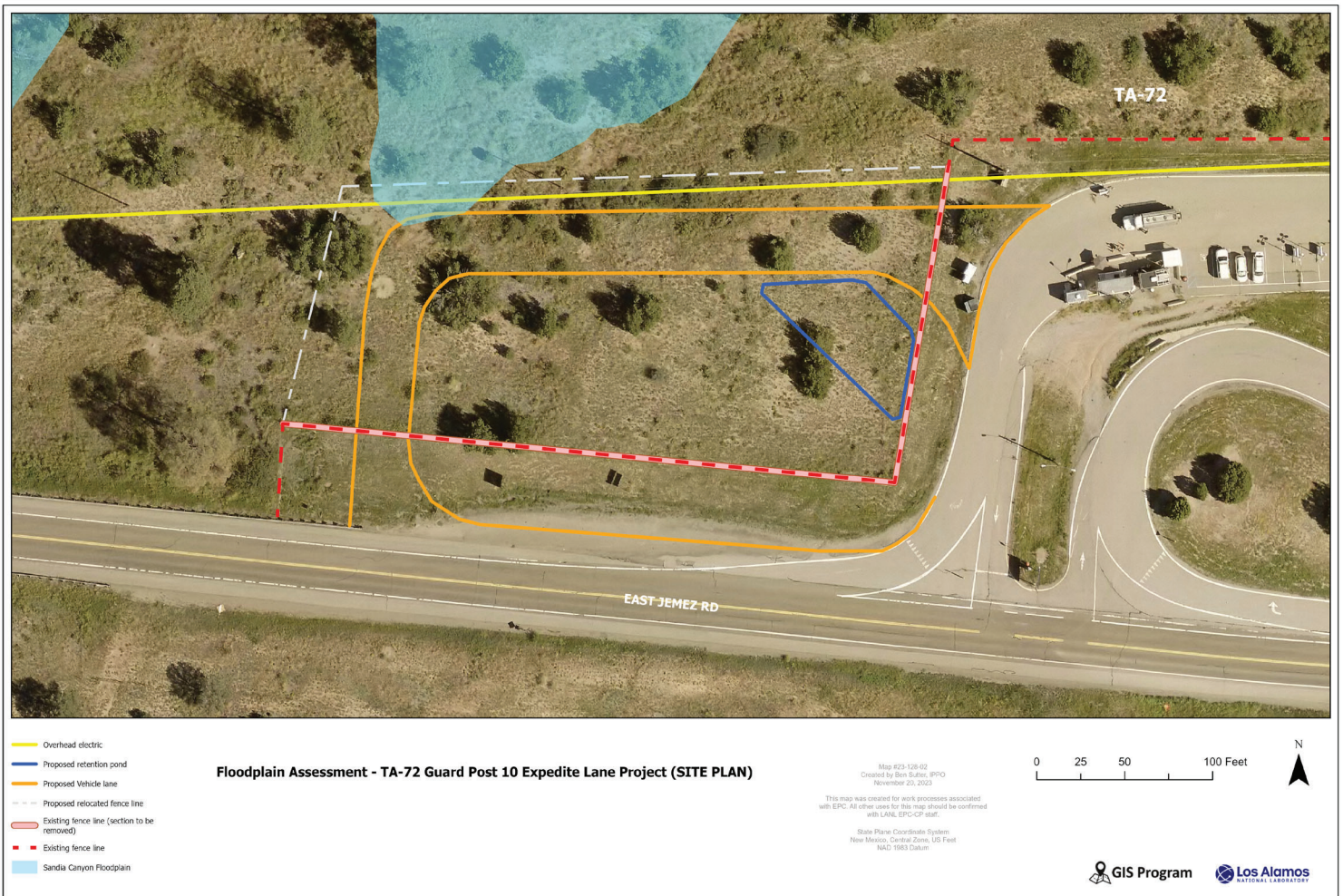


Figure 6. Location of Proposed Expedited Vehicle Inspection Lane Elements.

The proposed laydown area is a previously disturbed area on the south side of East Jemez Road south of the TA-72 Firing Range (Figures 2 and 5). The area is frequently used as an unofficial vehicle pull-out and consists of compacted soil and base course. The laydown area would support the construction of the expedited vehicle inspection lane by providing staging for heavy equipment such as dump trucks, loaders and graders. The area may also be used for staging materials such as asphalt millings. The project expects to keep all activities within the existing disturbed area.

## **FLOODPLAIN IMPACTS**

LANL maintains an Integrated Review Tool (IRT) used by LANL subject matter experts to identify, evaluate and resolve project-specific issues such as presence of underground utilities, contaminated soils, spills and leaks, soil disturbance and stabilization, threatened and endangered species habitat, floodplains or wetlands, and regulatory agency authorizations such as US Army Corp of Engineers permit requirements and Clean Water Act permit requirements. The process aids in identifying potential impacts to the natural and beneficial floodplain values and potential effects on lives and property.

### **Short-term Impacts**

The following requirements were identified and reviewed in the IRT process to avoid potential impacts.

- The total project is over one acre; therefore, would require National Pollution Discharge Elimination System Construction General Permit coverage. This permit requires controls to limit soil erosion, sediment loss, and spills and leaks during and after construction. Controls would include temporary perimeter controls to reduce sediment transport during construction, final stabilization to control erosion after construction activities are completed, and pollution prevention measures such as housekeeping and spill prevention. Any required vegetation stabilization will be completed in accordance with the LANL Seeding Specification (LANL 2021).
- The project will require compliance with the Energy Independence and Security Act, Section 438, which requires Federal facility development or redevelopment projects to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the site including using design and construction strategies for stormwater runoff. Proposed activities will result in an increase in impervious surfaces. However, the engineering design minimizes clearing/grubbing activities to minimize soil compaction, and requires stabilization and revegetation using LANL approved best management practices. The engineer design also specifies installation of a pond to retain additional stormwater runoff generated from the expedited vehicle inspection lane.
- There will be no soil-disturbing activities in the watercourse; therefore, this project will not require Clean Water Act Section 404 permit coverage or 401 certification.
- Based on LANL surveys and procedures, no historical or archeological sites are located in the areas of proposed disturbance. No impacts are expected to occur to cultural

resources; however, the project must follow the proper procedure for inadvertent discoveries.

- The proposed project is not located in threatened or endangered species habitat; therefore, no impacts will occur to current listed species in the Los Alamos County area.
- The proposed project will involve minimal disturbance of the Sandia Canyon Area of Concern<sup>1</sup> (AOC) C-00-007 and Solid Waste Management Unit<sup>2</sup> (SWMU) 20-001(a). Any disturbed soil from the AOC or SWMU would be stabilized and managed on site. The project is required to take precautions to avoid inadvertently transporting potentially contaminated soil from the sites. If any soil is removed from the AOC or SWMU, it must be disposed of in accordance with the LANL Waste Management Procedure P409 (LANL 2022).

The Sandia Canyon AOC C-00-007 occupies the same footprint as the Sandia Canyon 100-yr floodplain. The 100-yr floodplain represents the extent to which post-Lab aged sediments and contaminants could have been deposited and therefore, is used to delineate the extent of the AOC. SWMU 20-001(a) is a former scrap metal landfill that has been removed. The landfill was located next to East Jemez Road south of the TA-72 Firing Range. A Certificate of Completion has been requested based on 2010 sampling. AOC and SWMU contaminants of potential concern are summarized in Table 1. Existing sampling data can be viewed by the public in the Intellus website (<http://www.intellusnm.com>).

**Table 1. AOCs and SWMUs potentially impacted by project activities.**

AOC or SWMU	Description	Contaminants of Potential Concern
AOC C-00-007	Sandia Canyon system	Organic Chemicals, Inorganic Chemicals, Radionuclides, PCBs
SWMU 20-001(a)	Former landfill	<i>(2010 sampling data showed no contaminants above residential screening action levels)</i>

Potential short-term direct and indirect floodplain impacts from release of pollutants to the floodplain and exposure to stormwater would be avoided or minimized through implementation of the following best management practices:

- Hazardous materials, chemicals, fuels, and oils would not be stored within the floodplain.

<sup>1</sup> An AOC is any area having a known or suspected release of hazardous waste or hazardous constituents that is not from a solid waste management unit and that the Secretary of the New Mexico Environment Department has determined may pose a current or potential threat to human health or the environment.

<sup>2</sup> A SWMU is any discernible unit at which solid waste has been placed at any time, and from which NMED determines there may be a risk of a release of hazardous waste or hazardous waste constituents, irrespective of whether the unit was intended for the management of solid or hazardous waste.

- Heavy equipment would not be used within the stream channel, especially if conditions are too wet to prevent damage to the soil structure.
- Equipment would be refueled at least 100 ft. from the Sandia Canyon floodplain.

Potential direct effects to migratory birds and other biological resources are minimal, as little habitat would be disturbed. The Migratory Bird Treaty Act prohibits killing migratory birds, including nestlings and eggs in an active nest. Therefore, if vegetation removal is required, during the nesting season (May 15 through July 15), an onsite inspection for bird nests from LANL Biological Resource subject matter experts would be required. Installation activities would conform to requirements stipulated in the Migratory Bird Best Management Practices Source Document for Los Alamos National Laboratory (LANL 2020).

### **Long-term Impacts**

No long-term impacts to the floodplain are anticipated as a result of this project. Flow paths within the floodplain would not be significantly modified from pre-project conditions to post project conditions. The part of the expedited vehicle inspection lane within the floodplain will be monitored after high flow events in case debris becomes entrapped on structures. In the event this occurs, maintenance activities will be scheduled in addition to upstream culvert inspection and maintenance.

This assessment also considered the impacts of the proposed actions in the floodplain on the conservation of habitat for existing flora and fauna, aesthetic values, and public interest. The proposed action will not impact cultural resources because there are none in the project area. The proposed action would not remove any protected habitat. The proposed action is not considered to negatively impact aesthetic values or public interest because the proposed action will occur partially in areas that have been previously disturbed and are internal to LANL.

### **ALTERNATIVES**

The alternatives available to DOE/NNSA include the no action alternative. The no action alternative was not selected by DOE/NNSA because time sensitive loads, such as concrete and asphalt, are expiring while waiting for vehicle inspections and the material becomes waste. The loss and waste of material impacts overall programmatic costs and schedules.

The alternative of converting an existing vehicle inspection lane at the TA-03 Vehicle Access Portal (VAP) at the intersection of East Jemez Road and Diamond Drive for expedited inspections was not selected. This alternative is not feasible because resources for Security Officers and canines are limited and are currently dedicated to the current vehicle inspection location at TA-72 Post 10. Vehicles attempting to reach the TA-3 VAP would also experience delays during heavy traffic times.

### **CONCLUSIONS**

The proposed project would result in limited and minor direct and indirect impacts to the Sandia Canyon 100-year floodplain and would not result in adverse impacts to the floodplain values or

functions. Temporary disturbance within the floodplain would cease following completion of installation activities. Best management practices would be implemented. This proposed project would not significantly modify flow paths within the floodplain from pre-project conditions to post project conditions. No effects to lives and property associated with floodplain modifications are anticipated.

In accordance with 10 CFR 1022, DOE/NNSA will publish this Floodplain Assessment for a 15 day for public review and comment period. After the close of the public comment period and prior to issuing a floodplain statement of finding DOE/NNSA will reevaluate the practicability of alternatives to the proposed floodplain action, mitigating measures and take into account all substantive comments received during the public comment period.

## LITERATURE CITED

**EO 1977.** Executive Order 11988 *Floodplain Management*.

**CFR 2003.** 10 Code of Federal Regulations (CFR) Part 1022 *Compliance with Floodplain and Wetland Environmental Review Requirements*.

**LANL 2018.** *Floodplain Assessment for the TA-72 Outdoor Fire Range Upgrades and Channel Stabilization Projects at Los Alamos National Laboratory*. LA-UR-18-29766.

**LANL 2020.** *Migratory bird best management practices source document for Los Alamos National Laboratory revised November 2020*. Stanek, J.E., Thompson, B.E., Sanchez, A.A., Berryhill, J.T. and C.D. Hathcock, LA-UR-20-24292.

**LANL 2021.** 32 9219 *Seeding*. LANL Master Specifications.

**LANL 2022.** P409, *LANL Waste Management*.