

LA-UR-17-30141

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November 2017

Floodplain Assessment for the Non-potable Water Line from the Los Alamos Canyon Reservoir to the Los Alamos Townsite

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ACRONYMS

CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
LANL	Los Alamos National Laboratory
TA	Technical Area

INTRODUCTION

This floodplain assessment was prepared in accordance with 10 Code of Federal Regulations (CFR) 1022 *Compliance with Floodplain and Wetland Environmental Review Requirements*, which was promulgated to implement U.S. Department of Energy (DOE) requirements under Executive Order 11988 *Floodplain Management* and Executive Order 11990 *Wetlands Protection*. According to 10 CFR 1022, a 100-year floodplain¹ is defined as “the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands.” In this action, the County of Los Alamos is replacing an irreparably damaged water line from the Los Alamos Canyon Reservoir to the townsite of Los Alamos. The majority of this project occurs on property owned by the U.S. Forest Service. A segment of this project occurs on DOE administered land in Technical Area (TA) 62. DOE is proposing to allow this County of Los Alamos action to occur, small segments of which occur within the 100-year floodplain (hereafter floodplain).

DOE prepared this floodplain assessment to evaluate the potential impacts of implementing the proposed action within a floodplain, as required by 10 CFR 1022.

PROJECT DESCRIPTION

The project is located in TA-62 at Los Alamos National Laboratory (LANL) in the Los Alamos Canyon watershed in and adjacent to the Los Alamos Reservoir Access Road. The County of Los Alamos is replacing an irreparably damaged waterline from the Los Alamos Canyon Reservoir to the townsite of Los Alamos. The water line is being installed within (i.e., beneath) the existing roadway. The majority of this project occurs on property owned by the U.S. Forest Service; however, the final 2,880 ft (877 m) of roadway occurs on DOE administered land (Figure 1). The roadway crosses the floodplain in several places and the placement of the water line within the existing roadway would not have any impacts on the floodplain and thus does not require further analysis. In the last few hundred feet, the water line does leave the roadway and traverse across the floodplain and stream channel. This is the section of the water line that requires further review.

FLOODPLAIN IMPACTS

The Los Alamos Reservoir Access Road in TA-62 begins at the intersection of West Road and runs up the canyon to the reservoir. The roadway is mostly within the floodplain. The roadway itself causes an effect on the floodplain, but the roadway predates the 10 CFR 1022 regulations. The installation of a water line beneath the existing roadway will not change the magnitude of the road’s impact. At the lower terminus of the water line, the excavation will leave the roadway and turn north-northeast for approximately 200 to 250 ft (61 to 76 m). This segment of the excavation will cross undeveloped areas of the floodplain and water channel where it will

¹ A 100-year floodplain is a base floodplain with a 1.0 percent chance of flooding in any given year.

terminate at an existing water line that is in service. This excavation could impact up to 0.05 ac (0.02 ha) of the floodplain.

As the pipeline excavation leaves the roadway on the south side of the channel, it will first traverse an area that was previously disturbed (Photo 1) and then continue through the small riparian zone, which consists of willows (*Salix L.*) and narrowleaf cottonwood (*Populus angustifolia* James) trees (Photo 2). This area is not a wetland. The excavation terminates at the existing water control structure (Photo 3) on the north side of the channel.

The proposed ground disturbance within the floodplain that is not within the existing roadway is approximately 0.05 ac (0.02 ha) in size. There will be negative, short-term effects to the floodplain from vehicle and heavy equipment access that will compact the soil, and excavation which will cause vegetation loss. The potential for erosion, sediment transport, and flood hazard will return to preconstruction conditions at the completion of this project. This project will not reduce the effectiveness of the natural floodplain processes.

No long-term negative impacts to the floodplain are expected under the proposed project. No effects to lives or property associated with floodplain disturbance are anticipated.

Negative, short-term effects from the project will be mitigated and minimized by the implementation of the following best management practices for work in floodplains during construction.

- Support structures such as personnel trailers will not be installed within the floodplain.
- Any disturbed areas will be revegetated with an appropriate native seed mix or plants within 30 days or at the beginning of the growing season after construction is completed.
- Hazardous materials, chemicals, fuels, and oils will not be stored within the floodplain.
- Work in a floodplain will not take place when the soil is too wet to adequately support equipment.
- Equipment will be refueled at least 100 ft (30 m) from the channel.

Compliance with the Migratory Bird Treaty Act restricts vegetation removal during the peak bird breeding season, May 15 through July 31, unless LANL biological resources staff have conducted a nest check to ensure that there are no nesting birds present. If active nests are found, the nest tree or shrub will be left in place until the nesting is complete. Large tree removals will be evaluated on a case-by-case basis by LANL biological resources staff.

ALTERNATIVES

The only viable alternative to the proposed action is a no action alternative. This alternative was not selected because it would not allow the County of Los Alamos to replace the former water line.

CONCLUSIONS

This project will not result in long-term adverse impacts to the floodplain. Temporary disturbance within the floodplain will cease following completion of construction activities. Best management practices will be implemented. This proposed project will not significantly modify existing elevations and flow paths within the floodplain upstream and downstream of the project area from pre-project conditions to post-project conditions or result in other long-term negative impacts to the floodplain and its functionality. No effects to lives and property associated with floodplain modifications are anticipated.

In accordance with 10 CFR Part 1022, a Statement of Findings based on the information in this document will be published and available for public review. This statement will include a brief description of the proposed project, an explanation of why it is located in a floodplain, the alternatives considered, a statement indicating if the action conforms to state and local floodplain requirements, and a brief description of the steps to be taken to minimize potential harm within the floodplain.

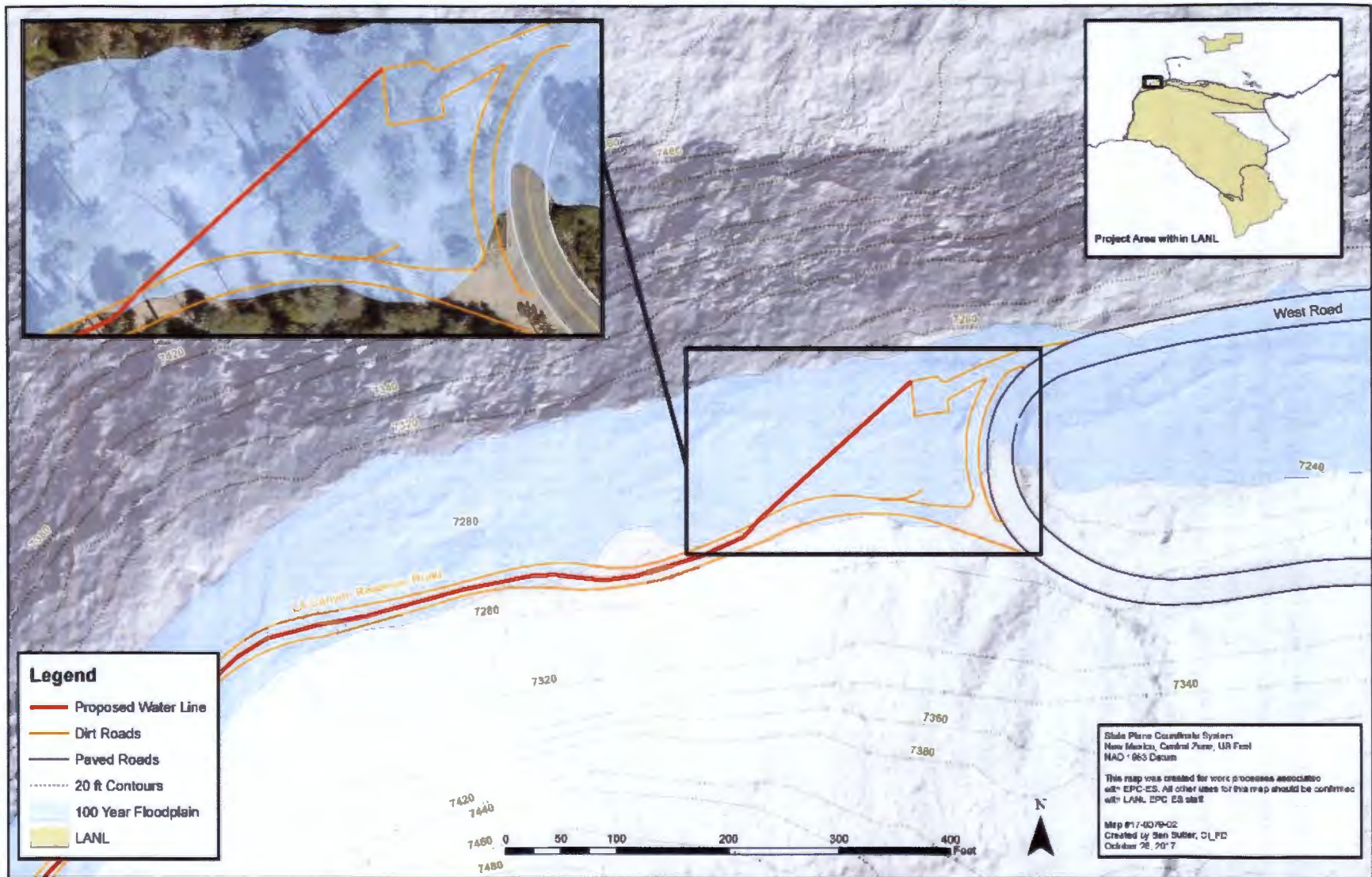


Figure 1. General location map showing the proximity of the water line to the 100-year floodplain in TA-62 in Los Alamos Canyon



Photo 1. Facing north-northeast from the roadway in the general direction that the water line will exit the roadway



Photo 2. Facing north-northeast showing the stream channel where the water line will pass through



Photo 3. Facing south-southwest showing the infrastructure where the water line will terminate

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