



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 3/16/2021

ORM Number: SPA2021-044

Associated JDs: N/A

Review Area Location¹: State/Territory: New Mexico City: Enter. County/Parish/Borough: Los Alamos

Center Coordinates of Review Area: Latitude 35.828036° Longitude -106.252979°

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴			
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
Potrillo Canyon	1700 linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	See Section III. C below for information supporting the exclusion determination.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

- Information submitted by, or on behalf of, the applicant/consultant: [Request for Jurisdictional Determination - Potrillo Canyon Fire Break Project Site, ATTACHMENT 3 Gage E267 Flow and T A-06 MET Precipitation Graphs](#)

This information is sufficient for purposes of this AJD.

Rationale: [N/A or describe rationale for insufficiency \(including partial insufficiency\).](#)

- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\).](#)
- Photographs: [Aerial and Other:](#)
- Corps site visit(s) conducted on: [Date\(s\).](#)
- Previous Jurisdictional Determinations (AJDs or PJDs): [ORM Number\(s\) and date\(s\).](#)
- Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- USDA NRCS Soil Survey: [February 25, 2021](#)
- USFWS NWI maps: [2021-044 LANL AJD Topo](#)
- USGS topographic maps: [NM Frijoles 2020](#)

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
Other USDA data (specify)	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	A. Park Williams, Edward R. Cook, Jason E. Smerdon, Benjamin I. Cook, John T. Abatzoglou, Kasey Bolles, Seung H. Baek, Andrew M. Badger, Ben Livneh. 2018. Large Contribution from Anthropogenic Warming to an Emerging North American Megadrought. Science. Vol. 368 Issue 6488. Pp. 314-318.

B. Typical year assessment(s): According to the Antecedent Precipitation Tool (APT), July through October is the time of year with the most precipitation over a 30-year rolling period for the review area; and the monsoon season occurs between mid-June and the end of September. However, it

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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should be noted that upon reviewing the ATP results discussed in the next section, this area experiences a highly variable amount of precipitation each year. Due to this lack of a consistent amount of precipitation from year to year for the review area, it is difficult to determine whether the analysis has been conducted during normal, wetter, or drier conditions. Regardless, the results of this AJD are not heavily reliant on the typical year assessment.

It is also worth noting that a recent study by Columbia University notes that the American Southwest is experiencing a historic “megadrought” not seen in centuries. In fact, for several western states, including New Mexico, the last twenty years ranks as the second-driest period in the past 1,200 years (A. Park. Williams, 2018). Based on this data, it seems reasonable that in New Mexico a typical year within the 30-year rolling period is characterized by drought conditions—even severe drought conditions.

- C. Additional comments to support AJD:** The review area for this AJD includes the location of one planned project by the Los Alamos National Laboratories (LANL) page 5-6.

According to information provided by the Natural Resources Conservation Service, the review area has a semi-arid continental climate. There are distinct seasonal temperature variations. Mean annual precipitation varies from 10 to 16 inches. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. Wide yearly and seasonal fluctuations are common for this climatic zone which can range from 5 to 25 inches. Of this, approximately 25-35% falls as snow, and 65-75% falls as rain between April 1 and November 1. The growing season is April through September. As much as half or more of the annual precipitation can be expected to come during the period of July through September. August is typically the wettest month of the year. The driest period is usually from November to April; and February is normally the driest month. During July, August, and September 4 to 6 inches of precipitation influence the presence and production of warm season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants and maximum shrub growth. Growth usually begins in March and ends with plant maturity and seed dissemination when the moisture deficiency and warmer temperatures occur in early June. There is also a period of growth in the fall. Summer precipitation is characterized by brief thunderstorms, normally occurring in the afternoon and evening. Winter moisture usually occurs as snow, which seldom lies on the ground for more than a few days. The average annual total snowfall is 29.1 inches. The snow depth usually ranges from 0 to 1 inches during the winter months.

There is one predominate soil type present in the review area: Totavi loamy sand (85 percent). The Totavi soil is described as Somewhat excessively drained with a depth to restrictive feature of more than 80 inches and a depth to water table greater than 80 inches. The soil is also characterized as having a Low water capacity and does not flood or pond. A typical profile for this soil consists of 0 to 15 inches of loamy sand in the A Horizon, 15 to 19 inches of loamy sand in the C1 Horizon, 19 to 60 inches of loamy sand in the C2 Horizon.

LANL operates a system of stream gages which are deployed in all major watersheds within its boundaries. Discharge is measured using meters and methods adopted by the United States Geological Survey. Gage E267 is located in Potrillo Canyon, 1.6 miles below the Project Site. LANL also maintains a system of meteorological towers (MET) capable of recording key weather parameters, including precipitation. Between October 2014 and September 2019, only one measurable flow event was recorded at E267 on August 10, 2018. There were 6 precipitation events recorded of the 4-year span with over 0.8 inches of rain and no measured flow in Potrillo Canyon flowing any of



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those dates.

In APT was run for the following additional dates in conjunction with reviewing satellite imagery of the review area: September 17, 2017, November 1, 2015 and June 25, 2014 (see document 2021-214 APT Batch Results.pdf, 2021-044 Satellite image 2017-9-17.PNG, 2021-044 Satellite image 2014-06-25.PNG and 2021-044 Satellite image 2015-11-01.PNG Figure 1-3). The date of September 17, 2017 was selected because the drought index is listed as “Moderate wetness” and it is during the time of year with the most precipitation and available satellite imagery. November 1, 2015 was selected as it is in the wet season with satellite imagery available and the Drought Index is listed as “Moderate wetness”. In addition, approximately 2 weeks prior to this date there was an approximately 1 ½” precipitation event and no signs of surface water or flow in the satellite imagery. The date of June 25, 2014 was chosen as it fell at the beginning of the monsoon season with available satellite imagery. Upon review of satellite imagery for these dates, no surface water or indication of recent flows were observed in the stream channel. As such, and in consideration of the other information provided above, it has been determined that the stream channel comprising the review area only experiences occasional flows in response to rain events and, therefore, is ephemeral.



February 23, 2021

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

35.829612 deg N
106.255281 deg W

West End of Potrillo Canyon Fire Break Site



East End of Potrillo Canyon Fire Break Site

35.826445 deg N
106.251516 deg W

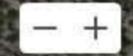
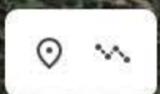




Figure 1 Satellite image Sept 19, 2017



Figure 2 Satellite image Nov 1, 2015



Figure 3 Satellite image June 25, 2014