

**OFFICE OF THE STATE ENGINEER**  
**Dam Safety Bureau**  
**Evaluation of Non-Jurisdiction Dams**  
**December 7, 2009**

The Office of the State Engineer (OSE) Dam Safety Bureau receives requests to evaluate whether a proposed impoundment is a jurisdictional dam. Section 72-5-32 NMSA defines a jurisdictional dam as 25 feet or greater in height and storing more than 15 acre-feet or a dam that stores 50 acre-feet or greater and is 6 feet or more in height. Figure 1 graphically shows the size requirements for a jurisdictional dam. The OSE provides design requirements for jurisdictional dams that are described in Title 19, Chapter 25, Part 12 of the New Mexico Administrative Code (19.25.12 NMAC). The OSE recommends that 19.25.12 NMAC be followed for non-jurisdictional dams that are not subject to review and permitting by the OSE to ensure that non-jurisdictional dams are designed and constructed in a safe manner.

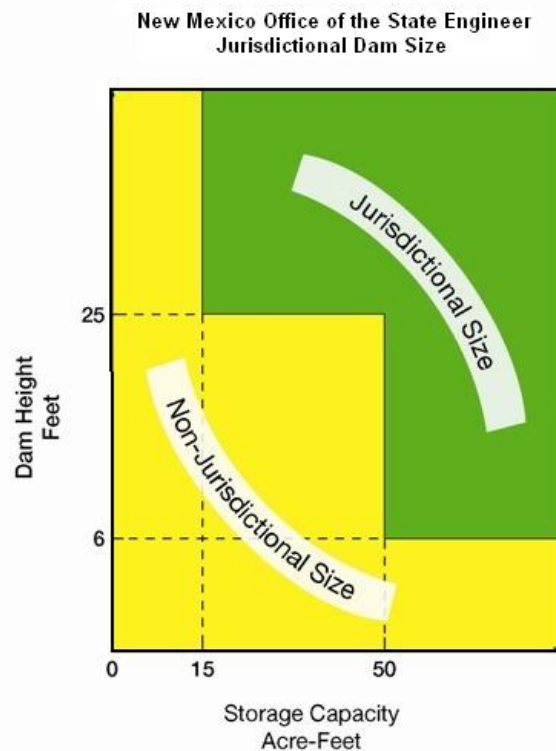


Figure 1

Section 7 of 19.25.12 NMAC contains definitions for height and storage to determine the jurisdictional status. Subsection K of 19.25.12.7 NMAC defines dam height as the vertical distance from the lowest point on the downstream toe to the dam crest. Where construction drawings identify cosmetic fill to be placed on the downstream slope of a dam, the OSE will measure properties of the dam and reservoir based on the engineered fill dimensions. The engineered fill shall be stable without relying on the buttressing benefits of the cosmetic fill. Engineered fill consisting of upstream slopes no steeper than 3 horizontal to 1 vertical, downstream slopes no steeper than 2 horizontal to 1 vertical and the dam crest width no less than dam height in feet divided by 5 plus 8 feet ( $H/5 + 8$ ) is generally considered stable for typical conditions. Seepage shall not exit on the downstream face of the engineered fill.

Subsection DD of 19.25.12.7 NMAC defines jurisdictional storage as the volume of water in the reservoir from the lowest elevation of the downstream toe to the elevation of the spillway crest. Storage is measured to the dam crest if no uncontrolled spillway is provided. Subsection AA of 19.25.12.7 NMAC notes an uncontrolled or ungated outlet conduit used to drain the reservoir is not considered a spillway. Figure 2 shows the storage behind a dam. The gray area depicts the volume of storage for determining jurisdictional status of a dam with no spillway.

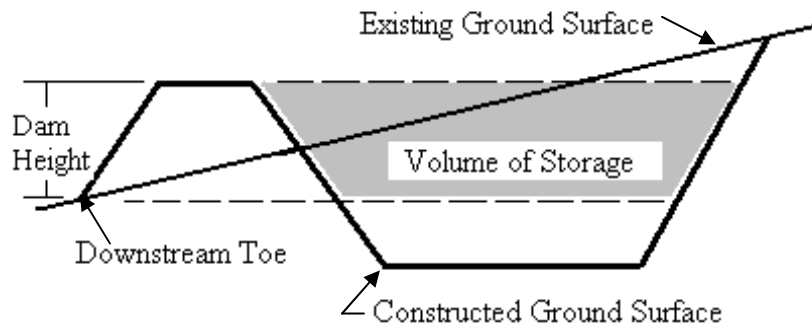


Figure 2

If a project is submitted to the OSE Dam Safety Bureau to review the jurisdictional status of a dam, the documentation listed below is required.

1. A transmittal letter that describes the project and summarizes key properties, elevations and any other critical information. The letter should also acknowledge the intent to contact the local Water Rights District Office in order to comply with the State Engineer Pond regulation contained in 19.26.2.15 NMAC.
2. Grading Plan of the pond showing existing and proposed contours in 1-foot increments. Contours shall be labeled every 5 feet. The Grading Plan shall also show the spillway location, cross-section location and extend far enough downstream to allow for an evaluation of failure potential.
3. Cross-sections at key locations including the lowest elevation along the downstream toe, the outlet works alignment and the uncontrolled spillway.
4. Stage-storage table for the entire pond volume in 1-foot increments. Storage at the elevation of the downstream toe, spillway and dam crest must be identified in the table. The table must provide incremental and cumulative storage in acre-feet.
5. Drawings and calculations supporting the submittal must be signed and stamped by the NM registered professional engineer that supervised the preparation of the documents.