

§ 784.17

engineer or engineering geologist, according to the following:

(1) The number, location, and depth of borings and test pits shall be determined using current prudent engineering practice for the size of the dam or embankment, quantity of material to be impounded, and subsurface conditions.

(2) The character of the overburden and bedrock, the proposed abutment sites, and any adverse geotechnical conditions which may affect the particular dam, embankment, or reservoir site shall be considered.

(3) All springs, seepage, and ground water flow observed or anticipated during wet periods in the area of the proposed dam or embankment shall be identified on each plan.

(4) Consideration shall be given to the possibility of mudflows, rock-debris falls, or other landslides into the dam, embankment, or impounded material.

(f) If the structure meets the Class B or C criteria for dams in TR-60 or meets the size or other criteria of § 77.216(a) of this chapter, each plan under paragraphs (b), (c), and (e) of this section shall include a stability analysis of the structure. The stability analysis shall include, but not be limited to, strength parameters, pore pressures, and long-term seepage conditions. The plan shall also contain a description of each engineering design assumption and calculation with a discussion of each alternative considered in selecting the specific design parameters and construction methods.

[44 FR 15366, Mar. 13, 1979, as amended at 45 FR 51550, Aug. 4, 1980; 48 FR 44780, Sept. 30, 1983; 50 FR 16199, Apr. 24, 1985; 53 FR 43605, Oct. 27, 1988; 53 FR 48614, Dec. 1, 1988; 59 FR 52028, Oct. 20, 1994; 73 FR 75879, Dec. 12, 2008; 79 FR 76230, Dec. 22, 2014; 81 FR 93355, Dec. 20, 2016; 82 FR 54958, Nov. 17, 2017]

§ 784.17 Protection of publicly owned parks and historic places.

(a) For any publicly owned parks or any places listed on the National Register of Historic Places that may be adversely affected by the proposed operation, each plan shall describe the measures to be used.

(1) To prevent adverse impacts, or

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(2) If a person has valid existing rights, as determined under § 761.16 of this chapter, or if joint agency approval is to be obtained under § 761.17(d) of this chapter, to minimize adverse impacts.

(b) The regulatory authority may require the applicant to protect historic and archeological properties listed on or eligible for listing on the National Register of Historic Places through appropriate mitigation and treatment measures. Appropriate mitigation and treatment measures may be required to be taken after permit issuance provided that the required measures are completed before the properties are affected by any mining operation.

[52 FR 4263, Feb. 10, 1987, as amended at 64 FR 70838, Dec. 17, 1999; 81 FR 93355, Dec. 20, 2016; 82 FR 54958, Nov. 17, 2017]

§ 784.18 Relocation or use of public roads.

Each application shall describe, with appropriate maps and cross sections, the measures to be used to ensure that the interests of the public and landowners affected are protected if, under § 761.14 of this chapter, the applicant seeks to have the regulatory authority approve—

(a) Conducting the proposed surface coal mining operations within 100 feet of the right-of-way line of any public road, except where mine access or haul roads join that right-of-way; or

(b) Relocating a public road.

[44 FR 15366, Mar. 13, 1979, as amended at 64 FR 70838, Dec. 17, 1999; 81 FR 93355, Dec. 20, 2016; 82 FR 54958, Nov. 17, 2017]

§ 784.19 Underground development waste.

Each plan shall contain descriptions, including appropriate maps and cross section drawings of the proposed disposal methods and sites for placing underground development waste and excess spoil generated at surface areas affected by surface operations and facilities, according to 30 CFR 817.71 through 817.74. Each plan shall describe the geotechnical investigation, design, construction, operation, maintenance and removal, if appropriate, of the

structures and be prepared according to 30 CFR 780.35.

[79 FR 76230, Dec. 22, 2014, as amended at 81 FR 93355, Dec. 20, 2016; 82 FR 54958, Nov. 17, 2017]

§ 784.20 Subsidence control plan.

(a) *Pre-subsidence survey.* Each application must include:

(1) A map of the permit and adjacent areas at a scale of 1:12,000, or larger if determined necessary by the regulatory authority, showing the location and type of structures and renewable resource lands that subsidence may materially damage or for which the value or reasonably foreseeable use may be diminished by subsidence, and showing the location and type of drinking, domestic, and residential water supplies that could be contaminated, diminished, or interrupted by subsidence.

(2) A narrative indicating whether subsidence, if it occurred, could cause material damage to or diminish the value or reasonably foreseeable use of such structures or renewable resource lands or could contaminate, diminish, or interrupt drinking, domestic, or residential water supplies.

(3) A survey of the condition of all non-commercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the area encompassed by the applicable angle of draw; as well as a survey of the quantity and quality of all drinking, domestic, and residential water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence. If the applicant cannot make this survey because the owner will not allow access to the site, the applicant will notify the owner, in writing, of the effect that denial of access will have as described in § 817.121(c)(4) of this chapter. The applicant must pay for any technical assessment or engineering evaluation used to determine the pre-mining condition or value of such non-commercial buildings or occupied residential dwellings and structures related thereto and the quantity and quality of drinking, domestic, or residential water supplies.

The applicant must provide copies of the survey and any technical assessment or engineering evaluation to the property owner and regulatory authority. However, the requirements to perform a survey of the condition of all noncommercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the areas encompassed by the applicable angle of draw is suspended per court order.

(b) *Subsidence control plan.* If the survey conducted under paragraph (a) of this section shows that no structures, or drinking, domestic, or residential water supplies, or renewable resource lands exist, or that no material damage or diminution in value or reasonably foreseeable use of such structures or lands, and no contamination, diminution, or interruption of such water supplies would occur as a result of mine subsidence, and if the regulatory authority agrees with this conclusion, no further information need be provided under this section. If the survey shows that structures, renewable resource lands, or water supplies exist and that subsidence could cause material damage or diminution in value or reasonably foreseeable use, or contamination, diminution, or interruption of protected water supplies, or if the regulatory authority determines that damage, diminution in value or foreseeable use, or contamination, diminution, or interruption could occur, the application must include a subsidence control plan that contains the following information:

(1) A description of the method of coal removal, such as longwall mining, room-and-pillar removal or hydraulic mining, including the size, sequence and timing of the development of underground workings;

(2) A map of the underground workings that describes the location and extent of the areas in which planned-subsidence mining methods will be used and that identifies all areas where the measures described in paragraphs (b)(4), (b)(5), and (b)(7) of this section will be taken to prevent or minimize