

## Section 33: Dipping Bedrock (D-B) Overlay District

(orig. 4-11-95; am. 7-2-97; am. 12-17-02; am. 7-11-06; am. 5-20-08; am. 4-20-10)

### A. Intent and Purpose

This district is intended to promote the public health, safety and welfare of the citizens of Jefferson County; reduce the risk to property, and encourage and regulate prudent land use by the following methods: (orig. 4-11-95; am. 12-17-02)

1. Reduce the impacts to structures of hazards associated with development on dipping claystone bedrock (orig. 4-11-95)
2. Require nonstructural uses such as agriculture and open space within areas that, given the associated hazards, are not suitable for occupied structures (orig. 4-11-95)
3. Restrict the uses that are particularly vulnerable to dipping claystone bedrock hazards to alleviate hardship and reduce the demands for public expenditures (orig. 4-11-95)
4. Require permitted land uses in dipping claystone bedrock areas, including public facilities which serve such uses, to protect property by providing for detailed geologic and engineering investigations and the avoidance of or mitigation of the hazards associated with such land uses (orig. 4-11-95)
5. Regulate the area in which, or the manner in which, structures may be constructed to prevent damage to property (orig. 4-11-95)
6. Designate, delineate and describe areas that could be adversely affected by dipping claystone bedrock, and to inform individuals purchasing or developing property of the possible hazards associated with the purchase or development of such property (orig. 4-11-95)

### B. General Provisions

1. Dipping Bedrock Overlays Other District
  - a. The Dipping Bedrock Overlay District shall overlay that portion of any other zone district located in the designated dipping bedrock area. The regulations of this district do not supersede the permitted and special uses set forth in the underlying zone district. The regulations shall be construed as supplementary to the regulations imposed on the same lands by any underlying zone district or other overlay district. When the regulations of this district conflict with any provision of the underlying zone district, the provisions of the Dipping Bedrock Overlay District shall control; otherwise, the provisions of any underlying district shall remain in full force and effect. (orig. 4-11-95; am. 4-20-10)
  - b. The application section below is established to insure that development proposals and building permit applications, that are located within the Dipping Bedrock Overlay District, demonstrate to the extent practicable that they have been designed in accordance with the Intent and Purpose provisions of this section above. (orig. 4-11-95; am. 4-20-10)

#### 2. Boundaries

The boundaries of the Dipping Bedrock Overlay District shall be as they appear on the official recorded Dipping Bedrock Area Map as adopted by the Board of County Commissioners and kept on file in Planning and Zoning. The boundary lines on the map shall be determined by the scale appearing on the map. Where there is a conflict between the boundary lines illustrated on the map and actual field conditions, or where detailed investigations show that hazardous conditions are not significant throughout the designated area, the conflict shall be settled according to the Mapping Conflicts, provisions of this section. (orig. 4-11-95; am. 12-17-02; am. 4-20-10)

## C. Application

1. All rezoning and Special Use applications submitted after the adoption of this Resolution, which propose structures not exempted in the "Permitted Uses and Activities" portion of this section, and which fall within the Designated Dipping Bedrock Area shall be required to submit a Geologic and Geotechnical Report in accordance with the Geologic and Geotechnical section of the Land Development Regulation. The County Engineering Geologist may defer the submittal of the report to a subsequent development process or to the building permit process, if he/she determines that the information required for the subsequent process or building permit will sufficiently provide recommendations for foundation design, floor slab, pavement design and site grading. (orig. 4-11-95; am. 4-20-10)
2. All Plat, Site Development Plan, Exemption and Minor Adjustment applications which propose structures not exempted in the Permitted Uses and Activities portion of this section, and which fall within the Designated Dipping Bedrock Area shall be subject to the following Requirements: (orig. 4-20-10)

- a. Detailed grading plans shall be submitted which show overburden soil or fill at least ten (10) feet thick beneath the anticipated level of the bottom of the structure foundation(s) and the top of bedrock. For purposes of this section, the bottom of the structure foundation is defined as the bottom of footing/pad or bottom of grade beam, whichever is applicable. If deep (pier) foundations are proposed, the Director of Planning and Zoning may require review of such plans by the Engineering Advisory Board. (orig. 4-11-95; am. 12-17-02; am. 3-3-15)

OR

- b. If ten (10) feet of overburden or fill are not proposed, detailed engineering plans shall be submitted to the Engineering Advisory Board. The alternate mitigation plans shall contain the information necessary to determine that potential hazards can be adequately mitigated by other methods. The recommendations of the Engineering Advisory Board shall be forwarded to the County Engineering Geologist for a determination of the appropriate mitigation measures. (orig. 4-11-95; am. 4-20-10)

- (1) Review of alternate mitigation methods by the Engineering Advisory Board is not required if the County Engineering Geologist determines that the following conditions are met. (orig. 4-11-95; am. 12-17-02; am. 4-20-10)

- (a) The proposed methods are proven and have become the "standard of practice" by engineers who have substantial knowledge and expertise in the methods used to identify, investigate, mitigate and/or remediate damages due to dipping claystone bedrock. (orig. 4-11-95)

- (b) The proposed methods have been previously reviewed by the Engineering Advisory Board and have been approved for similar site conditions. (orig. 4-11-95)

3. Foundation plans submitted with Building Permit applications for structures which fall within the Designated Dipping Bedrock Area shall either:

- a. Depict the minimum separation required between the foundation and bedrock as identified above in this section; or (orig. 4-11-95; am. 12-17-02; am. 10-13-09; am. 4-20-10)

- b. Comply with the minimum foundation design requirements outlined in the Building Code. (orig. 4-11-95; am. 12-17-02; am. 10-13-09; am. 4-20-10)

Note: Foundation plans shall be prepared and signed by a professional engineer, specializing in the field of structural engineering, and registered in the State of Colorado. The engineer shall have substantial knowledge and expertise in the methods used to identify, investigate, mitigate, and remediate damages due to dipping claystone bedrock. At the discretion of the Chief Building Official, any such plans may be subject to review by the Engineering Advisory Board and/or the Board of Review. (orig. 4-11-95; am. 4-20-10)

4. Drainage Improvements, including, but not limited to swales, ponds, culverts, and storm sewer pipes, shall have overburden of fill not less than 5 feet thick beneath the bottom of the drainage improvement. (orig. 10-25-05)

#### **D. Engineering Advisory Board**

The recommendations of the Engineering Advisory Board shall not be binding on the County Engineering Geologist, the Planning Commission, the Board of County Commissioners, the Chief Building Official or the Board of Review. Each official or board may impose any conditions it deems necessary to mitigate the hazard caused by dipping bedrock. (orig. 4-11-95; am. 4-20-10)

#### **E. Permitted Uses and Activities**

The following uses and activities are permitted without the restrictions established by this section: (orig. 4-11-95)

1. Structures exclusively for livestock (orig. 4-11-95)
2. Accessory outbuildings and garages (orig. 4-11-95)
3. All uninhabited structures (orig. 4-11-95)
4. Additions to buildings where the existing building was constructed or issued a Building Permit before the adoption of this section and where the footprint of the addition does not exceed fifty (50) percent of the original building footprint. (orig. 4-11-95; am. 10-13-09)

#### **F. Warning and Disclaimer of Liability**

The degree of protection from potential hazards from dipping claystone bedrock intended to be provided by this regulation is considered reasonable for regulatory purposes, and is based on accepted geologic and scientific methods of study, as of April 11, 1995, the effective date of this Resolution. This regulation is intended to reduce the risks, costs and impacts from dipping bedrock hazards. Unforeseen or unknown conditions such as climate, ground water, irrigation or drainage may contribute to future damage to structures and land uses though properly permitted within the provisions of the Dipping Bedrock Overlay District. This regulation does not imply that areas outside the Designated Dipping Bedrock Area boundaries or land uses permitted within such areas will be free from the impact of expansive soils and bedrock hazards. (orig. 4-11-95)

#### **G. Mapping Conflicts**

In all cases, a person contesting the location of the Designated Dipping Bedrock Area boundary or the severity of conditions at a specific location within the Designated Dipping Bedrock Area shall be given a reasonable opportunity to present their case to the Director of Planning and Zoning and shall submit geotechnical and geologic evidence to support such contests. The Director of Planning and Zoning shall not allow deviations from the boundary line as mapped or non-permitted land uses within the boundary areas unless technical and geological evidence clearly and conclusively establish that the map location of the line is incorrect, or that the designated hazard conditions do not present a significant hazard to public health, safety or to property at the specific location within the hazard area boundary for the particular proposed land use. (orig. 4-11-95; am. 12-17-02; am. 3-3-15)

#### **H. Review Fees**

All reviews costs for the Engineering Advisory Board shall be borne by the applicant in an amount established by the Board of County Commissioners. (orig. 4-11-95; am. 12-17-02)