

**§ 650.113**

**23 CFR Ch. I (4-1-04 Edition)**

(4) The measures to minimize flood-plain impacts associated with the action, and

(5) The measures to restore and preserve the natural and beneficial flood-plain values impacted by the action.

(d) Location studies shall include evaluation and discussion of the practicability of alternatives to any significant encroachments or any support of incompatible flood-plain development.

(e) The studies required by § 650.111 (c) and (d) shall be summarized in environmental review documents prepared pursuant to 23 CFR part 771.

(f) Local, State, and Federal water resources and flood-plain management agencies should be consulted to determine if the proposed highway action is consistent with existing watershed and flood-plain management programs and to obtain current information on development and proposed actions in the affected watersheds.

**§ 650.113 Only practicable alternative finding.**

(a) A proposed action which includes a significant encroachment shall not be approved unless the FHWA finds that the proposed significant encroachment is the only practicable alternative. This finding shall be included in the final environmental document (final environmental impact statement or finding of no significant impact) and shall be supported by the following information:

(1) The reasons why the proposed action must be located in the flood plain,

(2) The alternatives considered and why they were not practicable, and

(3) A statement indicating whether the action conforms to applicable State or local flood-plain protection standards.

(b) [Reserved]

[44 FR 67580, Nov. 26, 1979, as amended at 48 FR 29274, June 24, 1983]

**§ 650.115 Design standards.**

(a) The design selected for an encroachment shall be supported by analyses of design alternatives with consideration given to capital costs and risks, and to other economic, engineering, social and environmental concerns.

(1) Consideration of capital costs and risks shall include, as appropriate, a risk analysis or assessment which includes:

(i) The overtopping flood or the base flood, whichever is greater, or

(ii) The greatest flood which must flow through the highway drainage structure(s), where overtopping is not practicable. The greatest flood used in the analysis is subject to state-of-the-art capability to estimate the exceedance probability.

(2) The design flood for encroachments by through lanes of Interstate highways shall not be less than the flood with a 2-percent chance of being exceeded in any given year. No minimum design flood is specified for Interstate highway ramps and frontage roads or for other highways.

(3) Freeboard shall be provided, where practicable, to protect bridge structures from debris- and scour-related failure.

(4) The effect of existing flood control channels, levees, and reservoirs shall be considered in estimating the peak discharge and stage for all floods considered in the design.

(5) The design of encroachments shall be consistent with standards established by the FEMA, State, and local governmental agencies for the administration of the National Flood Insurance Program for:

(i) All direct Federal highway actions, unless the standards are demonstrably inappropriate, and

(ii) Federal-aid highway actions where a regulatory floodway has been designated or where studies are underway to establish a regulatory floodway.

(b) Rest area buildings and related water supply and waste treatment facilities shall be located outside the base flood plain, where practicable. Rest area buildings which are located on the base flood plain shall be floodproofed against damage from the base flood.

(c) Where highway fills are to be used as dams to permanently impound water more than 50 acre-feet (6.17×10<sup>4</sup> cubic metres) in volume or 25 feet (7.6 metres) deep, the hydrologic, hydraulic, and structural design of the fill and appurtenant spillways shall have the

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approval of the State or Federal agency responsible for the safety of dams or like structures within the State, prior to authorization by the Division Administrator to advertise for bids for construction.

### § 650.117 Content of design studies.

(a) The detail of studies shall be commensurate with the risk associated with the encroachment and with other economic, engineering, social or environmental concerns.

(b) Studies by highway agencies shall contain:

(1) The hydrologic and hydraulic data and design computations,

(2) The analysis required by § 650.115(a), and

(3) For proposed direct Federal highway actions, the reasons, when applicable, why FEMA criteria (44 CFR 60.3, formerly 24 CFR 1910.3) are demonstrably inappropriate.

(c) For encroachment locations, project plans shall show:

(1) The magnitude, approximate probability of exceedance and, at appropriate locations, the water surface elevations associated with the overtopping flood or the flood of § 650.115(a)(1)(ii), and

(2) The magnitude and water surface elevation of the base flood, if larger than the overtopping flood.

## Subpart B—Erosion and Sediment Control on Highway Construction Projects

SOURCE: 59 FR 37939, July 26, 1994, unless otherwise noted.

### § 650.201 Purpose.

The purpose of this subpart is to prescribe policies and procedures for the control of erosion, abatement of water pollution, and prevention of damage by sediment deposition from all construction projects funded under title 23, United States Code.

### § 650.203 Policy.

It is the policy of the Federal Highway Administration (FHWA) that all highways funded in whole or in part under title 23, United States Code, shall be located, designed, constructed

and operated according to standards that will minimize erosion and sediment damage to the highway and adjacent properties and abate pollution of surface and ground water resources. Guidance for the development of standards used to minimize erosion and sediment damage is referenced in § 650.211 of this part.

### § 650.205 Definitions.

*Erosion control measures and practices* are actions that are taken to inhibit the dislodging and transporting of soil particles by water or wind, including actions that limit the area of exposed soil and minimize the time the soil is exposed.

*Permanent erosion and sediment control measures and practices* are installations and design features of a construction project which remain in place and in service after completion of the project.

*Pollutants* are substances, including sediment, which cause deterioration of water quality when added to surface or ground waters in sufficient quantity.

*Sediment control measures and practices* are actions taken to control the deposition of sediments resulting from surface runoff.

*Temporary erosion and sediment control measures and practices* are actions taken on an interim basis during construction to minimize the disturbance, transportation, and unwanted deposition of sediment.

### § 650.207 Plans, specifications and estimates.

(a) Emphasis shall be placed on erosion control in the preparation of plans, specifications and estimates.

(b) All reasonable steps shall be taken to insure that highway project designs for the control of erosion and sedimentation and the protection of water quality comply with applicable standards and regulations of other agencies.

[39 FR 36332, Oct. 9, 1974]

### § 650.209 Construction.

(a) Permanent erosion and sediment control measures and practices shall be established and implemented at the earliest practicable time consistent with good construction and management practices.