

**CHAPTER 21-3.2 FLOOD PLAIN MANAGEMENT**

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**A. Purpose**

This section provides guidelines to ensure the Indian Health Service (IHS) health care facilities and quarters comply with the national policy on floodplain management to minimize the adverse effects to the public caused by flooding.

**B. Scope**

This section includes requirements for new IHS construction, renovation, and/or alteration of healthcare facilities and staff quarters.

The criteria referenced may not cover all possible conditions and requirements. Problems, arising from specific project conditions not covered herein, shall be resolved through the exercise of sound judgment and prudent design practice, compatible with the references delineated in this section.

**C. Executive Orders, Laws, Codes, and Standards**

Health care facilities and quarters design and construction shall comply with the following:

- 1) Codes and Standards required in this section and Chapter 21-2 "General/Architectural guidelines" in Volume III, Part 21.
- 2) EPA Storm Water Pollution Prevention plans - <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm>
- 3) Clean Water Act, Storm water control program.
- 4) Executive Order 11988, Floodplain Management, May 24, 1977.
- 5) State and Local Codes: It is the practice of IHS to comply with state, local, or tribal codes and ordinances wherever feasible. If such compliance presents a major cost impact, the local Government or tribal representative shall be advised.
- 6) Rules and regulations of the local utility companies.
- 7) Applicable standards of the following organizations:
  - AWWA American Water Works Association
  - HI Hydraulics Institute
  - NFPA National Fire Protection Association
  - PDI Plumbing and Drainage Institute
  - WEF Water Environment Federation

#### **D. Reference Standards**

The Federal Emergency Management Agency (FEMA), "Further Advice on Executive Order 11988, Floodplain Management, 1977," (hereinafter referred to as EO 11988) provides guidance to agencies by discussing specific and commonly recurring issues and providing examples.

Further clarifications can be obtained from the Health and Human Services General Administration Manual Part 30 Environmental Protection at <http://www.hhs.gov/hhsmanuals/read/gam/part30/304000.html#30-40-40>

#### **E. Definitions**

100-year flood - The FEMA definition of a 100-Year Flood elevation is the flood elevation that has a one percent (1%) chance of being reached or exceeded in any given year. It is not the most significant flood that occurs in a 100-year period.

500-year flood - a 500-year flood elevation has a 0.2% chance of being reached in any given year. Refer to the FEMA website for comprehensive information on floods at [www.fema.gov](http://www.fema.gov).

Base Flood - EO 11988 defines a base flood as that flood which has a one percent or greater chance of occurrence in a given year.

Floodplain - Per EO 11988, means the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

#### **F. Policy**

Full compliance with EO 11988, May 24, 1977, Floodplain Management, is required.

Executive Order 11988 provides clear directives to federal agencies in order to avoid, to the extent possible, long and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative. Agencies responsible for construction and improvements and for conducting programs affecting land use should take actions, as follows:

- To reduce risk of flood loss;
- To minimize the impact of floods on human safety, health, and welfare; and
- To restore and preserve the natural and beneficial values served by floodplains; and
- To contact the corps of engineers to confirm the 100 or 500 year floodplain designation if no floodplain status can be readily determined.

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TECHNICAL HANDBOOK FOR  
ENVIRONMENTAL HEALTH AND ENGINEERING  
VOLUME III - HEALTH CARE FACILITIES DESIGN AND CONSTRUCTION  
**PART 21 - DESIGN CRITERIA AND STANDARDS**

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In accordance with EO 11988, IHS is responsible for determining whether a proposed project would be considered a "critical action", for example determining whether to design the health care facility for a 500 year flood event or not. Generally healthcare facilities operated 24 hours/day should be considered "critical actions" with respect to compliance with EO 11988.

If the agency plans to site a facility in a floodplain, it must implement design alternatives to avoid adverse effects and incompatible development in a floodplain per the IHS Environmental Review Manual, EO 11988, FEMA, and the Water Resources Council. The IHS shall also prepare and circulate a notice, containing an explanation of why the action is located in the floodplain, addressing all the requirements as stated in EO 11988.

IHS health care facilities shall be sited, planned, designed and constructed in accordance with this section and shall be consistent with the intent of the National Flood Insurance Program. Accepted flood-proofing and other flood protection measures shall be applied to new construction or rehabilitation. Wherever practicable, structures shall be elevated above base flood level rather than implementing other flood mitigation measures.