Iowa Department of Natural Resources
Flood Plain Management Program
Agricultural Levees

Use this guidance to ensure that your flood plain application is complete. To view a complete version of the state's flood plain management and dam safety criteria, visit http://floodplain.iowadnr.gov.

Technical Assistance Help Line: 866-849-0321

Provide documentation that your project meets the following criteria:

- ✓ The permanent height of the levee shall be limited so that overtopping will occur due to discharges from Q10 to Q25. Where it can be clearly shown that loss of valley storage caused by construction of the levee will not increase peak flood stages and discharges, the level of protection provided by the agricultural levee may be increased beyond the Q10 to Q25 range.
- ✓ The location and alignment of the levee shall be compatible with existing encroachment limits so that minimum flood protection levels will not be increased and shall not be in the floodway.
- ✓ The maximum increase in the flood profile resulting from the construction, operation, and maintenance of an agricultural levee shall be 1 foot. Equal and opposite conveyance shall be used in determining the maximum increase in flood profile resulting from such levees.
- ✓ The levee shall be provided with adequate interior drainage facilities.
- ✓ A minimum offset equal to 100 feet or twice the width of a river or stream measured from top of bank to top of bank, whichever distance is less shall be required.

What documentation is needed to show that all of the criteria are being met?

Documentation should include sufficient information to demonstrate that the project meets all of the state's criteria. This includes data inputs and references, as well as hydrologic and hydraulic models that show the effects and impacts of the proposed project. The department accepts different types of models depending on the project. The most common models submitted are IBH or HEC-RAS.

Summary of Engineering Data – Agricultural Levees

Stream Name: _____

Location Start: Latitude _____ Longitude _____

Location End: Latitude _____ Longitude _____

Stream Slopes

Reach: _____ ft/ft _____ ft/mi Source: _____

Main Channel Slope: _____ ft/mi Source: _____

Elevation Data

Datum: NAVD '88

Channel Bottom: _____ ft

Top of Bank: _____ ft

Record High Water: _____ ft Source: _____

Low Superstructure: _____ ft

Low Point in Approach Grade: _____ ft

Flood Frequency Data

	50 year		100 year		
Design Frequencies:					
Discharges:	_____	cfs	_____	cfs	Source: _____
Waterway Opening Areas:	_____	sq ft	_____	sq ft	
Average Bridge Velocities:	_____	ft/sec	_____	ft/sec	
Natural Stages:	_____	ft	_____	ft	Datum: NAVD '88
Encroachment Stages:	_____	ft	_____	ft	Datum: NAVD '88
Maximum Backwater Due to Project:	_____	ft	_____	ft	
Freeboard (if applicable):	_____	ft	_____	ft	

Offsets

Minimum Calculated: _____ ft

Minimum Proposed: _____ ft

Levee Information

Top Width: _____ ft

Side Slopes

Height: _____ ft

Length: _____ ft