
MEMORANDUM

TO: BOARDS OF SUPERVISORS OF NON-FEDERAL LEVEE DISTRICTS

FROM: Joseph B. Gibbs, PE

SUBJECT: INSPECTION OF LEVEE SYSTEMS LOWER THAN 100 YEAR FLOOD EVENT
(1 PERCENT CHANCE OF FLOODING)

EFFECTIVE DATE: 5/18/2010

----- The following (A thru F) has been confirmed as correct and accurate as the result of a phone call that I made to Mr. Jud Kneuvean (816) 389- 3281, of the US Army Corps of Engineers (USACE), Kansas City District Emergency Management Branch on March 15 and 16, 2010, in regards to an e-mail that I sent to him on March 3, 2010; and, receipt of a letter from him dated May 12, 2010, in regards to a letter I addressed to him February 26, 2010.

---- In regard to certification of a non-federal levee system, for a district where the levee system is lower than a 100 year flood event (less than 1 percent chance of flooding); and, where such a levee system will remain at this level of flood protection:

A) The levee embankment and appurtenances will NOT have to be inspected for "certification" by an Engineer at the district's cost nor will they be inspected for "certification".

B) The levee embankment and appurtenances will initially be inspected by the USACE by 2012, at a cost borne by the USACE and a degree of "acceptability" assigned to them. This "initial" inspection will include a linear survey along the length of the levee combined with a cross-section survey of the top width, slopes and buffer area of the embankment; and, inspection of other facilities and factors to determine if the levee system meets the requirements of USACE standards for eligibility for Title 84-99 flood damage rehabilitation funding.

C) After this "initial" USACE inspection, only "routine" inspections at USACE cost will be conducted (1 or 2 year intervals). No "periodic" inspections by the USACE every 5 years are planned at this time.

D) Combined with this USACE "initial" inspection will be the results of internal pipe / culvert inspections managed and all paid for by the respective district. Based upon Mr. Kneuvean's letter of May 12, 2010, the Specifications stated in his letter for the internal inspection of the pipes / culverts are: "There are no breaks, holes, cracks in the discharge pipes / culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100 % of the original coating still in place (either asphalt or galvanized) or have been relined and appropriate material, which is still in good condition. Condition of pipes has been verified using television camera videotaping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector." (See "LEVEE OWNERS MANUAL FOR NON-FEDERAL FLOOD CONTROL WORKS" dated March 2006, for additional information).

E) Television camera videotaping or a visual inspection method of pipes / culverts will have to be repeated every 5 years at the district's cost and the records of the inspection reports kept for inspection by the USACE.

F) Past records of maintenance and operation do not need to be organized in a new record keeping system but only need to be made available. The format for future records systems will have to meet USACE requirements.

---- Using the "LEVEE OWNERS MANUAL FOR NON-FEDERAL FLOOD CONTROL WORKS" dated March 2006, as a reference, I am advising that districts do the following so they can begin repairs and budgeting for future potential expenses when the results of their "initial" USACE inspection results are known (in 2012 ???).

- 1) Proceed with establishing a 15 foot minimum cleared and maintained buffer area beyond the base of both sides of the levee embankment; and, establish woody free acceptable vegetative cover on the embankment and 15 foot buffer areas.
- 2) Placing rip-rap or erosion control at the discharge end of drain pipes.
- 3) Proceed with the camera or visual inspection method of choice of drain pipes and make repairs to them and appurtenances as needed.
- 4) Measuring the length of sections of levee embankments that are potentially too close to creek and river banks and compute estimated costs to realign them land side as the result of the USACE report in 2012???
- 5) Start locating past records of maintenance and repairs; and, start a record keeping system of maintenance, repairs and pipe inspections to make the records manageable in a form acceptable to the USACE after the USACE report in 2012???

---- This information, notices and recommendations are offered only as of the effective date of this MEMO and the information, requirements, Specifications and recommendations can change without notice.