Federal Emergency Management Agency

Washington, D.C. 20472

September 26, 2000

Mr. Johnny Jeffcoat
Lexington County Council Chairman
212 South Lake Drive
Lexington, South Carolina 29072

Community: Lexington County, South Carolina (Unincorporated Areas)
Community No.: 450129

Dear Mr. Jeffcoat:

This letter is in reference to revisions to proposed Flood Insurance Rate Maps (FIRMs) for Richland and Lexington counties and the incorporated areas therein. Specifically, several parties have submitted data contesting the Base Flood Elevations (BFEs) and floodway delineation of the Congaree River. Please note that under Part 67 of the National Flood Insurance Program (NFIP) regulations, only flood elevations may be appealed. Therefore, the Federal Emergency Management Agency (FEMA) has considered concerns with the floodway delineation as "protests." The floodway is provided to each county as a tool for floodplain management.

FEMA has recognized appeals by [redacted], University of South Carolina; Dr. Paul Sandifer, South Carolina Department of Natural Resources (SCDNR); and [redacted], McNair Law Firm, P.A.

In support of the appeals and protests, we have received the following information:

- a report, dated December 3, 1999, revised on December 13, 1999, and January 28, 2000, prepared by [redacted], titled Appeal of FEMA's Draft Flood Insurance Study for Richland County, providing an alternative statistical analysis of the Congaree River gage at Columbia;

- a report, dated November 30, 1999, prepared by Braswell Engineering, Inc., titled Proposed Revision to the Congaree River Floodway, including a HEC-2 hydraulic model modified to reflect field-observed Manning's "n" values;

- a report, dated December 10, 1999, prepared by the SCDNR, titled SCDNR Appeal of Preliminary Flood Insurance Study-Richland/Lexington Counties, South Carolina, including a Bulletin 17B frequency analysis (computer program PEAKFQ) of the Congaree River gage at Columbia;

- a letter and untitled report, dated April 13, 2000, prepared by SCDNR, including a Bulletin 17B frequency analysis (computer program PEAKFQ) of the Congaree River gage at Columbia and an HEC-2 hydraulic model of the Congaree River that allows conveyance landward of Manning's levee;

- a trial transcript dated 1987 for Burwell Manning, Jr. et. al. v. City of Columbia, describing a levee failure and flood damage that occurred in 1976;

- a report, dated December 9, 1976, by Law Engineering Testing Company, titled Report of Geotechnical Investigation of Dike Failure – Metropolitan Wastewater Treatment Plant, City of Columbia, SC, investigating the levee failure that occurred in 1976;

- an undated videocassette of flooding on the Congaree River in April 1964;

- copies of articles from The State newspaper, dated August 26, 1908; August 30, 1908; July 17, 1916; August 18, 1928; August 19, 1928; and October 4, 1929; reporting the stages of major floods on the Congaree River between 1840 and 1888;

- a copy of the data sheet from SCANA's Federal Energy Regulatory Commission license, showing the storage capacity of Lake Murray Reservoir;

- printouts of RMA-2 two-dimensional hydraulic models of the Congaree River, prepared by the U.S. Geological Survey (USGS) and the South Carolina Department of Transportation (SCDOT) as part of USGS Open-File Report 81-1194; and

- digital copies of FESWMS two-dimensional hydraulic models of the Congaree River, prepared by the USGS and SCDOT as part of USGS Water Resources Investigations Report 90-4056.

In addition to the data itemized above, we received comments on the proposed FIRMs for Richland and Lexington Counties and the incorporated areas therein from many members of the affected communities. These comments were similar in theme to the recognized appeals, but were not supported by technical data or alternative analyses different from that used in the August 12, 1999 preliminary FIS or that provided by the recognized appellants. While only the above three parties were formally recognized as appellants, all of the comments received were taken into consideration.

[redacted]nd the SCDNR appealed the assumptions and methods used to determine the 1% annual chance (100-year) discharge, which in turn is used to determine the BFEs. Both appellants asserted that the entire record for the USGS gage for the Congaree River at Columbia from 1892 to the present should be used, and each provided an alternative statistical analysis of the data. In addition, [redacted] provided historical flood information dating back to 1840 from newspaper articles and asserted that the upper 95% confidence limit of the statistical analysis of the Congaree River gage should be used as the discharge in hydraulic calculations rather than the point estimate from the same statistical analysis.

The SCDNR also appealed assumptions made in the HEC-2 hydraulic model of the Congaree River, which affect both BFEs and the floodway delineation. Specifically, the SCDNR appealed the assumption that no conveyance would occur landward of Manning's dike.

The report prepared by Braswell Engineering, Inc., submitted by [redacted] appealed roughness coefficients used in the HEC-2 hydraulic model of the Congaree River, which affect both BFEs and the floodway delineation.

Due to the complexity of the technical issues involved and the amount of data received, it was necessary for FEMA to perform additional analyses and develop a new HEC-2 hydraulic model of the Congaree River to resolve the appeals. These are described in the enclosed report.

Based on the information submitted and the additional analyses performed, we concluded that revisions to the August 12, 1999, revised preliminary FISs and FIRMs for Lexington County and Incorporated Areas and Richland County and Incorporated Areas were warranted. The peak 1% annual chance flood discharge for the Congaree River at the gage has been revised to 292,000 cfs. BFEs for the area landward of Manning's dike are now computed by a HEC-2 hydraulic model using the revised discharges and assuming flow conveyance landward of Manning's dike. Subsequently, they are 1 to 2 feet lower than those shown on the August 12, 1999, revised preliminary FIRM in Richland County. BFEs riverward of Manning's dike are based on a hydraulic model which assumes no conveyance landward of Manning's dike. This assumption, coupled with the increase in discharge has resulted in BFEs which are 1 to 2 feet higher than those shown on the August 12, 1999, revised preliminary FIRM for Lexington County. Furthermore, the floodway in Richland County is wider than that shown on the August 12, 1999 revised preliminary FIRM. The floodway in Lexington County shows both widening and narrowing when compared to the August 12, 1999, revised preliminary FIRM.

These appeals and protests have been resolved in accordance with Part 67 of the NFIP regulations. Please note, however, that the FIS and FIRM for either county may be revised at any time through the map revision process, as outlined in Part 65 of the NFIP regulations.

We have enclosed copies of the revised preliminary FISs and FIRMs for Lexington County and Incorporated Areas and Richland County and Incorporated Areas for your review and comment. In addition, we have also enclosed a report describing additional analyses performed, and a compact disc containing models, reports and other materials developed as part of this appeal resolution.

Considering the amount of coordination which has already occurred, we do not anticipate many comments on this appeal resolution. However, if you have any new data to provide, which is responsive to the content of this appeal resolution, please submit it to us within 30 days from the date of this letter to the following address:

Federal Emergency Management Agency
Mitigation Directorate
Hazard Mitigation Branch and Risk Assessment Division
500 C Street SW
Washington, D.C. 20472
Attention: Doug Bellomo, P.E.

If we receive no data during the 30-day comment period, we will finalize the FISs and FIRMs by issuing a Letter of Final Determination to each affected jurisdiction.

We appreciate your county's continued commitment to having the most accurate floodplain information reflected on your county's FIS and FIRM. If you have any questions, please do not hesitate to contact Todd Davison, Director, Mitigation Division of FEMA in Atlanta, Georgia, at (770) 220-5400, or Doug Bellomo, P.E., of our Headquarters staff in Washington, D.C., at (202) 646-2903, or by facsimile at (202) 646-4596.

Sincerely,

Michael K. Buckley, P.E., Director
Technical Services Division
Mitigation Directorate

Enclosures

cc: (with enclosures)
Mr. Ismail Ozbek, Lexington County Planning Engineer
Paul Sandifer, Ph.D.
[redacted]

cc: (without enclosures)
The Honorable Ernest Hollings, U.S. Senator
The Honorable Strom Thurmond, U.S. Senator
The Honorable James E. Clyburn, U.S. Representative
The Honorable Floyd D. Spence, U.S. Representative
The Honorable Robert D. Coble, Mayor of the City of Columbia
[redacted]
Ms. Martha Bogle, National Park Service
Ms. Sarah Brown, U.S. Army Corps of Engineers, Charleston District
Ms. Marjorie S. Davenport, U.S. Geological Survey
Ms. Lisa Holland, NFIP State Coordinator
Mr. William Hulbert, P.E., South Carolina Department of Transportation
[redacted]The Neighborhood Project
Mr. David Johnson, P.E., City of Columbia Engineer
[redacted]Columbia Area League of Women Voters
[redacted], McCutcheon, Blanton, Johnson, Rhodes & Johnson, L.L.P.
[redacted] Environmentalists, Inc.
[redacted], South Carolina Wildlife Federation
[redacted]Lockwood Greene
[redacted] South Carolina Wildlife Federation
Distribution List of Private Citizens