



United States Department of the Interior

NATIONAL PARK SERVICE

WATER RESOURCES DIVISION
301 SOUTH HOWES ST., ROOM 335
FT. COLLINS, COLORADO 80521

IN REPLY REFER TO:

December 5, 1986

L54 (479)
BAND/General

Mr. John J. Cunico. P.E.
Chief, Planning Branch
Corps of Engineers
P.O. Box 1580
Albuquerque, New Mexico 87103

Dear Mr. Cunico:

Thank you for the opportunity to review the draft of the Bandelier National Monument Flood Study. The draft has received an extensive review at the park and regional levels, our comments are as follows:

Please submit five copies of the final report.

We would appreciate your inclusion of cross section plots for sections 6118 and 6099. Also, these may be shown on surface water profile drawings, and Figure 4.

Cross section drawings for # 6096 and 6121 are presented and are shown on the water profile drawings, but their location is not shown on Figure 4.

We would appreciate your inclusion of some discussion of the bridges in the study area. Any statement which could be made as to the ability of the bridges to withstand various floods would be helpful.

It is understood that the submitted draft is a rough copy and that the final drawings and graphs will be presented in a format as used in our previous studies at Abo and Quarai. This will facilitate usage of the report.

Thank you for your efforts in this study. These data will be very helpful in providing for proper protection of the area.

William Werrell
Contracting Officers Authorized Representative

DEC 22 1986



United States Department of the Interior

NATIONAL PARK SERVICE

WATER RESOURCES DIVISION
301 SOUTH HOWES ST., ROOM 335
FT. COLLINS, COLORADO 80521

IN REPLY REFER TO:

December 10, 1986

L54 (479)
BAND/General

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JDH 12/22
JDH 12/24
VS-4/3 1986

Memorandum:

To: Associate Regional Director, Operations, SWRO

From: Chief, Water Resources

Subject: Review comments regarding draft copy of Flood Plain Information Study, Bandelier National Monument by Corps of Engineers

We have received and carefully studied your review comments of the subject report. Additionally, we have verbally discussed all comments of the study with the Principal Investigator, Mr. Thomas Ryan. Two principal concerns of the study are as follows:

1. Field Survey: It was agreed at the start of the contract in 1982 that the Park Service would provide a survey of the cross sections of the study reach to the Corps. This effort was completed and the data presented to the Corps over three years ago. Our discussions with Mr. Ryan regarding survey statements in the report indicate that the data was "usable". Comments as presented were deemed necessary for inclusion in an official Corps of Engineers report because the survey did not strictly comply with the Corps standards. Our lack of full compliance with the standards is regrettable in that some cross sections had to be extended based upon the map, and our lack of survey closure adds a degree of uncertainty as to the accuracy of the effort. However, Mr. Ryan did not believe that a resurvey was actually needed because, assuming that the survey was accurate, the adjustments in cross section area would be very minor.

2. Topographic Maps: Recent topographic mapping of an appropriate scale to provide two foot contour intervals is very advantageous to flood studies. As we all know, detailed topographic mapping is expensive and may require several months to complete. Through discussions with Mr. Gary Moore, previous Water Resources hydrologist at the Regional Office, it is understood that he concurs in the need for mapping but that funding levels could not permit such mapping. Urgency for a flood evaluation prompted his contract with the Corps, even though it was realized that some difficulties would be encountered in the

study. In the case of Bandelier, we have found that the only two maps are available for the study site. The first map is a Park Service map of 1935 with a contour interval of 10 feet. The second is the United States Geological Survey topographic map of 1953, with a contour interval of 40 feet. This study utilized the NPS map due to a better contour interval. The contour interval of the map, coupled with what appears to be natural channel changes over 50 years, has caused some concern by Mr. Ryan in that the surveyed cross sections do not correspond very well to the channel configuration as indicated by the map. This fact is quite evident in the presented data of the report. Again, Mr. Ryan deems it necessary to point out this aspect of the study in his official report. As per your comments, it is seen that the lack of recent mapping also presents problems in the determination of actual hazards to present facilities. Apparently, major development changes have been made and almost all of the present buildings, etc, are therefore not shown on the map. However, a regional or park cartographer should be able to indicate the facilities on the 1935 map without much difficulty.

As you know, our original contract with the Corps of Engineers was for flood evaluations at three sites; Abo and Quarai units at Salinas and this study at Bandelier. We have been pleased with the Salinas reports which have been finalized. The Bandelier study was conducted in a somewhat different manner due to NPS surveying and the lack of fully adequate maps - recent, high detail maps were available at the other sites. As with the other studies, it is beyond the scope of the contract to define hazards. This evaluation, pursuant to NPS Floodplain Management and Wetland Protection Guidelines, is the responsibility of the regional Safety Officer. We, of course, will be able to assist him in that effort. Further, we have recently developed the capability to conduct flood studies within the Division. Therefore, if needed, we would be able to supplement the Corp's report. However, before any such supplementary efforts, we would request a new topographic map of high detail.

In summary, considering the funding level and our commitments made at the beginning of the contract, we feel that the Corps has provided an acceptable report which is within project accuracy limits. Attached is a copy of our letter to the Corps presenting review comments as appropriate.

If you have any questions regarding the report, or if we can be of further assistance, please contact me or Bill Werrell at (303) 221-5341.

for William Werrell
Thomas Lucke

Attachment:

cc: Superintendent, BAND w/att
Keith Yarborough w/att
Dave Wunder, Contracting Div. w/att