

Lompoc City Council Agenda Item



City Council Meeting Date: November 4, 2008

TO: Gary P. Keefe, City Administrator

FROM: Larry A. Bean, Public Works Director
l_bean@ci.lompoc.ca.us

**SUBJECT: FLOOD INSURANCE RATE MAPS (FIRMs)
FOR THE SANTA YNEZ RIVER**

BACKGROUND:

The National Flood Insurance Program (NFIP) was established with the passage of the National Flood Insurance Act of 1968. The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Over 20,000 communities participate in the Program.

The Federal Emergency Management Agency (FEMA) studies the watercourse to determine the location and elevation of the high hazard flood areas. These "Special Flood Hazard Areas" are published on a Flood Insurance Rate Map (FIRM).

To participate in the NFIP, the City of Lompoc adopted a Flood Plain Management Ordinance that complies with the minimum standards of the NFIP. The Ordinance adopts FIRMs and all updates and revisions by reference. The Ordinance sets building floor elevations based on the 100-year flood elevations shown on the FIRMs.

DISCUSSION:

At the October 7, 2008, City Council Meeting, Mr. James Mosby presented his request that FEMA re-study and update the FIRM for the Lompoc area of the Santa Ynez River. Mr. Mosby's request is based on a 1996 report by the US Bureau of Reclamation. The US Bureau of Reclamation prepared a Paleoflood Report to determine the relative return period of flood flows for the Santa Ynez River for purposes of review of the safety of Bradbury Dam. That report determined that the 1969 flood was approximately a 700-year flood.

The current FIRMs, adopted by reference and a part of the City's Flood Plain Management Ordinance, are not necessarily in error but are based on a historical hydrology approach rather than the geologic paleoflood hydrology approach used by the Bureau of Reclamation to determine the return periods of large storm events.

The paleoflood hydrology approach is based on the following concept as quoted from the 1996 US Bureau of Reclamation Report:

"Most streams are flanked by a stair-step series of abandoned flood plains. These abandoned flood plains are terrace surfaces. Terrace surfaces record the time interval since the last major flood inundation, and may range in age from several hundred to tens of thousands of years. These surfaces are underlain by stream-transported flood plain sediment, and thereby are quite sensitive to inundation. During extreme flood events, streams are often profoundly modified and many reaches exhibit clear evidence of erosion and deposition. If ages can be derived for flood-modified terrace surfaces, the terrace surfaces become conservative datums

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that limit the magnitude and the frequency of large floods. Likewise, the absence of features indicative of inundation provides positive evidence of the non-occurrence of floods exceeding a specific stage over a measurable time period. Following the framework introduced by Stedinger and Cohn (1986), this type of flood record spanning hundreds to thousands of years can be input into flood frequency calculations. This long-term flood record accurately portrays the ability of a specific basin or region to produce extreme floods and significantly narrows the confidence intervals around predicted flood magnitudes at long return periods.”

Thomas D. Fayram, County of Santa Barbara Deputy Public Works Director, and myself have sent a letter to FEMA requesting that the flood flows derived in the paleoflood report be considered in determining flood hazard locations and elevations for the Santa Ynez River.

Should FEMA accept the Bureau of Reclamation’s report as a basis for a revised map, the 100-year flood flow rate and elevations would be significantly less for the Lompoc Valley.

Larry A. Bean, P.E.
Public Works Director

Attachment: [Letter to FEMA, dated October 14, 2008](#)

APPROVED FOR SUBMITTAL TO THE CITY COUNCIL:

Gary P. Keefe
City Administrator