



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 9, 2004

Larry D. Read, PE  
Larry Read & Associates  
4800-C Juan Tabo NE  
Albuquerque, NM 87111

**Re: Fire Station 21 Drainage Report**  
**Engineer's Stamp dated 2-12-04, (A13/D13A)**

Dear Mr. Read,

Based upon the information provided in your submittal dated 3-29-04, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso) or 768-3645 (Bryan Wolfe).

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, please contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE  
Principal Engineer, Planning Dept.  
Development and Building Services

C: Chuck Caruso, CoA  
file

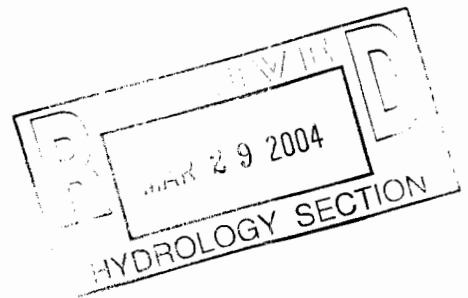
***DRAINAGE REPORT***

*for*

***CITY OF ALBUQUERQUE FIRE DEPARTMENT  
STATION # 21  
ALBUQUERQUE, NEW MEXICO***

February 2004

*Larry D. Read*  
*2/12/04*



Prepared by  
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A-13|D13A

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# ***DRAINAGE REPORT***

*for*

## ***CITY OF ALBUQUERQUE FIRE DEPARTMENT STATION #21***

### ***ALBUQUERQUE, NEW MEXICO***

February 2004

#### **LOCATION & DESCRIPTION**

The City of Albuquerque Fire Department is proposing to construct a new Fire Station #21 on the northeast corner of Ellison Drive NW and the east leg of Ciobola Loop NW as shown on the Vicinity Map (**Exhibit 1**). The 1.55 acre, Tract B-9D-1, Seven Bar Ranch is a portion of the master planned City of Albuquerque Transit Department Park and Ride site. None of the transit site or the fire department site is currently developed.

The proposed development includes the construction of a 10,160 square foot building with associated paved parking, access drives, and concrete sidewalks and patios.

#### **FLOODPLAIN STATUS**

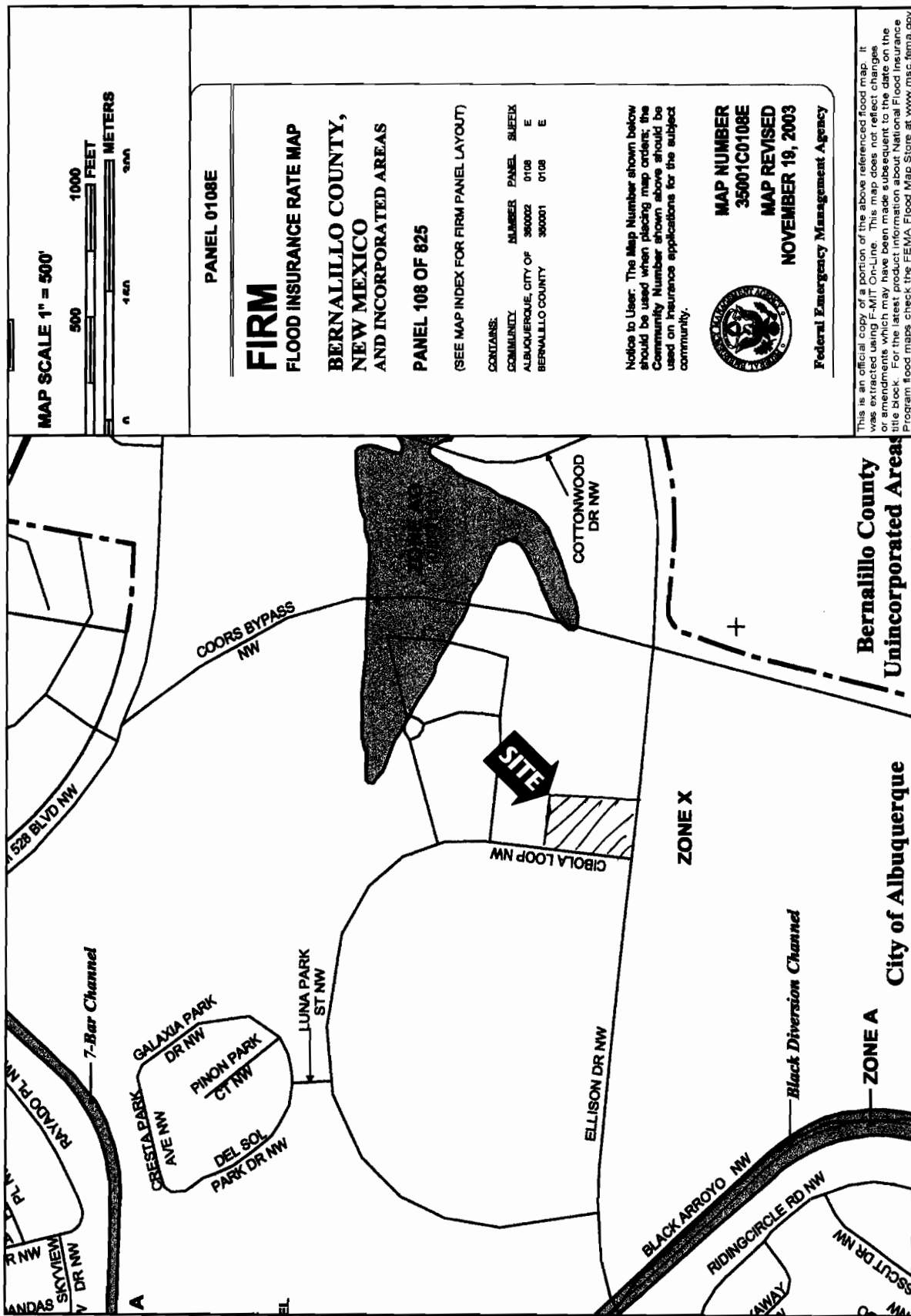
This project, as shown on FEMA's Flood Insurance Rate Map 35001C0108E, dated November 19, 2003, is not affected by designated 100-year flood zones. **Exhibit 2** is a copy of this flood insurance map with the project area delineated.

#### **METHODOLOGY**

The hydrology for this project was analyzed using the Quick Calculations of the June 1997 release of the City of Albuquerque Development Process Manual, Section 22.2. **Table 1** summarizes these calculations.

#### **PRECIPITATION**

The 100-yr 6-hour duration storm was used as the design storm for this analysis. For this design storm the calculations require the 6-hour storm. In addition Excess Precipitation and Peak Discharge values for Zone 1 have to be input from tables within of the City of Albuquerque Development Process Manual, Section 22.2.



## **EXISTING DRAINAGE**

The existing undeveloped site, along with the balance of the proposed (undeveloped) transit park and ride site, drains east toward Coors Boulevard Bypass. The runoff is conveyed under Coors in an existing culvert. The runoff in Cibola Loop and Ellison west of the site are contained in the street where a storm drain system conveys the runoff east into the regional detention pond at Coors and Ellison.

The proposed site is protected from stormwater runoff from west and south of the site because it is intercepted in Ellison and Cibola. The developed site to the north routes runoff east to Coors. And of course the balance of the transit site east of this site is significantly below our elevation.

## **FULLY DEVELOPED CONDITION**

The proposed Grading and Drainage Plan has been designed to comply the Drainage Masterplan prepared for the COA Transit Department for the Park and Ride site. The COA Hydrology file titled Seven Bar Town Center allowed a total runoff from this site of 4.4 cfs. This report considered the Fire Station site as fully developed 1-acre fire station but did not base the allowable discharge on the acreage of the site. Therefore, our larger 1.55-acre site has been designed to divert as much runoff as possible to Cibola Loop. The portions of the site that could not be diverted to the street (mainly the roofs) have been piped to a detention pond east of the parking lot where the discharge is controlled to less than 4.4 cfs.

## **TEMPORARY DEVELOPED CONDITION**

Since the transit facility is not constructed at this time, the grading plan has proposed a temporary collection pond east of the property line of this site to collect the runoff from the roofs (on-site pond) and the north access road that will serve both developments. The discharge from the pond will be conveyed down the slope of the transit facility land in a riprap swale to be discharged to the existing structure under Coors. When the transit facility is constructed, the temporary pond will be removed and, per the approved drainage plan, the runoff from the fire station site and access drives will be conveyed down the slope to a permanent underground detention facility.

