City of Albuquerque

December 17, 1999

Diane Hoelzer, P.E.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: ***Grading and Drainage Plan for ENVIRCO (MCT Industrial Park) (B18/D4) Submitted for Building Permit Approval, Engineer's Stamp Dated 11/16/99.***

Dear Ms. Hoelzer:

The above referenced plan proposes to use 2 feet per 100 cfs as the erosion setback limit (ESB). Although AMAFCA has no problem with this concept, the City requires that the ESB be estimated using 6 feet per 100 cfs, or calculated using the methods in AMAFCA's Sediment and Erosion Design Guide. It appears that no justification for a variance for this requirement has been provided.

The City does not allow any hard improvements, including paving, within the ESB without erosion protection. Please revise the ESB on the plan and show the erosion protection for the proposed improvements.

If you have any questions regarding these comments, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority
File

PROJECT DESCRIPTION

The site is comprised of approximately 21.3 acres of vacant land. The property is bounded by I-25 frontage road to the east, Balloon Fiesta Parkway (formerly Balboa Avenue) to the south, San Mateo Road to the west (under construction) and roughly the North El Camino Arroyo and future Elena Drive 60' right-of-way to the north. The entire property slopes at an average of 3.0% in a westerly direction. The North El Camino Arroyo meanders back and forth across the north property boundary several times. The site is mostly covered by sage brush type vegetation.

The proposed development is for an approximate 80,000 square foot Industrial Park building surrounded by a parking area with two entrances onto Balloon Fiesta Parkway covering an area of approximately 5.2 acres for Phase I development.

DESIGN CRITERIA AND ASSUMPTIONS

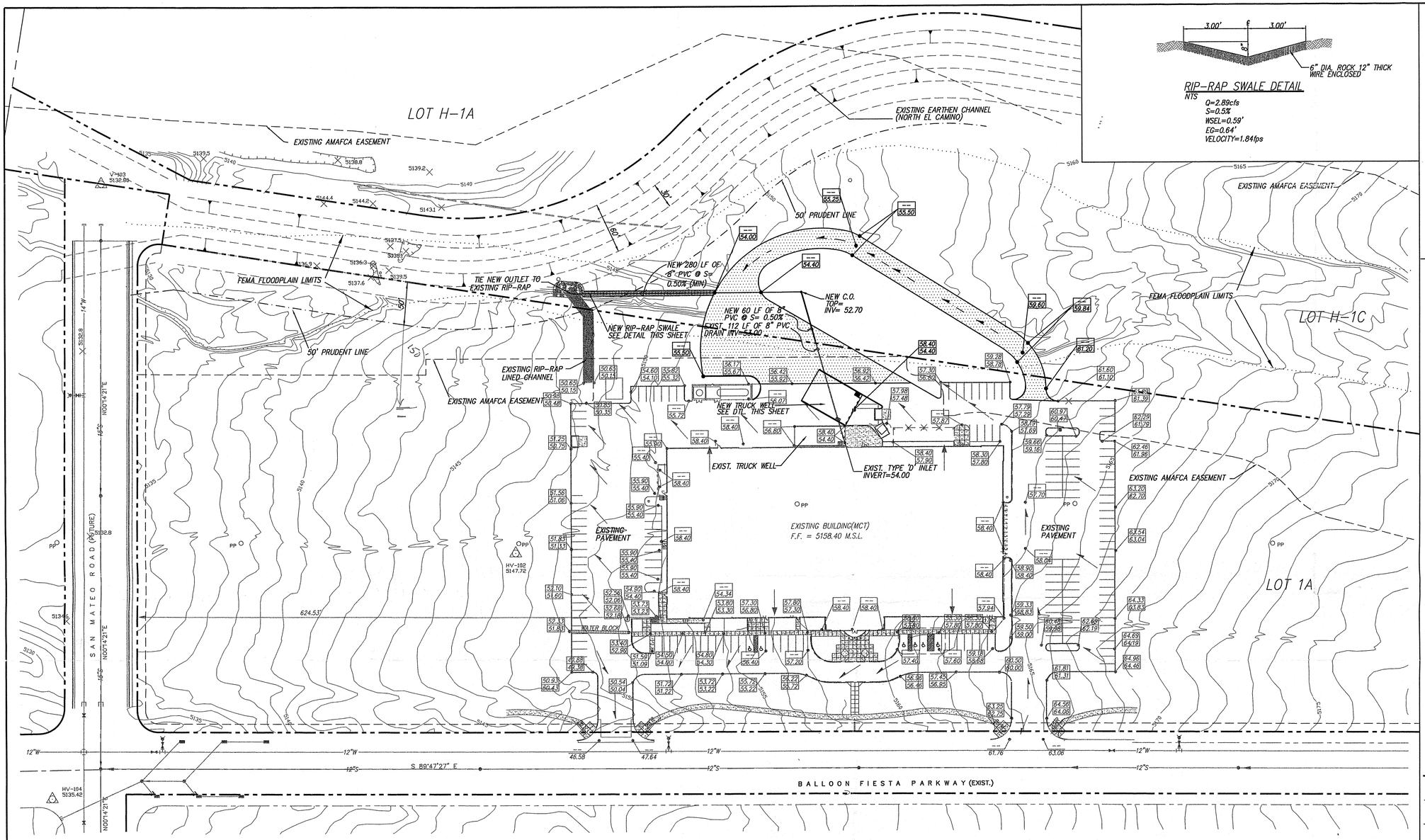
In September of 1996 a draft report titled **North Camino, El Camino and La Cueva Arroyo Drainage Management Plan** was prepared by Resource Technology Inc. From their report and discussions with AMAFCA staff, a peak 100-year discharge rate of 2,400 cfs was used in this report's flood plain analysis. This peak discharge value includes an 8 percent bulking factor. A total of 24 cross sections were used to model the North El Camino floodplain from I-25 Frontage Road west to San Mateo Road using the HEC-RAS hydraulic analysis computer program. At ten of the cross sections, topographic information did not extend far enough north to estimate the floodplain cross section elevations and stations. At these locations, identified by a "limits of study" note on the flood study sheet C2, a vertical ground slope was assumed, which is a conservative assumption for determination of the water surface elevation and floodplain limits. The Mannings 'n' values used in the analysis was 0.045.

The HEC-RAS model was manipulated to keep the runoff within top of bank until the model showed that water exceeded top of bank at some location and spread out into the adjacent floodplain. Several times within the analysis the water surface elevation exceeded the top of the north bank and/or the top of the south bank.

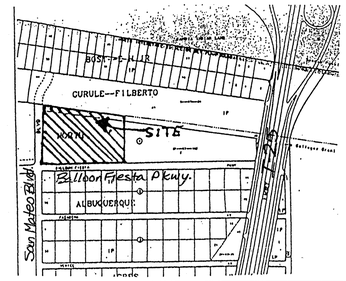
As agreed upon by the MCT developers and the staff at AMAFCA, for Phase I of the MCT Industrial Park, the parking lot will have a setback distance requirement of 2 feet per 100 cfs or 48 feet from the 100-year water surface elevation and the building structure will have a setback distance requirement of 6 feet per 100 cfs or 144 feet from the 100-year water surface elevation.

EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions the North El Camino Arroyo is the primary runoff conveyance system in the area. Runoff that doesn't find its way to the arroyo flows as sheet flow or through smaller arroyos across the property in a westerly direction. The existing drainage conditions through the North El Camino arroyo were modeled and the water surface elevations for each cross section are exhibited in Appendix B as well as are



RIP-RAP SWALE DETAIL
NTS
Q=2.89cfs
S=0.5%
WSEL=0.59'
EG=0.64'
VELOCITY=1.84fps



VICINITY MAP ZONE MAP: B-18

ACS BENCHMARK

Station is located 9 miles NE of downtown Albuquerque, approximately 0.6 miles west of the north end of the north-south runway of Coronado Airport.

To reach the station from the junction of State Road 556 and the I-15 Frontage Road (Alameda Interchange), go south on the West Frontage Road 0.4 miles to a dirt road leading west; then west on the dirt road 0.45 mile to the SW corner of a dirt ract track and the station.

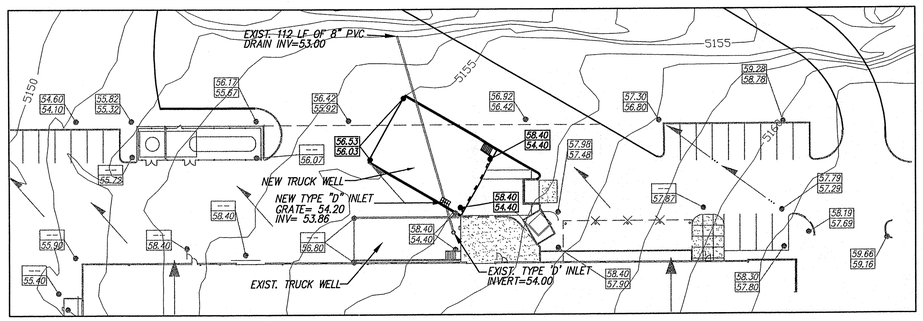
Station mark is a standard USGLO brass tablet stamped "USGLO, CC 11 12, T11N, R3E, 1920" riveted to an iron pipe around which has been poured a 12-inch concrete collar projecting 0.1 feet.

LEGAL DESCRIPTION

LOT 1A, BLOCK 1, TRACT A, UNIT B
NORTH ALBUQUERQUE ACRES

LEGEND

- 58.40 / 54.40 — NEW SPOT ELEVATION
- 57.30 / 56.80 — EXISTING SPOT ELEVATION
- EXISTING CURB
- NEW EDGE OF PAVING
- NEW PAVEMENT – 4" AC (1800# STABILITY) OVER 12" SUBGRADE
- PROPERTY LINE
- 10' PUBLIC UTILITY EASEMENT
- NORTH CAMINO ARROYO & TRAIL EASEMENT



TRUCK WELL DETAIL
SCALE: 1"=40'

DRAINAGE CALCULATIONS

PRECIPITATION = ZONE 2
T_c = 10 MINS
AREA = .624 ACRES

EXISTING	DEVELOPED
TR. A= 100%	TR. D= 100%
Q_E= 0.96 cfs	Q_D= 2.89 cfs
Vol = .028 AC. FT.	Vol = .110 AC. FT.

PROJECT DESCRIPTION

THIS PROJECT ENTAILS THE ADDITION OF A NEW TRUCK WELL TO AN EXISTING BUILDING AND A NEW DRIVEWAY/TURNAROUND TO AN EXISTING PARKING LOT. DISCHARGE WILL BE TO AN EXISTING RIP-RAP PAD.

DIANE HOELZER NEW MEXICO 11967 REGISTERED PROFESSIONAL ENGINEER
11-16-99

N

60' 30' 0 60' 120'
SCALE: 1" = 60'

9054MCT/9054GD60/11-16-99/KJS MJR DLH

RECEIVED NOV 30 1999 HYDROLOGY SECTION

NOTES:

1. AN EXISTING "INTERIM" EARTHEN CHANNEL WITH RIP-RAP CHECK STRUCTURES WAS CONSTRUCTED IN THE SUMMER OF 1998 WITHIN THE PROPOSED ALIGNMENT FOR THE FUTURE CONCRETE LINED CHANNEL. THE "INTERIM" CHANNEL IS 30' WIDE, 5.5' DEEP WITH 3:1 SIDE SLOPES. THE CITY OF ALBUQUERQUE AND AMAFCA WERE INVOLVED IN THE "INTERIM" CONDITION SOLUTION. A "LOMR", UNDER CONTRACT WITH AMAFCA, IS IN THE PROCESS OF BEING PREPARED FOR THE FUTURE CONCRETE LINED CHANNEL.

2. THE "INTERIM" CHANNEL CROSS SECTION DESIGN WAS BASED ON 2500 cfs AS AGREED UPON BY AMAFCA. EROSION SETBACK BOUNDARY FOR NON-STRUCTURAL IMPROVEMENTS IS 2 FEET PER 100 CFS OR 50 FEET IN THIS CASE.

ENVIRCO

GRADING AND DRAINAGE PLAN

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

Designed: DMG	Drawn: KJS	Checked: DMG	Sheet 1 of 1
Scale: 1" = 60'	Date: 3 MAY 99	Job: 99054	

B-18/D4A