

DRAINAGE CALCULATIONS:

EXISTING CONDITIONS:

The site is located at the NW corner of the intersection of Coal Avenue and Locust Street, S.E. The site is presently developed as an auto service station. The site is presently completely impervious except for a planter at the SE corner of the site. There is a storm drain in Coal Avenue. The flow in Coal Avenue adjacent to the site is from east to west. The flow in Locust Street adjacent to the site is from north to south. There is a double 'D' inlet near the NW curb return. Very little, if any, runoff from the site would enter this inlet. There is an alley adjacent to the site on the north that is unpaved. This alley dead-ends a short distance west of the site. It is not used by the site for access or drainage. The high point or crest of Locust Street is near the N.E. corner of the site.

PROPOSED CONDITIONS:

It is proposed to construct a new canopy on the site as shown on the plan. Grading of the site will be essentially as it is now. Any removal and replacement of existing asphalt pavement will be done at the same grades. A small landscaping area is to be constructed between the two southerly driveways. The proposed development will result in a slight decrease in runoff.

DRAINAGE CRITERIA:

The calculations shown on this plan were prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, January, 1993.

PRECIPITATION ZONE:

The site is between the Rio Grande River and San Mateo Blvd. and is, therefore, in Precipitation Zone 2.

LAND TREATMENT AREAS, EXCESS PRECIPITATION AND UNIT PEAK DISCHARGE:

The peak discharge per acre and excess precipitation are shown for the four land treatments in Zone 2 in the table below, and the values shown are from the City of Albuquerque D.P.M. Also shown are the existing and proposed land treatment areas.

LAND TREATMENT	q(cfs/acre)	E (in)	Existing Site Areas	Developed Site Areas
100-yr. 10-yr.	100-yr. 10-yr.	%	Sq.Ft. Acres	% Sq.Ft. Acres
A	1.56 0.38	0.53 0.13	0.0 0.0000	0.0 0.0000
B	2.28 0.95	0.78 0.28	0.5 60 0.0014	1.3 192 0.0045
C	3.14 1.71	1.13 0.52	0.0 0.0000	0.0 0.0000
D	4.70 3.14	2.12 1.34	99.5 14,143 0.3247	98.7 14,011 0.3216
Totals			100.0 14,203 0.3261	100.0 14,203 0.3261

PEAK DISCHARGE:

EXISTING CONDITIONS:

$$Q_{100} = 0.0014 \times 2.28 + 0.3247 \times 4.70 = 1.53 \text{ cfs}$$

$$Q_{10} = 0.0014 \times 0.95 + 0.3247 \times 3.14 = 1.02 \text{ cfs}$$

DEVELOPED CONDITIONS:

$$Q_{100} = 0.0045 \times 2.28 + 0.3216 \times 4.70 = 1.52 \text{ cfs}$$

$$Q_{10} = 0.0045 \times 0.95 + 0.3216 \times 3.14 = 1.01 \text{ cfs}$$

VOLUME, 100-YEAR, 6-HOUR:

EXISTING CONDITIONS:

$$V_{100} = (60 \times 0.78 + 14,143 \times 2.12) / 12 = 2,502 \text{ cf}$$

$$V_{10} = (60 \times 0.28 + 14,011 \times 1.34) / 12 = 1,569 \text{ cf}$$

DEVELOPED CONDITIONS:

$$V_{100} = (192 \times 0.78 + 14,011 \times 2.12) / 12 = 2,488 \text{ cf}$$

$$V_{10} = (192 \times 0.28 + 14,011 \times 1.34) / 12 = 1,569 \text{ cf}$$

SUMMARY OF ON-SITE VOLUMES AND PEAK DISCHARGE RATES:

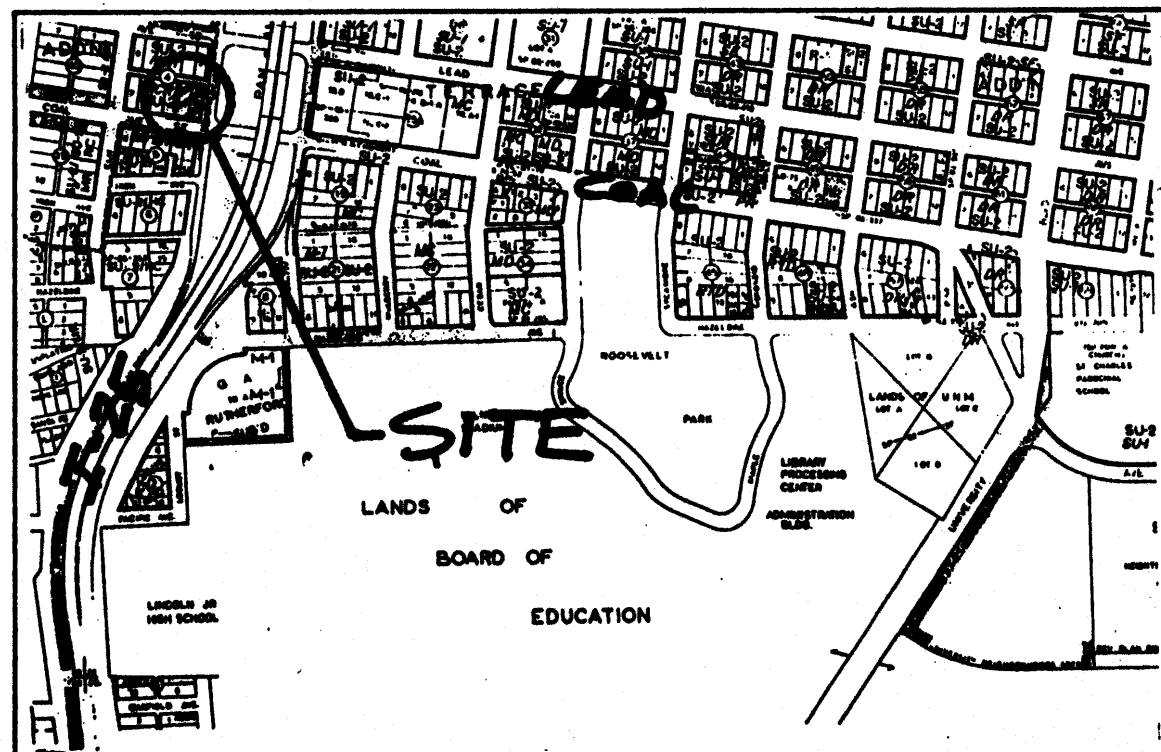
	V100(CF)	V10(CF)	Q100(CFS)	Q10(CFS)
DEVELOPED	2,488	1,569	1.52	1.01
EXISTING	2,502	1,581	1.53	1.02
DECREASE	14	12	0.01	0.01

ANALYSIS OF DOWNSTREAM CAPACITY:

THE CITY ELECTRONIC STORM DRAIN SECTIONAL MAP DOES NOT SHOW ANY STORM DRAINS IN THE INTERSECTION OF COAL AVENUE AND LOCUST STREET. THE SITE IS AN INFILL SITE AND HAS A SLIGHT DECREASE IN RUNOFF AS A RESULT OF THE ADDITIONAL DEVELOPMENT THAT WILL BE DONE WITH THIS PROJECT.

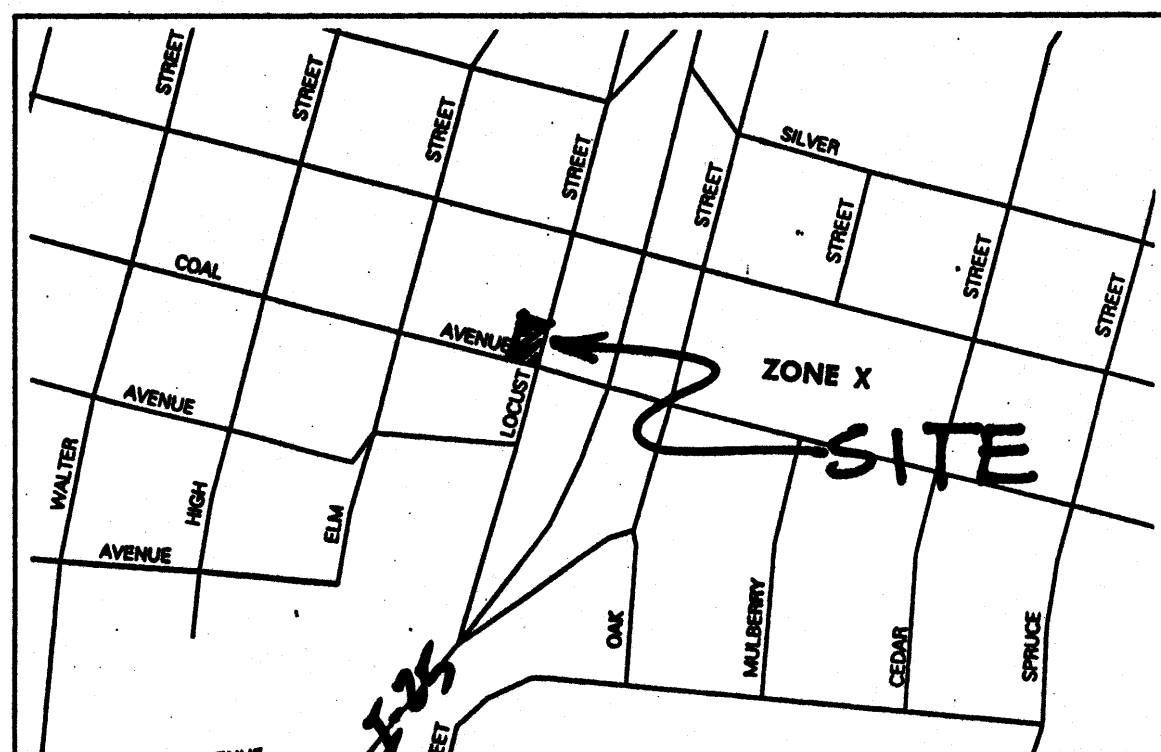
ANALYSIS OF OFF-SITE FLOW:

THIS SITE HAS NO OFF-SITE FLOW ASSOCIATED WITH IT.



VICINITY MAP

ZONE ATLAS NO. K-15-Z



FRM MAP

MAP NO. 35001C0334 D

LEGEND:

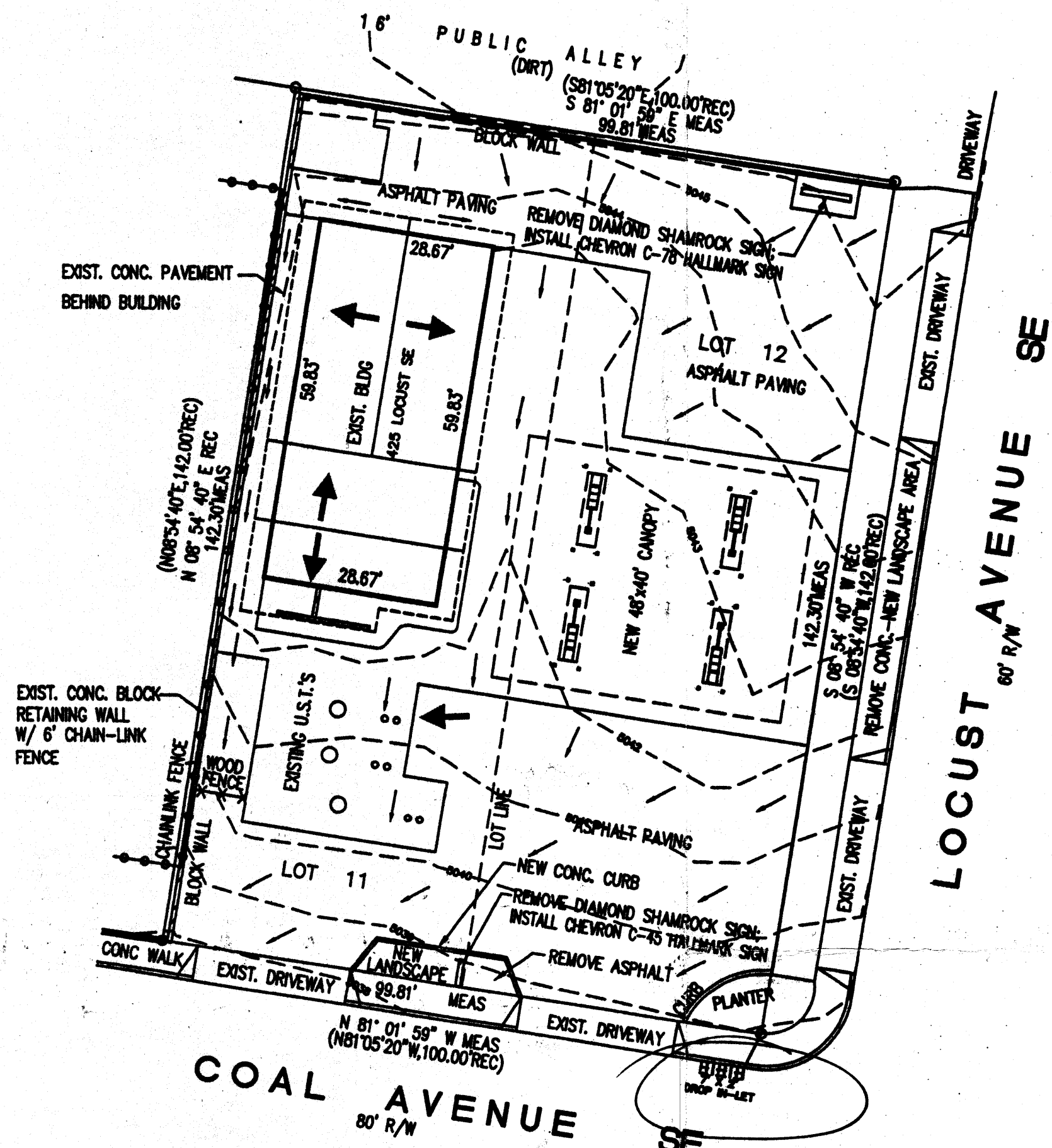
- Found Boundary Cor.
- pp○ Utility Pole
- Overhead Lines
- c CATV Pedestal
- e Electric Pedestal
- + Telephone Pedestal
- g Gas Meter
- em Electric Meter
- wmm Water Meter
- v Water Valve
- g Gas Valve
- ⊙ Sanitary Sewer MH
- ⊙ Storm Sewer Manhole
- ST Storm Drain Catch Basin
- ⊙ Light Pole
- * Fence
- Arroyo or watercourse
- ⊙ Fire Hydrant
- Exist. Spot Elev.
- ◆ New Spot Elevation
- 4950.5 EXISTING CONTOUR
- NEW CONTOUR
- FLOW DIRECTION
- ← ROOF SLOPE

LEGAL DESCRIPTION:

LOTS 11 & 12
BLOCK 4
TERRACE ADDITION

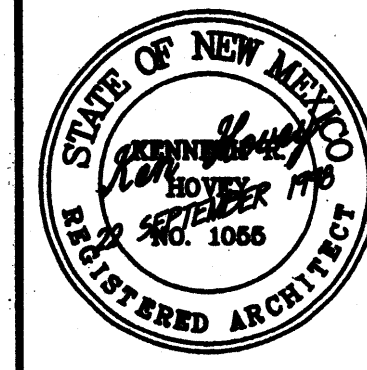
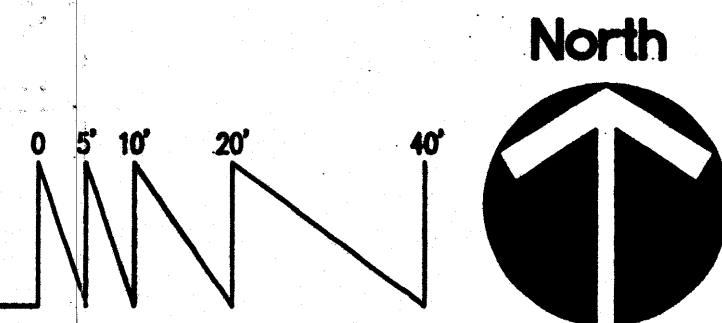
BENCH MARK AND GENERAL TOPO SURVEY NOTES:

- 1: ADD 5000 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
- 2: CONTOUR INTERVAL IS ONE (1) FOOT.
- 3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION "NMSHC 1-25-27", HAVING AN ELEVATION OF 5067.45 FEET ABOVE SEA LEVEL.
- 4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
- 5: THE DRAWING SHOWN IS AN AS-BUILT OF EXISTING IMPROVEMENTS. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
- 6: THIS NOT A BOUNDARY SURVEY. BEARINGS, DISTANCES AND FOUND BOUNDARY CORNERS ARE FOR REFERENCE ONLY.



GRADING + DRAINAGE PLAN

SCALE: 1"=20'



**Chevron Station Conversion for
Rio Grande Oil Company**
LOCATED AT 425 LOCUST SE, ALBUQUERQUE, NEW MEXICO

KEN HOVEY, ARCHITECT
EOL 24-0003 • P.M. EOL 24-1001 • 3008 5405 AVE. SE • ALBUQUERQUE, NM • 87105

JOB NO:	1825
DATE:	22 SEPTEMBER 1993
REVISIONS	

SHEET NO. 2
OCT 13 1993
HYDROLOGY SECTION

