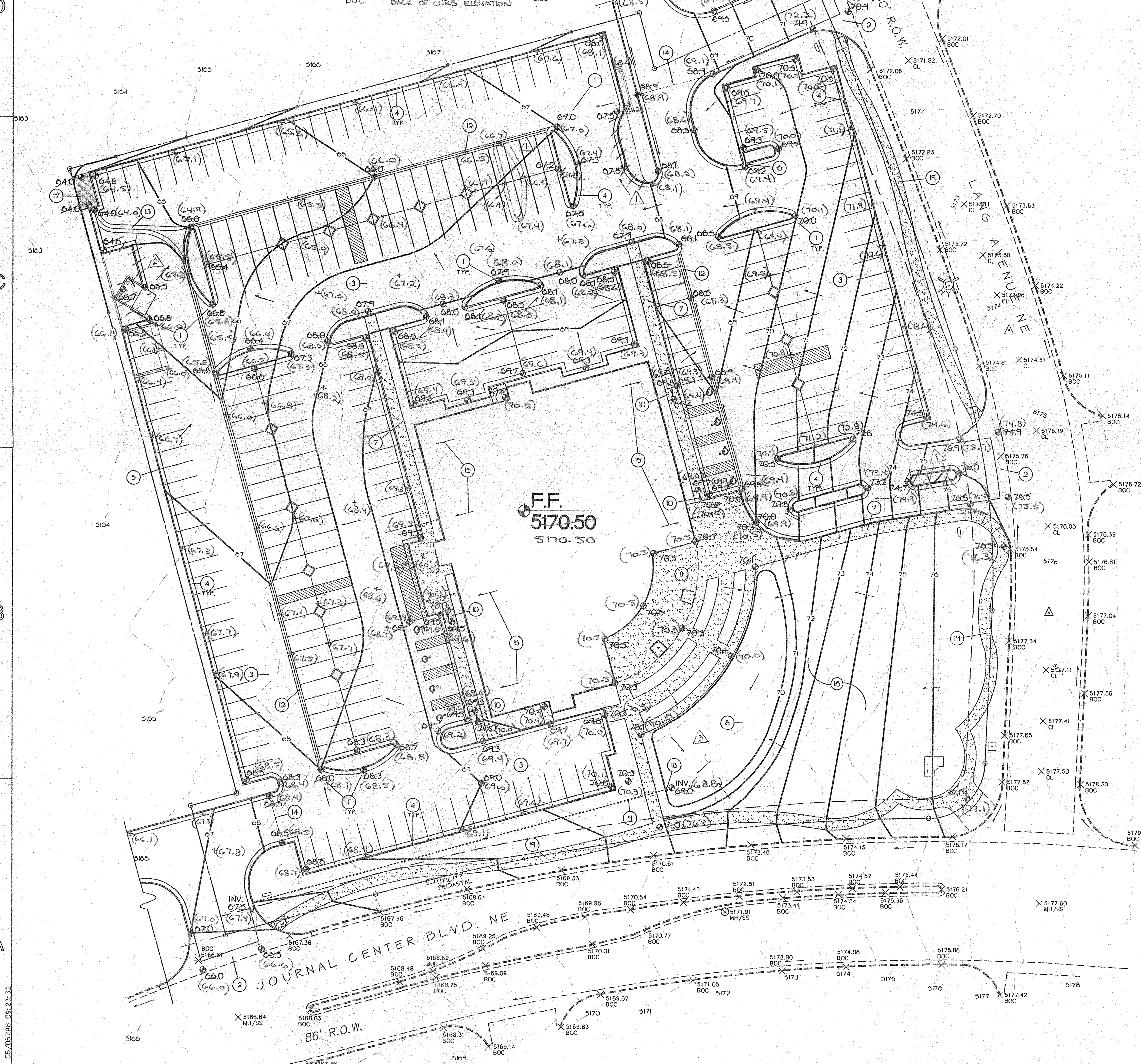
LEGEND

Symbol	Description
(line)	SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
(box)	PROPOSED PAVED DRIVE
(box)	BUILDING (EXISTING, PROPOSED)
(line)	PROPERTY LINE
+ 65.7	EXISTING SPOT ELEVATION
20	EXISTING CONTOUR
⊕ 75.2	PROPOSED SPOT ELEVATION
30	PROPOSED CONTOUR
(arrows)	SURFACE FLOW DIRECTION (EXISTING, PROPOSED, ROOF)

Abbreviation	Description
LA	LANDSCAPED AREA
TGW	TOP OF GRADE WALL (< 18" HIGH)
TRW	TOP OF RETAINING WALL (> 18" HIGH)
TA	TOP OF ASPHALT
TC	TOP OF CURB
FL	FLOW LINE
FF	FINISHED FLOOR
R/W	RIGHT OF WAY
PL	PROPERTY LINE
PP	POWER POLE
▲	ENTRY / EXIT LOCATION
X 5172.35 BOC	BACK OF CURB ELEVATION

North
1" = 30'



DRAINAGE / GRADING PLAN
SCALE:1=30'

CALCULATIONS:

Calculations are based on the Drainage Design Criteria for City of Albuquerque, Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 173713 SF 3.988 Ac.

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	40275	SF
Area c	=	0	SF
Area d	=	133438	SF
Total Area	=	173713	SF

EXCESS PRECIPITATION:

Precip. Zone 2

Ea = 0.53
Eb = 0.78
Ec = 1.13
Ed = 2.12

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Developed E = 1.81 in.

On-Site Volume of Runoff: V360 = E*A / 12

Developed V360 = 26192 CF

On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560

For Precipitation Zone 2

Qpa = 1.56   Qpc = 3.14
Qbb = 2.28   Qpd = 4.70

Developed Qp = 16.5 CFS

The Drainage Management Plan for Journal Center prepared by Bohannan-Huston, Inc. (dated 12-17-92) has established free discharge of developed basins to adjoining streets, with Jefferson Street being the final interceptor for routing flows to the existing Storm Sewer (SS) system. Because the free discharge rates established for each basin are based on pre-1993 design criteria, a portion of the final developed discharge from this site will be detained on-site in order to meet the master plan criteria. The majority of developed site flows will leave the site at the northwest corner and drain across the adjoining undeveloped tract to Jefferson Ave. A drainage easement for the adjoining site will be required. The ponding area, located near the southeast corner of the property will detain the excess flows which will be released at the southwest drive entrance through a 4" pvc bleeder pipe. Based on the revised Drainage Management Plan for Journal Center this property is located partially in Basin A and partially in basin B-1. In each case, allowable basin discharge is 3.77 cfs per acre.

AREA OF SITE:	Area of Site		cfs / acre		Allowable Discharge	
Allowable Discharge =	3.99	ac. *	3.77	cfs =	15.0	cfs

SOUTHEAST LANDSCAPE AREA TO DETERMINE PONDING CAPACITY

From field inspection and FEMA contour map analysis:

Area of basin flows = 25029 SF = 0.6 Ac. Precip. Zone 2

The following calculations are based on Treatment areas as shown in table to the right

Off-Site Weighted Excess Precipitation (see formula above)

Weighted E = 1.05 in.

Off-Site Volume of Runoff (see formula above)

V360 = 2186 CF

Off-Site Peak Discharge Rate: (see formula above)

Qp = 1.6 cfs

TREATMENT	
A =	0%
B =	80%
C =	0%
D =	20%

Note: Per the inflow / outflow hydrograph, the volume required to store is 1305 cf. Thus, the landscape area located in the southeast corner of the property will generate a sufficient volume to satisfy the criteria. The remainder of the site will free discharge at the northwest property corner.

PROPOSED POND	AREA		VOL (CF)	ANALYSIS
(see Hydrograph for volume requirements)	69.0	1		Volume Provided: 1989
	70.0	3975	1988	Volume Required: 1305

SCOPE

The proposed improvements include an approx. 17,650 SF (footprint) commercial facility, along with all the necessary site improvements associated with vehicle access, parking and landscaping.

Lang Avenue NE borders the site to the east, Journal Center Blvd. NE borders the site to the south, undeveloped commercial properties border the site to the north and west.

The Drainage Management Plan for Journal Center prepared by Bohannan-Huston, Inc. (dated 12-17-92) has established free discharge of developed basins to adjoining streets, with Jefferson Street being the final interceptor for routing flows to the existing Storm Sewer (SS) system. See calculations for additional information.

The intent of this plan is to show:

- Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.
- The extent of proposed site improvements, including buildings, walks and pavement.
- The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City of Albuquerque requirements for drainage management.
- The relationship of on-site improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES

LEGAL: Proposed Tract 2A-2A-2A Journal Center Albuquerque, Bernalillo County, New Mexico

SURVEYOR: Hall Engineering Company, Inc. - (505) 345-1064

B.M.: NMSHC "I25-14,1969" Standard NMSHC Brass Tablet (Found In Place) New Mexico State Plane Grid Coordinates (Central Zone) X=399,828.26 (Nad 1927) Y=1,514,860.92 G-G=0.99966298 Elevation = 5196.73 (M.S.L.D)

T.B.M.: Top of manhole located near Southeast corner of property in the intersection of Lang Avenue NE and Journal Center Blvd. NE. Elevation = 5177.60' (M.S.L.D.)

FLOOD HAZARD: Per F.I.R.M. Boundary Map #137, the site is not located in a flood zone.

OFF-SITE DRAINAGE: This site is isolated from all off-site flows by surrounding streets which intercept upland flows for routing around the site.

EROSION CONTROL: The contractor is responsible for retaining on-site all sediment generated during construction by means of temporary earth berms or silt fences at the low points on the west and north property lines.

KEYNOTES

1. ALL SPOT ELEVATIONS WITHIN PAVEMENT AREA REPRESENT TOP OF PAVING UNLESS NOTED. ADD 0.5' (TYPICAL) FOR TOP OF CURB / TOP OF WALK ELEVATIONS.
2. CONSTRUCT SITE ENTRANCE WITH VALLEY GUTTER PER C.O.A. STD. DWG. 2440 AT ELEVATIONS SHOWN. PROVIDE SMOOTH RIDING TRANSITION. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
3. PROPOSED ASPHALT PAVING. CONSTRUCT AT ELEVATIONS INDICATED. PROVIDE SWALES WITHIN ASPHALT TO DIRECT FLOWS AS SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION REGARDING PARKING LAYOUT DIMENSIONS, STRIPING AND ASPHALT PAVING SECTIONS.
4. CONSTRUCT STANDARD CURB AND GUTTER AT ALL CURB LOCATIONS AS SHOWN. SEE C.O.A. STD. DWG. 2415.
5. CONSTRUCT RETAINING WALL ALONG WEST PROPERTY LINE AS REQUIRE TO ACHIEVE GRADE ELEVATIONS SHOWN.
6. CONSTRUCT A 1' BOTTOM WIDTH 'U' SHAPED CONCRETE CHANNEL TO ALLOW FLOWS TO PASS.
7. CONSTRUCT CONCRETE WALK / STANDARD CURB AND GUTTER THIS AREA. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
8. CONSTRUCT POND THIS AREA TO CAPTURE SUB-BASIN FLOWS. SEE CALCULATIONS / DETAIL FOR ADDITIONAL INFORMATION.
9. INSTALL 245' LF 4" DIA. PVC CULVERT TO DRAIN POND TO SOUTHWEST DRIVE ENTRANCE AS SHOWN. MIN. SLOPE = 0.0050'/'. INSTALL 4" CLEANOUTS AT 100' MAX. INTERVALS. SEE CALCULATIONS FOR ADDITIONAL INFORMATION.
10. RAMP WALK DOWN FLUSH WITH TOP OF ASPHALT ADJACENT TO HANDICAP PARKING. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
11. CONSTRUCT CONCRETE PATIO / LANDSCAPE ISLANDS THIS AREA AT ELEVATIONS SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
12. CONSTRUCT 2' WIDE X 6" THICK X 1" DEPRESSION CONCRETE ALLEY GUTTER AS SHOWN TO CARRY FLOWS.
13. TRANSITION FROM 2-2' WIDE TO A SINGLE 4' WIDE X 6" THICK X 2" DEPRESSION CONCRETE ALLEY GUTTER THIS AREA AS SHOWN TO CARRY FLOWS.
14. HIGH POINT IN ASPHALT THIS AREA
15. ROOF FLOWS TO BE RELEASED THROUGH FACE OF CURB TO ASPHALT PARKING THIS AREA. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION. PIPE OUTLET INVERT = TOP OF PAVEMENT.
16. GRADES SHOWN THIS AREA ARE CONCEPTUAL AND ARE PROVIDED TO INDICATE DRAINAGE PATHS AND GENERAL FINISHED GRADES. SEE LANDSCAPE PLAN FOR DETAILED INFORMATION
17. PROVIDE 4' WIDE CURB OPENING TO ALLOW SITE FLOWS TO PASS. CONSTRUCT 9' WIDE X 18' LONG X 8" DEEP GROUTED COBBLE PAD (TOP OF GROUTED PAD = 64.0 TYPICAL) AT OUTLET AS SHOWN. (AVG. COBBLE DIAMETER = 6")
18. CONSTRUCT A 2' WIDE X 18" HIGH X 4" THICK CONCRETE HEADWALL WITH PIPE INLET CENTERED AS SHOWN.
19. CONSTRUCT SIDEWALK THIS AREA. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION. CONSTRUCT HC RAMPS PER COA REQUIREMENTS.

AREAS OF MODIFICATION BETWEEN APPROVED DRAINAGE GRADING PLAN AND ACTUAL AS-BUILT

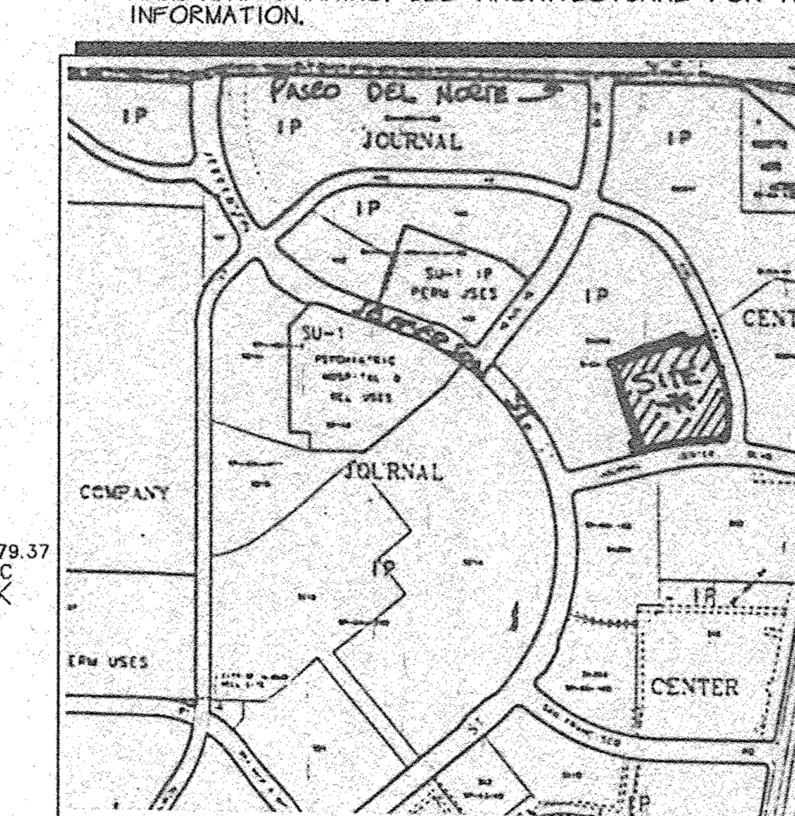
1. Minor changes to curb and gutter / island locations. Does not affect drainage patterns. OKAY.
2. Dumpster relocated. OKAY.
3. As-built Pond Volume = 2350 SF
   Required Pod Volume = 1305 SF

I, Christopher L. Weiss, P.E. hereby certify that the as-built information shown, is in substantial compliance with the approved drainage / grading plan.

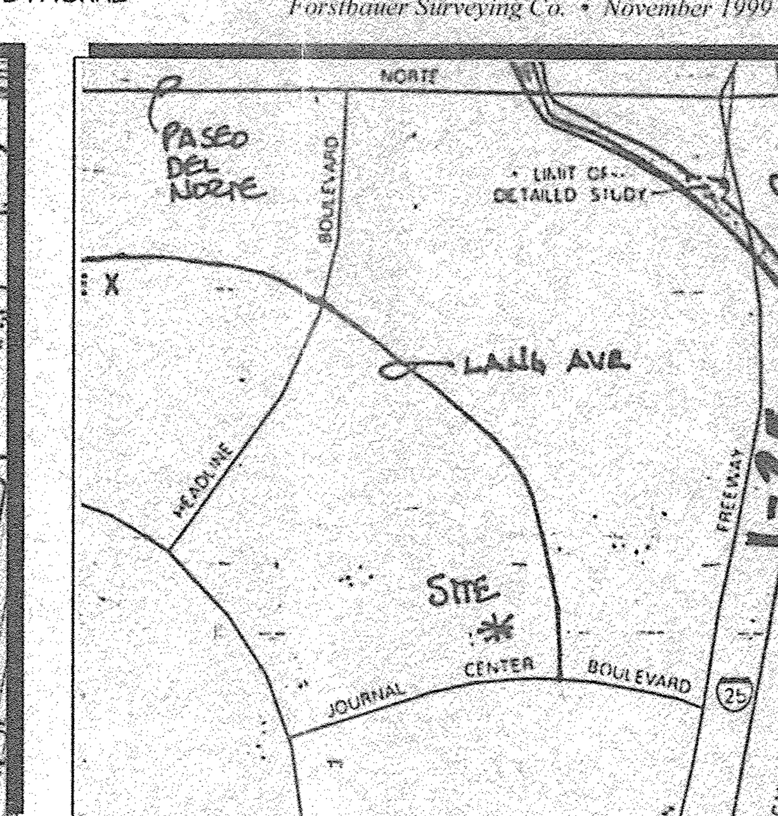
Christopher L. Weiss, P.E.

Date 12-6-99

Survey info. provided by Ron Forstbauer • Forstbauer Surveying Co. • November 1999



Vicinity Map D-17



F.I.R.M. Map #137

PER CITY OF ALBUQUERQUE REQUIREMENTS, AN ENGINEER'S CERTIFICATION WILL BE REQUIRED TO OBTAIN A CERTIFICATE OF OCCUPANCY. THE SITE POND SHOWN ON THIS PLAN SHALL BE CONSTRUCTED PER THE PLAN. THE POND VOLUME, CULVERT INVERTS, BERMS, POND BOTTOM ELEVATIONS, ETC. AS WELL AS THE REMAINDER OF THE SITE MUST COMPLY WITH THE APPROVED PLAN.

C.L.WEISS ENGINEERING, INC.
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MOUNTAIN STATES MUTUAL CASUALTY GROUP

JOURNAL CENTER
VHGA PROJECT NO. 918

DATE: MAY 1998	DRN BY: BJB	© Copyright 1997
FILE:	CHK BY: CLW	PLOT: 1=30

DRAINAGE / GRADING PLAN

C1.1
SHEET OF