

FIRM MAP 9/20/96 PANEL # 354

Depth 1'

GRADING & DRAINAGE PLAN

THE WAREHOUSE PROJECT IS LOCATED IN THE FAIRGROUND ADDITION OF ALBUQUERQUE APPROXIMATELY 4 MILES EAST OF THE DOWNTOWN CORE OF ALBUQUERQUE, NM. THE GRADING & DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNILLO COUNTY FLOOD HAZARD ORDINANCE, NO.88-46, AND THE CITY STORM DRAINAGE ORDINANCE. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS:

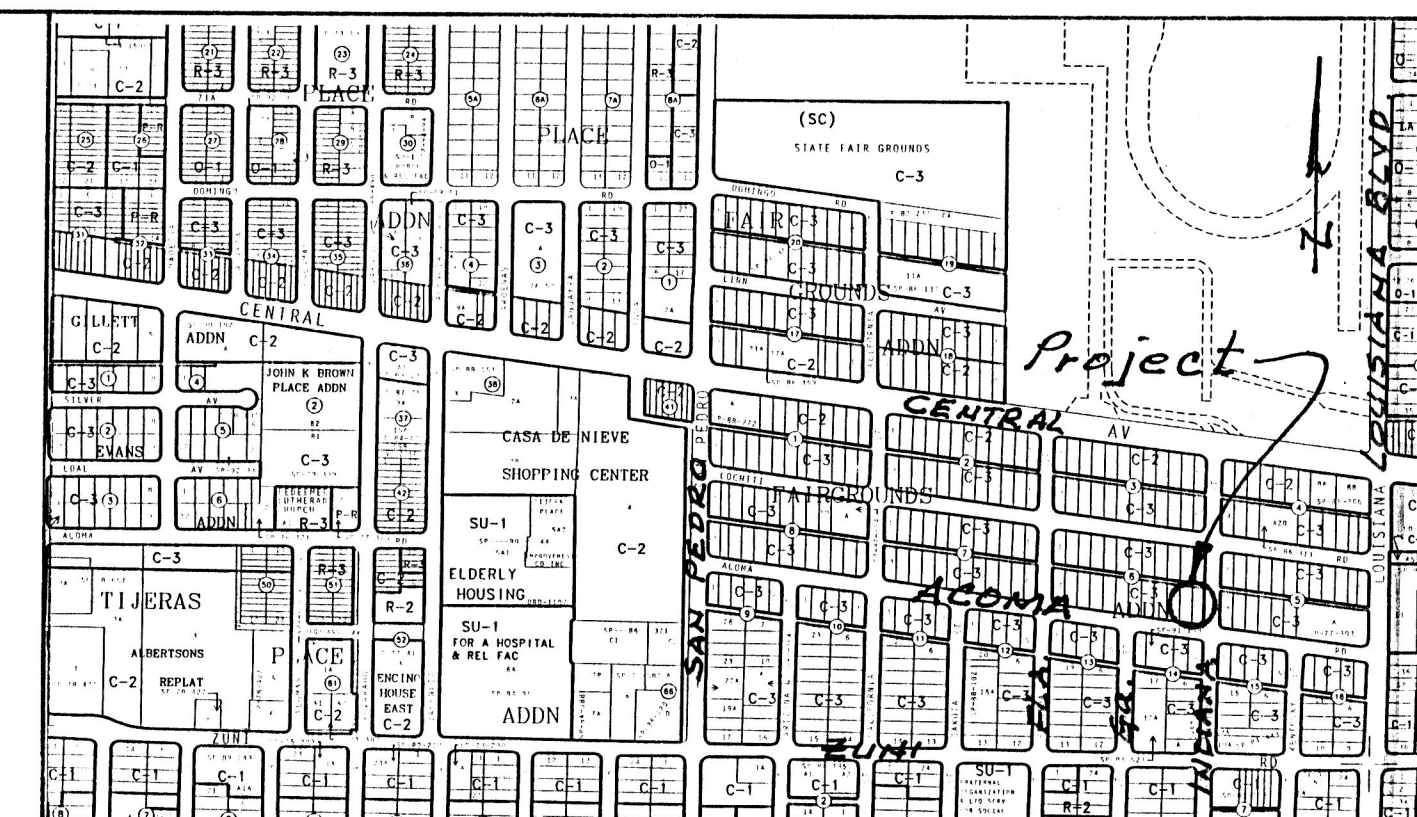
1. EXISTING CONTOURS, AND SPOT ELEVATIONS AND EXISTING DRAINAGE PATTERNS AND IMPROVEMENTS.
2. PROPOSED IMPROVEMENTS: PRE-ENGINEERED METAL BUILDING, ASPHALT DRIVES AND PARKING, NEW GRADE ELEVATIONS, REFUSE LOCATION, NEW PERIMETER WALL, AND LANDSCAPING.
3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4. QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFF-SITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.
5. FLOOD PROOFING OF WAREHOUSE STRUCTURE BY SETTING REQUIRED MINIMUM FINISH FLOOR ELEVATION.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF AND EROSION, AND ESSENTIALLY ALLOWING HISTORIC FLOWS TO CONTINUE TO DRAIN THROUGH THE PROPERTY. PRESENTLY, THE SITE IS BOUNDED ON THE NORTH AND WEST BY DEVELOPED PROPERTY, ACOMA ROAD ON THE SOUTH AND INDIANA ON THE EAST ARE PAVED WITH CURB, GUTTER AND SIDEWALK, AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THE SITE FALLS GENERALLY AT 1% FROM NORTH TO SOUTH. A FEMA FLOODPLAIN ZONE (AO1) IS LOCATED WITHIN ACOMA ROAD, AND ENCLOSED SLIGHTLY ONTO THE PROJECT. THE PROPOSED BUILDING STRUCTURE IS FLOOD-PROOFED BY SETTING A MINIMUM FINISH FLOOR ELEVATION ABOVE THE HIGHEST ADJACENT FLOWLINE OF THE STREET.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED. SINCE ACOMA AND INDIANA ARE IMPROVED ONLY MINIMAL GRADING IS PROPOSED WITHIN THE CITY R.O.W. FREE DISCHARGE OF DEVELOPED FLOW IS ACCEPTABLE SINCE THE TOTAL GENERATED DEVELOPED FLOW IS MINIMAL AS COMPARED TO THE 1' DEPTH WITHIN THE ACOMA RIGHT-OF-WAY.

LEGEND

Exist. Spot Elevation	+24.0
Exist. Contour	-10-
New Spot Elevation	+24.0
New Contour	-12-
Exist. Edge of Road	---
New Swale	---
Drainage Direction	---
New Header Curb (0.5' Height)	---
Edge of Gravel	EG
Edge of Asphalt	EA
Existing Power Pole	o PP
Exist. Water Line	--- W ---
Exist. Sanitary Sewer	--- SAS ---
Exist. Fire Hydrant	o FH
Top of Asphalt, Existing	TA
Top of Curb, Existing	TC



VICINITY MAP

ZONE K-18
1" = 750'

NOTES

1. All Work Within the Right-of-Way Shall Be Constructed In Accordance With the City of Albuquerque Standard Specs. For Public Works Construction, 6th Edition w/ Updates.
2. An Excavation/Construction Permit Is Required Before Beginning Any Work Within City R.O.W. An Approved Copy of This Plan Must Be Submitted At the Time of Application.
3. All Work On This Project Shall Be Performed In Accordance With Applicable Federal, State and Local Laws, Rules, and Regulations Concerning Construction Safety and Health.
4. Depressed Landscaping Area Shall Be Soft-lined With Native Vegetation and/or Gravel. No Developed Runoff is Permitted To Drain To These Areas. Asphalt Parking Area Shall Drain Directly To Acoma Road.
5. Contractor Shall Ensure That No Site Soils/Sediment or Silt Enter The Right-of-Way During Construction.
6. Revegetate All Areas Disturbed Due To Construction Per City of Albuquerque Spec. 1011, Native Seed Mix.
7. Maximum Site Grading Without Erosion Protection: 3 Horizontal To 1 Vertical, 3:1.

CALCULATIONS

DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM) REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE ADOPTED BY THE COUNTY OF BERNILLO
DISCHARGE RATE: $Q = Q_{PEAK} \times AREA$. "Peak Discharge Rates For Small Watersheds"
VOLUMETRIC DISCHARGE: $VOLUME = E_{Weighted} \times AREA$
 $P100 = 2.60$ Inches, Zone 3 Time of Concentration, $TC = 10$ Minutes
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [] = 10 YEAR VALUES

EXISTING CONDITIONS

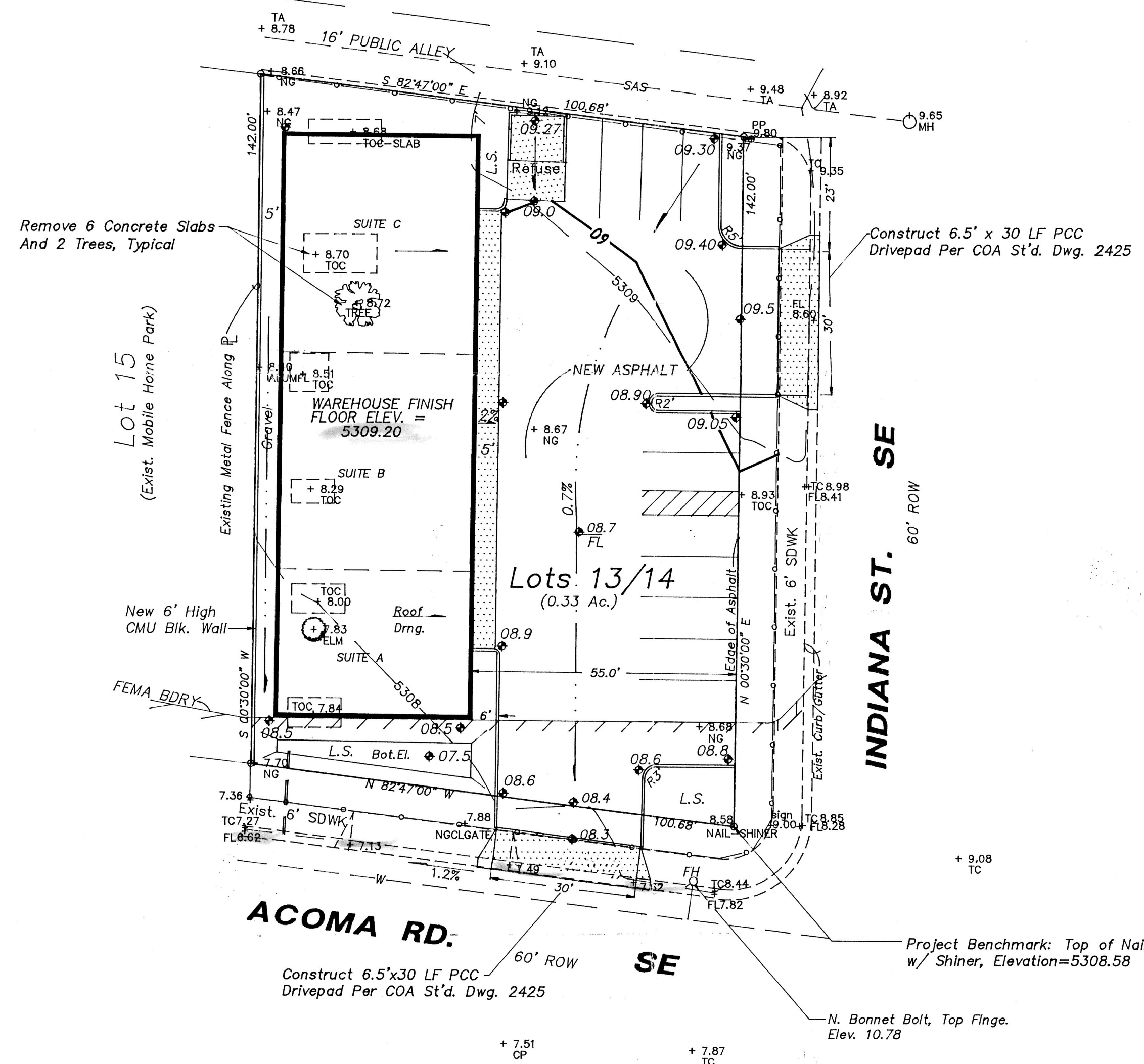
LOT AREA = 0.33 ACRES, WHERE EXCESS PRECIP. 'A' = 0.66 in. [0.19]
PEAK DISCHARGE, $Q100 = 0.63$ CFS [0.2], WHERE UNIT PEAK DISCHARGE 'A' = 1.9 CFS/AC. [0.6]
THEREFORE: $VOLUME 100 = 791$ CF [228]

DEVELOPED CONDITIONS

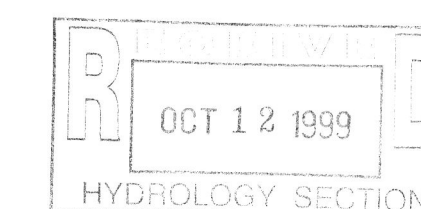
DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

	AREA	LAND TREATM'T	Q_{Peak}	E
UNDEVELOPED	--- Ac.	A	1.87[0.58]	0.66[0.19]
LANDSCAPING	0.04 Ac.	B	2.60[1.19]	0.92[0.36]
GRAVEL & COMPACTED SOIL	0.02 Ac.	C	3.45[2.00]	1.29[0.62]
ROOF - PAVEMENT	0.27 Ac.	D	5.02[3.39]	2.36[1.50]
	0.33 Ac.			

THEREFORE: $E_{Weighted} = 2.12$ in. [1.31] &
 $Q100 = 1.53$ CFS & $VOLUME 100 = 2540$ CF
 $Q10 = 1.00$ CFS & $VOLUME 10 = 1569$ CF



Scale: 1" = 20'



PROJECT DATA

LEGAL DESCRIPTION

Lots 13 & 14, Block 6, Fairground Addition
Albuquerque, Bernalillo County, New Mexico

PROJECT BENCHMARK

Top of Nail w/ Shiner at the Project Southeast Corner
MSL Elevation = 5308.58, As Tied from COA ACS Alum
Cap Stamped 11-K19A, Located At the NNE Curb Return
At the Intersection of Zuni and Louisiana Blvd.

TOPOGRAPHIC DESIGN SURVEY

Performed by Clark Consulting Engineers, Date 9/11/99

Clark Consulting Engineers 19 Ryan Road Edgewood, New Mexico 87015 Tel: (505) 281-2444 Fax: (505) 281-2444			
DATE	REVISION	LOTS 13/14, BLOCK 6, FAIRGROUND ADDITION, ALBUQUERQUE	
Grading & Drainage Plan			
DESIGNED BY: PWC	DRAWN BY: CCE	JOB #: TUAN_G0	1 OF 1
CHECKED BY: PWC	DATE: 10/10/99	FILE #: G/D	

I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

Philip W. Clark 10/12/99
PHILIP W. CLARK NMPE #10265