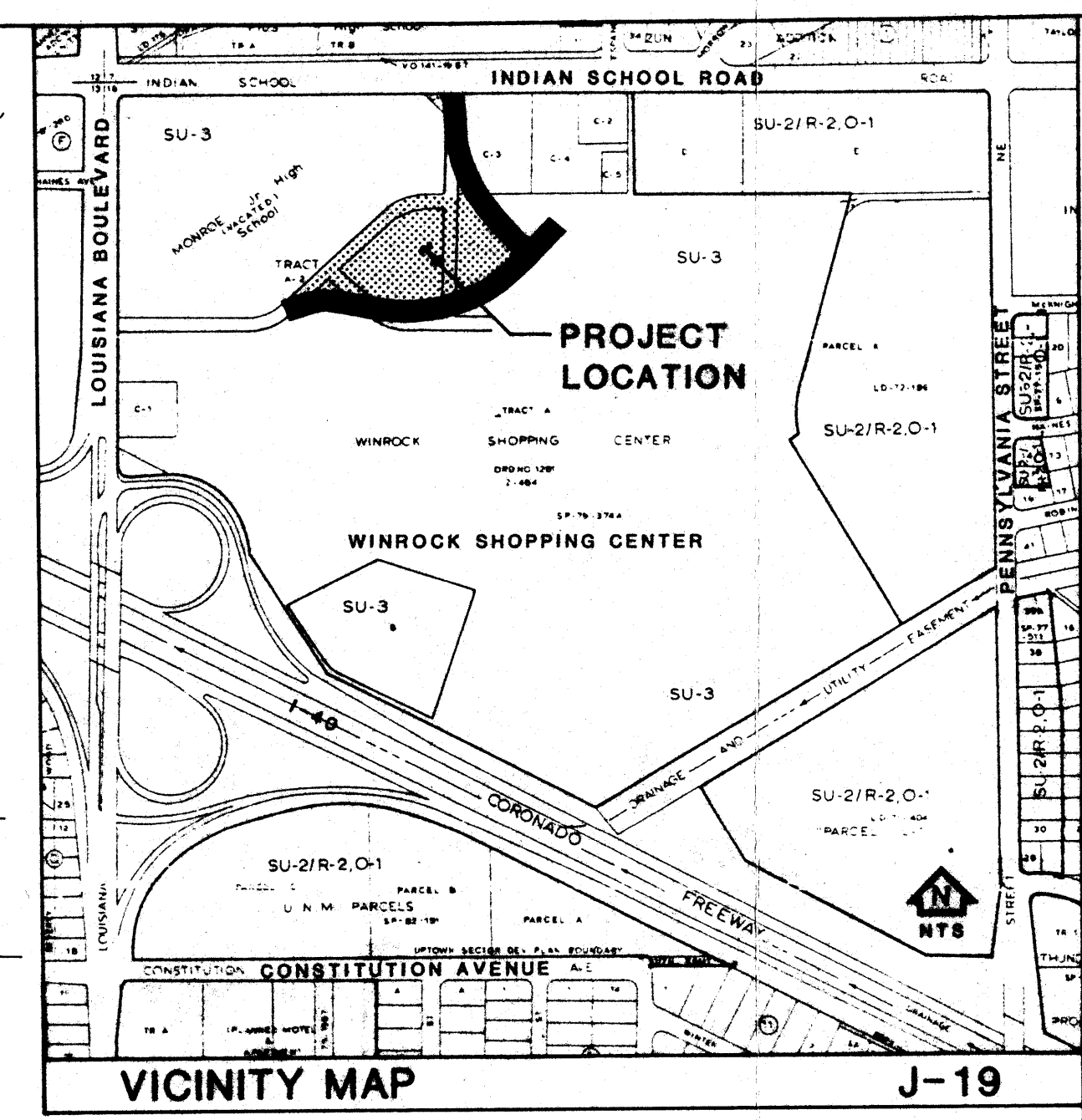
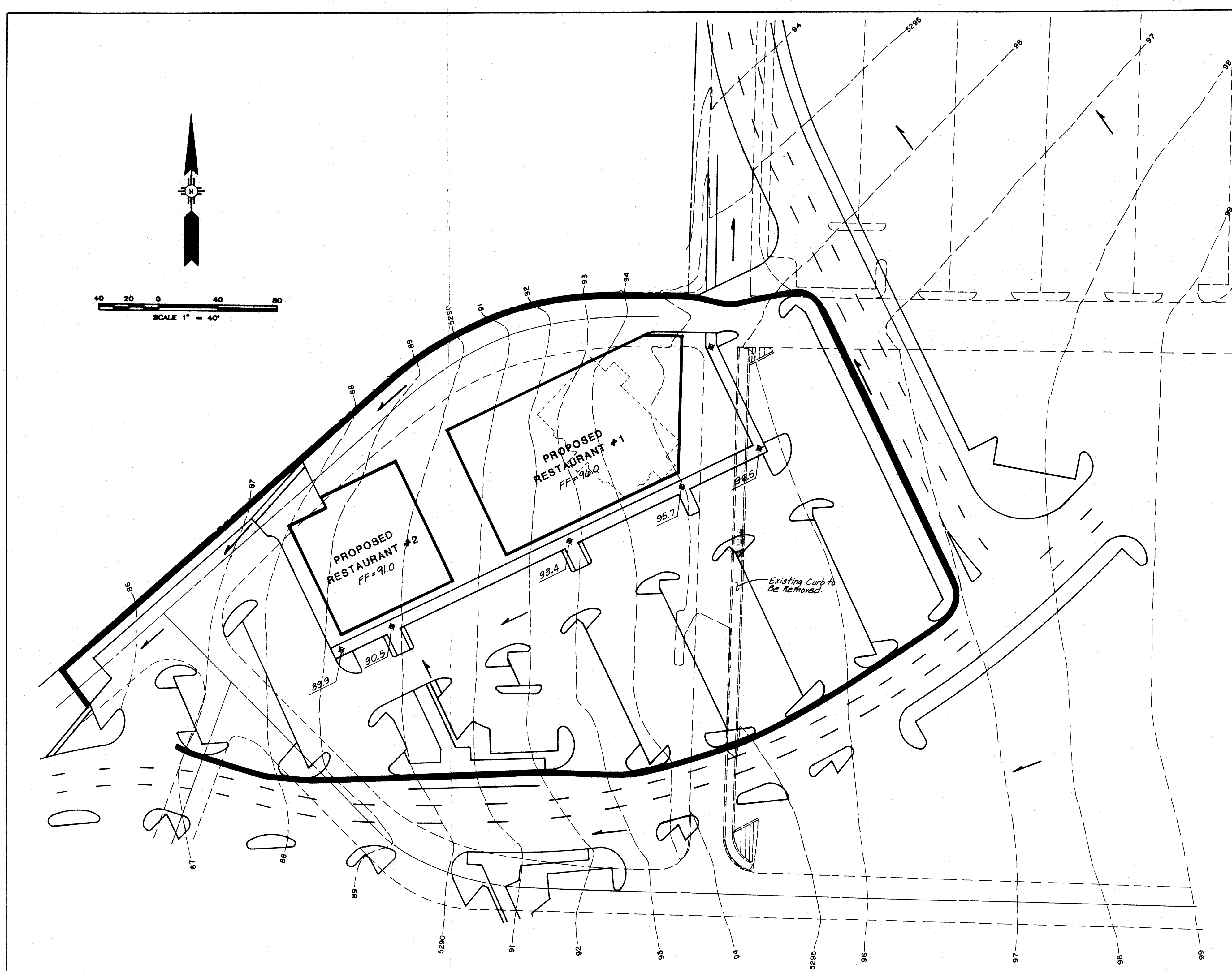
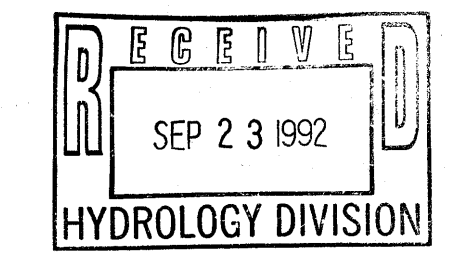




- LEGEND**
- EXISTING CONTOUR
 - EXISTING ROAD OR CURB
 - PROPOSED SPOT ELEVATION
 - PROPOSED CURB
 - BUILDING FOOTPRINT
 - FLOW DIRECTION
 - PROPOSED BASIN BOUNDARY

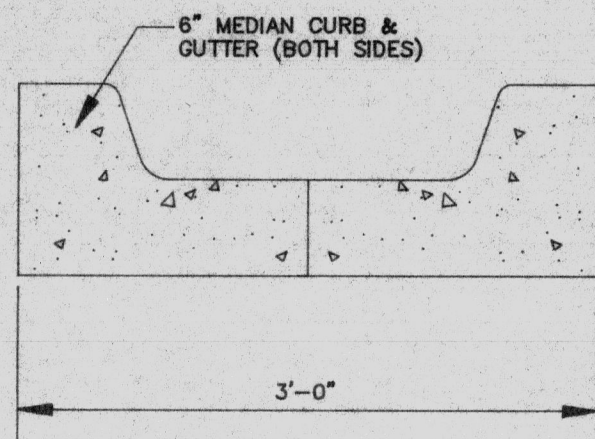
- NOTES**
- THIS EXHIBIT DEMONSTRATES THE DRAINAGE PLAN FOR THE PROPOSED RESTAURANTS. IT IS PRESENTED TO FACILITATE REVIEW OF THE ACTUAL CONSTRUCTION DOCUMENTS, AND TO ALLOW THE REVIEWING AGENCY TO CONFIRM THAT THE CONSTRUCTION DRAWINGS ARE IN ACCORDANCE WITH THIS PLAN. THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OF THE BUILDING PADS OR CURBS.
 - THE EXISTING SITE IS CURRENTLY 100% OVERLAIN WITH IMPERVIOUS ASPHALT PAVING. SINCE THE PROPOSED SITE PLAN INCLUDES LANDSCAPING IN THE PARKING MEDIANS, RUNOFF WILL BE REDUCED BY THIS PROJECT.
 - CURBS AND SIDEWALKS WILL BE CONSTRUCTED AT ELEVATIONS OF AT LEAST 0.5 FOOT ABOVE EXISTING GRADE.



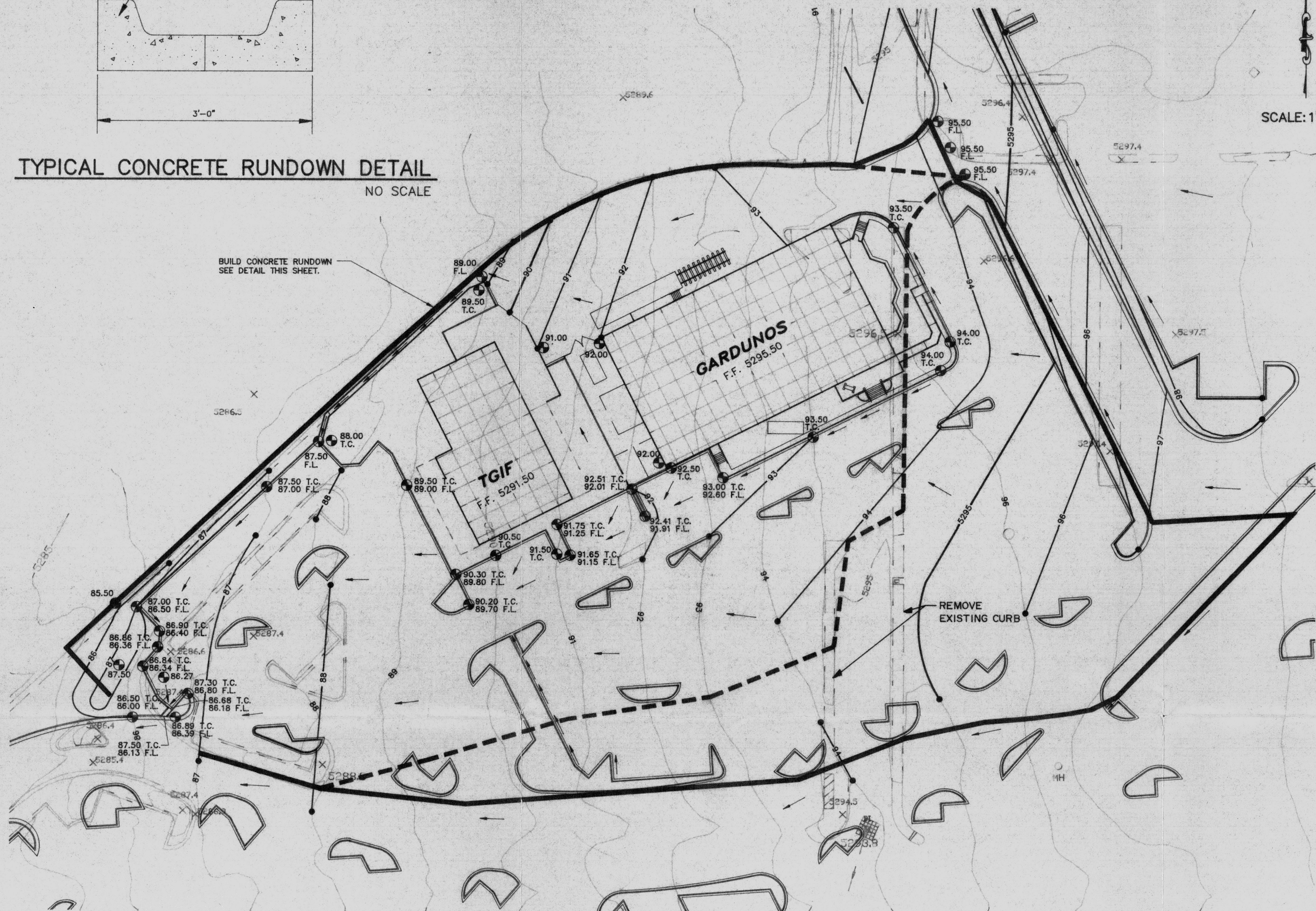
LEGAL DESCRIPTION:
TRACT A, WINROCK CENTER

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP					
TITLE: DRAINAGE PLAN WINROCK RESTAURANT SITES					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			Water		
Transportation			Waste Water		
Hydrology					
DRAWING NO.		MAP NO.		SHEET OF	

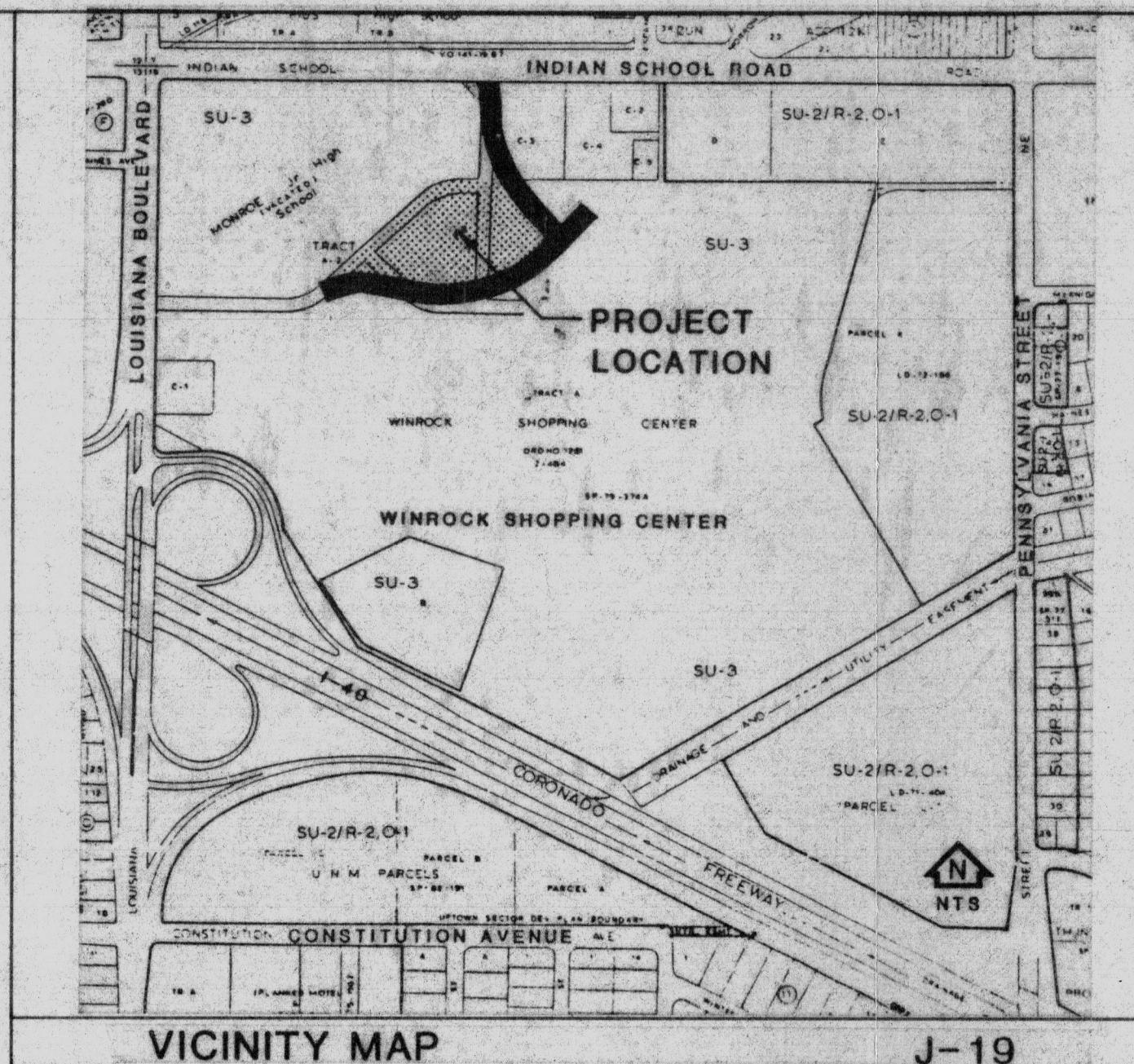
AS BUILT INFORMATION			BENCH MARKS			SURVEY INFORMATION			ENGINEER'S SEAL		
CONTRACTOR	DATE	NO.	NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
WORK	DATE										
STANDARD	DATE										
ACCEPTANCE	DATE										
FIELD	DATE										
ADJUSTMENT	DATE										
REVISIONS	DATE										
DESIGN	DATE										
CHECKED BY	DATE										
RECORDED BY	DATE										
NO.											



TYPICAL CONCRETE RUNDOWN DETAIL
NO SCALE



SCALE: 1"=40'



LEGEND		
DESCRIPTION	EXISTING	PROPOSED
BASIN BOUNDARY	---	---
CONTOUR	5295.5	5295.5
SPOT ELEVATION	5295.5 X	94.50
BUILDING	N/A	---
STORM DRAIN LINE	---	N/A
STORM DRAIN INLET	---	N/A
CURB & GUTTER	---	---
FLOW DIRECTION	(NOT SHOWN)	---
RETAINING WALL	---	N/A

SCOPE:

The proposed improvements include two restaurants and appropriate grading improvements. The site and the surrounding area consist of parking lots, sidewalks, buildings, and small landscaped areas.

The intent of this plan is to show:

- Existing and proposed runoff flow rates and volumes
- Grading relationships between existing ground elevations and proposed finished ground elevations
- Existing and proposed structures and drainage facilities, with their hydraulic characteristics

GENERAL NOTES:

LEGAL: Tract A of Winrock Shopping Center, Bernalillo County, New Mexico.

B.M.: New Mexico State Highway Commission Monument "I-40-7"

SOILS: SCS Soil Survey of Bernalillo County indicates that the soils are a complex of Embudo gravelly fine sandy loam and Tijeras gravelly fine sandy loam.

FLOOD HAZARD: No flood hazard areas lie within the site.

CONSTRUCTION NOTES:

- Existing curb or curb and gutter on site will be removed where necessary to allow for new construction.
- New curbs and sidewalks will be constructed at elevations of at least 0.5 foot above existing grade.
- All roof drains will discharge directly to asphalt paved areas.

CALCULATIONS:

Calculations are based on "Section 22.2, Hydrology," of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, August 1991, Part A.

PRECIPITATION ZONE 3:

Existing Land Condition	
A ₁	0 S.F.
A ₂	0 S.F.
A ₃	0 S.F.
A ₄	104,300 S.F.
TOTAL	104,300 S.F.

Existing Weighted Excess Precipitation (100-Year, 6-Hour Storm):
Weighted E = $\frac{E_1 A_1 + E_2 A_2 + E_3 A_3 + E_4 A_4}{A_1 + A_2 + A_3 + A_4}$

$$= \frac{(0.66)(0) + (0.92)(0) + (1.29)(0) + (2.36)(104,300)}{104,300}$$

$$= 2.36"$$

Existing Volume of Runoff:
 $V_{60} = (2.36)(104,300) = 20,500 \text{ CF.}$

Existing Peak Discharge Rate:
 $Q_p = Q_{p1} A_1 + Q_{p2} A_2 + Q_{p3} A_3 + Q_{p4} A_4$
 $= (1.87)(0) + (2.60)(0) + (3.45)(0) + (5.02)(104,300)$
 $= 521,000 \text{ cfs}$
 $= 12.0 \text{ CFS sheet flow/gutter flow}$

Proposed Land Condition:

Note: 5% of the total area is assumed to be landscaped with grass, in keeping with the overall landscaping of Winrock Center. This includes the areas around the proposed buildings and the traffic islands. The remaining 95% of the site consists of impervious roofs, sidewalks, and pavement.

A ₁	0 S.F.
A ₂	7,665 S.F.
A ₃	0 S.F.
A ₄	145,635 S.F.
TOTAL	153,300 S.F.

Proposed Weighted Excess Precipitation (100-Year, 6-Hour Storm):
Weighted E = $\frac{E_1 A_1 + E_2 A_2 + E_3 A_3 + E_4 A_4}{A_1 + A_2 + A_3 + A_4}$

$$= \frac{(0.66)(0) + (0.92)(7,665) + (1.29)(0) + (2.36)(145,635)}{153,300}$$

$$= 2.29"$$

Proposed Volume of Runoff:
 $V_{60} = (2.29)(153,300) = 29,255 \text{ CF.}$

Proposed Peak Discharge Rate:
 $Q_p = Q_{p1} A_1 + Q_{p2} A_2 + Q_{p3} A_3 + Q_{p4} A_4$
 $= (1.87)(0) + (2.60)(7,665) + (3.45)(0) + (5.02)(145,635)$
 $= 734,000 \text{ cfs}$
 $= 17.2 \text{ CFS sheet flow/gutter flow}$

CHANGE IN VOLUME OF RUNOFF FROM SITE:

Existing	20,500 CF
Proposed	29,255 CF
Net Change	+8,755 CF

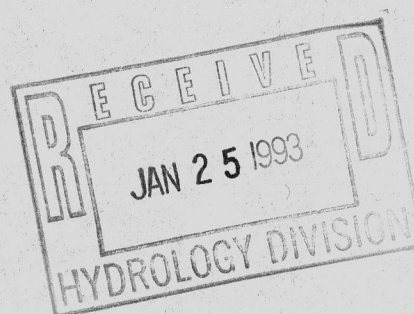
CHANGE IN DISCHARGE RATE FROM SITE:

Existing	12.0 sheet flow/gutter flow
Proposed	17.2 sheet flow/gutter flow
Net Change	+5.2 CFS

Check Concrete Rundown Capacity:

Note: About 25% of the total area of the site drains through the rundown north of TGIF.

$$Q = 17.2 \cdot (0.25) = 4.3 \text{ cfs}$$
$$\text{Calculate capacity with Manning's equation: } Q = (1.49 \cdot (A \cdot 1.67) \cdot (S \cdot 0.5)) / (n \cdot P \cdot 0.67)$$
$$n = 0.013 \text{ for concrete}$$
$$A = 1.0 \text{ sq ft}$$
$$P = 3.0 \text{ ft}$$
$$S = 0.010 \text{ ft/ft}$$
$$Q = (1.49 \cdot (1.0 \cdot 1.67) \cdot (0.010 \cdot 0.5)) / (0.013 \cdot 3.0 \cdot 0.67) = 5.5 \text{ cfs}$$
$$5.5 \text{ cfs} > 4.3 \text{ cfs} \rightarrow \text{OK}$$



AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull St. NE - Suite 102
Albuquerque, NM 87109 - (505) 881-5357

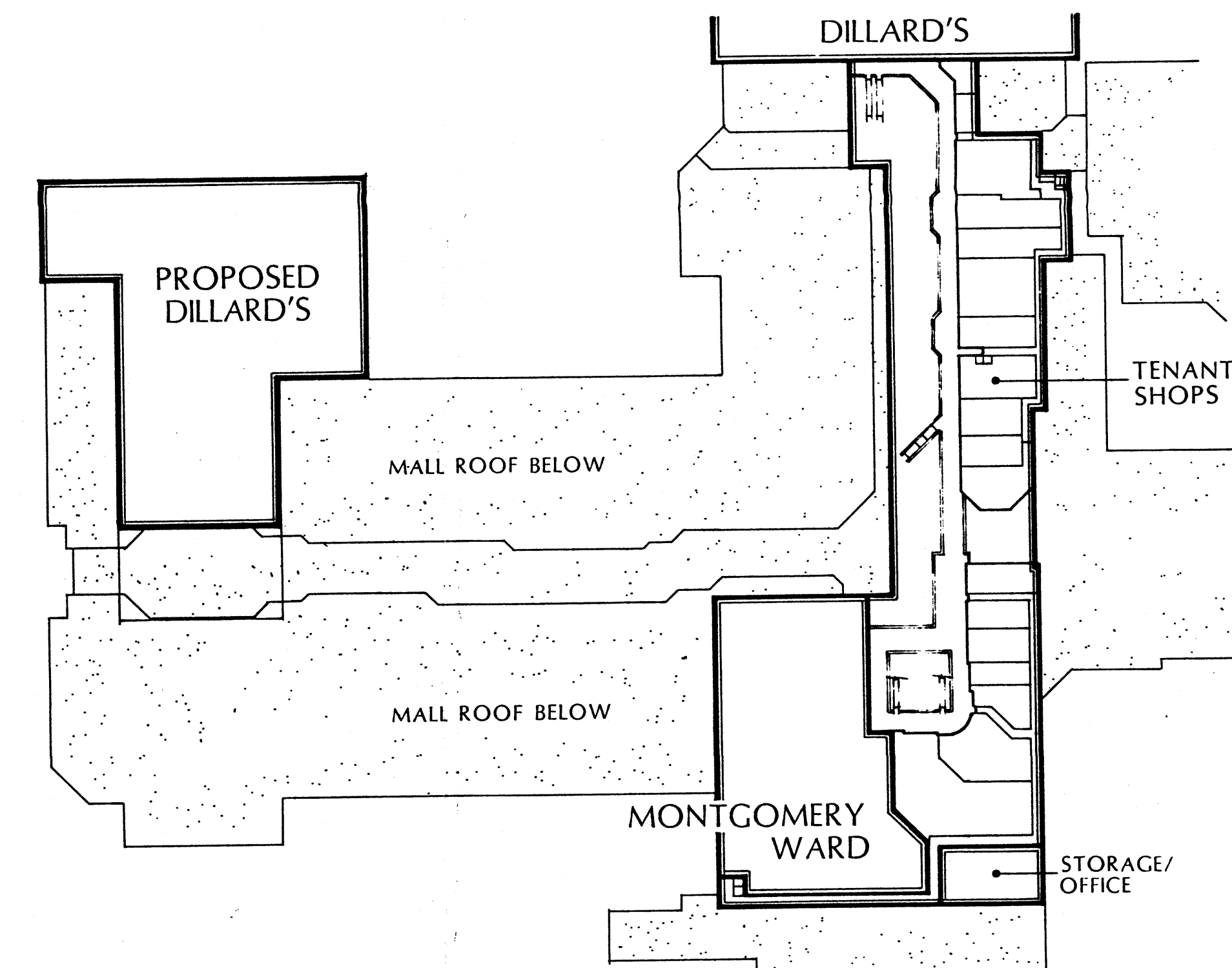
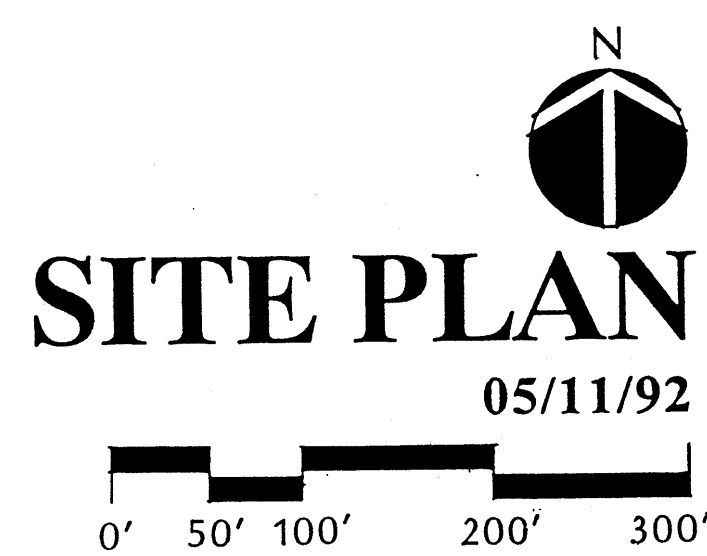
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DRAINAGE PLAN
WINROCK RESTAURANT SITES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			Water		
Transportation			Waste Water		
Hydrology					

DRAWING NO. MAP NO. SHEET NO.

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	NEW MEXICO STATE HIGHWAY COMMISSION	MONUMENT	"I-40-7"	FIELD NOTES	DATE	BY	NO.
WORK	X = 1,490,699.59	ELEVATION = 5296.87					
INSPECTED BY	Y = 404,826.08	T.B.M. : TOP OF ROW MARK					
ACCEPTANCE BY	DATE						
VERIFICATION BY	DATE						
DRAWINGS	DATE						
RECORD BY	DATE						
MICRO-FILM INFORMATION	DATE						
NO.							



UPPER LEVEL PLAN

WINROCK

Albuquerque, New Mexico

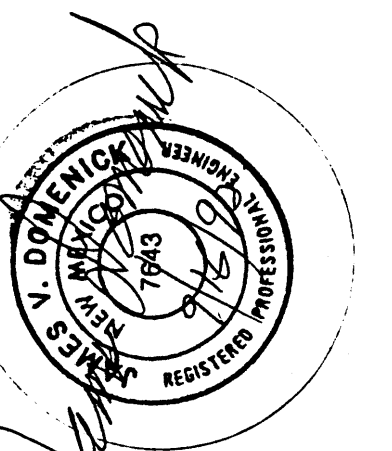
ICSC
EXHIBITS



The Prudential

TERRANOMICS

Terranomics Retail Services LP
SAN FRANCISCO, CALIFORNIA
LEASING & MANAGEMENT
Ms Kathy Huber
415 474 6100
Ms Loana O'Reilly
505 883 6132

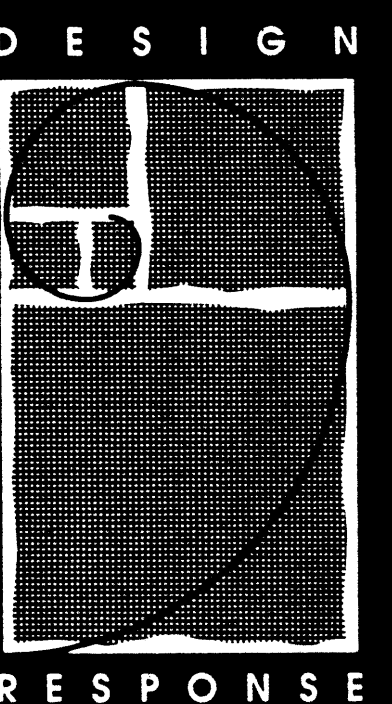


DESIGN RESPONSE

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SITE PLAN

Project Number 92007-01	Sheet Number S-1
Date 5/11/92	of 2 Sheets



RESPONSE

