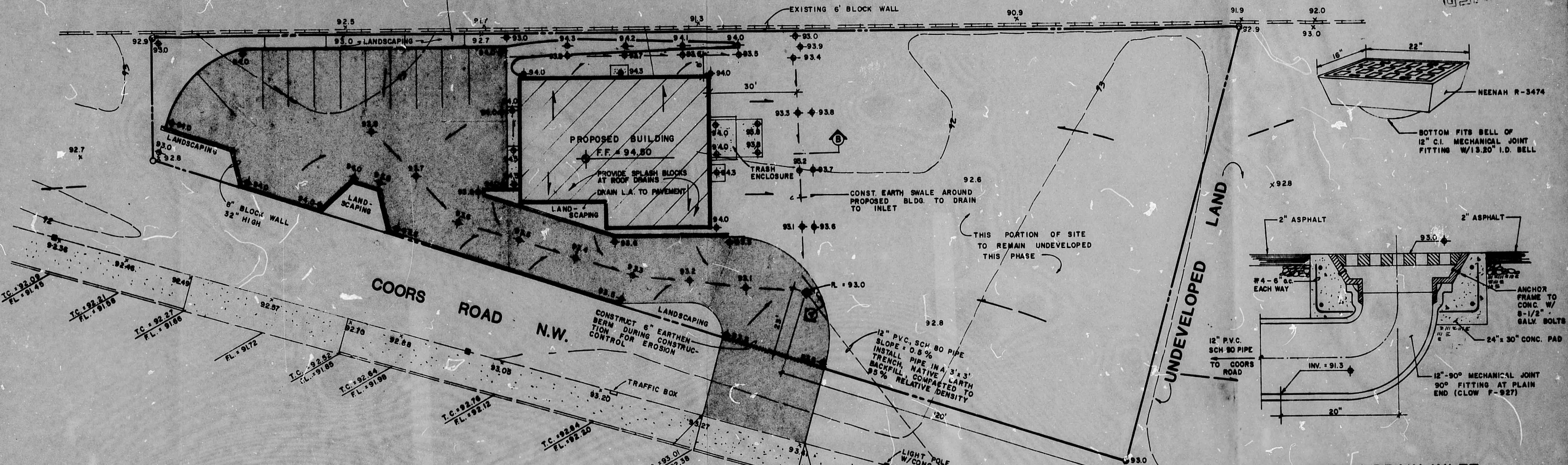


RESIDENTIAL LOTS

SECTION B

SCALE: 1" = 20'

SEP 12 1984



STORM DRAIN INLET SECTION A

LEGEND

- BUILDING (EXISTING, PROPOSED)
- PROPOSED ASPHALT
- PROPERTY LINE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED)

Notes:
 1. The proposed improvements, comprised of a retail store, warehouse, parking lot, and landscaping are located on Coors Boulevard, NW, 1 block west of Central Avenue. The drainage plan proposes to collect all runoff in a drop inlet near the paved south driveway. From the inlet, flow will be conveyed directly to the street catch basin on Coors Boulevard in a 12" pipe.
 2. The present site is a vacant lot (0.78 acres), bounded on the east by a residential area, on the south by a mobile home sales business, and on the west by an undeveloped site (Tract A) of the Atrisco Trust. Offsite flows have virtually no effect on the site.
 3. The intent of this plan is to show:
 a. Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage.
 b. The extent of proposed site improvements, including buildings, walls, pavement, and landscaped areas.
 c. The rate and volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.
 d. The relationship of onsite improvements to existing neighboring property to ensure an orderly transition between proposed/surrounding grades.

General Notes:
Legal: Tract B formerly a portion of tracts C-21 and C-22 Atrisco Village.
Surveyor: Ben Fortschuer Surveying Company
P.M.: W.M. 440-914 Elevation = 5,091.89
T.B.M.: T.C. at entrance of southeast site corner. Elevation = 5,093.53
Soils: Madroa-Wink Association (WMA), fine sandy loam, Hydrologic Group B (US Soil Survey, 1977, Map 30).
Flood Hazard: Based on October 1983 FEMA Floodway Map of Albuquerque, NM, 100-year flood hazard areas exist to the north at the Coors - Blumstein Road intersection and to the east along Central between 50th and 63rd streets. Proposed drainage plan should reduce impact on the flood hazard areas by routing flows directly to the 18" storm sewer which runs north on Coors Boulevard. The site is at the very top of the drainage divide. Hydraulic calculations show that this storm sewer has much excess capacity to accept all flows from the site.
Off-Site Drainage: Insignificant amount. Adjacent areas are bounded by walls or drain to Central Avenue or Coors Boulevard.
Erosion Control: Minimal ground disturbance should occur during construction. A temporary berm will be constructed across driveway (south driveway) to Coors Boulevard to control sediment discharge during construction.

Construction Notes:
 1. Before beginning construction, the Contractor shall check and verify pertinent figures shown hereon and make all pertinent field measurements. Should any conflict, error or discrepancy be discovered, the Contractor shall notify the Engineer at once to resolve the problem.
 2. The Contractor shall be responsible for following the plans using his best skill and attention. Any departure from the plans must be approved by the Engineer and the City Hydrology Department prior to construction.
 3. The Contractor shall check the site plan for locations of existing utilities within or adjacent to streets and shall take all necessary precautions and efforts to locate and protect these utilities. He shall give 48 hours notice to the City Engineering Service, 765-1234, for any work that may interfere with said utilities.

Calculations: Based on a pre-design meeting with City of Albuquerque Hydrology, on August 14, 1984, the following criteria was established:
 a. Site discharge to be determined by analysis of downstream capacity.
 Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. 11 for the 100 year-4 hour storm, using the Rational Formula to compare the existing and proposed runoff rates.

RATIONAL METHOD - Q = CIA

Area of Site: 33,380 sq. ft. = 0.78 ac.
Runoff Coefficient:

Existing Site:	Developed Site:
A imp. = 0 ac.	A imp. = 0.29 ac.
I imp. = 0%	I imp. = 37%
C = 0.34 (DPM 22.2 C-1)	C = 0.51 (DPM 22.2 C-1)

Rainfall Intensity:
 $I = P_d (6.84) T_c^{0.51} = 4.65"$ per hour
 where $P_d = 2.2$ (DPM 22.2 D-1)
 $T_c = 10$ minutes

Existing Condition:
 $Q_{100} = (0.34)(4.65)(.78) = 1.2$ cfs
 $V_{100} = (Q_{100})(5 \text{ ft})(60 \text{ sec/min})/2 = 1,800 \text{ ft}^3$

Developed Condition:
 $Q_{100} = (0.51)(4.65)(.78) = 1.8$ cfs
 $V_{100} = (1.8)(50)(60)/2 = 2,700 \text{ ft}^3$

Summary:
 $Q_{100} = (1.8) - (1.2) = 0.6$ cfs
 $V_{100} = (2,700) - (1,800) = 900 \text{ ft}^3$

TRUNK AND DOWNSTREAM RIVER CAPACITY

Drop inlet grate on-site has open area = 1.9 ft², capacity > 5 cfs

12" PVC pipe (100') to catch basin on Coors Boulevard should have capacity of at least 2.5 cfs to handle existing (1.8 cfs) and future developed flow. From King and Hester Sts. Sec. 4, C = 0.32

$Q = CA(20m)^{1/2}$
 $2.5 = 0.32(.78)(20.02)^{1/2}$
 $N = 0.6' \text{ --- at least } 1.0' \text{ available (see drawing)}$

15" lateral (10') from catch basin to manhole has drop of 0.8', capacity of at least 7 cfs (Albuquerque DPM, p. 78).

18" storm sewer to north below Coors Boulevard has drop of 2.8' in 490' to a manhole at Coors and Avalon, capacity w/o serious ponding of 10-12 cfs based on C = 0.4.

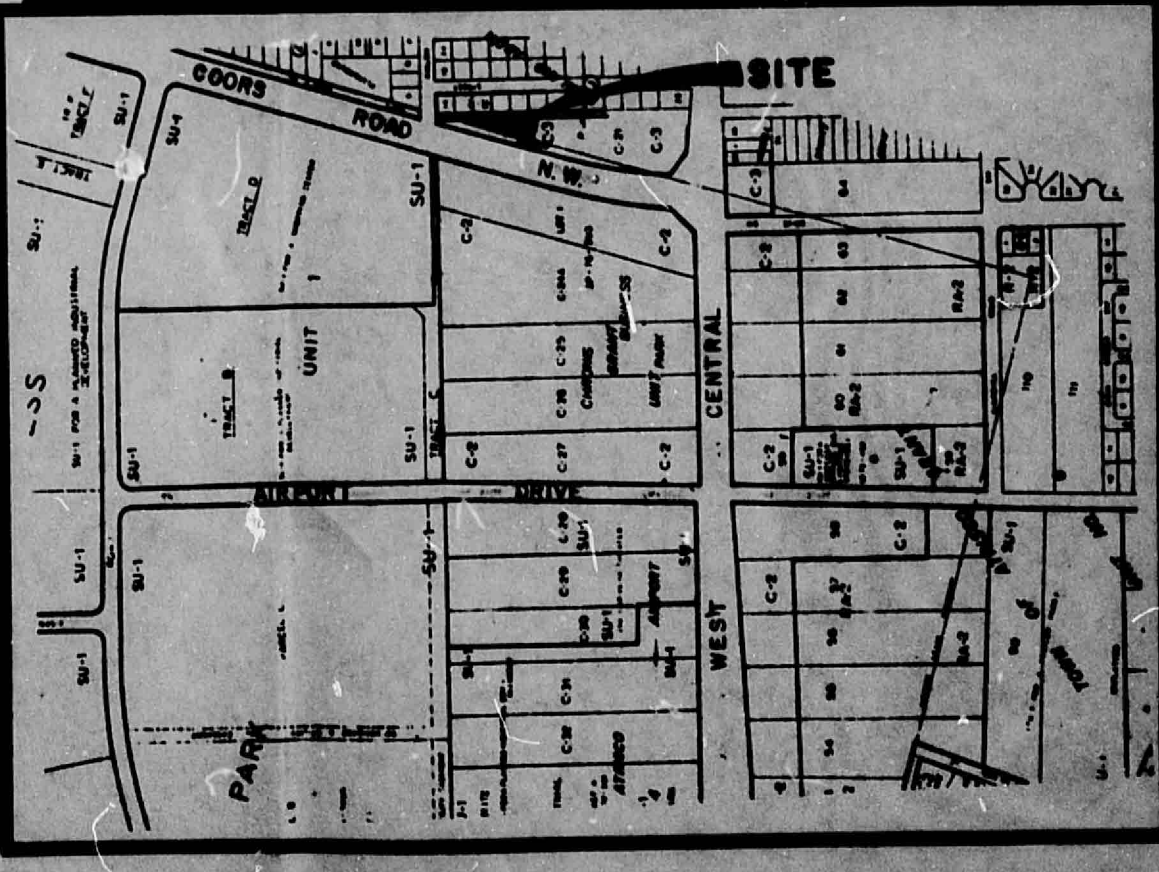
$Q = CA(20m)^{1/2}$
 $Q = 0.4(1.77)((64.4)(6))^{1/2}$
 $Q = 11 \text{ cfs}$

This is sufficient capacity to carry all flows from drainage basin (approximately 4 acres) above manhole at Coors and Avalon.

$Q = CIA = 0.6(4.65)(4) = 11 \text{ cfs}$



FLOOD HAZARD MAP



VICINITY MAP K 10

DRAWING / PLAN