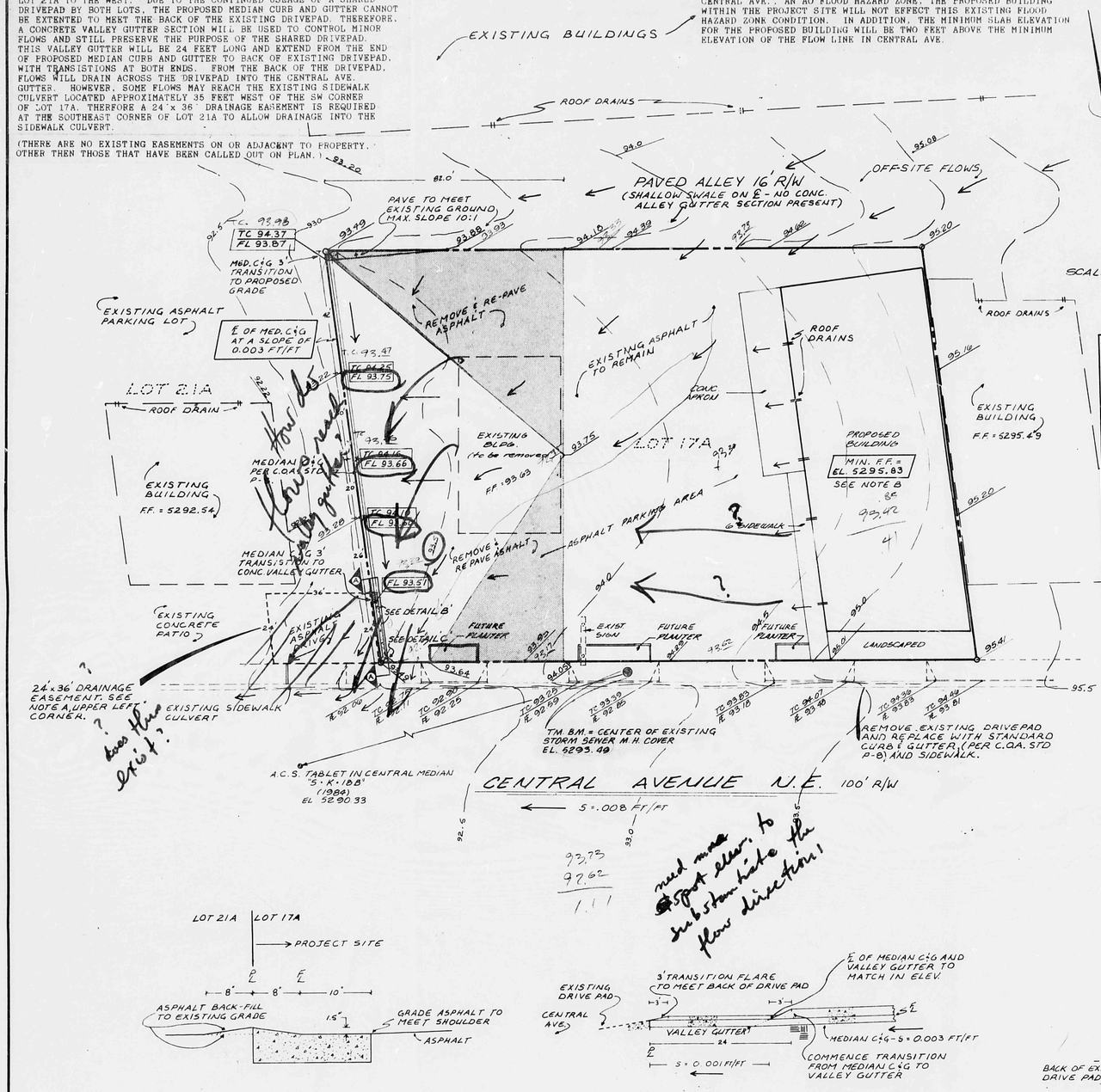
HYDROLOGY

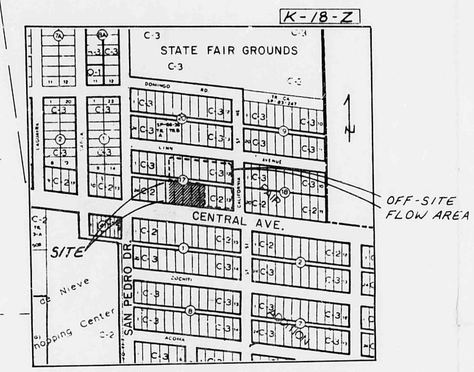
K18/D42
TWO PLANS

NOTE A:
PROPOSED DESIGN INCLUDES A MEDIAN CURB AND GUTTER ON WEST PROPERTY LINE OF LOT 17A TO PREVENT ALL FLOWS FROM ENTERING LOT 21A TO THE WEST. DUE TO THE CONTINUED USEAGE OF A SHARED DRIVEPAD BY BOTH LOTS, THE PROPOSED MEDIAN CURB AND GUTTER CANNOT BE EXTENTED TO MEET THE BACK OF THE EXISTING DRIVEPAD. THEREFORE, A CONCRETE VALLEY GUTTER SECTION WILL BE USED TO CONTROL MINOR FLOWS AND STILL PRESERVE THE PURPOSE OF THE SHARED DRIVEPAD. THIS VALLEY GUTTER WILL BE 24 FEET LONG AND EXTEND FROM THE END OF PROPOSED MEDIAN CURB AND GUTTER TO BACK OF EXISTING DRIVEPAD, WITH TRANSITIONS AT BOTH ENDS. FROM THE BACK OF THE DRIVEPAD, FLOWS WILL DRAIN ACROSS THE DRIVEPAD INTO THE CENTRAL AVE. GUTTER. HOWEVER, SOME FLOWS MAY REACH THE EXISTING SIDEWALK CULVERT LOCATED APPROXIMATELY 35 FEET WEST OF THE SW CORNER OF LOT 17A. THERFORE A 24' x 36' DRAINAGE EASEMENT IS REQUIRED AT THE SOUTHEAST CORNER OF LOT 21A TO ALLOW DRAINAGE INTO THE SIDEWALK CULVERT.

(THERE ARE NO EXISTING EASEMENTS ON OR ADJACENT TO PROPERTY, OTHER THEN THOSE THAT HAVE BEEN CALLED OUT ON PLAN.)

NOTE B:
THE MAJOR PORTION OF THE PROJECT SITE IS IN FLOOD HAZARD ZONES B AND C. ALTHOUGH THE FRONTAGE OF THE PROJECT SITE IS ALONG CENTRAL AVE., AN AO FLOOD HAZARD ZONE, THE PROPOSED BUILDING WITHIN THE PROJECT SITE WILL NOT EFFECT THIS EXISTING FLOOD HAZARD ZONE CONDITION. IN ADDITION, THE MINIMUM SLAB ELEVATION FOR THE PROPOSED BUILDING WILL BE TWO FEET ABOVE THE MINIMUM ELEVATION OF THE FLOW LINE IN CENTRAL AVE.





VICINITY & OFFSITE FLOWS MAP

LEGEND

- EXISTING CONTOUR
- DIRECTION OF FLOW
- PROPERTY LINE
- DRAINAGE EASEMENT
- 0.00 PROPOSED ELEVATION
- 0.00 EXISTING ELEVATION
- TC 0.00 TOP OF CURB ELEVATION
- FL 0.00 FLOW LINE ELEVATION
- TRANSITION

LEGAL DESCRIPTION

LOTS W/2 16, 17, 18, 19, E/2 20, BLOCK 17, FAIRGROUNDS ADDITION, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO

GENERAL

Zone Atlas Page K-18; Flood Hazard Zone B, C AND AO

SITE DESCRIPTION
Present - Developed lot with a 2,100 sq. ft. existing building located on the western side of lot.

Proposed - Removal of existing building, paving cleared area and construction of a 6,400 sq. ft. (approx.) building along eastern property line, no change in paved area.

SOIL TYPE - WeB, Wink Fine Sandy Loam, Hydrologic Soil Group B

OFF-SITE FLOW
To the north there is a 16-foot wide paved alley (no crown evident), to the north, northwest and east one story building discharge their roof flows into the alley from approximately California Street west. Under existing conditions, flows enter the project site from the north and northeast flowing through the center of the lot, combining with on-site flows, and exiting west onto adjacent property.

ON-SITE FLOW
Proposed design will direct both on-site and off-site flows into Central Avenue via a medium curb and gutter and valley gutter along the western property line, discharging onto an existing drivepad and into Central Avenue. A 24-foot x 36-foot drainage easement on adjacent property to the west will allow the continued use of a shared drivepad, and also allow water flows to exit efficently into Central Avenue.

DRAINAGE AREAS
ON-SITE - 28,644 sq. ft. or 0.6576 ac.
OFF-SITE - 77,680 sq. ft. or 1.7833 ac.

ON-SITE HYDROLOGY

TIME OF CONCENTRATION
Flow Length = 205 ft.
Average Slope = 0.3%
Time of Concentration = 2.69 min.; Velocity = 1.27 fps.
Adjusted Velocity per DPM Plate 22.2 B-1 = 1.40 fps.
Adjusted Time of Concentration = 2.44 min.; use 10 min.

6-HOUR RAINFALL DEPTH (same for off-site area)
10-yr. = 1.51 in.
100-yr. = 2.30 in.

RAINFALL INTENSITY (same for off-site area)
10-yr. = 3.19 in./hr.
100-yr. = 4.86 in./hr.

RUNOFF COEFFICIENTS
Present and Proposed C = .95 (Asphalt Parking/Roof Area C = .95)*

RUNOFF RATES
Present and Proposed
10-yr. = 2.0 cfs
100-yr. = 3.0 cfs

RUNOFF VOLUMES
Present and Proposed
10-yr. = 3,424 cu. ft.
100-yr. = 5,216 cu. ft.

OFF-SITE HYDROLOGY

Time of Concentration
Flow Length = 350 ft.
Average Slope = 0.3%
Time of Concentration = 6.77 min.; Velocity = 0.86 fps
Adjusted Velocity per DPM Plate 22.2 B-1 = 0.75 fps
Adjusted Time of Concentration = 7.78 min.; use 10 min.

6-Hour Rainfall Depth and Rainfall Intensity do not change from on-site Hydrology.

RUNOFF COEFFICIENTS
(Asphalt Parking/Roof Areas C = .95)*

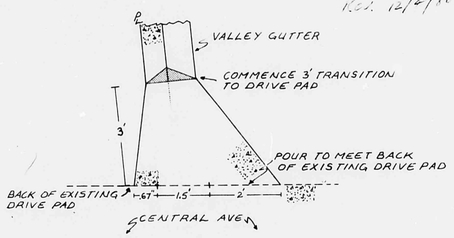
RUNOFF RATES
10-yr. = 5.4 cfs
100-yr. = 8.2 cfs

RUNOFF VOLUMES
10-yr. = 9,286 cu. ft.
100-yr. = 14,144 cu. ft.

* C = .95 WAS USED AS A CONSERVITIVE COEFFICIENT IN DESIGN

TYPICAL VALLEY GUTTER CROSS-SECTION
DETAIL B
NO SCALE

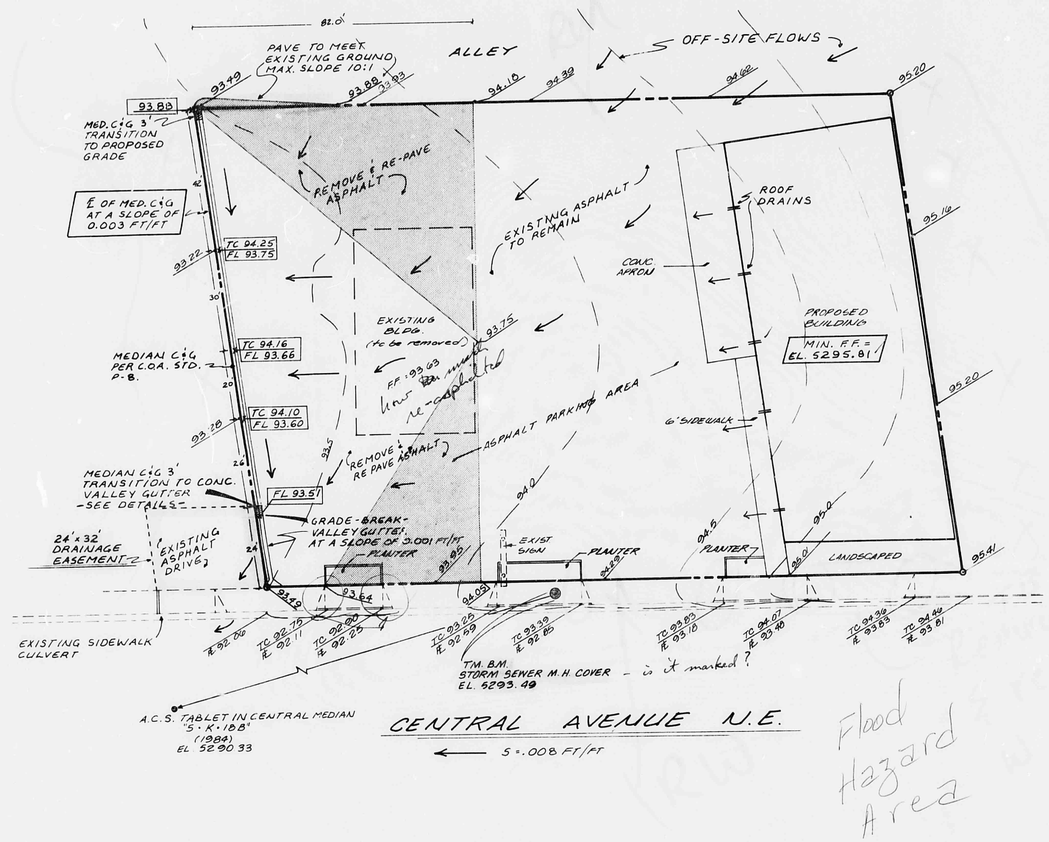
MEDIAN C&G / VALLEY GUTTER TRANSITION PROFILE
NO SCALE



PLAN VIEW OF VALLEY GUTTER TRANSITION TO DRIVE PAD
DETAIL C
NO SCALE

RECEIVED
DEC 04 1986
HYDROLOGY SECTION

DESIGNED BY: E.D., J.B.H.	DRAINAGE & GRADING PLAN FOR U-HAUL CENTER 6401 CENTRAL AVE. N.E.
DRAWN BY: J.B.H. C.V.M.	
CHECKED BY: E.D.	
DATE: Dec. 1986	PREPARED BY: RESOURCE TECHNOLOGY, INC.

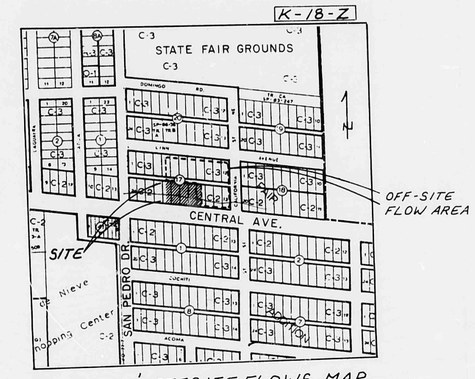


Flood Hazard Area

LEGEND

- EXISTING CONTOUR
- DIRECTION OF FLOW
- PROPERTY LINE
- DRAINAGE EASEMENT
- 0.00 PROPOSED ELEVATION
- 0.00 EXISTING ELEVATION
- TC 0.00 TOP OF CURB ELEVATION
- FL 0.00 FLOW LINE ELEVATION
- TRANSITION

SCALE : 1"=20'



VICINITY & OFFSITE FLOWS MAP

LEGAL DESCRIPTION

LOTS W/2 16, 17, 18, 19, E/2 20, BLOCK 17, FAIRGROUNDS ADDITION, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO

GENERAL

Zone Atlas Page K-18; Flood Hazard Zone ~~X~~ AO - Dep 1

SITE DESCRIPTION

Present - Developed lot with a 2,100 sq. ft. existing building located on the western side of lot.

Proposed - Removal of existing building, paving cleared area and construction of a 6,400 sq. ft. (approx.) building along eastern property line, no change in paved area.

SOIL TYPE - Web, Wink Fine Sandy Loam, Hydrologic Soil Group B

OFF-SITE FLOW

To the north there is a 15-foot wide paved alley (no crown evident), to the north, northwest and east one story building discharge their roof flows into the alley from approximately California Street west. Under existing conditions, flows enter the project site from the north and northeast flowing through the center of the lot, combining with on-site flows, and exiting west onto adjacent property.

ON-SITE FLOW

Proposed design will direct both on-site and off-site flows into Central Avenue via a median curb and gutter and valley gutter along the western property line, discharging onto an existing drivepad and into Central Avenue. A 24-foot x 32-foot drainage easement on adjacent property to the west will allow the continued use of a shared drivepad, and also allow water flows to exit efficently into Central Avenue.

DRAINAGE AREAS

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OFF-SITE - 77,680 sq. ft. or 1.783 ac.

ON-SITE HYDROLOGY

TIME OF CONCENTRATION

Flow Length = 205 ft.
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Time of Concentration = 2.69 min.; Velocity = 1.27 fps.
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Adjusted Time of Concentration = 2.44 min.; use 10 min.

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10-yr. = 1.51 in.
100-yr. = 2.30 in.

RAINFALL INTENSITY (same for off-site area)

10-yr. = 3.19 in./hr.
100-yr. = 4.86 in./hr.

RUNOFF COEFFICIENTS

Present and Proposed C = .95 (Asphalt Parking/Roof Area C = .95)

= .9 per E.R.

RUNOFF RATES

Present and Proposed
10-yr. = 2.0 cfs
100-yr. = 3.0 cfs

RUNOFF VOLUMES

Present and Proposed
10-yr. = 3,424 cu. ft.
100-yr. = 5,216 cu. ft. K-4774 Dep = 2"

OFF-SITE HYDROLOGY

Time of Concentration
Flow Length = 350 ft.
Average Slope = 0.3%
Time of Concentration = 6.77 min.; Velocity = 0.86 fps
Adjusted Velocity per DPM Plate 22.2 B-1 = 0.75 fps
Adjusted Time of Concentration = 7.78 min.; use 10 min.

6-Hour Rainfall Depth and Rainfall Intensity do not change from on-site Hydrology.

RUNOFF COEFFICIENTS

(Asphalt Parking/Roof Areas C = .95)

RUNOFF RATES

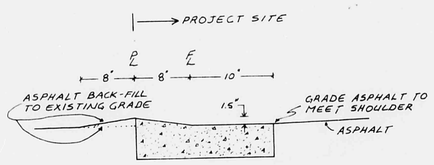
10-yr. = 5.4 cfs
100-yr. = 8.2 cfs 8.1

RUNOFF VOLUMES

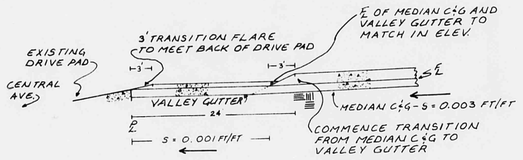
10-yr. = 9,286 cu. ft.
100-yr. = 14,144 cu. ft. K-12,947

10/21/86
Rev 11/10/86

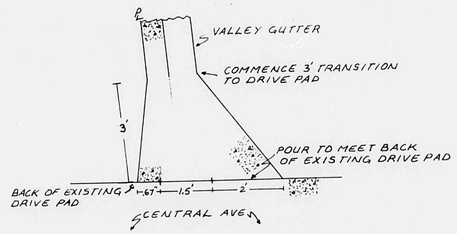
RECEIVED NOV 10 1986 HYDROLOGY SECTION



TYPICAL VALLEY GUTTER CROSS-SECTION
NO SCALE



MEDIAN C&G / VALLEY GUTTER TRANSITION PROFILE
NO SCALE



DETAIL OF VALLEY GUTTER TRANSITION TO DRIVE PAD
NO SCALE

DESIGNED BY: E.D., J.B.H.	DRAINAGE & GRADING PLAN FOR U-HAUL CENTER 6401 CENTRAL AVE. N.E.
DRAWN BY: J.B.H. C.V.M.	
CHECKED BY: E.D.	
DATE: Oct. 1986	PREPARED BY: RESOURCE TECHNOLOGY, INC.