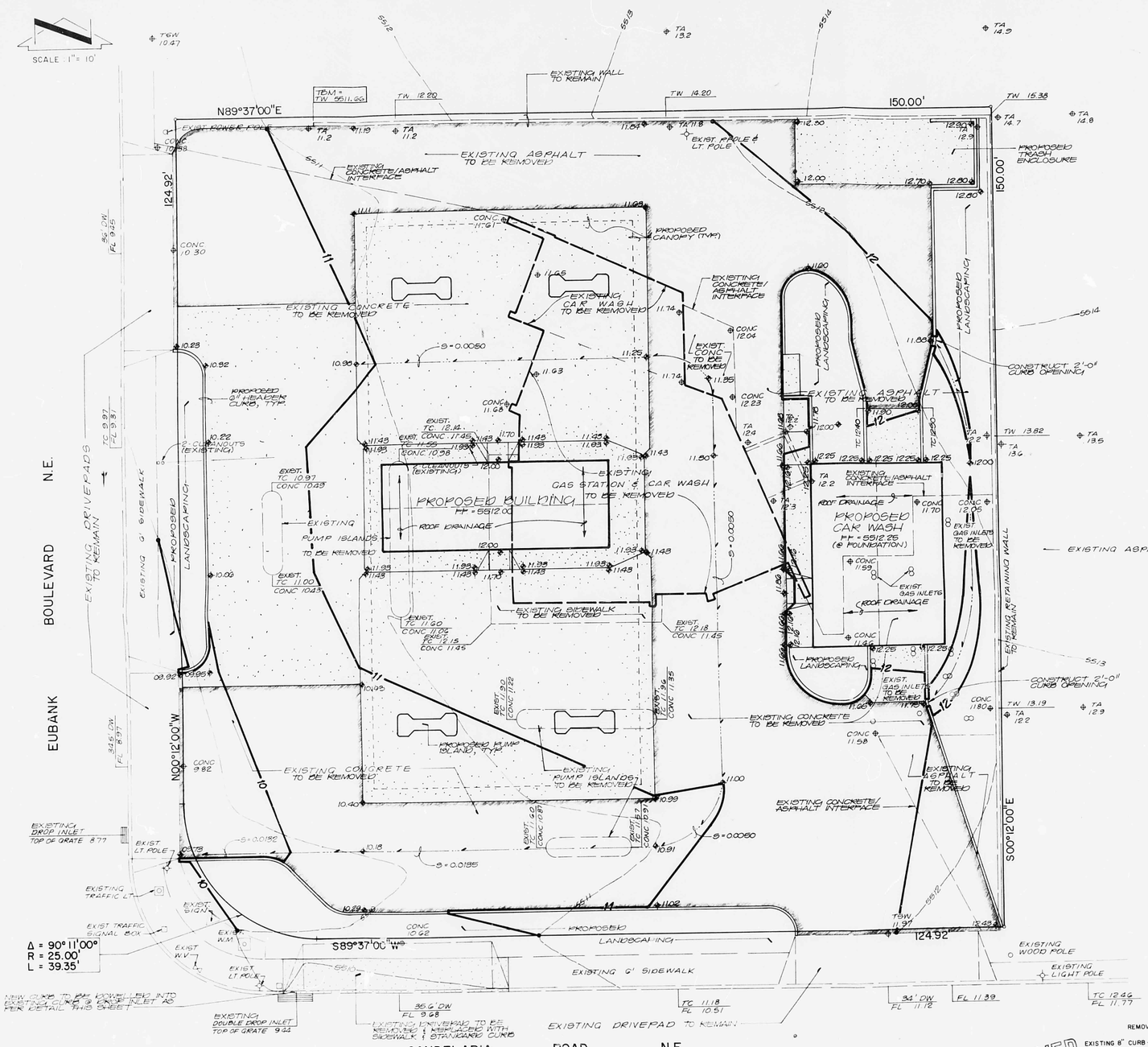
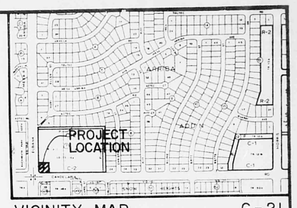
HYDROLOGY

G21/D12F
ONE PLAN

G 21- D12F

1 PLAN




VICINITY MAP G-21

SCALE: 1" = 800'

## DRAINAGE PLAN

The following items concerning the Phillips Petroleum Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located at the northeast corner of Eubank Boulevard N.E. and Candelaria Road N.E. The site drains from northeast to southwest into Eubank Boulevard and Candelaria Road. No ponding currently exists on the site. The site is located within an infill area. No offsite flows enter the site because of existing walls on the property line.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of the existing improvements and 4) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of a new service station and car wash with associated paving and landscaping. The proposed construction is essentially identical with what currently exists on the site with the exception that there will be more landscaping.

As shown on Plate G-21 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. There is an existing 36" storm drain pipe and a series of inlets at the Candelaria/Eubank intersection which adequately removes runoff from the streets. As shown by the Grading Plan, the site will drain to these existing facilities.

The calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The SCS Method has been utilized for volume analysis and the Rational Method has been chosen for discharge rate analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in slightly less discharge from the site. There was no pre-design conference since the improvements do not constitute a substantial change from the existing improvements.

### EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

### CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
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## CALCULATIONS

### Ground Cover Information

From SCS Bernalillo County Soil Survey, Embudo Tijeras Complex (Etc)
Plate: 22
Hydrologic Soil Group: B
Existing Pervious CN = 69 (DPM Plate 22.2 C-2)
Lawns - fair condition
Developed Pervious CN = 69 (DPM Plate 22.2 C-2)

### Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min. (minimum)

### Point Rainfall

$P_6 = 2.45$ in. (DPM Plate 22.2 D-1)

### Rational Method

Discharge: $Q = CiA$

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 5.18$ in/hr
$P_6 = 2.45$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

### SCS Method

Volume: $V = 3630(DRO)\ A$

Where DRO = Direct runoff in inches
A = area, acres

### Existing Condition

$A_{total}$ = 22,000 sf = 0.5 Ac
Roof area = 2350 sf (0.90)
Paved area = 19,650 sf (0.90)
Landscaped area = 0 sf (0.40)
C = 0.90 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 0.90(5.18)0.5 = 2.3$ cfs
$A_{imp}$ = 22,000 sf; % impervious = 100 %
Composite CN = 98 (DPM Plate 22.2 C-3)
DRO = 2.2 in (DPM Plate 22.2 C-4)
$V_{100} = 3630\ (DRO)A = 3990$ cf

### Developed Condition

$A_{total}$ = 22,000 sf = 0.5 Ac
Roof area = 1490 sf = ( 0.90 )
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### Comparison

$\Delta Q_{100}$ = 2.3 - 2.2 = 0.1 cfs (Decrease)
$\Delta V_{100}$ = 3990 - 3810 = 180 cf (Decrease)

## PROJECT BENCHMARK

CITY OF ALBUQUERQUE BRASS CAP G-G21
LOCATED IN MEDIAN NOSE OF CANDELARIA
WEST OF EUBANK
ELEVATION = 5508.42 FEET

## LEGAL DESCRIPTION

A PORTION OF TRACT 7-A MESA ARRIBA

## LEGEND

- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED ASPHALT PAVING
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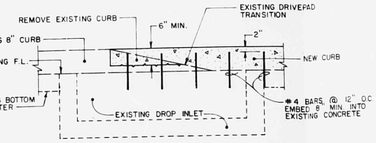
- SWALE

RECEIVED JUN 06 1986 HYDROLOGY SECTION




CURB AT DROP INLET - ELEVATION
SCALE: 1" = 2'

JEFFREY G. MORTENSEN NEW MEXICO 9547 REGISTERED PROFESSIONAL ENGINEER 06-04-86

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| | | | |

DESIGNED BY S.K.S.
DRAWN BY L.G.D.
APPROVED J.G.M.
JOB NO. 60551
DATE 4 · 86

# GRADING & DRAINAGE PLAN
# PHILLIPS PETROLEUM
3000 EUBANK BOULEVARD N.E.

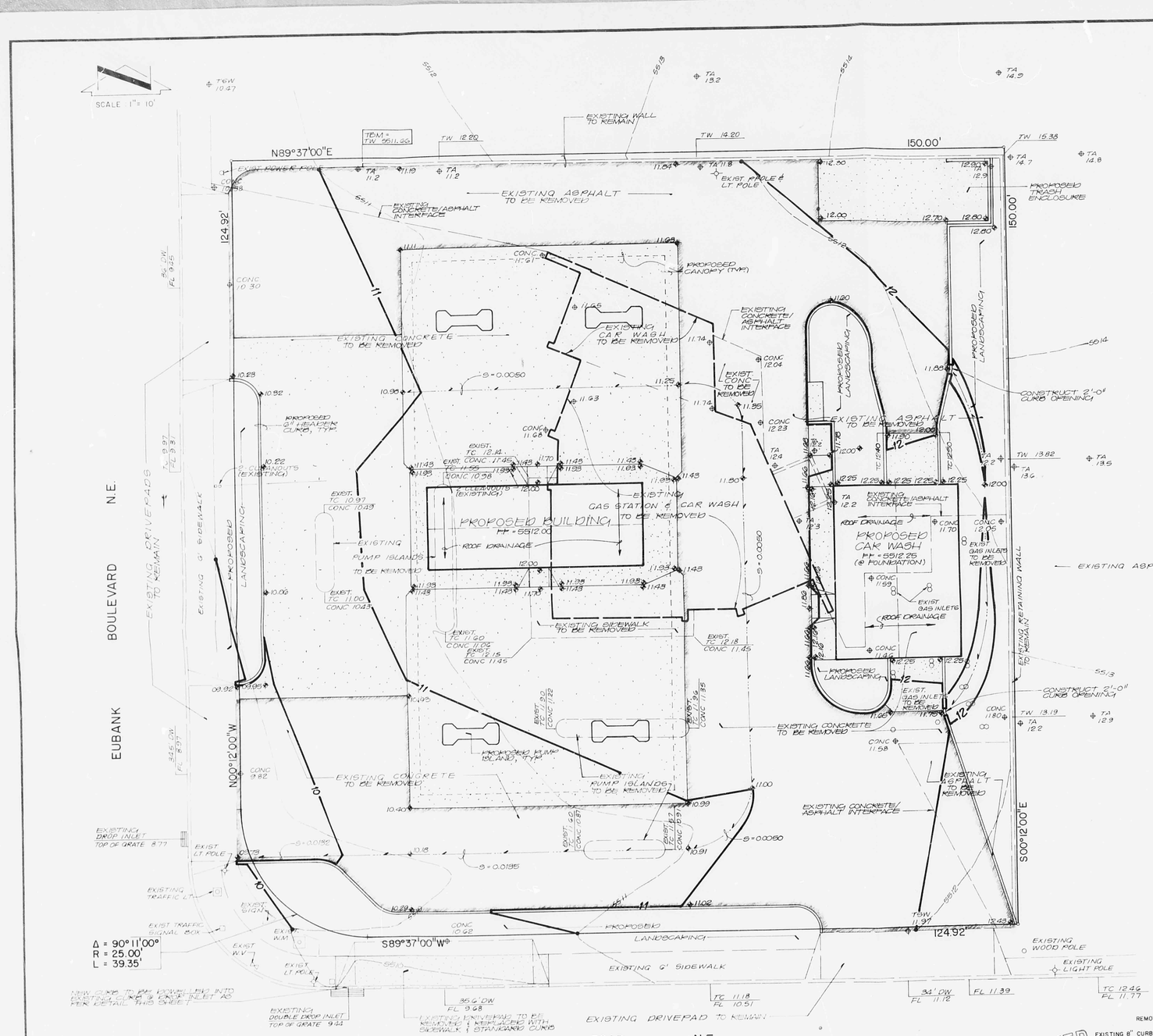
SHEET 1 OF 1

HYDROLOGY

G21/D12F
ONE PLAN

G 21- D12F

1 PLAN



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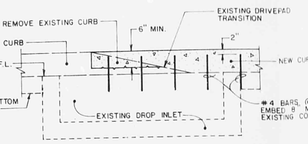


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SHEET 1 OF 1