



the following items concern the Saint Aidan's Episcopal Church
drainage plan are contained herein:

LEGEND

- 1. Vicinity Map
- 2. Grading Plan
- 3. Calculations

As shown by the Vicinity Map, the site is located on the northeast
corner of the intersection of Chelwood Park Boulevard N.E. and
Eastridge Drive N.E. At present, the site is developed with an asphalt
parking lot. The site is currently developed, thereby making this an asphalt
site. As shown by Plate 22.2 of the Albuquerque Flood Damage Study,
this site does not lie within a designated flood hazard zone and also
downstream flooding is not apparent and therefore does not appear to be
a problem. Runoff generated by the project site drains first east to
an existing storm drain inlet located at the intersection of Chelwood Park
Boulevard N.E. and Eastridge Drive N.E., which is the outlet for this
site. No effluent flows enter this site along the west and south
property lines since the adjacent streets route runoff away from the
project site. No effluent flows enter the site along the east property
line since the existing retaining wall routes runoff away from the
project site. No effluent flows enter the site along the north property
line since the existing block wall routes runoff away from the project
site.

The Grading Plan shows all existing and proposed grades indicated by
spot elevations and contours at 1' intervals. All existing and proposed
grades are shown by this plan. The proposed
improvements consist of the construction of a parking lot with
asphalt paving and landscaping. Flow generated by the proposed
improvements will be routed first east to an existing storm drain inlet
located at the intersection of Chelwood Park Boulevard N.E. and
Eastridge Drive N.E., which is the outlet for this site. No effluent
flows enter this site along the west and south property lines since the
adjacent streets route runoff away from the project site. No effluent
flows enter the site along the east property line since the existing
retaining wall routes runoff away from the project site. No effluent
flows enter the site along the north property line since the existing
block wall routes runoff away from the project site.

The calculations which appear herein analyze both the existing and
proposed conditions for the 100-year return period event. The
Rational Method and the SCS Method have been used for this analysis in
accordance with the City of Albuquerque Flood Damage Study, Volume I
and the City of Albuquerque Flood Damage Study, Volume II. The
calculations show that the proposed improvements will increase the
total discharge from this site by approximately 0.4 cfs.

CALCULATIONS

A. Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 32 - 8m - Bandus gravelly fine sandy loam
Hydrologic Soil Group B
Existing pervious CH = 70 (DNV Plate 22.2 C-2)
Pasture or range land (fair condition)
Developed pervious CH = 61 (DNV 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.

Point Rainfall

$P_g = 2.5$ in. (DNV Plate 22.2 D-1)

Rational Method

Discharge: $Q = CIA$

where C varies

$C = P_g (6.48) T_c^{-0.51} = 5.28$ in/hr

$P_g = 2.5$ in. (DNV Plate 22.2 D-1)

$T_c = 10$ min (minimum)

A = area, acres

SCS Method

Volume: $V = 3630 (DRD) A$

Where DRD = Direct runoff in inches

A = area, acres

Existing Condition

Acres = 107,710 sf = 2.47 Ac

Roof area = 8,330 sf (0.08)

Paved area = 49,280 sf (0.46)

Landscaped area = 49,900 sf (0.46)

$C = 0.62$ (Weighted average per Emergency Rule, 1/14/86)

$Q_{100} = CIA = (0.62)(5.28)(2.47) = 8.1$ cfs

$Amp = 57,810$ sq ft (Imperious = 54)

Composite CH = 81 (DNV Plate 22.2 C-3)

DRD = 0.9 in (DNV Plate 22.2 C-4)

$V_{100} = 3630 (DRD) A = 8,070$ cf

Developed Condition

Acres = 107,710 sf = 2.47 Ac

Roof area = 16,000 sf (0.15)

Paved area = 47,100 sf (0.44)

Landscaped area = 44,545 sf (0.41)

$C = 0.62$ (Weighted average per Emergency Rule, 1/14/86)

$Q_{100} = CIA = (0.62)(5.28)(2.47) = 8.5$ cfs

$Amp = 63,165$ sq ft (Imperious = 59)

Composite CH = 80 (DNV Plate 22.2 C-3)

DRD = 0.9 in (DNV Plate 22.2 C-4)

$V_{100} = 3630 (DRD) A = 8,070$ cf

Comparison

$Q_{100} = 8.5 - 8.1 = 0.4$ cfs (increase)

$V_{100} = 8,070 - 8,070 = 0$ cf (no change)

FINISH GRADE

GRATE SHALL BE 18" x 18"

GLW F3385 OR APPROVED

EQUAL GRATE ELEV = 5721.00

FINISH GRADE

1" x 1" ANGLE W/ ANCHORS

(TYP. ALL 4 SPS)

4 REBARS (2 10' O.C. TYP.)

4" DIA DRAIN PIPE

CONCRETE SUBGRADE

@ 90% ASTM D1557

(TYP.)