HYDROLOGY

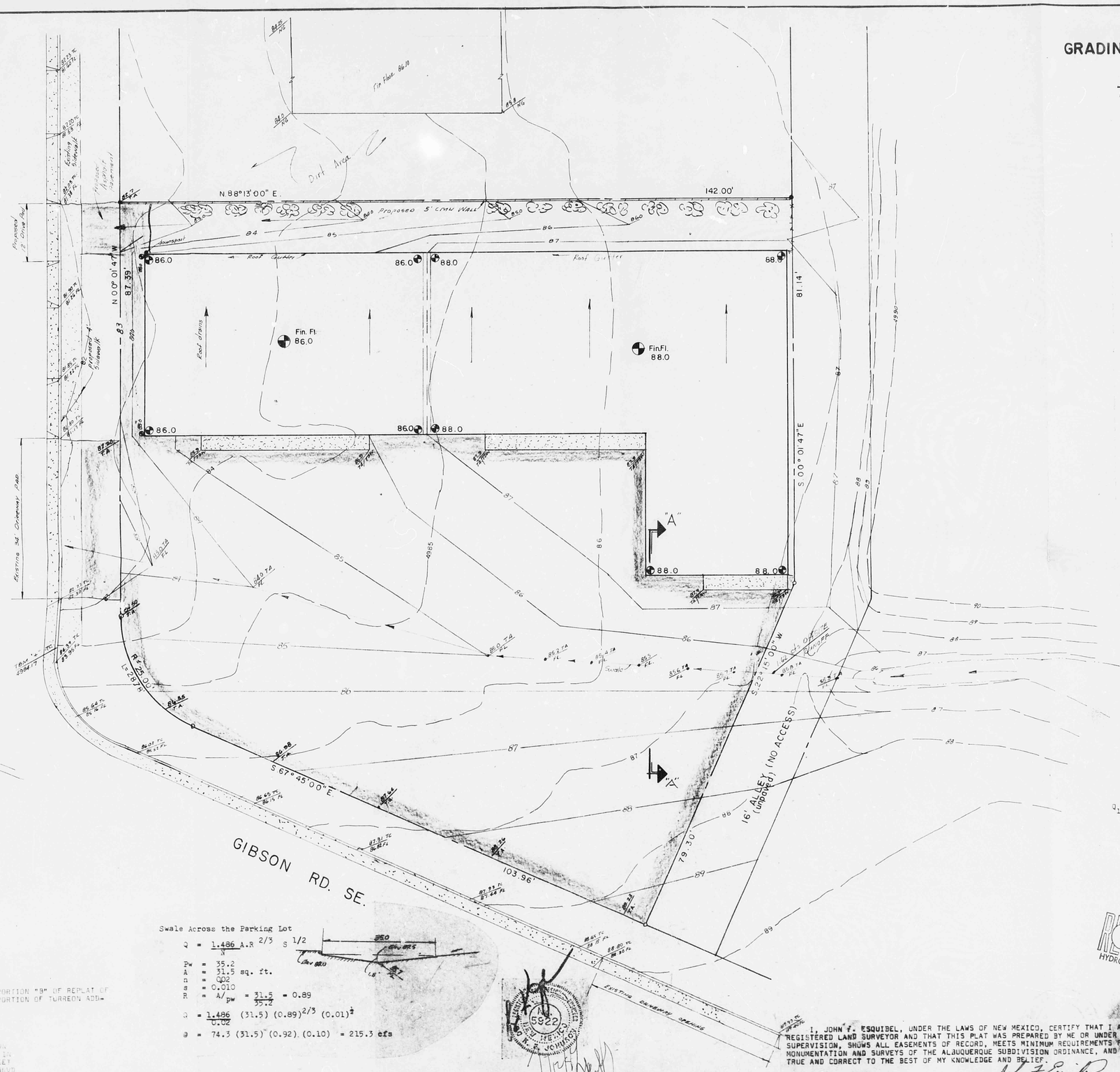
L14/D11
ONE PLAN

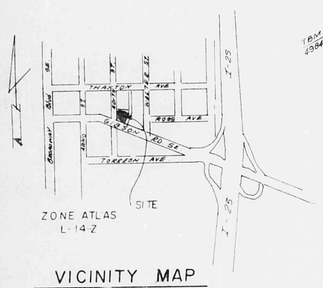
L14-D11

1 PLAN

GRADING AND DRAINAGE PLAN
FOR
701 GIBSON RD. SE.

SCALE 1" = 10'





VICINITY MAP

Swale Across the Parking Lot

$$Q = \frac{1.486}{N} A \cdot R^{2/3} S^{1/2}$$

Pw = 35.2
A = 31.5 sq. ft.
n = 0.02
s = 0.010
R = A/pw = 31.5/35.2 = 0.89

$$Q = \frac{1.486}{0.02} (31.5)(0.89)^{2/3}(0.01)^{\frac{1}{2}}$$

Q = 74.3 (31.5) (0.92) (0.10) = 215.3 cfs

SECTION "A-A"

LEGAL DESCRIPTION

LOT 5A, FORMERLY LOTS 5, "A" AND A PORTION "B" OF REPLAT OF ANDERSON'S & THAXTON'S REPLAT OF A PORTION OF TURREON ADDITION FILED APRIL , 1984

BENCH MARK

A NEW MEXICO STATE HIGHWAY COMMISSION BRASS CAP, LOCATED IN CENTER MEDIAN IN GIBSON BLVD. SE APPROXIMATELY 800 FEET WEST OF THE INTERSECTION OF GIBSON BLVD SE AND EDITH ST SE STAMPED STA G-10 ELEVATION 4978.19

SITE DRAINAGE CRITERIA

THE FOLLOWING ITEMS REQUIRED BY THE CITY OF ALBUQUERQUE DRAINAGE SECTION CONCERNING THE DRAINAGE PLAN FOR LOT 5A OF, BLOCK 13, TURREON ADDITION AND CONTAINED HEREON:

A. VICINITY MAP
B. GRADING AND DRAINAGE PLAN
C. SITE DRAINAGE CRITERIA

THE SITE IS LOCATED ON THE NORTHEAST CORNER OF GIBSON ROAD S.E. AND EDITH STREET S.E. THE SITE IS UNDEVELOPED AREA, AND ITS TERRAIN SLOPES EAST TO WEST AT ABOUT 4%. THERE IS A SMALL AMOUNT OFFSITE RUNOFF AFFECTING THIS TRACT OF LAND. THE SITE WILL ALLOW FOR ANY POSSIBLE OFF-SITE TO DRAIN ACROSS PARKING LOT. THE RUNOFF GENERATED FROM THIS SITE WILL BE ALLOWED TO DRAIN INTO EDITH STREET S.E. THERE ISN'T ANY DOWN STREAM FLOODING CONDITIONS THAT WOULD REQUIRE FOR DETENTION OF RUNOFF ON THE SITE.

THE SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE AS IS SHOWN ON FLOOD HAZARD MAP 350002-0023

THE PLAN SHOWN:

A. EXISTING CONTOURS AT ONE FOOT INTERVALS.
B. PROPOSED GRADES INDICATED BY CONTOURS AND SPOT ELEVATIONS.
C. SWALES AS INDICATED BY LEGEND SHOWN.
D. GRADING AND DRAINAGE PLAN.

OFFSITE RUNOFF

THIS SITE HAS A SMALL AREA CONTRIBUTING OFFSITE RUNOFF (0.60 ACRES) THIS IS DUE TO AN EXISTING CATCH BASIN AT THE INTERSECTION OF ROSS AVENUE S.E. AND WALTER STREET S.E. WHICH INTERCEPTS THE RUNOFF TO THE EAST OF THE SITE. THE AREA CONSIDERED AS OFFSITE IS 0.60 ACRES IS THE AREA EAST OF THE SITE BETWEEN THE ALLEY AND ROSS AVENUE S.E. THE RUNOFF WILL FLOW ACROSS THIS SITE'S PARKING LOT AND INTO EDITH WHERE IT IS INTERCEPTED BY AN EXISTING CATCH BASIN.

OFFSITE RUNOFF CALCULATIONS

Q_{100} = CIA
C = 0.60 I_{100} = 4.65 A = 0.58
Q_{100} = 0.60 (4.65) (0.58) = 1.62 cfs

DETERMINE PEAK FLOW RATE

ROOF AND PAVEMENT AREA = 16321.8 S.F.
DIRT AREA (Natural gr.) = 1496.0 S.F.
TOTAL DRAINAGE AREA CONTRIBUTING TO RUNOFF = 17819.8 S.F.

COMPOSITE "C" FACTOR = 0.9 (16321.8 + 0.6(1496)) / 17817.8 = 0.87

"C" = 0.75 Q peak$_{100}$ = CiA: A = 0.409 S.F. i = 4.65
Q peak$_{100}$ = 0.87(2.20)(0.409) (2.2) = 1.65 cfs.

Developed peak Q_{100} = 1.65 cfs.

Total Q = Developed Q_{100} + Q_{100} Offsite
Q_{100} = 1.65 + 1.62 = 3.27 cfs

Q_{10} = 0.657 (3.25) = 2.15 cfs.

LEGEND

ASPHALT PAVING
LANDSCAPING AREA
PROPERTY LINE
EXISTING CURB & GUTTER w/ SIDEWALK
EXISTING SPOT ELEVATION
EXISTING CONTOUR
PROPOSED SPOT ELEVATION
PROPOSED FINISHING CONTOUR
SURFACE FLOW DIRECTION
BUILDING STRUCTURE
DOWN SPOUT
TOP OF ASPHALT
TOP OF WALL

RECEIVED JUL 13 1984 HYDROLOGY SECTION

I, JOHN F. ESQUIBEL, UNDER THE LAWS OF NEW MEXICO, CERTIFY THAT I AM A REGISTERED LAND SURVEYOR AND THAT THIS PLAT WAS PREPARED BY ME OR UNDER MY SUPERVISION, SHOWS ALL EASEMENTS OF RECORD, MEETS MINIMUM REQUIREMENTS FOR MONUMENTATION AND SURVEYS OF THE ALBUQUERQUE SUBDIVISION ORDINANCE, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JOHN F. ESQUIBEL, N.M.L.S. NO. 5949

L14/D11

A & E ENGINEERING, INC.
CIVIL ENGINEERING · SURVEYING · PLANNING
1530 SAN PEDRO NE · SUITE 101 · 266-6291
ALBUQUERQUE, NEW MEXICO 8780