HYDROLOGY

C17/D1W
ONE PLAN

# GRADING AND DRAINAGE PLAN

OF

LOT 39

CLIFFORD INDUSTRIAL PARK

ALBUQUERQUE, NEW MEXICO

SITE DRAINAGE CRITERIA:

THIS IS A GRADING AND DRAINAGE PLAN FOR LOT 39 - CLIFFORD INDUSTRIAL PARK. THIS DRAINAGE REPORT AND PLAN CONSISTS OF A HYDROLOGIC STUDY OF THE PROBABLE 100 - YEAR STORM AFFECTING THIS EXISTING SITE. THE PURPOSE FOR THIS PLAN IS TO ROUTE THE GENERATED RUNOFF DEVELOPED BY THIS PROJECT AND DESIGN A POSITIVE DISCHARGE INTO THE DOMINGO BACA ARROYO.

THE FOLLOWING ITEMS ARE REQUIRED BY THE CITY OF ALBUQUERQUE DRAINAGE SECTION CONCERNING THIS UPDATED DRAINAGE PLAN.:

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

THE PLAN SHOWS:

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

THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE AS IS SHOWN ON THE FLOOD HAZARD MAP 350002 0009 C

DRAINAGE NOTES AND CALCULATIONS

1. LEGAL DESCRIPTION: A CERTAIN TRACT OF LAND BEING LOT 39 CLIFFORD INDUSTRIAL PARK, AN ADDITION TO THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO. CONTAINING 1.27 ACRES MORE OR LESS.

2. ZONING.: M-1, ZONE ATLAS C-17-Z

3. SOIL TYPE: AS PER THE U.S.D.A. SOIL CONSERVATION REPORT ON SOILS OF BERNALILLO COUNTY THIS DESIGNATED AS A SANDY LOAM OF THE HYDROLOGIC GROUP B. HENCE, THE C VALUE AS PER THE D.P.M. FOR THE USE IN THE RATIONAL EQUATION = 0.34 .

4. OFFSITE: THIS SITE HAS NO OFFSITE FLOWS .

5. UNDEVELOPED CONDITIONS: THIS SITE IS A VACANT UNDEVELOPED LOT. THE TERRAIN SLOPES EAST TO WEST AND ITS GENERATED FLOW ARE IN SHEET FLOW MODE. THE PURPOSE OF THIS DRAINAGE REPORT AN PLAN IS TO PROVIDE POSITIVE DRAINAGE FROM THE SITE INTO THE DOMINGO BACA ARROYO. THE TOTAL AREA OF THIS TRACT IS 1.27 ACRES OR 55,278 SQUARE FEET WHICH IS CONTRIBUTING RUNOFF. THE AREA HAS 50,652 SQUARE FEET OF ROOF, SIDEWALK, AND PAVEMENT AREA, WHILE THE REMAINING PORT IS NATURAL LANDSCAPE. THE UNDEVELOPED RUNOFF UNDER AN UNDEVELOPED CONDITION IS SHOWN HEREON:

USING P = 2.2" (DPM VALUE)

$I = P(6.34)\ t_c^{-.487} = 4.65$ in./hr., $t_c = 10$ min.

$Q_{undevelope} = CIA = 0.34(4.65)(1.27) = 2.00$ cfs.

DEVELOPED DRAINAGE PLAN

ACCORDING TO THE PRE-DESIGN MEETING ON 3/27/85 WITH THE CITY'S HYDROLOGIST (HYDROLOGY SECTION) THE SITE DRAINAGE PLAN CAN FREE DISCHARGE TO EITHER ANAHEIM STREET OR THE DOMINGO BACA CHANNEL. THIS SITE WILL BE DEVELOPED INTO AN OFFICE COMPLEX FOR RENTAL PURPOSES UNDER ONE OWNERSHIP.

THE SITE WILL BE PAVED AND LANDSCAPED. A DOWN DRAIN LOCATED IN THE S.W. CORNER WILL ALLOW THE RUNOFF TO DRAIN INTO THE DOMINGO BACA CHANNEL AS WAS OUTLINED IN THE LETTER BY THE CITY ENGINEER'S OFFICE (ANDRE HAILE) DATED 5/1/85. THIS LETTER ADDRESSES THE DOWN DRAIN AND IT'S ELEVATION TO 5106.00 .

DEVELOPED DETERMINE PEAK FLOW RATE

ROOF AND PAVEMENT AREA = 50652 S.F.
DIRT AREA (Natural gr.) = 4626.0 S.F.
TOTAL DRAINAGE AREA CONTRIBUTING TO RUNOFF = 55,278 S.F.

COMPOSITE "C" FACTOR = $0.9(50652.0 + 0.6(4626) / 55278.0 = 0.87$

"C" = 0.87 $Q_{peak100} = CIA$; $A = 1.27$ AC. $I = 4.65$
$Q_{peak100} = 0.87(4.65)(1.27) = 5.14$cfs.

Developed Peak $Q_{100} = 5.14$ cfs

Paved swale calculations:

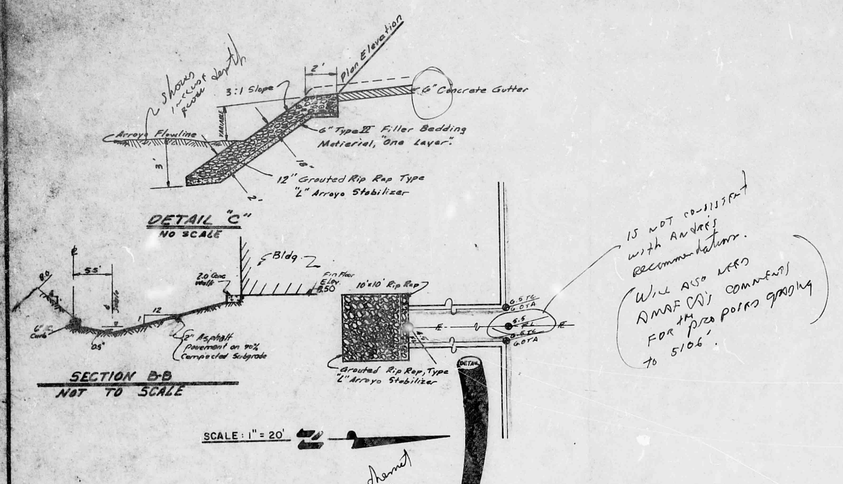
Section A-A

$Q_2 = \frac{1.486}{n}$ (AR) 2/3 (S) 1/2

$Q_1 = \frac{1.486}{0.017}$ (3.75)(0.625)2/3(0.025)1/2 = 6.94 cfs

$R = \frac{A}{Pw} = \frac{3.75}{6.00} = 0.625$

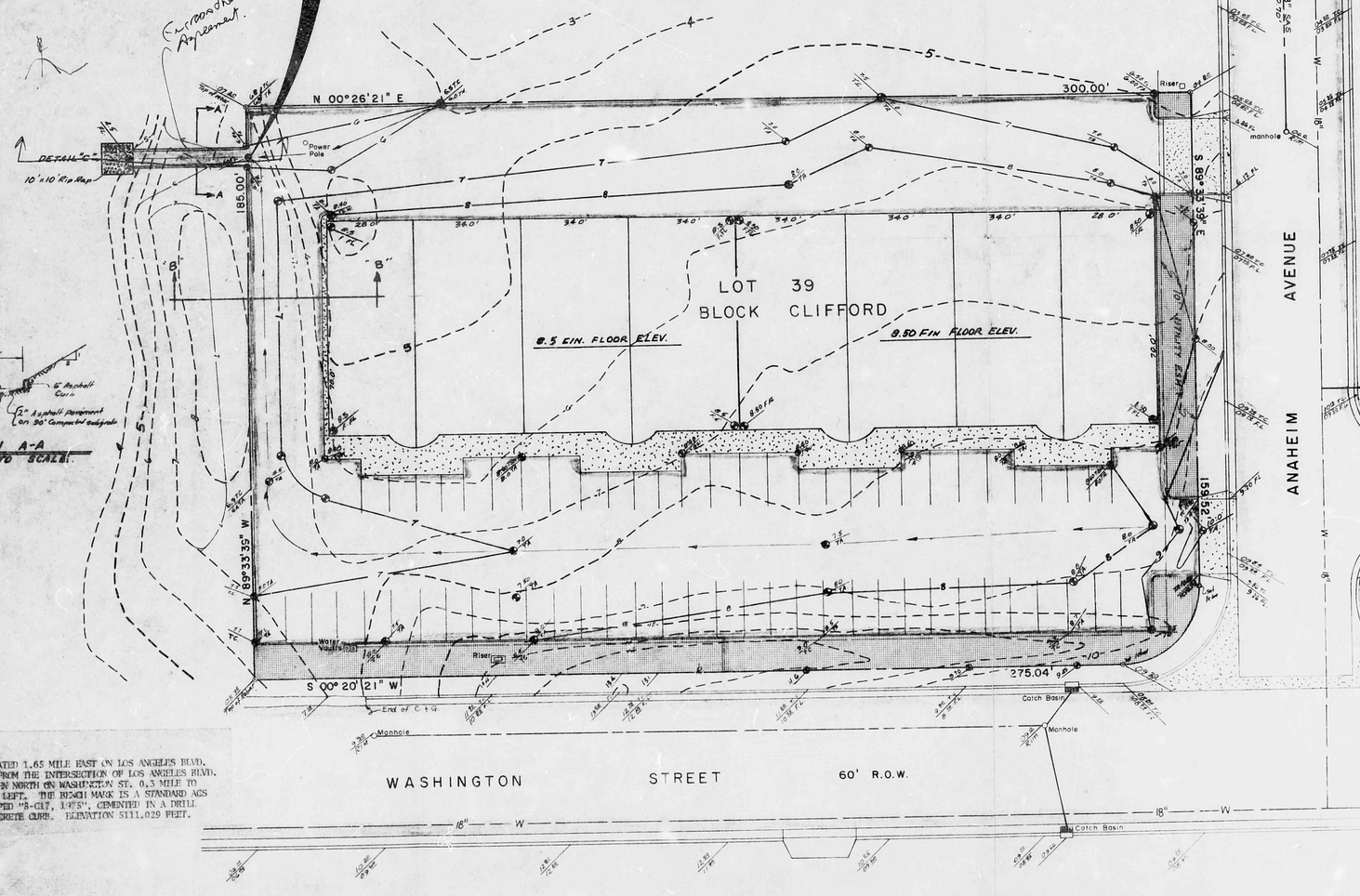
The paved swale can carry 6.94 cfs while the site is contributing a "Q" of 5.13 cfs, therefore swale will drain the site.




IS NOT CONSISTENT with ANDRE'S Recommendation. (WILL ALSO NEED DRAFT (C) COMMENTS FOR THE PIPE POND SPACING TO 5106'.

SCALE: 1" = 20'

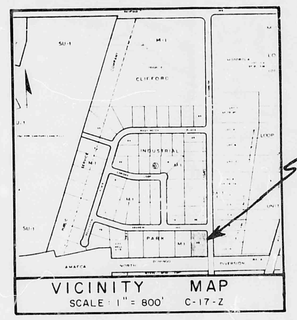
Encroachment Agreement.



SECTION A-A
NOT TO SCALE

BENCH MARK DATA:

THE STATION IS LOCATED 1.65 MILE EAST ON LOS ANGELES BLVD. TO WASHINGTON ST. FROM THE INTERSECTION OF LOS ANGELES BLVD. AND SECOND ST., THEN NORTH ON WASHINGTON ST. 0.3 MILE TO THE STATION ON THE LEFT. THE BENCH MARK IS A STANDARD ACS BRASS TABLET, STAMPED "8-C17, 1975", CEMENTED IN A DRILL HOLE IN TOP OF CONCRETE CURB. ELEVATION 5111.029 FEET.




LEGEND

ASPHALT PAVING
LANDSCAPING AREA
PROPERTY LINE
EXISTING CURB & GUTTER W/SIDEWALK
EXISTING SPOT ELEVATION
EXISTING CONTOUR
PROPOSED SPOT ELEVATION
PROPOSED CONTOUR ELEVATION
FINISH FLOOR ELEVATION
TOP OF ASPHALT
EXISTING STRUCTURE
TOP OF CURB

I, JOHN T. BOYD, NEW MEXICO REGISTERED LAND SURVEYOR HEREBY CERTIFY THAT THE SURVEY AND MAP SHOWN HEREON WERE PREPARED BY ME OR UNDER MY SUPERVISION AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY BELIEF AND KNOWLEDGE.

John T. Boyd 5-6-85

RECEIVED
MAY 06 1985
HYDROLOGY SECTION

5-6-85

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