HYDROLOGY

C15/D2
1 PLAN

C15/D2

1 PLAN

LEGEND:

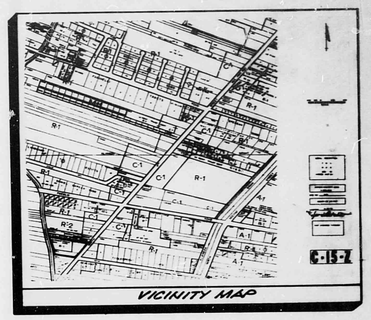
- T.C. = H/A = TOP OF CURB ELEVATION
- F = H/A = CURB FLOW LINE ELEVATION
- EXISTING OR PROPOSED CONCRETE
- 92 = EXISTING CONTOUR
- 90 = PROPOSED CONTOUR
- EXISTING FENCE
- 91.50 = PROPOSED SPOT ELEVATION
- PROPOSED LIMITS OF NEW PAVING

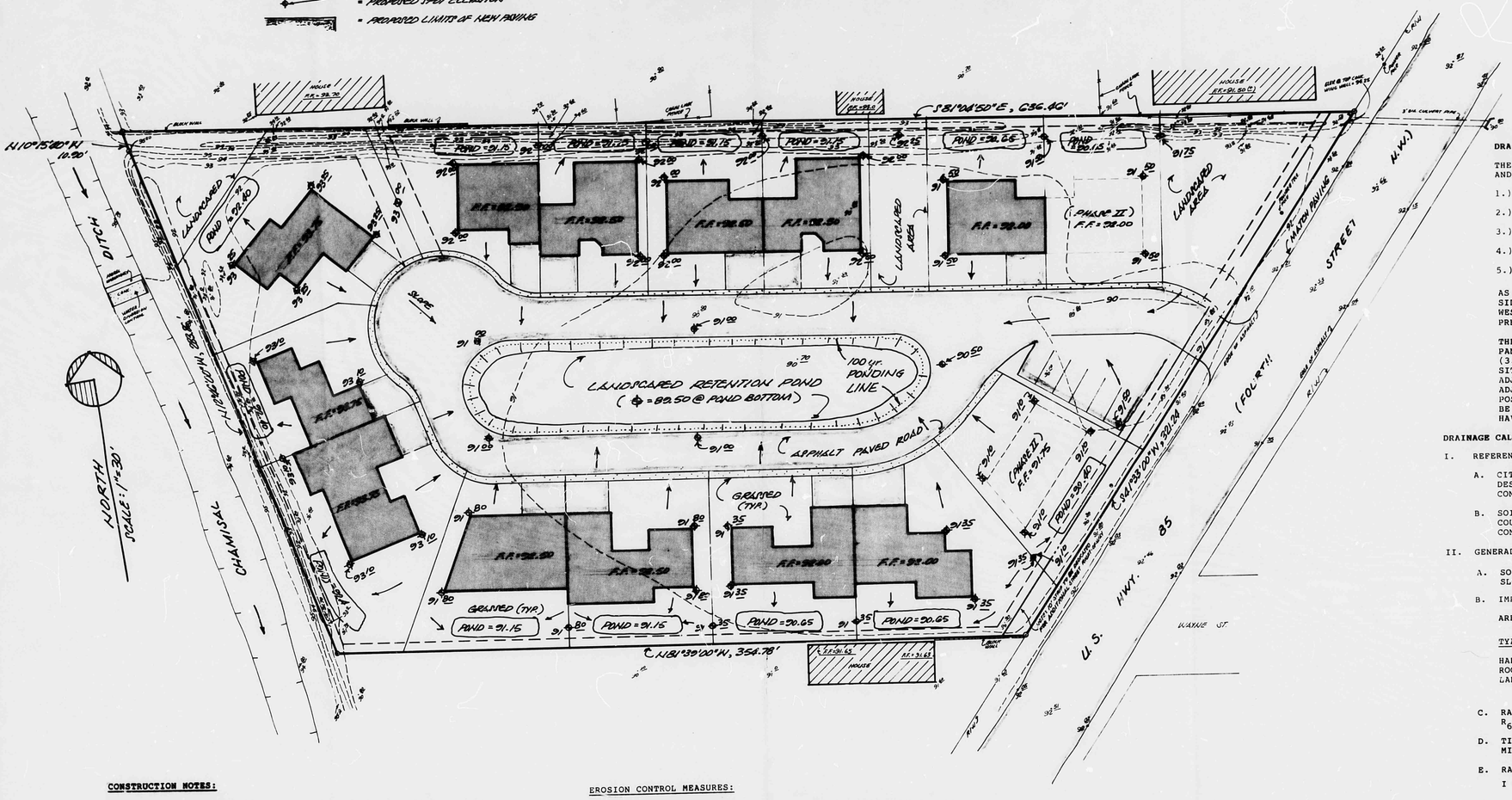
BENCH MARK :

CITY OF ALBUQUERQUE SURVEY DEPARTMENT SURVEY STATION "4-D15", LOCATED AT THE INTERSECTION OF 4 th STREET N.W. AND SARAH LANE N.W.; BEING A 40 PENNY NAIL IN THE EAST SIDE OF A POWER POLE AT THE SOUTHEAST QUADRANT OF THE INTERSECTION, M.S.L. ELEVATION = 4992.034 .

LEGAL DESCRIPTION:

TRACTS 156-A AND 156-B, MIDDLE RIO GRANDE CONSERVANCY DISTRICTS PROPERTY MAP NO. TWENTY-FOUR (24), BERNALILLO COUNTY, NEW MEXICO.





DRAINAGE COMMENTS:

THE FOLLOWING ITEMS CONCERNING THE SUBJECT SITE ARE CONTAINED ON THE GRADING AND DRAINAGE PLAN HEREON:

1.) SITE GRADING AND DRAINAGE PLAN

2.) VICINITY MAP

3.) LEGAL DESCRIPTION

4.) LIMITS AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS

5.) DRAINAGE CALCULATIONS

AS SHOWN ON THE VICINITY MAP HEREON, THE SUBJECT SITE IS LOCATED ON THE WEST SIDE OF NORTH FOURTH (4th) STREET, SOUTH OF EL PUEBLO ROAD N.W. AND DIRECTLY WEST OF WAYNE STREET N.W., IN BERNALILLO COUNTY, NEW MEXICO; THE SITE IN IT'S PRESENT CONDITION IS UNDEVELOPED.

THE PROJECT SITE, (1.) DOES NOT LIE WITHIN A FLOOD PLAIN, (REFERENCE F.E.M.A. PANEL 9 OF 50), (2.) DOES LIE ADJACENT TO A NATURAL OR ARTIFICIAL WATER COURS (3.) HAS NO DRAINAGE EASEMENTS ON THE PROPERTY ON THE PROPERTY; THE SUBJECT SITE IN IT'S PRESENT CONDITION DOES NOT ACCEPT OR CONTRIBUTE OFFSITE FLOWS OF ADJACENT PROPERTIES, AND WILL NOT ACCEPT OR CONTRIBUTE TO OFFSITE FLOWS OF ADJACENT PROPERTIES IN THE DEVELOPED CONDITION; THE SURFACE FLOWS OF THE PROPOSED DEVELOPMENT WILL BE VIA ONSITE PONDING(S) AND WITH THE MAJOR PORTION TO BE DIVERTED TO THE COMMON AREA AND DRAINAGE POND EASEMENT (RETENTION POND) HAVING THE CAPACITY REQUIRED FOR THE GENERATED VOLUME.

DRAINAGE CALCULATIONS:

I. REFERENCES:

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM), VOLUME 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.

B. SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO, UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE.

II. GENERAL INFORMATION:

A. SOIL TYPE IS Ge, (GILA CLAY LOAM), HYDROLOGIC SOIL GROUP "B", (0% TO 1% SLOPES), SCS MAP NO. ELEVEN (11).

B. IMPERVIUOSNESS:

AREA = 3.10 ACRES (135,036.0 SQ. FT.) UNDEVELOPED "C" FACTOR= 0.4

TYPE OF SURFACE (DEVELOPED):

		(%)	("C")
HARD SURFACE, (ASPHALT/CONCRETE)	=	22 X 0.95 =	0.21
ROOF AREA	=	20 X 0.90 =	0.18
LANDSCAPED AREA	=	58 X 0.25 =	0.15
			0.54 = WEIGHTED "C"

C. RAINFALL, 100-YEAR, 6-HOUR, R_6: (SEE REF. A., PLATE 22.2, D-1)
R_6 = 2.2 INCHES

D. TIME OF CONCENTRATION, T_c; USE MINIMUM TIME OF CONCENTRATION OF TEN MINUTES FOR A SITE THIS SIZE.

E. RAINFALL INTENSITY, "I", (SEE REF. A., PLATE 22.2 D-1)
$I = R_6 \times 6.84 \times T_c^{-0.51} = 2.2 \times 6.84 \times (10)^{-0.51} = 4.$ IN./HR.

III. PEAK DISCHARGE:

A. EXISTING CONDITIONS, Q = CiA

Q_{100} = 0.40 X 4.65 X 3.10 = 5.77 cfs

Q_{10} = 0.657 X 5.77 = 3.8 cfs

B. DEVELOPED CONDITIONS:

Q_{100} = 0.54 X 4.65 X 3.10 = 7.78cfs

Q_{10} = 0.657 X 7.78 = 5.11 cfs

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HYDROLOGY SECTION

CONSTRUCTION NOTES:

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

2.) PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS; SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.

3.) ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

4.) ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT FOR STORM RUNOFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

1.) ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS, AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING ADJACENT PROPERTIES.

2.) ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER PUBLIC STREETS.

3.) THE CONTRACTOR SHALL IMMEDIATELY AND THROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

PEAK VOLUME:

A. EXISTING CONDITIONS:

V_{100} = 0.40 X (2.2/12) X 135,036.0 = 9903.0 cu. ft.

V_{10} = 0.657 X 9903.0 = 6506.0 cu. ft.

B. DEVELOPED CONDITIONS:

V_{100} = 0.54 X (2.2/12) X 135,036.0 = 13,369.0 cu. ft.

V_{10} = 0.657 X 13,369.0 = 8783.0 cu. ft.

PONDS:

CENTER POND (LANDSCAPED) = 9750 s.f.x1.2'DEPTH = 11,700.0 c.f.
(14) REAR YARD PONDS @ 42'X10'X0.50' DEPTH = 2,940.0 c.f.
14,640.0 c.f. (PROVIDED)
13,369.0 c.f. (REQUIRED)

Thomas D. Lawrence 5-18-87

GRADING AND DRAINAGE PLAN
FOR
"COMPOUND de DON DIEGO"
4TH STREET N.W.
BERNALILLO COUNTY, NEW MEXICO
MAY, 1987