DRAINAGE INFORMATION SHEET

PROJECT TITLE: Yale Reservoir ZONE ATLAS/DRNG. FILE #: K-16/D28

LEGAL DESCRIPTION: portion of UNM Campus

CITY ADDRESS: not available 2201 Central NE

ENGINEERING FIRM: Tom Mann & Assoc Inc CONTACT: Tom Mann

ADDRESS: 877 Dallas NE 87110 PHONE: 265-5611

OWNER: City of Albuquerque CONTACT: Art Stewart

ADDRESS: P.O. Box 1293 PHONE: 768-2772

ARCHITECT: CH2M Hill CONTACT: Pete Jacobson

ADDRESS: 6121 Indian School NE PHONE: 884-5600

SURVEYOR: Tom Mann & Assoc Inc CONTACT:

ADDRESS: PHONE:

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

RECEIVED
APR 24 1987
HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

X CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

X SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ (SPECIFY)

DATE SUBMITTED: 4/24/87

BY: Tom Mann

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

May 4, 1987

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR YALE RESERVOIR (K-16/D28) ENGINEER'S STAMP DATED APRIL 24, 1987

Dear Tom:

Based on the information provided on your submittal of April 24, 1987, the above referenced conceptual drainage plan is approved for Site Development.

Please be advised that prior to Building Permit release, a submittal indicating Building Permit approval will be required.

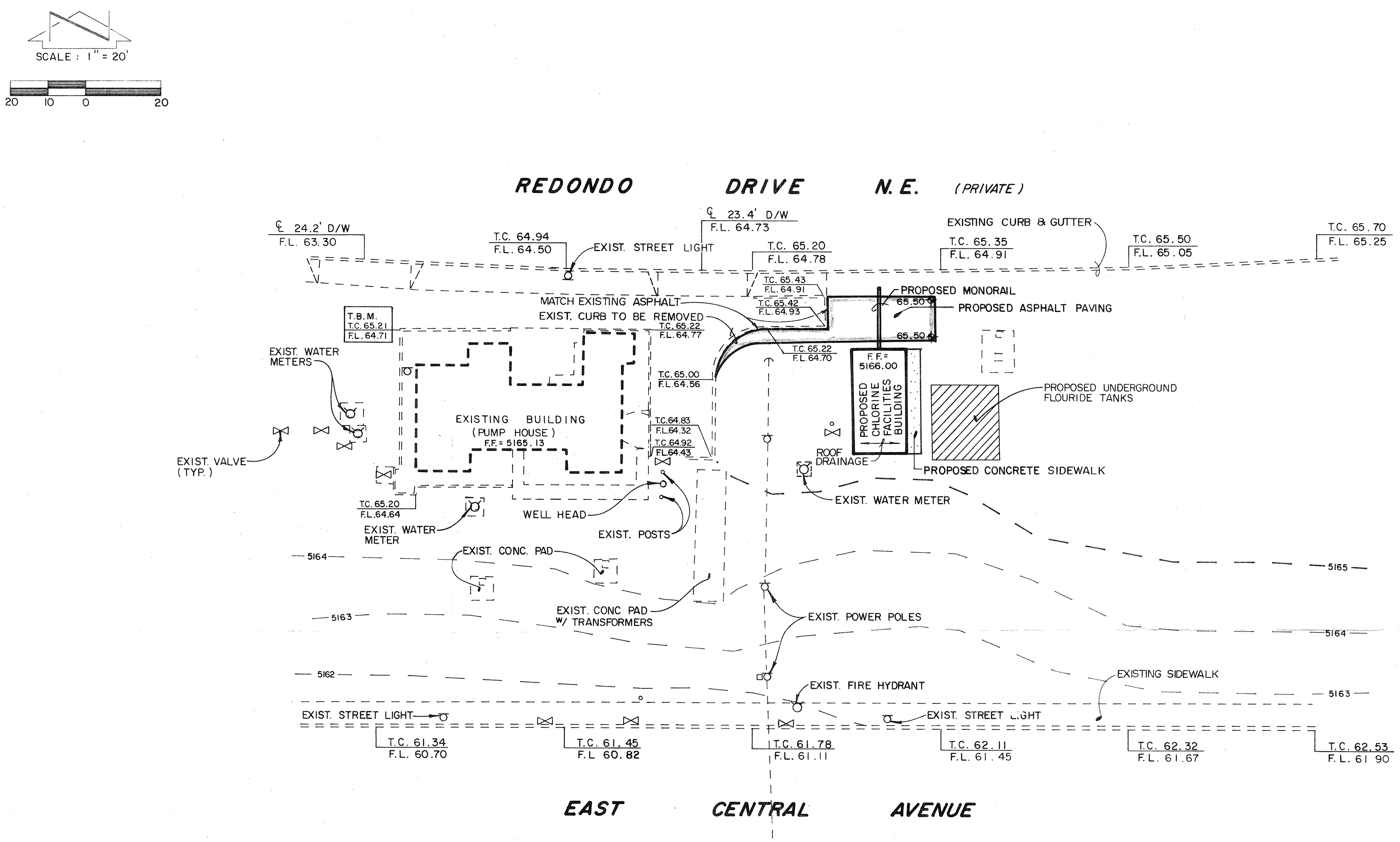
If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj



DRAINAGE PLAN

The following items concerning the Yale Well No. 3 Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the south side of Redondo Drive N.E. and east of Yale Drive N.E. At present, the site is fully developed as a park and a pumping station.

As shown by Plate K-16 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. Further study of this plate reveals that downstream flooding does not exist. As shown by the grading plan, the site is surrounded by streets and is higher than the streets. Therefore, offsite flows are minimal.

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 the construction of a chlorination building and underground fluoride tank system and additional asphalt paving. Stormwaters from this project will mainly be from the park paving area and the roof of the building. The waters will be allowed to drain through the park in a southerly manner. Flows will not be concentrated. The area of landscaping as compared to area of construction is quite large, therefore, additional runoff can be handled quite easily by the landscaped areas.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will result in a minimal increase in runoff discharged from the site. This pattern of runoff is consistent with the predesign conference recap which accompanies this submittal.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 31: Cut and Fill - CU
Hydrologic Soil Group: A
Existing Pervious CN = 39 (DPM Plate 22.2 C-2
Open spaces, park: good condition)
Developed Pervious CN = 39 (DPM Plate 22.2 C-2
Open spaces, park: good condition)

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

$P_6 = 2.2$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CiA$

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 4.65$ in/hr
$P_6 = 2.2$ 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} = 80,500 sf = 1.85 Ac
Roof area = 1540 sf (0.02)
Paved area = 2285 sf (0.03)
Landscaped area = 76,675 sf (0.95)
C = 0.29 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.29(4.65)(1.85) = 2.5 cfs
A_{imp} = 3825 sf; % impervious = 05 %
Composite CN = 42 (DPM Plate 22.2 C-3)
DRO = -0- in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO)A = -0- cf

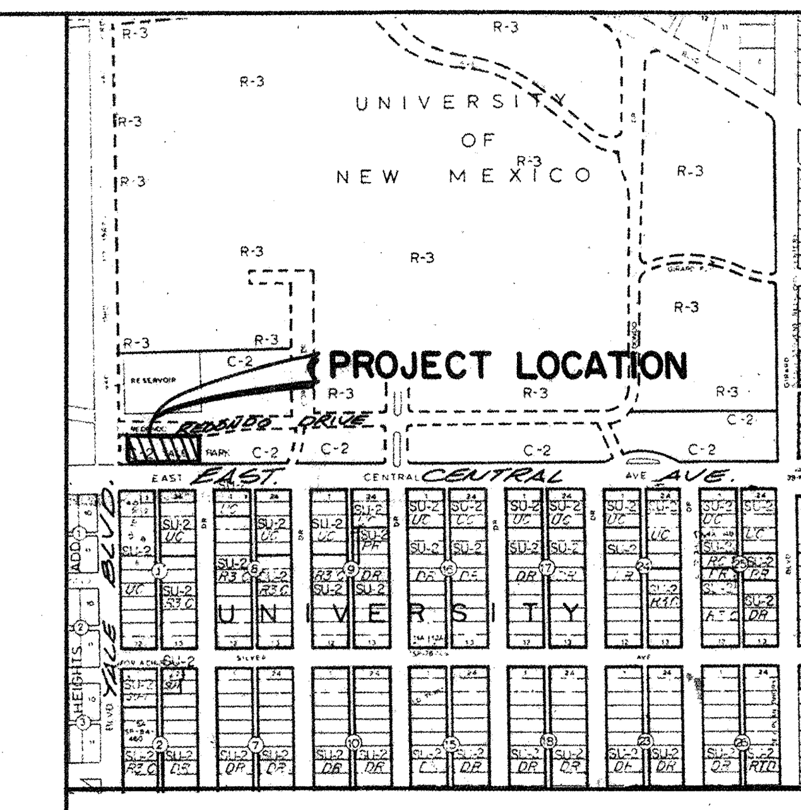
Developed Condition

A_{total} = 80,500 sf = 1.85 Ac
Roof area = 2140 sf (0.03)
Paved area = 2785 sf (0.03)
Landscaped area = 75,575 sf (0.94)
C = 0.29 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.29(4.65)(1.85) = 2.5 cfs
A_{imp} = 4925 sf; % impervious = 06 %
Composite CN = 43 (DPM Plate 22.2 C-3)
DRO = -0- in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO) A = -0- cf

Comparison

Q_{100} = 2.5 - 2.5 = 0 cfs
V_{100} = 0 - 0 = 0 cf

T.M.A. # 61333



VICINITY MAP K-16
SCALE : 1"=800'

LEGAL DESCRIPTION

CITY OF ALBUQUERQUE PUMP STATION & RESERVOIR SITE, BEING A PORTION OF THE UNIVERSITY OF NEW MEXICO LANDS

LEGEND

- 5430 — EXISTING CONTOUR
- 5430 — PROPOSED CONTOUR
- EXISTING SWALE
- PROPOSED SWALE
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING CHAIN LINK FENCE
- PROPOSED CHAIN LINK FENCE
- EXISTING POWER / LIGHT POLE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- EXISTING RETAINING WALL

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

A.C.S. STATION 6-K16, BEING A STANDARD ACS BRASS TABLET SET IN A CONCRETE CYLINDER BLOCK IN THE GROUND. STA. IS STAMPED "6-K16, 1974 ACS". STATION IS LOCATED IN THE EAST MEDIAN OF THE INTERSECTION OF CENTRAL AVE. & YALE BLVD., 46.5' EAST OF CENTER-LINE OF YALE BLVD. ELEVATION = 5161.699 FEET (MSLD)

SURVEY INFORMATION

FIELD NOTES		
NO.	BY	DATE

ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR STATE OF NEW MEXICO

RECEIVED APR 24 1987 HYDROLOGY SECTION

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE

CH2M HILL

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: YALE WELL # 3
CONCEPTUAL GRADING AND DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair					
Trans. Dev.					
Utility Dev.					

DRAWING NO.	MAP NO. K-16	SHEET 1 OF 1