APRIL 7, 1978

Architecture
Planning
Urban Design

DYER / McCLERNON / BEEBE, P.A.

1401 Fifth Street N.W.
Albuquerque, New Mexico 87102
505 / 242 5219

MR. BRUNO CONEGLIANO
DRAINAGE ENGINEER
CITY OF ALBUQUERQUE
400 MARQUETTE AVE. N. W.
ALBUQUERQUE, NEW MEXICO 87102

RE: OFFICE BUILDING FOR THE
LYLE TALBOT AGENCY
1501 SAN PEDRO, N. E.

DEAR BRUNO:

PLEASE FIND ENCLOSED A REVISED COPY OF THE DRAINAGE PLAN FOR THE ABOVE FACILITY.

AS WE DISCUSSED ON 1/26/78, DUE TO THE POOR SOILS CONDITION [SOILS REPORT ENCLOSED] WE HAVE REVISED OUR DRAINAGE TO PROVIDE A CONTROLED RUNOFF. I HAVE ALSO INCLUDED A SET OF CALCULATIONS FOR YOUR FILES. THE GENERAL CONTRACTOR IS READY TO COMPLETE THE FINAL GRADING WITHIN THE NEXT WEEK.

SHOULD YOU HAVE ANY QUESTIONS, PLEASE ADVISE.

CORDIALLY,

PATRICK McCLERNON

PM/cm
Enclosure

Randy Holt & Associates, Inc.
CONSULTING ENGINEERS
335-A JEFFERSON, S.E. ■ ALBUQUERQUE, NEW MEXICO 87108 ■ (505) 268-6121
(505) 268-1262

January 19, 1978

Mr. Patrick McClernon
Dyer-McClernon-Beebe, P.A.
1401 5th Street N.W
Albuquerque, New Mexico 87102

Re: Lyle Talbot Office Building
Albuquerque, New Mexico

Gentlemen:

A subsurface soil investigation was not performed for this project, therefore we had no information regarding the underlying soils prior to commencement of construction. When the foundations were being excavated, the presence of clay was observed in the excavations.

On January 5, 1978 the Contractor excavated a pit with a backhoe to a depth of 8 feet below existing grade. Mr. John King, Project Engineer from our office obtained bag samples of the soil at the 1, 2, 4, 6 and 8 feet depths. These soil samples were taken to Albuquerque Testing Laboratory where a screen analysis and Atterberg Limit Tests were performed on the samples, the results of which are shown on the attached report. From this report it can be seen that the soil at 2 and 4 feet has a plasticity index of 36.7 and 37.6 respectively, and is classified as a CH (inorganic clays of high plasticity, fat clays).

This type of clay is very expansive when it absorbs or is subjected to moisture. The reinforced concrete continuous footing and stem wall foundation system that has been designed for this project should perform satisfactorily provided the moisture content of the clay soil underlying the footings does not increase. It is therefore imperative that the area adjacent to the building be sloped to drain away from the building, and that this area be sealed or protected to prevent moisture intrusion into the underlying soils. The detention ponds located at the north end of the parking area could cause increased moisture in the soil under the parking area and rapid deterioration of the asphalt paving.

If you have any questions regarding this matter, please give me a call.

Very truly yours,

RANDY HOLT & ASSOCIATES, INC.

Randy Holt

Randy Holt, P.E.

RH/sr
Enclosure: as stated

Albuquerque
TESTING LABORATORY
SOIL INVESTIGATION — PHYSICAL TESTING — INSPECTION — RESEARCH
832 JEFFERSON ST., N. E. P. O. BOX 4101 PHONE 255-8816 255-1352
ALBUQUERQUE, NEW MEXICO 87106

Lab No. 448 Date January 9, 1977

Report to Dyer-McClernon - Beebe, Architects

Submitted By Randy Holt & Associates Sampled By Same

Project Lyle Talbot Office Building

Source of Material Five (5) soil samples submitted to our laboratory on January 5, 1977 for tests as outlined below:

TEST RESULTS

SAMPLE DESIGNATION

Screen Analysis and Wash Test: (Cumulative % Passing)

Screen Size	1' Below Grade	2' Below Grade	4' Below Grade	Below Grade	' Below Grade
No.4	100	100			100
No.10	97.5	99.0	100	100	89.8
No.40	88.6	96.9	98.4	97.0	88.6
No.80	84.8	91.8	95.2	71.2	56.8
No.200	51.9	87.8	83.9	69.7	55.7
Wash Test	50.6	86.7	82.3		
ield Moisture: % of oven dry weight)	6.3	14.3	16.1	13.6	5.7
tterberg Limit Tests: Minus No. 40 Mesh Material)					
iquid Limit (%)	24.1	59.5	59.7	46.5	23.8
lastic Limit (%)	12.4	22.8	22.1	18.7	12.9
lasticity Index (%)	11.7	36.7	37.6	27.8	10.9
nified Soils Clasification: ymbol	(CL)	(CH)	(CH)	(CL)	(CL)

cc: Randy Holt & Associates

Respectfully Submitted,
ALBUQUERQUE TESTING LAB.
Original Signed By
Robert K. Lloyd
Registered Professional Engineer

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM: D2487

COARSE-GRAINED SOIL

MORE THAN 50% LARGER THAN 200 SIEVE SIZE

Symbol	Letter	Description	Major Divisions
	GW	Well graded gravels or gravel sand mixtures, less than 5% 200 fines	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size
	GP	Poorly graded gravels or gravel sand mixtures, less than 5% 200 fines	
	GM	Silty gravels, gravel sand silt mixtures, more than 12% 200 fines	
	GC	Clayey gravels, gravel sand clay mixtures, more than 12% 200 fines	
	SW	Well graded sands or gravelly sands, less than 5% 200 fines	SANDS More than half of coarse fraction is smaller than No. 4 sieve size
	SP	Poorly graded sands or gravelly sands, less than 5% 200 fines	
	SM	Silty sands, sand silt mixtures more than 12% 200 fines	
	SC	Clayey sands, sand clay mixtures more than 12% 200 fines	

NOTE Soils with 5 to 12 percent minus 200 fines should be classified with dual symbols

FINE-GRAINED SOIL

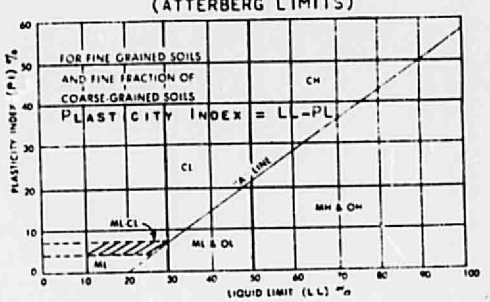
MORE THAN 50% SMALLER THAN 200 SIEVE SIZE

Symbol	Letter	Description	Major Divisions
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	SILTS AND CLAYS Liquid limit less than 50
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
	OL	Organic silts and organic silt clays of low plasticity	
	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	SILTS AND CLAYS Liquid limit greater than 50
	CH	Inorganic clays of high plasticity, fat clays	
	OH	Organic clays of medium to high plasticity, organic silts	
	PT	Peat and other highly organic soils	

SOIL FRACTIONS

Component		Size Range
Boulders		Above 12 in.
Cobbles		3 in. to 12 in.
Gravel		3 in. to No. 4 sieve
Coarse Gravel		3 in. to ¾ in.
Fine gravel	G	¾ in. to No. 4 sieve
Sand		No. 4 to No. 200
Coarse	CS	No. 4 to No. 10
Medium	MS S	No. 10 to No. 40
Fine	FS	No. 40 to No. 200
Fines (silt or clay	F/C	Below No. 200 sieve

PLASTICITY CHART
(ATTERBERG LIMITS)



Area = $\frac{200 \times 139}{43560}$ = .63 Ac.

D = 2.6" (100 yr. - 6 hr. precipitation)
I = 5.4"/Hr. for T < 10 min., 1963 Master Plan

C = .35 undeveloped
C = .95 developed
$A_{developed}$ = 22,938 Ft² = .52 Ac.

Q = CIA = (.35)(5.4)(.63) = 1.19 cfs undeveloped

V = (22,938 SF) $\frac{2.6}{12}$ = 4969 Dev., 100 yr.
Q = CIA = (.95)(5.4)(.5265) = 2.70 cfs (Dev)

$Q_{Dev.} > Q_{undev.}$

∴ Controlled runoff rates rate must be developed.

Pond Volume Requirements.

time interval (min.)	Intensity (in/Hr.)	+ Run-off (CFS)	Runoff Volume (FT^3)	* Released Volume (FT^3)	Req'd. Storage Area (FT^3)
10	5.4	2.66	1596	714	882
15	4.73	2.33	2097	1071	1026
20	4.20	2.07	2484	1428	1056
25	3.78	1.86	2790	1785	1005
30	3.44	1.69	3042	2142	900
35	3.15	1.55	3255	2499	756
40	2.91	1.43	3432	2856	576
45	2.70	1.33	3591	3213	378
50	2.59	1.27	3600	3570	30

\+ $Q = CIA = (.95)\,I\,(.52)$

* Assumed Continuous Discharge Rate $Q_{MIDEW} = 1.19$ cfs

→ Required max. pond volume @ critical duration of 20 min.

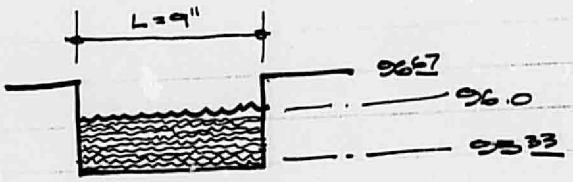
Assume Outlet approximates a broad Crested weir (Assumption in Approximate)

$Q = CLH^{3/2}$ $\quad Q = 1.19$

$L = Q/CH^{3/2}$ $\quad C \cong 3.08$

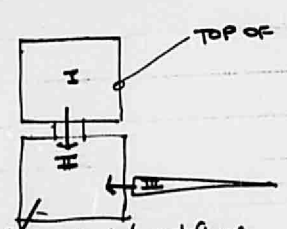
$\therefore L = (1.19)/(3.08)(16)^{1.5}$ $\quad L \cong 5'$

$= 1.19/3.08 \times .4643 = .832$ . . .



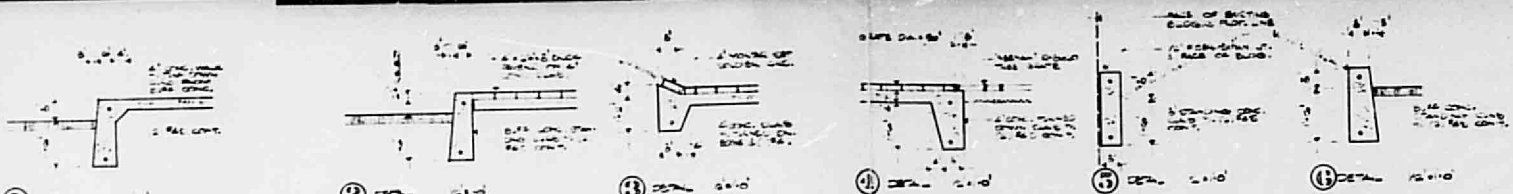
Use L = 9"

POND VOLUME :

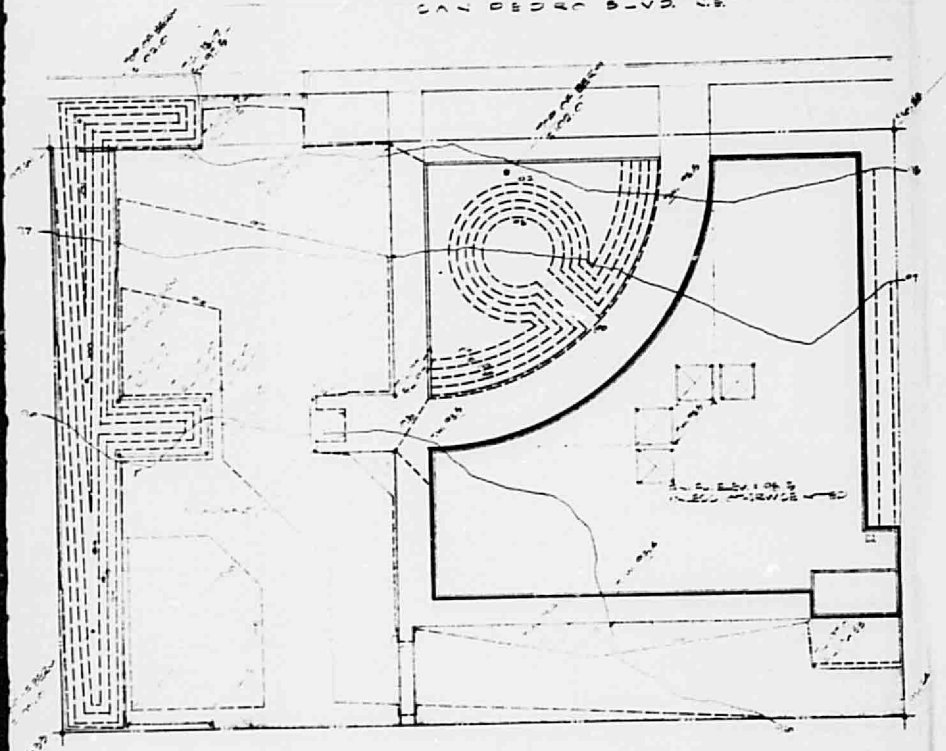


$$\frac{45 \times 55 \times .34}{3} + \frac{60 \times 60 \times 55}{3} + \frac{3 \times 80 \times .34}{3}$$

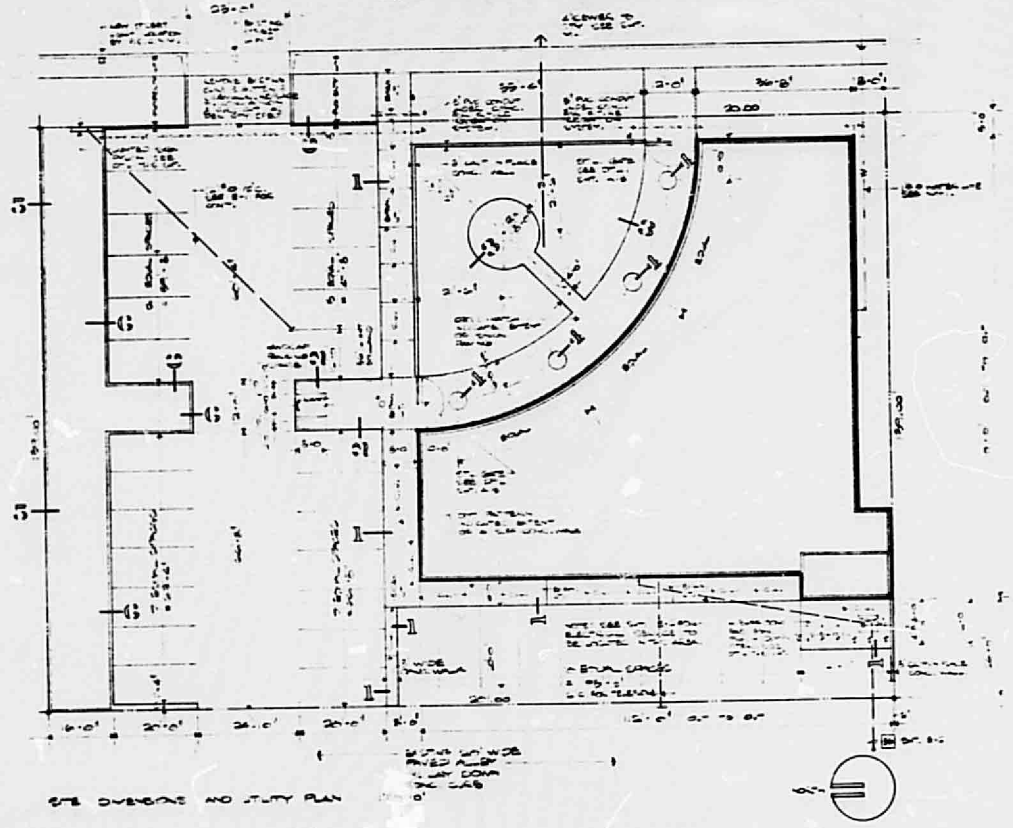
$= 967 \text{ ft}^3$



SAN PEDRO BLVD. N.E.

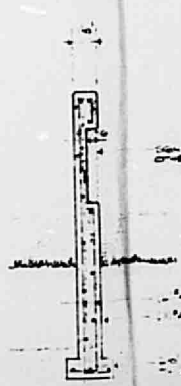


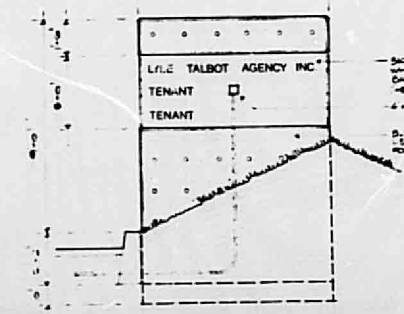
SAN PEDRO BLVD. N.E.

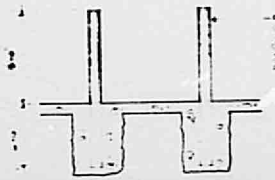


242-5219
Pat McClernon

SITE DRAINAGE AND UTILITY PLAN







DRAINAGE CALCULATIONS

LEGAL DESCRIPTION

OFFICE BUILDING FOR THE
LYLE TALBOT AGENCY INC.
1001 SAN PEDRO N.E. ALBUQUERQUE, NEW MEXICO 87108

DYER / McCLERNON
ARCHITECTS PLANNERS P.A.
901 FIFTH STREET N.W. ALBUQUERQUE, N.M. 87102 (505) 242-5219