HYDROLOGY E21/D7 EISENHOWER MIDDLE SCHOOL ADDITION

E21 / D7

EISENHOWER MIDDLE

SCHOOL ADDITION

2 PLANS

30691

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

HYDROLOGY SECTION PROJ. NO._____ DATE: 6/10/83

PLANNING DIVISION NO._____

CONFERENCE RECAP

SUBJECT: Eisenhower Middle School (Addition)

WHO	REPRESENTING
ATTENDANCE: Fred J. Aguirre	
Jeff Mortensen	

FINDINGS:

1. Verify that the runoff from the proposed addition contributes to the existing ponds on site.
2. Verify if an outfall exists from the ponds. If outfall does not exist, inform client that positive discharge is acceptable thru the new drainage ordinance.
3. Provide a site showing the proposed improvements and the required grading to maintain existing drainage pattern to pond.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Fred J. Aguirre — SIGNED: Jeffrey G. Mortensen

TITLE: City Engineer — TITLE: Project Engineer

DATE: 6/10/83 — DATE: 6/10/83

RECEIVED AUG 12 1983 ENGINEERING

30691

INFORMATION SHEET

PROJECT TITLE EISENHOWER MIDDLE SCHOOL ADDN. TYPE OF SUBMITTAL DRAINAGE PLAN

ZONE ATLAS PAGE NO. E-21 CITY ADDRESS 11001 CAMINO NE

LEGAL DESCRIPTION ?

ENGINEERING FIRM TOM MANN & ASSOC CONTACT JEFF MORTENSEN

ADDRESS 811 DALLAS NE PHONE 265-5611

OWNER APS CONTACT BILL McMILLIN

ADDRESS PHONE 242-5865

ARCHITECT MILLER & ASSOC CONTACT JIM MILLER

ADDRESS PHONE 884-1255

SURVEYOR TOM MANN & ASSOC. CONTACT

ADDRESS PHONE

CONTRACTOR NOT SELECTED YET CONTACT

ADDRESS PHONE

DATE SUBMITTED 8-19-83

BY JEFFREY G. MORTENSEN

Use this Information Sheet when submitting the following:

Drainage report or plan, conceptual grading and drainage plan, engineer's certification plan, erosion plan and grading plan. Provide the information applicable to your submittal.

RECEIVED

AUG 19 1983

ENGINEERING

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 13, 1983

Jeff Mortensen
Tom Mann & Associates
311 Dallas N.E.
Albuquerque, NM 87110

RE: EISENHOWER MIDDLE SCHOOL ADDITION (E21-D7)

Dear Jeff:

The referenced plan dated 8/18/83 is approved.

Very truly yours,

Fred J. Aguirre
Civil Engineer/Hydrology

FJA/tsl

HYDROLOGY E21/D7 THREE PLANS

E21/D7

3 PLANS

ALBUQUERQUE TESTING LABORATORY

Phone 505 255-8916 P. O. Box 4101
532 Jefferson, NE Albuquerque, New Mexico 87108

SUBSOIL INVESTIGATION PHYSICAL TESTING INSPECTION RESEARCH WELDING CERTIFICATION NUCLEAR DENSITY

June 30, 1978

Burns and Peters
8000 Pennsylvania Circle, N.E.
Albuquerque, New Mexico 87110

Attention: Mr. Ron Peters

Re: Alb. Testing Lab. No. 9832: Foundation Test Borings and Report for Proposed Swimming Pool & Bathhouse at Juan Tabo & Camero, N.E., Albuquerque, New Mexico

Gentlemen:

Transmitted herewith is our FOUNDATION INVESTIGATION REPORT for the above referenced project.

INTRODUCTION:

The test borings were drilled on June 23, 1978 using a Mobile B-61 "Pacemaker" Rotary Drill mounted on a 1965 International 1700 Loadstar, 4 x 4 truck, the drill itself being powered by a Ford Industrial Engine. The test holes were advanced "dry" using 6-3/8" O.D. by 3-1/4" I.D., continuous flight, 5-foot sectional hollow stem augers. Standard penetration tests were made at 2½ to 5 foot vertical intervals in the holes and through the hollow stems of the augers at the time of drilling. The purpose of the standard penetration test is to obtain a measure of the relative density or consistency of the subsurface soils encountered and to obtain samples of the soils and/or rock for visual inspection and laboratory testing.

TEST DATA AND RESULTS:

A sketch showing the locations of the six (6) requested test holes is shown on page 2 and was made from a print of the site plan furnished to our office. "Boring Log Graphs" of the Test Holes are shown on pages 3 through 6 and depict the subsurface soils encountered in the holes along with the results of the standard penetration tests, natural or existing moisture content, dry densities where obtainable, grain size classifications and Atterberg Limit Tests made on typical recovered samples. Notes and Definitions pertaining to the "Log Graphs" are shown on page 6. Conclusions and Recommendations follow.

If any questions should arise concerning the report, please contact our office.

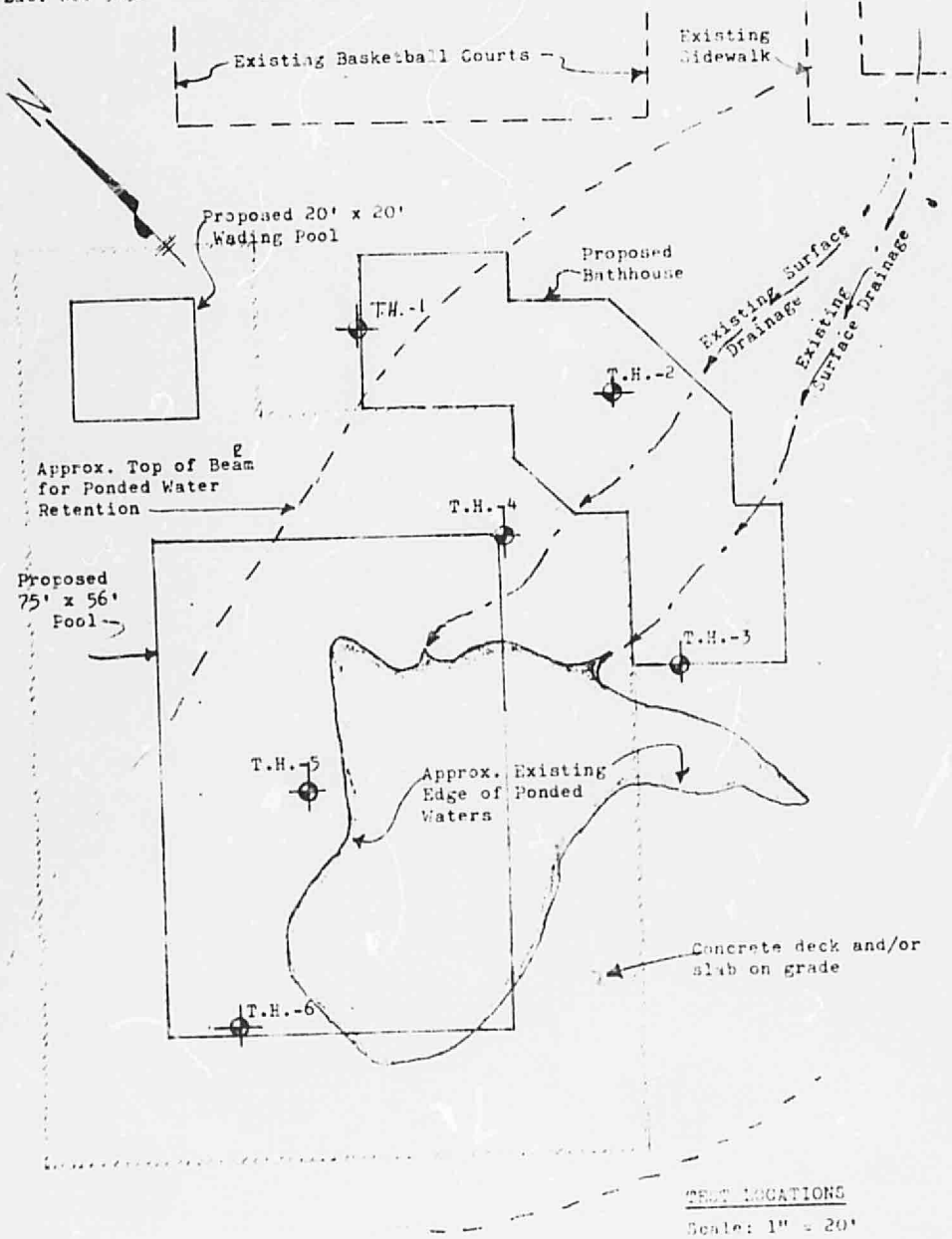
Very truly yours,

ALBUQUERQUE TESTING LABORATORY, INC.

Robert K. Lloyd

Robert K. Lloyd, P.E.

Lab. No. 9832 **ALBUQUERQUE TESTING LABORATORY** Page 2



TEST LOCATIONS

Scale: 1" = 20'

ALBUQUERQUE TESTING LABORATORY

No. 9852

Drilled June 23,1978

PROJECT: Proposed Swimming Pool & Bathhouse Structure at Eisenhower Middle School

BORING LOG GRAPH - TEST HOLE NO. 1 & 2

VISUAL DESCRIPTION	PENETRATION RESISTANCE Per Foot N	Per 6" or as Noted	Per Foot C	SAMPLER TYPE	MOISTURE CONTENT % M	DRY DENSITY P.C.F. D	PARTICLE SIZE DISTRIBUTION % GRAVEL	SAND	SILT & CLAY	ATTERBERG LIMITS % LIQUID LIMIT	PLASTIC LIMIT	P.I.
Test Hole No. 1												
*SAND, brown, silty, coarse to fine graded(SM) Med. Dense	13	9 8 5		S	8.1		7	61	32			
2½' *SAND, brown, very silty to slightly clayey, fine graded (SM-SC) Medium Dense or Moderately Firm	11	5 5 6		S	7.9		3	41	56			
	13	6 6 7		S	7.2		6	54	40			
	14	4 6 8		S	5.7		2	50	48			
9' SAND, brown to gray-brown, coarse to fine graded, slightly silty to clayey (SP) Medium Dense	16	4 8 8		S	2.2		5	82	13			
	30	6 12 18		S	1.5		4	90	6			
*Probable man-made filled ground soils through approx. 4 foot depth.												
Test Hole No. 2												
SAND, brown, silty, coarse to fine graded(SM) Loose	10	5 6 4		S	4.5							
3½'	7	5 3 4		S	9.3					24	17	7
SAND, brown to gray-brown, clayey and with calcareous inclusions, medium to fine graded, trace of fine gravel(SM-SC). Color changes to gray-white from 14 through 16½ foot depth.	8	3 4 4		S	11.8		Moist to very moist & with moderate calcareous inclusions and deposits					
	8	3 4 4		S	13.1					24	13	11
	5	3 2 3		S	9.1							
Soft or Loose												
**(Possible man-made fill)	7	4 4		S	9.4							

ALBUQUERQUE TESTING LABORATORY

PROJECT: Proposed Swimming Pool & Bathhouse

o. 9832 Structure at Eisenhower Middle School

Drilled June 23, 1978 BORING LOG GRAPH - TEST HOLE NO. 3 & 4

VISUAL DESCRIPTION	PENETRATION RESISTANCE Per Foot N	Per 6" or as Noted	Per Foot C	SAMPLER TYPE	MOISTURE CONTENT % M	DRY DENSITY P.C.F. D	PARTICLE SIZE DISTRIBUTION % GRAVEL	SAND	SILT & CLAY	ATTERBERG LIMITS % LIQUID LIMIT	PLASTIC LIMIT	P.I.	
Test Hole No. 3													
ND, brown to dark own, moist to very ist, coarse to fine ded, very silty 4). Loose	9	1 5 4		S	13.3		5	53	42	(very moist to wet)			
4½'	8	3 5 3		S	6.3		7	79	14				
ND, brown, rse to fine ded, slightly ty to clean (SP) th traces of e gravel.	19	5 9 10		S	4.0		5	89	6				
	17	7 8 9		S	5.8		12	82	6				
Loose to Medium Dense	8	6 3 5		S	6.6		12	75	13				
	11	6 6 5		S	5.1		15 (slightly calcareous)	73	12				
Test Hole No. 4													
ND, brown to gray- h-brown, fine ded, silty to ayey (SM-SC);	7	5 3 4		S	16.5	Very Moist							
ose to Medium 4½' Dense	11	5 6 5		S	13.6								
ND, brown to gray- own, silty to irly clean, coarse fine graded) SM-); Loose.	7	3 2 5		S	5.7								
	12	4 4 8		S	8.0								
an-made filled ound through prox. 2' depth.	6	3 3 3		S	10.2	(Very Moist)							

ALBUQUERQUE TESTING LABORATORY

PROJECT: Proposed Swimming Pool & Bathhouse

Structure at Eisenhower Middle School

No. 9832

Drilled June 23,1978

BORING LOG GRAPH - TEST HOLE NO. 5 & 6

VISUAL DESCRIPTION	PENETRATION RESISTANCE Per Foot N	Per 6" or as Noted	Per Foot C	SAMPLER TYPE	MOISTURE CONTENT % M	DRY DENSITY P.C.F. D	PARTICLE SIZE DISTRIBUTION % GRAVEL	SAND	SILT & CLAY	ATTERBERG LIMITS % LIQUID LIMIT	PLASTIC LIMIT	P.I.
Test Hole No. 5												
SAND, brown to dark brown, medium to fine graded, silty to very silty(SM); Possible man-made fill through 5' depth. Very Loose to Loose	9	7 6 3		S	2.8							
	3	2 1 2		S	7.6							
	4	2 2 2		S	9.9					22	13	9
	5	2 2 3		S	13.7	(Very Moist)						
9'												
	16	12 9 7		S	4.1							
*SAND, gray-brown, slightly silty, coarse to fine graded (SP). Medium Dense												
Test Hole No. 6												
SAND, brown, silty to very silty, principally medium to fine graded, slightly clayey layers, (SM-SC); trace of fine gravel. Loose to Medium Dense	16	9 9 7		S	4.8		7	65	28			
	7	3 4 3		S	7.5		6	53	41			
	18	4 5 13		S	8.7		2	67	41			
	21	10 15 6		S	9.2		7	66	27			
9'												
	18	6 9 9		S	3.5		2	90	8			
**SAND, gray-brown, slightly silty, coarse to fine graded (SP). Medium Dense												

S AND DEFINITIONS

PENETRATION RESISTANCE - BLOWS PER FOOT USING "A" ROD, 140 LB. HAMMER WITH 30-INCH GUIDED FREE FALL UNLESS OTHERWISE NOTED.

N - STANDARD PENETRATION RESISTANCE (ASTM: D-1586), 2" O.D. SPLIT BARREL SAMPLER
C - CONTINUOUS PENETRATION RESISTANCE, 2½" O.D., CONICAL, STEEL DRIVE POINT
R - PENETRATION RESISTANCE, 3" O.D. MODIFIED DAMES & MOORE SPLIT RING SAMPLER

SAMPLE TYPE

S - STANDARD SPLIT BARREL; 2" O.D. x 1-3/8" I.D.
C - CALIFORNIA SAMPLER; 2-3/8" O.D. EQUIPPED WITH 2" I.D. x 4" HIGH BRASS LINERS
R - MODIFIED DAMES & MOORE SAMPLER; 3" O.D. EQUIPPED WITH 2.42" I.D. x 1" HIGH BRASS LINERS
T - SHELBY TUBE

SOIL INDEX PROPERTIES

M - MOISTURE CONTENT, % OF DRY SOIL WEIGHT
D - DENSITY, LBS PER CUBIC FOOT COMPUTED EITHER BY VOLUMETRIC OR DISPLACEMENT METHODS. SOILS CLASSIFICATIONS ARE VISUAL UNLESS ACCOMPANIED BY GRAIN SIZE ANALYSIS AND ATTERBERG LIMITS.

WATER TABLE - IF ENCOUNTERED IS NOTED ON LOG GRAPHS AS ⏚.

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

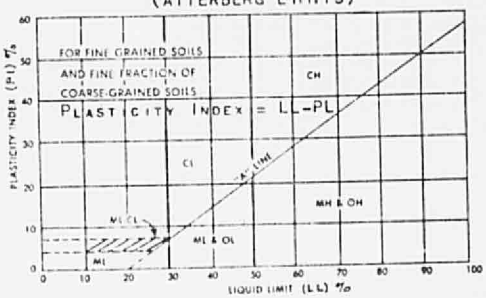
MORE THAN 50% SMALLER THAN 200 SIEVE SIZE

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	TS	No. 4 to No. 10
Medium	MS	TS	No. 10 to No. 40
Fine	FS	TS	No. 40 to No. 200
Fines (silt or clay)	S/C		Below No. 200 sieve

PLASTICITY CHART
(ATTERBERG LIMITS)



CONCLUSIONS AND RECOMMENDATIONS

Based on the subsurface soils and their in-situ conditions as revealed by the six (6) requested test borings drilled on the site; the results of the standard penetration tests and laboratory tests of typical recovered subsurface soils, we submit the following opinions and recommendations concerning the foundation design for the proposed construction at the site:

1. The site is located immediately to the southwest of the outdoor basketball courts of the Eisenhower Middle School and is bounded on the southeast by Camero St., N.E., and on the southwest by Juan Tabo, N.E. The site is presently serving as a retention area for surface runoff waters from the east and present ground contour has been cut and/or filled to form a pool for this purpose. At the time of drilling operations, a rather large portion of the retention area was filled with shallow depth runoff waters (See pg. 2).

2. Surface and subsurface soils encountered at the test locations are as shown and depicted on the "Boring Log Graphs" on pages 3 through 5. These soils are alluvial flood plain depositions primarilly of decomposed granite, originating from the Sandia Mountains to the east and may be classified under the Unified Soils Classification System as:

   (a) silty to very silty, coarse to fine, and medium to fine graded sands (SM),

   (b) poorly graded sands with little to very few fines (Minus No. 200 mesh sieve particles) and with traces to small amounts of fine gravel (SP) and

   (c) lesser amounts of slightly clayey medium to fine graded sands (SC).

   Standard penetration tests made in the borings at the time of drilling show that subsurface soils are generally in a loose to medium dense state of relative density; at test locations 2, 3 and 5 subsurface soils are in a very loose to loose state. At several tested locations, and at variable depth increments, principally adjacent to existing surface drainage or within the pool retention area, recovered subsurface soils exhibited high moisture content.

   Atterberg Limit Tests made in the laboratory in the Minus No. 40 mesh fraction of the clayey sands show that they are of low to medium plasticity.

3. We are informed that new construction will consist of a main swimming pool (approximately 75 feet x 56 feet with varying depth of 3 to 5'), a small wading pool of shallow depth and a bathhouse building. Swimming pools will be of gunite construction with surrounding reinforced concrete deck and/or "on-grade" slabs. The bathhouse will be one story, of concrete block wall construction without a basement supporting a built-up flat roof; structure loadings will be very light

supported by exterior, continuous, reinforced concrete footings. Finished floor elevation of both the bathhouse structure and of the concrete decks will be approximately 56.0 necessitating the placement of considerable controlled, compacted fill soils (from approximately 0 to 6 to 7 feet in depth) at the main pool and bathhouse locations.

4. Considering the very loose to loose state of density and relatively high moisture content of subsurface soils at several of the tested locations, and the existence of some man-made, apparently uncontrolled fill soils, we recommend that all structures (pools and bathhouse) be founded on engineered, compacted fill soils as follows:

   (a) Prior to any construction and including earthwork, present surface water drainage should be diverted and maintained away from the ponding area and all future construction. Present ponded waters should be removed and the area allowed to "dry out".

   (b) After allowing the area to dry and foundation excavations are made where required and as specified under (c) below, the entire area extending not less than 6 feet from all exterior walls of pools and bathhouse should be proofrolled with as heavy a roller (preferably a vibrating sheeps foot) as feasible to help seek out any loose soil zones. After rolling has been completed, the subgrade soils should be scarified to a minimum depth of six (6) inches and compacted at optimum moisture content to not less than 90% of Modified Proctor Density (A.S.T.M. D-1557).

   (c) Approved "on-site" soils or imported soils may be used as compacted fill. These soils should be mixed and processed thoroughly with optimum moisture content outside of fill areas, placed in the fill areas in thin horizontal lifts (8" maximum loose depth) and compacted to a minimum of 90% of Modified Proctor Density and to the desired elevations below the pool and bathhouse on-grade deck and/or floor slab.

   Excavations for all building foundations and the main pool may be made in the completed compacted fill soils such that the following minimum depths of compacted fill beneath pools and building foundations are maintained:

   (i) One (1) foot for bottom pool slab, deck slabs and bathhouse "on-grade" floor slabs

   (ii) two (2) feet for all continuous, reinforced concrete bathhouse footings.

   In addition, compacted fill soils should extend horizontally from perimeters of all bathhouse footings not less than two (2) feet.

Present ground contours with respect to desired finished grades indicates that undercutting of some areas beneath the main pool deck slabs and bathhouse slabs and footings will be required to insure that pools, slabs and foundations are based as noted above. The wading pool structure may be founded in the apparent native ground soils provided that soils beneath pool bottom are treated as noted above.

(d) For pools and structure foundations based as noted above, an allowable soil bearing capacity of 2000 lbs./sq. ft. may be used. Minimum width of continuous, reinforced concrete building foundations should be 1'-4".

5. It will be of primary importance at this site to prevent moisture intrusions into the soils at and below foundation depths. Wetting or saturation of foundation soils or of compacted fill soils to various degrees could result in some additional consolidation. Such consolidation and resultant settlements, if differential, could lead to structural distress. To help prevent moisture intrusions into the foundation soils, we advise the following precautions be taken:

(a) Provide and maintain positive surface drainage around and away from all exterior walls and foundations of the bathhouse. Proper roof drains with downspouts leading runoff waters away from the building should also be provided.

(b) Properly compact all backfill soils around foundations and in utility trenches to a minimum of 90 per cent of Modified Proctor Density.

(c) Discourage the planting of any vegetation within 15 feet of foundations unless underdrains leading irrigation waters away from the foundations are installed beneath planters or planted areas.

(d) Buried plumbing pipes and air conditioning ducts should be installed in readily accessible trenches to provide easy access for inspection and maintenance.

(e) Swimming pools should be of watertight construction.

6. Foundation depth, allowable soil bearing pressure, compacted fill requirements, protection of foundation soils, and all other recommendations covered by this report are based on the following:

(a) actual surface and subsurface soils existing at the site,

(b) the indicated, relatively lightly loaded structures contemplated for construction.

Any changes or deviations from the recommendations given in this report, in structure loads, foundation depths or any other factors which could affect or alter the recommendations covered herein, should be brought to our attention before finalization of plans and prior to construction.

Your attention is directed to the fact that only a very small, fractional part of the proposed site area was "opened" and the subsurface soils exposed and tested through test borings. Subsurface soils and their in-situ properties which can materially affect design considerations may change in areas not covered by the test borings. Therefore, if during construction and when excavations for footings are opened, soil foundation conditions differ from those encountered by the test borings of this report, our laboratory should be notified immediately.

Professional opinions and recommendations presented in this report are based on our evaluations of the subsurface soil conditions at the site, our understanding of the proposed construction and our experience in the geotechnical field. Our only guarantee concerning the project is that our engineering and geological work and judgments given herein meet the standards of our profession at this time.

Respectfully submitted,

ALBUQUERQUE TESTING LABORATORY, INC.

Robert K. Lloyd

Robert K. Lloyd, P.E.

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 9, 1978

Mr. Tom Mann, Jr.
Goldberg-Mann & Associates, Inc.
911 Pennsylvania St. NE
Albuquerque, NM 87110

Dear Tom:

I have received a drainage report for the Eisenhower Middle School Swimming Pool and I find that I don't have sufficient information to evaluate the existing conditions. The topography of the Eisenhower Middle School is not available to me and I do not have an outline of the watersheds that drain towards the proposed swimming pool site. The soil testing report indicates that it is quite critical to effectively divert the surface waters from the pool site. It is, therefore, essential that the definition of the contributing areas be clearly specified and that the waters be effectively removed from the proximity of the pool.

I hope you will be able to supply this information in short order.

Very truly yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/gw

cc: Dick Heller, City Engineer
Burns-Peters Group, Architects & Planners
Drainage File

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

November 20, 1978 8-59

Mr. Bruno Conegliano
City Hydrologist
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Drainage Plan for Swimming Pool
at Eisenhower Middle School

Dear Bruno:

As per our meeting on November 14, 1978, I have amended the Drainage Plan for the swimming pool at Eisenhower Middle School. I have added a rundown at the low point in the parking lot and extended the cutoff ditch to the northeast corner of the parcel.

Also enclosed is a print that APS gave me from the construction drawings for the school. I was not authorized to verify any pond quantities so you will have to determine if the ponds meet your requirements. The pond that is being relocated as a result of the construction was field verified as to its volume, and the new pond has a capacity in excess of the existing pond and the volume required by the new facilities.

I request that you approve the drainage plan for the pool regardless of the capacity of the existing ponds. The two problems are not related, and we need to proceed with the pool.

Sincerely yours,

Thomas T. Mann, Jr., P.E.
President

TTM:jj
Enc.

Drainage Report

for the

Eisenhower Middle School Swimming Pool

Goldberg · Mann & Associates
Engineers-Planners
911 Pennsylvania N.E. Albuquerque, New Mexico 87110

July 21, 1978

Mr. Bill McMillan
Planning and Building Department
Albuquerque Public Schools
P.O. Box 25704
Albuquerque, NM 87125

Re: Eisenhower Swimming Pool Drainage Report

We are herewith submitting three (3) copies of the drainage report for your project.

The drainage plan is in accordance with the requirements of the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority.

We have enjoyed working with you on this project and look forward to future opportunities to assist you.

Sincerely,

GOLDBERG-MANN & ASSOCIATES, INC.

Thomas T. Mann, Jr., P.E.
President

TTM/djv

Enclosure

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FIGURE 3. EXISTING TOPOGRAPHY AND GRADING PLAN

PURPOSE AND SCOPE

The purpose of this drainage plan is to establish the criteria for controlling surface runoff from a particular development in a manner that is acceptable to the City of Albuquerque and to the Albuquerque Metropolitan Arroyo Flood Control Authority.

This plan will determine the runoff resulting from a 100 year frequency storm falling on the site under existing and developed conditions.

The scope of this plan is to insure that the proposed project will be protected from storm runoff and that the construction of this project will not increase the flooding potential of the adjacent properties.

LOCATION AND DESCRIPTION

Eisenhower Middle School is located within the corporate limits of the City of Albuquerque in the northeast quadrant. The school is located east of Juan Tabo Boulevard, north of Camero Avenue and is bounded on the north and east by Academy Place Subdivision Units 5 and 5A. The location of the project is shown in Figure 1.

This drainage report deals only with a small portion of the school property. The Albuquerque Public Schools and the City of Albuquerque propose to construct a joint-use swimming pool in the southwest corner of the property. The pool and bathhouse will occupy approximately 0.71 acres. At the present time this acreage is used as a ponding area for stormwater runoff.

DESIGN CRITERIA

In analyzing the storm runoff, The Rational Formula, $Q = CIA$ is used.

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

I = Intensity in inches/hour for a duration equal in minutes and obtained from Figure 2, Intensity Duration Frequency Curves, Albuquerque Area 1961. (Note: Where a Time of Concentration (Tc) is less than ten minutes, the intensity value derived from a Tc of ten minutes is employed.)

C = Runoff Coefficient (No Units). This coefficient represents the integrated effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time distribution and peak rate of runoff.

EXISTING DRAINAGE CONDITIONS

The entire Eisenhower Middle School site slopes from east to west. Stormwater detention ponds have been constructed along the western end of the property adjacent to Juan Tabo Boulevard. The ponds are stair-stepped from south to north. All runoff from the site is diverted to the ponds. The existing topography is shown in Figure 3. Only the pond affected by the new construction is shown. As can be seen in Figure 3, when the southern pond fills it overflows northward into the next pond.

PROPOSED DRAINAGE CONDITIONS

The grading plan for the proposed construction is shown in Figure 3. The existing pond will be filled and a new pond constructed just south of the existing pond. The new pond will receive runoff in the same manner and from the same areas as the existing pond. Runoff from the pool will be directed into the new pond. When the new pond has filled it will overflow northward into existing ponds as is now the case.

The volume of the existing pond is approximately 5640 cubic feet. The impervious areas surrounding the new pool will create a requirement for an additional 1060 cubic feet of ponding. The new pond will retain approximately 8385 cubic feet of runoff.

CONCLUSIONS

1. Fill and obliterate the southern most existing pond.
2. Construct a new pond south of the existing pond.
3. Route all existing runoff currently going into the existing pond into the new pond.
4. Route all runoff from the pool area into the new pond.
5. Construct a new pond to retain a minimum of 6700 cubic feet of runoff.

CALCULATIONS

Elev.	Area (sq. ft.)	Avg. Area (sq. ft.)	x	Contour Int.	=	Volume
48	0					
		160	x	1		160
49	320					
		1160	x	1		1160
50	2000					
		4320	x	1		4320
51	6640					
						5640 c.f.

Impervious Area Created by Construction

38 x 400 = 15,200

56 x 75 = ⟨4,200⟩

20 x 20 = ⟨400⟩

TOTAL = 10,600 s.f.

Additional Pond Volume Required

10,600 x 0.1 = 1060 c.f.

Total Pond Volume Required

5640 + 1060 = 6700 c.f.

Pond Volumes

$\frac{28 \times 130 + 34 \times 136}{2}$ (1) = 4124

$\frac{34 \times 136 + 40 \times 142}{2}$ (.6) = 3091

$\frac{39 \times 100}{2}$ (.6) = 1170

TOTAL 8385 c.f.

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____

E-21-Z

F-21-Z

APPLICANT

NAME: Bill McMillan (A.P.S.)
ADDRESS: 724 Maple NE
Albuquerque, NM
PHONE: 842-3611
SIGNATURE:_____

LOCATION OF PARCEL

LOT NO: Tract A BLOCK NO: N/A
SUBDIVISION: Academy Place Unit 5
STREET ADDRESS: Juan Tabo Blvd. NE
& Camero Ave. NE
CURRENT ZONING: SU-1

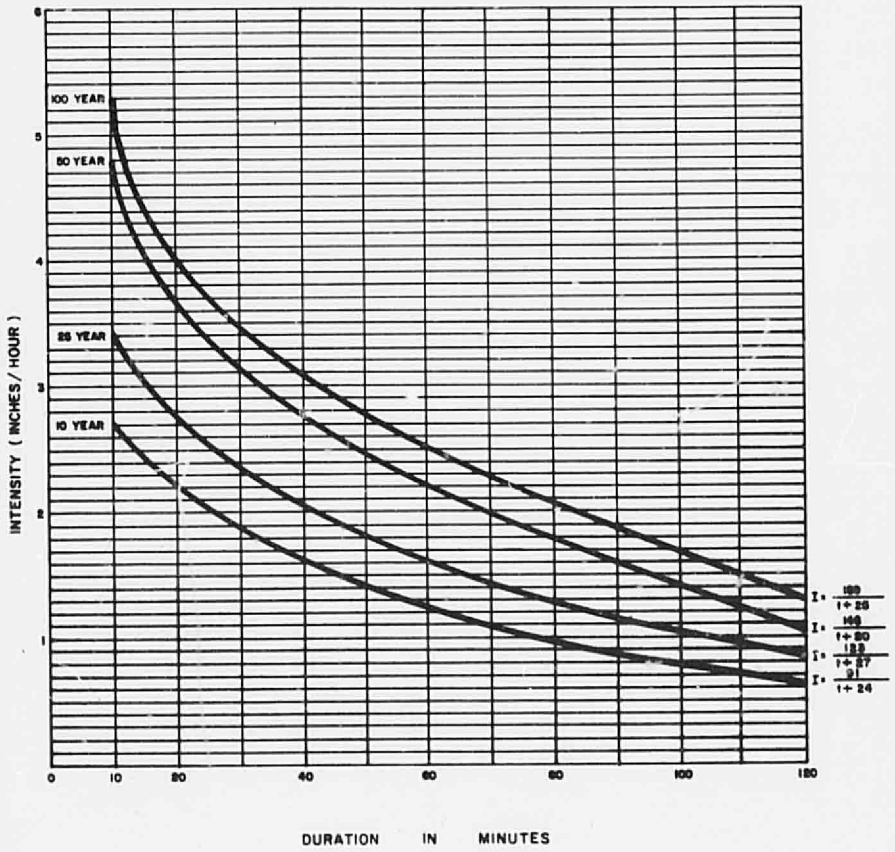

FIGURE 2

INTENSITY DURATION FREQUENCY CURVES

1296