



CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION



HYDROLOGY SECTION PROJ. NO. _____ DATE: 11/4/82

PLANNING DIVISION NO. _____

CONFERENCE RECAP

SUBJECT: LOTS 5+6, BLOCK 8, ENCHANTED MESA SUBDIVISION

WHO
ATTENDANCE: FRED J AGUIRRE
RAY CHAMBERS

REPRESENTING
CITY OF ALB - HYDROLOGY SECTION
Blake's Loftaburger

FINDINGS:

1. DETENTION STORAGE REQUIRED FOR THE ~~SUB~~ DRAINAGE
ORDINANCE - DOWNSTREAM FLOOD HAZARD AREA.
2. DRAINAGE POL FOR THE CITY'S D.P.M.
3. PRIVATE AGREEMENT REQUIRED FOR DRAINAGE ACROSS LOT 4 AND 5

RECEIVED

JUL 01 1983

ENGINEERING
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 Aguirre

SIGNED: Ray Chambers

TITLE: Civil Eng.

TITLE: C.C.I.C.

DATE: 11/4/82

DATE: 11/4/82

June 6, 1983

Mr. Fred Aguirre, P.E.
Hydrology Division
City of Albuquerque
Albuquerque, NM 87103

RECEIVED

JUN 07 1983

SUBJECT: Drainage Plan for
Blake's LotaBurger
Menaul and Chelwood

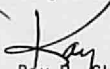
ENGINEERING

Dear Fred:

I am enclosing the Drainage Plan for the subject site. The ponding requirements were discussed in our conference on November 4, 1982.

If you have any questions, please give me a call at 266-5521.
Thanks.

Very truly yours,


Ray A. Chambers
Partner

RHC:dd
Encls.

H22-031

CCIC Design Group

architects, engineers, planners, 3500 Sandancho Road NE, Albuquerque, NM 87106 505-266-3521



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

FILE COPY

June 27, 1983

Ray H. Chambers
3500 Indian School Road NE
Albuquerque, NM 87106

REF: Drainage Plan for Blake's Lota Burger on Menaul & Chelwood (H22-D31)

Dear Mr. Chambers:

To summarize our meeting on 6/16/83, the following items will be incorporated into your revised drainage plan:

1. The required pond volumes will be recalculated in accordance with Section 22.7 of the D.P.M.
2. The pond's Q₁₀₀ water surface elevation will be identified on the grading plan.
3. The alley grades (City approved) will be provided on the grading plan.
- ✓ 4. The legal description will be noted on the plan.
5. The information sheet will be included with your plan.
6. The "Private Storm Drain Improvement Within City Right-of-Way" plan will be provided prior to the building permit sign-off.
- ✓ 7. The required retaining walls will be shown on the plan.
8. Ponding adjacent to property lines will be in accordance with Section 22.7 of the D.P.M.

If you have any questions, please contact me at this office.

MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

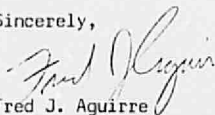
ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

Ray H. Chambers
June 27, 1983
Page -2-

Sincerely,

A handwritten signature in dark ink, appearing to read "Fred J. Aguirre". The signature is written in a cursive style with a large, stylized "F" and "A".

Fred J. Aguirre
Civil Engineer/Hydrology

FJA:mrk

June 30, 1983

Mr. Fred Aguirre, P.E.
Hydrology Section
Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

422-031
RECEIVED

JUL 01 1983

CITY ENGINEER

RE: Drainage Report For Blake's Lotaburger Site
Menaul & Chelwood, Albuquerque, NM

Dear Fred:

In response to the questions you raised after reviewing the subject Drainage Report, I have the following information for you:

- (A.) We have been advised by the City that there have not been any grades established for the alley that is contiguous to our north boundary. As the slope is considerable for the natural ground, and there will be a retaining wall adjacent to the alley, we will build to the natural grade.
- (B.) The Zoning Department advises that the three (3) lots we will be using will require a replat into a single lot; we have hired John Bettis of Enchantment Engineering to secure the replat. He intends to file on July 5th.
- (C.) I am enclosing the Runoff Hydrograph for the retention pond and the revised calculations. You will note we are using a small part of the parking area for storm water storage during the 100 year storm.
- (D.) We will pave the storage pond in order to meet the requirements of water retention adjacent to our property line which abuts a commercial zone.
- (E.) I have included Sheet C-2 which gives the construction details on the retaining wall.

RECEIVED

JUL 01 1983

ENGINEERING


CCIC Design Group

1000 North Central Avenue, Suite 100, Albuquerque, NM 87102 (505) 266-5521

Mr. Fred Aguirre, P.E.
June 30, 1983
Page 2

We have checked the drawings for the submittal and I believe you
will find everything is in concurrence.

Very truly yours,


Ray H. Chambers
Partner

RHC:dd
Encls.

RECEIVED
JUL 01 1983
ENGINEERING

INFORMATION SHEET

PROJECT TITLE Blake's Lotaburger TYPE OF SUBMITTAL Drainage Report
ZONE ATLAS PAGE NO. H-22 CITY ADDRESS 12015 Menaul Blvd., N.E.
LEGAL DESCRIPTION * Lots 5, 6 and B, Block 8, Enchanted Mesa
ENGINEERING FIRM CCIC Design Group CONTACT Ray Chambers
ADDRESS 3500 Indian School Road, N.E. PHONE 266-5521
OWNER Blake Chanslor CONTACT same
ADDRESS 3205 Richmond, N.E. PHONE 884-2160
ARCHITECT CCIC Design Group CONTACT Annelle Darby
ADDRESS 3500 Indian School Road, N.E. PHONE 266-5521
SURVEYOR Enchantment Engineering CONTACT John Bettis
ADDRESS 9910 Indian School Road, N.E. PHONE 294-8859
CONTRACTOR Blake's Lotaburger CONTACT Blake Chanslor
ADDRESS 3205 Richmond, N.E. PHONE 884-2160

DATE SUBMITTED June 28, 1983

BY

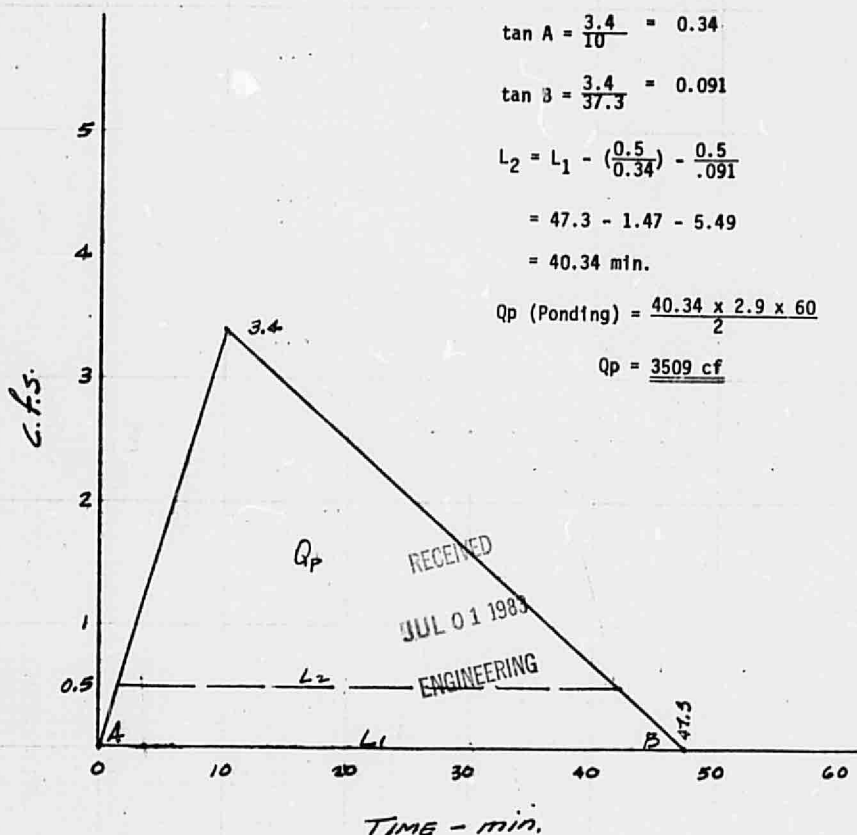
Ray H. Chambers
Ray H. Chambers

RECEIVED

JUL 01 1983

ENGINEERING

*The three lots are in the process of being replatted by Enchantment Engineering Co.


$$1/2 (L_1) 3.4 = 4824$$

$$L_1 = \frac{(2) 4824}{3.4 (60)} = 47.3 \text{ min.}$$

$$\tan A = \frac{3.4}{10} = 0.34$$

$$\tan \theta = \frac{3.4}{37.3} = 0.091$$

$$L_2 = L_1 - \left(\frac{0.5}{0.34}\right) - \frac{0.5}{.091}$$

$$= 47.3 - 1.47 - 5.49$$

$$= 40.34 \text{ min.}$$

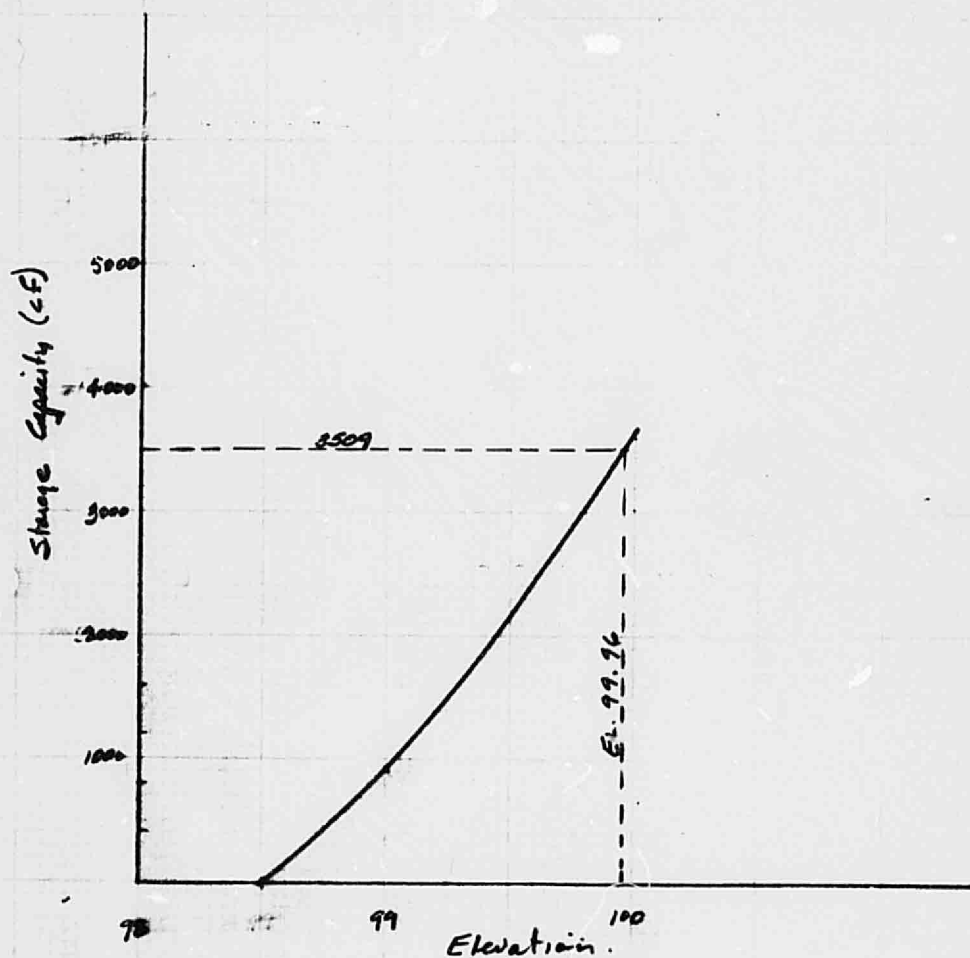
$$Q_p \text{ (Ponding)} = \frac{40.34 \times 2.9 \times 60}{2}$$

$Q_p = \underline{3509 \text{ cf}}$

RECEIVED
JUL 01 1983
ENGINEERING

**CHAMBERS, CAMPBELL,
ISAACSON & CHAPLIN**
ENGINEER-ARCHITECT-PLANNERS
ALBUQUERQUE, NEW MEXICO

SUBJECT Runoff Hydrograph
CLIENT Blatis Lotaberger JOB NO. _____
BY RHC. DATE 6-17-83 SHEET NO. 1 OF 2



**CHAMBERS, CAMPBELL,
ISAACSON & CHAPLIN**
ENGINEER-ARCHITECT-PLANNERS
ALBUQUERQUE, NEW MEXICO

SUBJECT Storage Graft
CLIENT Blake's Lotaburger JOB NO. _____
BY RHC DATE 6-17-83 SHEET NO. _____ OF _____



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

H22-D31
FILE COPY

July 22, 1983

Mr. Ray Chambers
CCIC Design Group
3500 Indian School Road NE
Albuquerque, NM 87106

REF: DRAINAGE PLAN FOR BLAKE'S LOTABURGER AT MENAUL & CHELWOOD (H22-D31)

Dear Mr. Chambers:

My comments on the above plan are listed below:

1. The pond Q_{100} water surface elevation will be identified on the plan.
2. The pond needs more detail to insure that it is constructed to the required volume and the overflow elevation is correct.
3. Pond volume calculations should be supplied to this office.
4. The maximum head permissible on the 4" PVC outlet drain is 18 inches. This pipe should project through the side of the pond.
5. The "Private Storm Drain Improvement Within City Right-of-Way" will be provided prior to the building permit sign-off.

If you have any questions, please feel free to call me at 766-7644.

Thank you,

John Armstrong
Civil Engineer/Hydrology

JA:mrk

August 12, 1983



Mr. John Armstrong
Civil Engineer/Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: (H22-D31) Drainage Plan for
Blake's LotaBurger
Menaul & Chelwood

Dear John:

In answer to your comments of July 22, please be advised as follows:

1. Enclosed are two (2) copies of the site plan on which the Q100 water surface elevation is shown.
2. We have shown two (2) cross sections of the pond for clarification to insure the construction is completed according to the designs.
3. Pond volume calculations are shown on earlier submittals and can be verified from the new cross sections.
4. We have deleted the small drop inlet to hold the maximum head on the pipe to 18".
5. I will submit the "Private Storm Drain Improvement Within City Right-of-Way" forms as soon as possible.

I hope the preceeding clarification will allow your office to accept the drainage report as amended, as we wish to submit the drawings for the building permit.

Thank you,

Ray H. Chambers, P.E.
Partner

RHC:dd
Encls.

CCIC Design Group

architects, engineers, planners 3400 Kirtland Avenue, Suite 100, Albuquerque, NM 87105 (505) 266-3521



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 15th, 1983

Mr. Ray Chambers
CCIC Design Group
3500 Indian School Road NE
Albuquerque, NM 87106

REF: DRAINAGE PLAN FOR BLAKE'S LOTABURGER AT MENAUL & CHELWOOD (H22-D31)

Dear Mr. Chambers:

The above mentioned plan, as revised 8/15/83, is approved with the following changes,

1. Call out side slopes, on the pond, of 2 horizontal to 1 vertical (Sections A & B)
2. Mark "Revised 8/15/83" under your stamp in the upper right hand corner.

Approved copies of "Drainage Facilities Within City Right-of-Way" must be attached to permit sets prior to Hydrology sign-off.

If you have any questions, please feel free to call me at 766-7644.

Sincerely,

John Armstrong
Civil Engineer/Hydrology

JA:mrk

cc: Boehning Protz Cook & Associates

DRAINAGE STUDY
FOR
BLAKE'S LOTABURGER
MENAUL & CHELWOOD
ALBUQUERQUE, NEW MEXICO



RECEIVED
JUN 07 1983
ENGINEERING

Prepared By:
CCIC DESIGN GROUP
3500 Indian School Road, N.E.
Albuquerque, New Mexico 87106
Phone: 266-5521

JUNE 6, 1983

SITE LOCATION & TOPOGRAPHY

The proposed Blake's LotaBurger is to be constructed on an 0.64 acre site on the northwest corner of the intersection of Menaul Boulevard and Chelwood Park Boulevard in the northeast heights of Albuquerque. There is a dedicated alley along the north property line.

The site slopes from east to west at a 4.3% grade. The area is presently covered with very sparse native grasses.

OFFSITE DRAINAGE

The site is not subject to any offsite water courses or flood plain hazards, nor is it adjacent to any artificial water courses. All offsite water courses above the site have been diverted around the site by the existing streets and storm drains.

ONSITE DRAINAGE

Attached Drawing C-1 delineates the onsite drainage pattern on the site. The retention pond will collect all of the water that falls on the site, except for a small area at the curb cut on Menaul, and discharge through a four inch (4") pipe to the gutter on Menaul.

The retention pond will also have an overflow spillway to allow flows in excess of the 100 year storm to exit the site onto Menaul Boulevard.

The retention pond is designed to store the additional storm water generated by the construction proposed at 2,554 cu. ft. The average pond area of 1872 sq. ft. would reach a maximum depth of 1.4 feet, or 16-1/2". The bottom of the pond is at 5796.0 and the overflow spillway is at elevation 5797.40 (see Appendix for calculations).

1. PREDEVELOPED DRAINAGE CHARACTERISTICS

Area = 0.642 acres = 27,957 sq. ft.

C = 0.40

tc = 15

I = $189/15+25 = 4.725$

Q = CIA

= $(0.40)(4.725)(0.642)$

= 1.2 cfs

V = CDA; where D = 2.43"

= $(0.40)(0.203)(27,957)$

= 2270 ft.³

2. DEVELOPED DRAINAGE CHARACTERISTICS

Composite C = 0.85

Area = 0.642 acres = 27,957 sq. ft.

tc = 5 min.

I = $189/5+25 = 6.30$

Q = $(0.85)(6.3)(0.642)$

= 3.4 cfs

V = $(0.85)(0.203)(27,957)$

= 4824 cu. ft.

3. ADDITIONAL STORM WATER GENERATED (To Be Pondered)

4824 cu. ft. - 2270 cu. ft. = 2554 cu. ft.

4. PONDING FORMULA'S STATED IN DRAINAGE MANUAL

$$\begin{aligned}\text{Time} &= -25 + (7087.5 \text{ CA}/Q_o)^{1/2} \\ \text{Volume} &= 11340 \text{ CAT}/T + 25 - 40 Q_o T \\ C &= 0.85; A = 0.64, Q_o = 2.2 \text{ cfs}\end{aligned}$$

$$\begin{aligned}\text{Time} &= -25 + (7087.5 \times 0.85 \times 0.64/2.2)^{1/2} \\ &= -25 + 41.9 = 16.9 \text{ min.}\end{aligned}$$

$$\begin{aligned}\text{Volume} &= 11,340 (0.85 \times .64 \times 16.9)/16.9 + 25 - 40(2.2) 16.9 \\ &= 2488 - 1487 = \underline{1001} \text{ cu. ft.}\end{aligned}$$

5. REQUIRED PONDING CAPACITY

Required ponding capacity is 2554 cu. ft. (from 3 above)

$$\begin{aligned}\text{Pond area} &= 16' (\text{ave.}) \times 117' = 1872 \text{ sq. ft.} \\ \text{Depth Req'd} &= 2554/1872 = 1.4 \text{ ft.}\end{aligned}$$

6. DISCHARGE THROUGH PIPE:

$$\begin{aligned}S &= 0.029 \\ a &= 12.57 \text{ sq. in.} \\ h &= 1.4 \text{ ft.}\end{aligned}$$

$$\begin{aligned}Q_{1.4} &= a \times 0.62 (64.32h)^{1/2} \\ &= 9 \text{ cfs}\end{aligned}$$

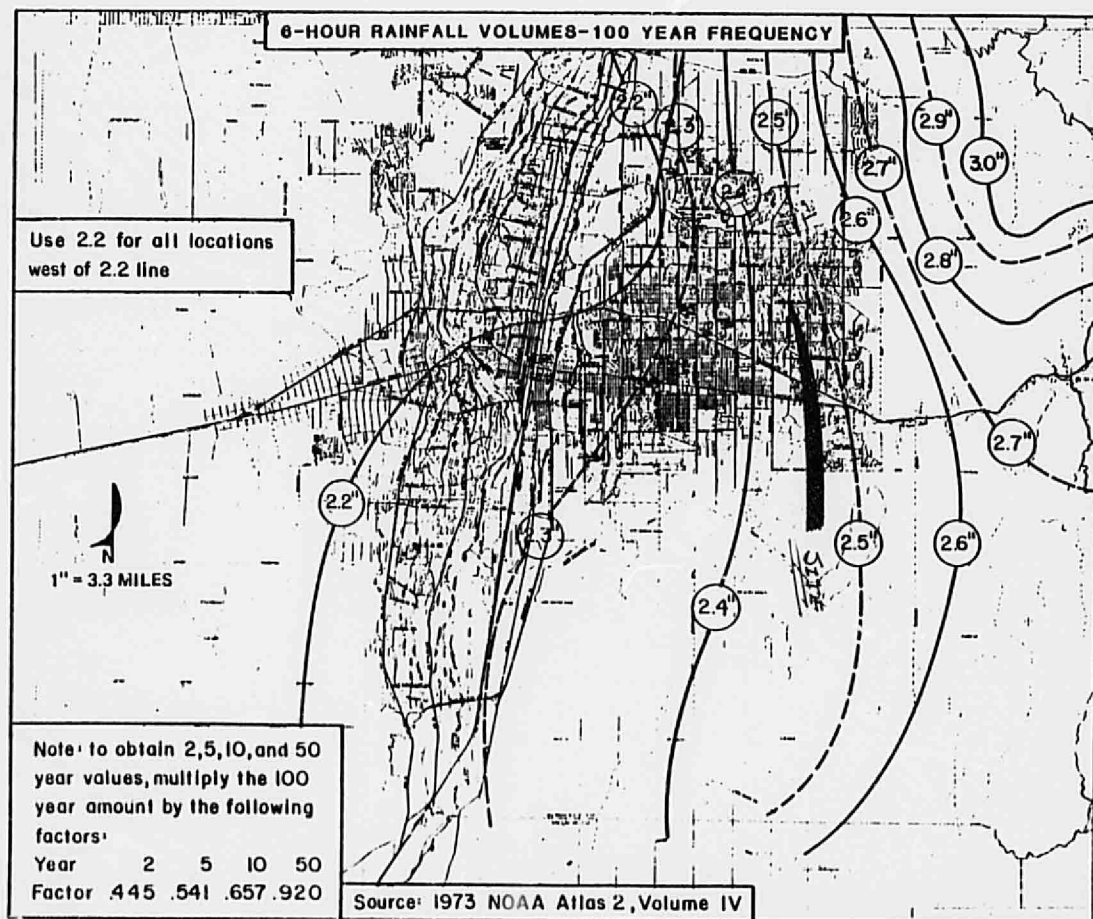
$$\begin{aligned}\text{When } h \text{ drops to } 0.0' \text{ above pipe} \\ Q_o &= 0.5 \text{ cfs}\end{aligned}$$

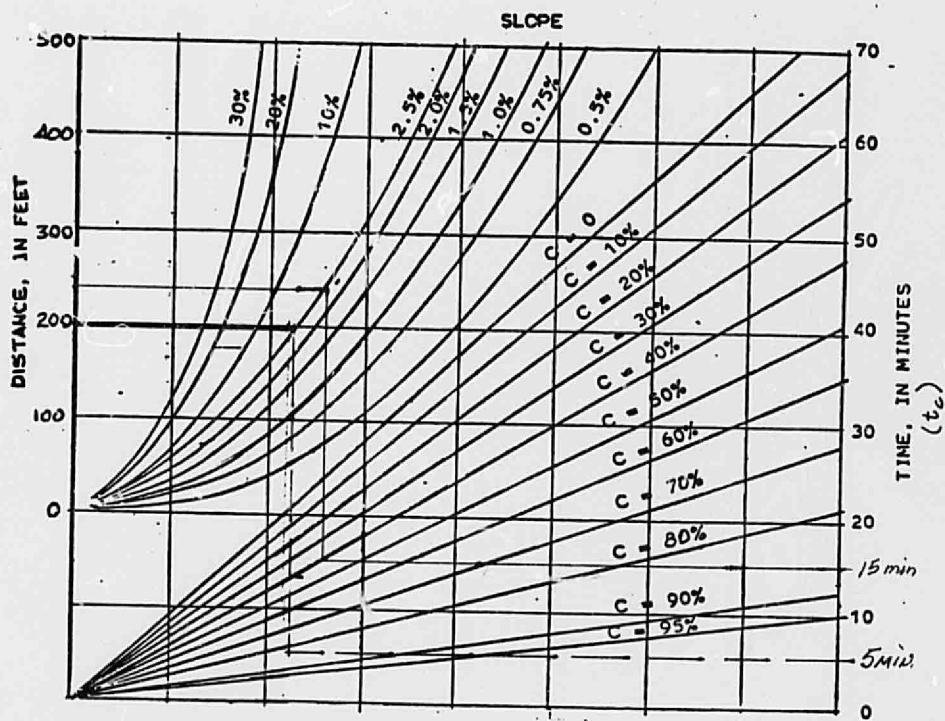
$$\text{Assume Average Flow} = (9+0.5)/2 = 1.9 \text{ cfs}$$

Pond would be empty in less than 1 hour.

7. Establish bottom of pond at Elevation 5696.0

Elevation of spillway overflow is 5697.40

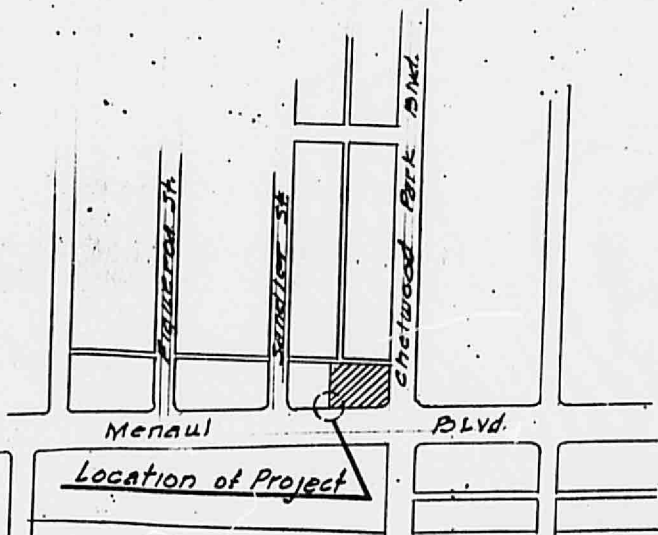




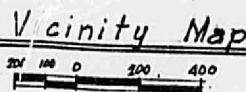
TIME OF CONCENTRATION t_c

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



Location of Project



OWNER:

Blake's Lotaburger
Blake Chancellor
3205 Richmond NE
Albuquerque, NM



Ray H. Chambers, PE

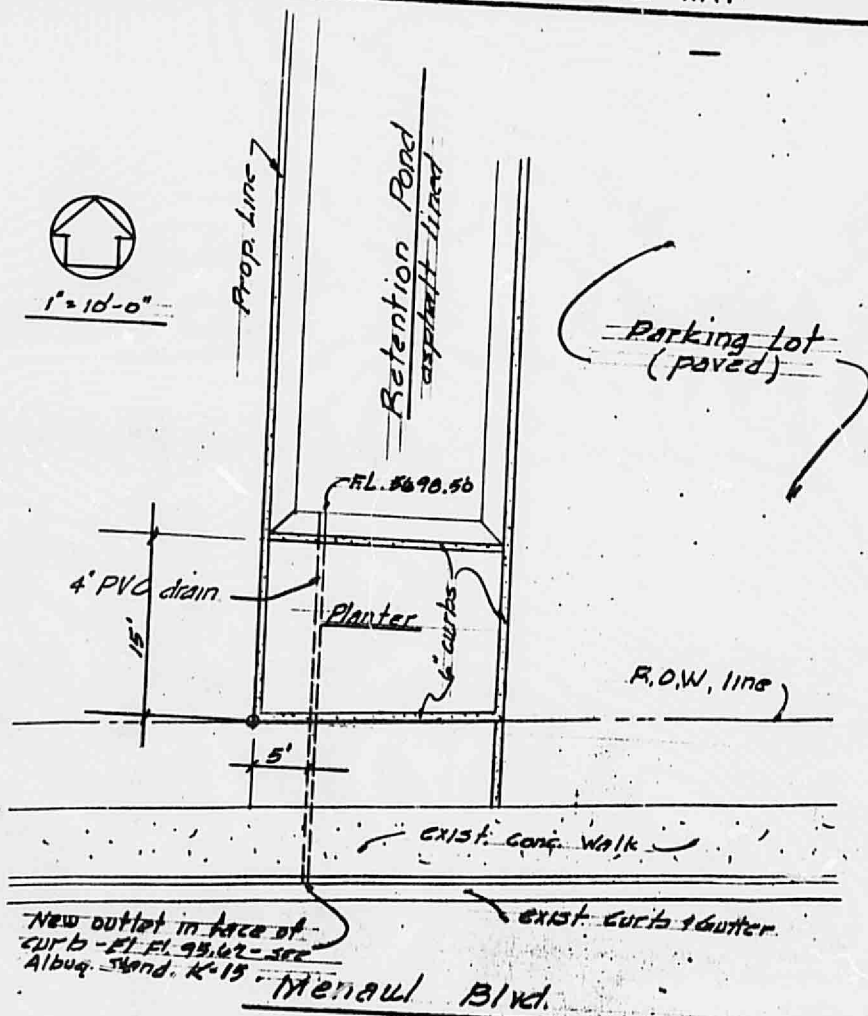
NOTICE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30"
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to arterial street use.

| APPROVALS | NAME | DATE | TITLE: |
|---------------|--------------------|-----------|---|
| A.C.E./DESIGN | <i>[Signature]</i> | 23 Aug 84 | BLAKE'S LOTABURGER |
| INSPECTOR | <i>[Signature]</i> | 1/25/84 | *REPLAT OF LOTS 5 & 6, AND LOT B OF BLOCK 8, ENCHANTED MESA SUBDIVISION |
| A.C.E./FIELD | <i>[Signature]</i> | 1/25/84 | PERMIT NO. |
| | | | SHEET 1 OF 2 |
| | | | MAP NO. H-22 |

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



BM No. 6-H22, Elev. 5705.285, Square chisled on top of concrete curb, NNE curb return, Intersection of Menaul Blvd. and Chelwood Park Dr. in the northeast quadrant of intersection

| APPROVALS | NAME | DATE | TITLE: |
|---------------|--------------------|-----------|--|
| A.C.E./DESIGN | <i>[Signature]</i> | 23 Aug 85 | RETENTION POND DRAIN PIPE |
| INSPECTOR | <i>[Signature]</i> | 1-5-88 | BLAKE'S LOTABURGER |
| A.C.E./FIELD | | | "REPLAT OF LOTS 5 & 6, and LOT B OF BLOCK 8, ENCHANTED MESA SUBDIVISION" |
| | | | PERMIT NO. |
| | | | SHEET 2 OF 2 |
| | | | MAP NO. H-22 |