City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 5, 1985

Ray H. Chambers, P.E.
Chambers, Campbell, & Partners
3500 Indian School Road, NE
Albuquerque, New Mexico 87106

RE: DRAINAGE PLAN FOR THE SIGN CENTER
SUBMITTED NOVEMBER 7, 1985 FOR BUILDING PERMIT APPROVAL
(L-22/D38)

Dear Ray:

The referenced submittal dated October 11, 1985, is approved for Building Permit.

Please include with the construction set for permit sign-off, an approved copy of the "permit to construct within public Right-of-Way" (S.O. #19) for the sidewalk culvert.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Design Hydrology

cc: Louis & Lillian Silva
528 Juan Tabo Blvd., NE

RAG/bsj

DRAINAGE INFORMATION SHEE

PROJECT TITLE: WAREHOUSE/OFFICE ZONE ATLAS/DRNG. FILE #: L22-D38

LEGAL DESCRIPTION: LOT 18A BLK. 24 CANADA VILLAGE ZONING MAP L22Z

CITY ADDRESS: 12999 COCHITI RD

ENGINEERING FIRM: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: CHAMBERS CAMPBELL & PARTNERS CONTACT: _____

ADDRESS: 3500 INDIAN SCHOOL RD. PHONE: 266-5521

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
NOV 07 1985
HYDROLOGY SECTION

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER RESUBMITTAL AS (SPECIFY) PER DRAINAGE COMMENTS LETTER DATED JUNE 20, 1985

DATE SUBMITTED: Dave Campbell

BY: Nov. 5, 1985

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 8, 1985

Mr. Ray Chambers
Chambers, Campbell & Partners
3500 Indian School Road NE
Albuquerque, NM 87106

REF: REVISED DRAINAGE PLAN FOR THE SIGN CENTER AT 12999 COCHITI ROAD, SE (L22-D38) RECEIVED SEPTEMBER 12, 1985

Dear Mr. Chambers:

I have reviewed the above referenced submittal and have the following comments:

1. Per the DPM criteria, ponding within 15 feet of a structure is not allowed without an approved soils report.

2. Since the contractor does not have access to our files, the erosion control plan for the period of construction will need to be included on the plan.

Should you have any questions or comments, please contact this office at 766-7644.

Sincerely,

Billy J. Goolsby

Billy J Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk

ARCHITECTS ENGINEERS PLANNERS

Ray H. Chambers
Douglas A. Campbell
Annelle M. Darby
Richard P. Doering

September 11, 1985

Mr. Billy J. Goolsby, P.E.
Civil Engineer/Hydrology
Design Hydrology Section
123 Central NW
Albuquerque, NM 87102

RE: Revised Drainage Plan
for The Sign Center (L22-D38)

Dear Billy:

In response to your comments of June 20, we have the following information to present:

1. We have included a copy of the information sheet.

2. The information you requested is on the original drawing.

3. All off site flows are addressed in two ways: Off site flow to the east of the lot is contained as described in the Drainage Plan for the Four Hills Shopping Center; and off-site flow from the north is diverted into the alley. A portion of the alley has been abandoned by the city who still owns it, and we propose to do some shaping of the drainage (see attached grading plan). No off site flow can reach the subject lot from the west as it is downhill.

4. The Owner will provide paved access for his portion of Cochiti Rd. and the alley. He has no control over the other lot Owners, so assessment on the other lots must be instigated by the city. We will use the gravel drains built by Four Hills Shopping Center.

5. The grades have now been established for the alley adjacent to the lot. They are for the alley - Drawing 2596; and for Cochiti Rd. - Drawing P-28-67.

6. The right-of-way (property lines) for the site are shown on the attached drawing. The power line on the rear of the lot has no easement of record.

7. We have extended the contours as you requested

CHAMBERS & CAMPBELL PARTNERS
3500 Indian School Road, N.E.
Albuquerque, New Mexico 87106
505-266-5521

8. Finish floor elevation is stated as MSL.

9. We have provided a 4" PVC drain from the south pond to the west pond.

10. Roof drains are shown on the attached drainage plan.

11. The hydraulics on the overflow for the south pond are computed using the Bazins Formula with the assumption that the 6" retaining wall can be construed as a sharp crested weir, with no velocity of approach and a 6" head;

$$Q = \frac{(0.405 + 0.00984)}{H}\left[1+0.55\,\frac{H2}{(P+H)2}\right] LH\sqrt{2gh}$$

$$= \frac{(0.405 + 0.00984)}{.05}\left[1+0.55(0.5)2\right] 7 \times .05\sqrt{32.17}$$

$$= 2.4 \text{ cfs}$$

The overflow for the west pond will be through the driveway pad above elevation 5609.0. Above that elevation the discharge rate can be computed using the Manning Formula for flow in channels.

A = 12 sq. ft.; p = 25, s = 0.1667, n = 0.25

$$Q = A\frac{(1.486)}{7} R\ 2/3\ S\ 1/2$$

$$= 4.09 \text{ cfs}$$

In both instances the overflows are at least twice as large as the total quantity of water expected in the 100 year storm.

12. Legend identifies the shaded areas as the ponding areas.

13. Spot elevations are now shown on the drive pads.

14. The request for approval of "Drainage Facilities Within City R/W Easement" is being requested.

15. Because the site is in an undeveloped area, the erosion control plan will include wetting the surface during excavation and grading, and the initial construction of the retaining walls to contain storm water runoff. No protection of paving is contemplated.

We would appreciate your prompt consideration of our revised plan which is attached.

Thank you,

Ray H. Chambers, P.E.
Partner

RHC:dd
Attachment

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 20, 1985

Mr. Ray Chambers
Chamber, Campbell & Partners
3500 Indian School Road NE
Albuquerque, NM 87106

REF: DRAINAGE PLAN FOR THE SIGN CENTER (L22-D38) RECEIVED JUNE 3, 1985

Dear Ray:

I have reviewed the above referenced submittal and forward the following comments:

1. With your resubmittal, please provide a current completed information sheet. I have enclosed, herewith, a copy for your use. Barbara should have commented

2. The original is required to have the following information on it:

   a. Engineer's stamp, signature and date.
   b. Legal description of the property.
   c. City bench mark location information with complete mean sea level designation.
   d. Temporary bench mark on-site.

3. All off-site flows will need to be better addressed and quantified. If these off-site flows are diverted, how will they impact adjacent properties? The Drainage Ordinance identifies that existing off-site flows must be accepted and routed through the property. If it is intended to divert the flows, it will have to be done through an improved public facility and cannot be discharged onto adjacent property. DPM

4. Paved access is required. drainage

5. City approved street and alley grades are required for unimproved City streets and alleys that abut the property. Please provide the necessary information for this site. DPM

6. Please show all existing and proposed right-of-ways and easements both on-site and adjacent. Dimensions and purposes needs to be provided. DPM

7. Contours and or spot elevations extending 25' beyond the property line is required. Also, any existing structures within this 25' are required to have the finished floor elevations with complete MSL designation. DPM

8. Please provide complete MSL designation of the finished floor elevation on-site. DPM

9. All ponds must drain within 24 hours. The pond adjacent to the street does not have a drain identified for it. ordinance

10. Please show the locations of the proposed roof drains. DPM

11. Please identify the location and provide the hydraulics for the emergency overflow for the proposed ponds. DPM

12. What are the shaded areas on the plan? The legend does not identify. DPM

13. Please provide the required spot elevations for the standard City drivepads. DPM

14. The appropriately approved "Drainage Facilities Within City R/W/ Easement" will be required for the sidewalk drain. Please submit this document to City Design, 4th Floor City Hall for review and approval.

15. An erosion control plan, per the DPM, will be required for the period of construction.

Should you have any questions or comments, please contact this office.

Cordially,

Billy J. Goolsby

Billy J. Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk

16. Close proximity of pond to the building
17. Fencing required for depths over 18" in pading area
18. No downstream analysis for required discharge.

ARCHITECTS ENGINEERS PLANNERS

Ray H Chambers
Douglas A Campbell
Annelle M. Darby
Richard P. Doering

June 3, 1985

Mr. Billy J. Goolsby
City of Albuquerque
Municipal Development Department
Engineering Division/Design Hydrology Section
Albuquerque, New Mexico

RE: Submittal of Drainage Plan
The Sign Center
12999 Cochiti Road S.E.
Albuquerque, New Mexico

Dear Mr. Goolsby:

Please find enclosed CHAMBERS CAMPBELL AND PARTNERS submittal for the drainage plan for The Sign Center. If there are any questions or comments, please advise.

We thank you very much for your time and cooperation.

Sincerely,

Ray H. Chambers
Partner

RHC:mm

Encls.

CHAMBERS & CAMPBELL PARTNERS
3500 Indian School Road, N.E.
Albuquerque, New Mexico 87106
505-266-5521

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

PRE-DESIGN CONFERENCE RECAP

HYDROLOGY SECTION PROJECT NO.: L-22 DATE: 4/11/85

PLANNING DIVISION NOS. EPC: _____ DRB: _____

SUBJECT: Offices for Center Sign Co.

LEGAL DESCRIP.: Lots 18 & 19 Cañada Village First Unit.

APPROVAL REQUESTED

_____ PRELIMINARY PLAT
_____ SITE DEVELOPMENT PLAN
_____ ROUGH GRADING
_X_ FINAL PLAT
_X_ BUILDING PERMIT

ATTENDANCE:	WHO:	REPRESENTING:
	Douglas Campbell	CCIC
	Billy Goolsby	City

_____ Conceptual Drainage Plan/Report required for Preliminary Plat and/or Site Development Plan sign-off.

_X_ Approved Drainage Plan~~/Report~~ required for Final Plat and/or Building Permit sign-off.

_____ Subdivision Improvements Agreement or Financial Security required.

FINDINGS: (1. Replat required to remove the lotline (2. City approved street & alley grades are required (3) Paved access is required per the Drainage Ord. (4 Discharge to be determined by analysis of downstream capacity.

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:	Billy G. Goolsby	SIGNED:	
TITLE:	CE/Design Hydrology	TITLE:	
DATE:	4/11/85	DATE:	

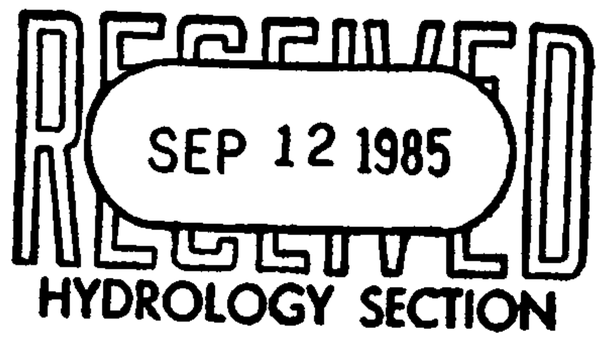
NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

REVISED

DRAINAGE PLAN

FOR

THE SIGN CENTER
12999 Cochiti Road, S.E.
Albuquerque, New Mexico



September 1985

Prepared By
CHAMBERS CAMPBELL AND PARTNERS
3500 Indian School Road, N.E.
Albuquerque, New Mexico 87106
Phone: 266-5521

DRAINAGE INFORMATION SHEET

PROJECT TITLE: THE SIGN CENTER ZONE ATLAS/DRNG. FILE #: L-22 / D38

LEGAL DESCRIPTION: Lot 18A, Block 24, Canada Village

CITY ADDRESS: 12999 Cochiti Road, S.E.

ENGINEERING FIRM: Chambers Campbell & Partners CONTACT: Ray Chambers

ADDRESS: 3500 Indian School Rd. 87106 PHONE: 505-266-5521

OWNER: Louis and Lillian Silva CONTACT: Louis Silva

ADDRESS: 528 Juan Tabo, N.E. PHONE: 505-293-6740

ARCHITECT: Chambers Campbell & Partners CONTACT: Douglas Campbell

ADDRESS: 3500 Indian School Road 87106 PHONE: 505-266-5521

SURVEYOR: Gordon Douglas & Associates CONTACT: Gordon Douglas

ADDRESS: 119 Industrial NE PHONE: 505-345-6877

CONTRACTOR: Not Selected CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
SEP 12 1985
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

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: September 11, 1985

BY: Ray W. Chambers

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

PRE-DESIGN CONFERENCE RECAP

HYDROLOGY SECTION PROJECT NO.: L-22 DATE: 4/11/85

PLANNING DIVISION NOS. EPC: _____ DRB: _____

SUBJECT: Offices for Center Sign Co.

LEGAL DESCRIP.: Lots 18 & 19 Cañada Village First Unit.

APPROVAL REQUESTED

_____ PRELIMINARY PLAT
_____ SITE DEVELOPMENT PLAN
_____ ROUGH GRADING
X FINAL PLAT
X BUILDING PERMIT

	WHO:	REPRESENTING:
ATTENDANCE:	Douglas Campbell	CCIC
	Billy Goolsby	City

_____ Conceptual Drainage Plan/Report required for Preliminary Plat and/or Site Development Plan sign-off.

X Approved Drainage Plan ~~/Report~~ required for Final Plat and/or Building Permit sign-off.

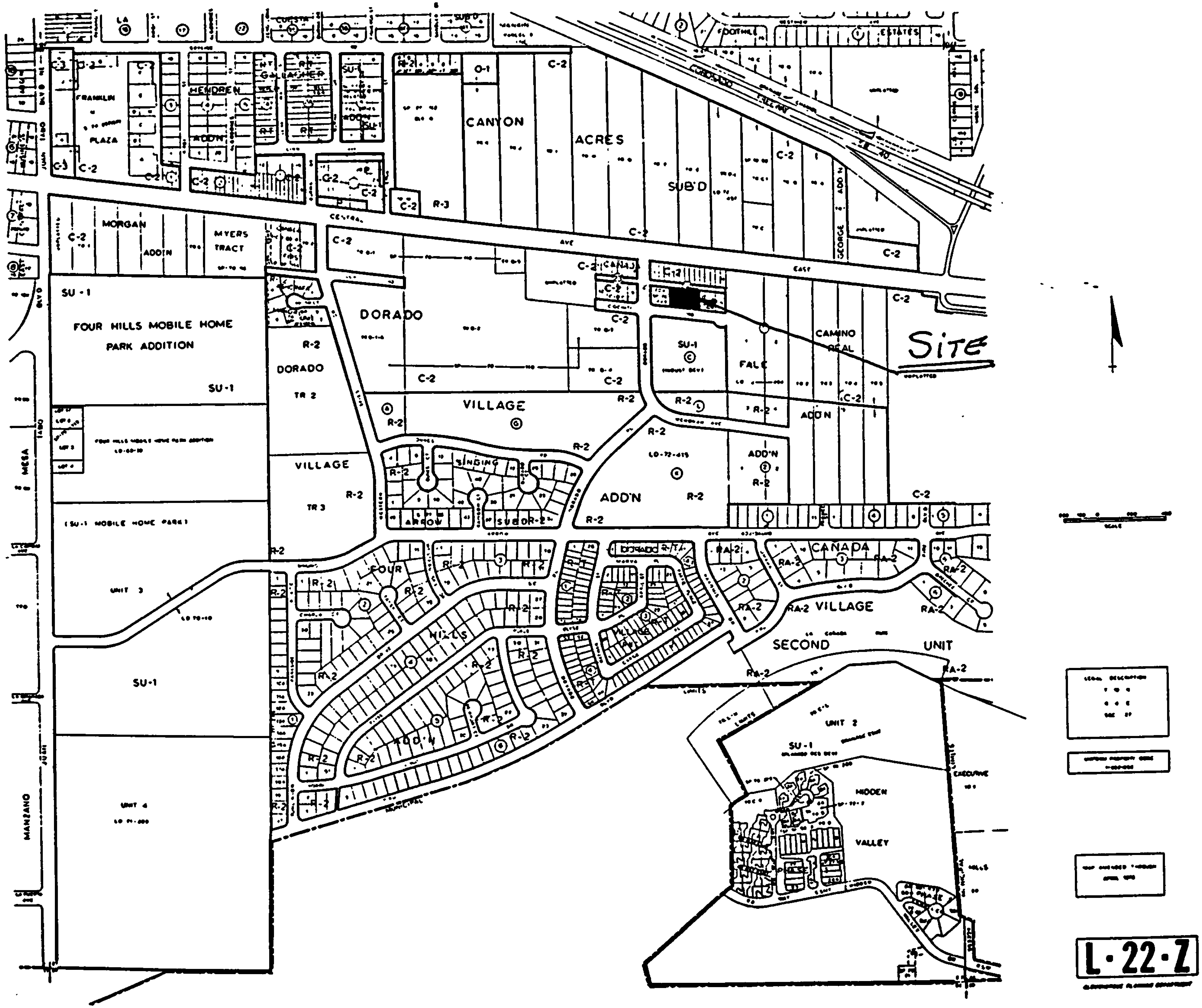
_____ Subdivision Improvements Agreement or Financial Security required.

FINDINGS: ① Replat required to remove the lotline
② City approved street & alley grades are required
③ Paved access is required per the Drainage Ordinance
④ Discharge to be determined by analysis of downstream capacity.

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:	Billy J. Goolsby	SIGNED:	[signature]
TITLE:	CE/Design Hydrology	TITLE:	Pastor
DATE:	4/11/85	DATE:	4/11/85

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL



FOUR HILLS MOBILE HOME
PARK ADDITION
SU-1
MORGAN
ADD'N
MYERS
TRACT
DORADO
VILLAGE
CANYON
ACRES
SUB'D
FRANKLIN
PLAZA
HENDREN
ADD'N
GALLAGHER
CENTRAL
AVE
EAST
CAMINO
REAL
FALC
GEORGE
SINGING
ARROW
SUB'D
FOUR
HILLS
ADD'N
CAÑADA
VILLAGE
SECOND
UNIT
HIDDEN
VALLEY
UNIT 2
UNIT 3
UNIT 4
MANZANO
MESA
JUAN TABO
TR 2
TR 3
SITE
L·22·Z

THE SIGN CENTER
12999 Cochiti Road NE

GENERAL INFORMATION

The site contains 0.585 acres and is located on the north side of Cochiti Road SE, approximately 250 feet east of Dorado Place.

Natural drainage is from the northeast corner of the site to the southwest corner with approximately 8 feet of slope. Storm water now drains across the site and onto Cochiti Road, thence southerly down Dorado Place and finally into Tijeras Canyon Arroyo.

The existing soil is a sandy silt, SM, and there is a very sparse vegetation of native grasses and weeds.

The site is not in a Flood Hazard Boundary.

OFF-SITE FLOW

There is presently considerable off-site flow onto the site from the developed lots along Central Ave., which is a direct contradiction of the existing drainage ordinance. The off-site drainage will be diverted around the site and into the alley at the rear.

DEVELOPED DRAINAGE

As the drainage from the developed lot finds its way to the Tijeras Arroyo, it was determined that all the storm run-off will be ponded with a controlled release through a 4" P.V.C. pipe amounting to 0.5 cfs. The pipe discharge will be through the new curb on Cochiti Road, thence west to Dorado Place, thence southwesterly until finally dumping into Tijeras Arroyo.

All of the on-site storm water will flow across the parking area and either into the storage pond in front of the building, or into the discharge-storage ponding area along the west property line. When the front pond storage is exceeded, the storm water will go over the curb on the west and into the discharge-ponding area. All roof drains will be off the back of the building and onto the parking area that drains into the discharge-pond. (See Grading Plan).

The total amount of storm water from the 100 year storm that will flow into the South Pond is 1985 cf. With the 0.5 cfs discharge from the 4" PVC pipe, the ponding capacity required is 554 cf. See computations and attached hydrographs.

The total inflow into the West Pond from a 100 year storm would be 3520 cf. The 0.5 cfs discharge would require the ponding capacity to be 1606 cf.

The storage capacity of the West pond at the time the water would overflow is 1954 cf or approximately 350 cf larger than required. However, the flow from the 4" PVC pipe from the South Pond will be added to the storage requirement. The 350 of additional storage should contain the ponding requirement plus the discharge from the South Pond, particularly when the difference in times of concentration is considered.

The landscape areas will be held down approximately 3" to store the day-to-day nuisance water from sprinklers.

The pond along the west property will be asphalt lined to prevent seepage into the adjacent lot. Curbs and retaining walls along the property lines will effectively contain the storm drainage to ensure that all on-site rainfall will be routed into the ponds.

EROSION CONTROL

Because the site is in an undeveloped area, the erosion control plan will include wetting the surface during excavation and grading, and the initial construction of the retaining walls to contain storm water runoff. No protection of paving is contemplated.

The Sign Center
Two Ponds

STORM WATER STORAGE

West Pond:

Elev.		Storage Ft.3	Accum. -CF
7.5		-0-	-0-
8.0	330 x 1/2 + (594-330) x 1/4 165 + 66	231	231
8.5	594 x 1/2 + (1858-594) x 1/4 297 + 316	613	844
9.0	1858 x 1/2 + (2584-1858) x 1/4 929 + 182	1110	1954
9.5	2584 x 1/2 + (3045-2584) x 1/4 1292 + 115	1407	3361

South Pond

8o	-0-	-0-	
9o	624 x 1/2	312	312
10o	624 + (863-624) x 1/2 624 + 120	744	1056 S.F.

DRAINAGE INTO SOUTH POND (DEVELOPED)

Area = 23,873 - 12,233 = 11,640 sq. ft. = 0.267 ac.

Imperious Surface = 9,815 x 0.9 = 8834

Landscape Area = $\frac{1,825}{11,640}$ x 0.35 = $\frac{639}{9573}$

Composite "C" = 0.82

L = 359' slope = 0.012

tc = 6.3' + 7.7 = 14 min.

$i = \frac{189}{tc+25} = \frac{189}{39}$ = 4.85 inch/hr.

Q = Aci = 0.267 x 4.85 x 0.82 = 1.06
= 1.06 c.f.s.

U = 0.82 x (0.208) 11640 = 1985 cf

1/2 L (1.06) = 1985 cfs

$L = \frac{1985 \times 2}{1.06 \times 60}$ = 62.42 min.

tan. A = 1.06/10 = 0.106

tan. B = 1.06/52.42 = 0.0202

L_1 = L - 0.5/.106 - 0.5/0.0202

= 62.42 - 4.72 - 24.75

= 32.95 min.

$\therefore$ Q ponding = $\frac{32.95 \times 0.56 \times 60}{2}$ = 554 ft.^{3}

DRAINAGE INTO WEST POND (DEVELOPED)

Area = 12,233 sq. ft. = 0.28 acres

C = 0.90 imperious surface

L = 278' slope = 0.019

tc = 6 min.

$L = \frac{189}{6+25} = \frac{189}{31} = 6.10$ inch/hr.

Q = 0.9 (6.10) 0.28 = 1.54 cfs

V = 0.9 (0.208) 12233 = 3,520 cf

$1/2\ L_1\ (1.54) = 3520$

$L_1 = \frac{3520 \times 2}{1.54 \times 60} = 76.2$ min.

tan. $A^1 = 1.54/10 = 0.154$

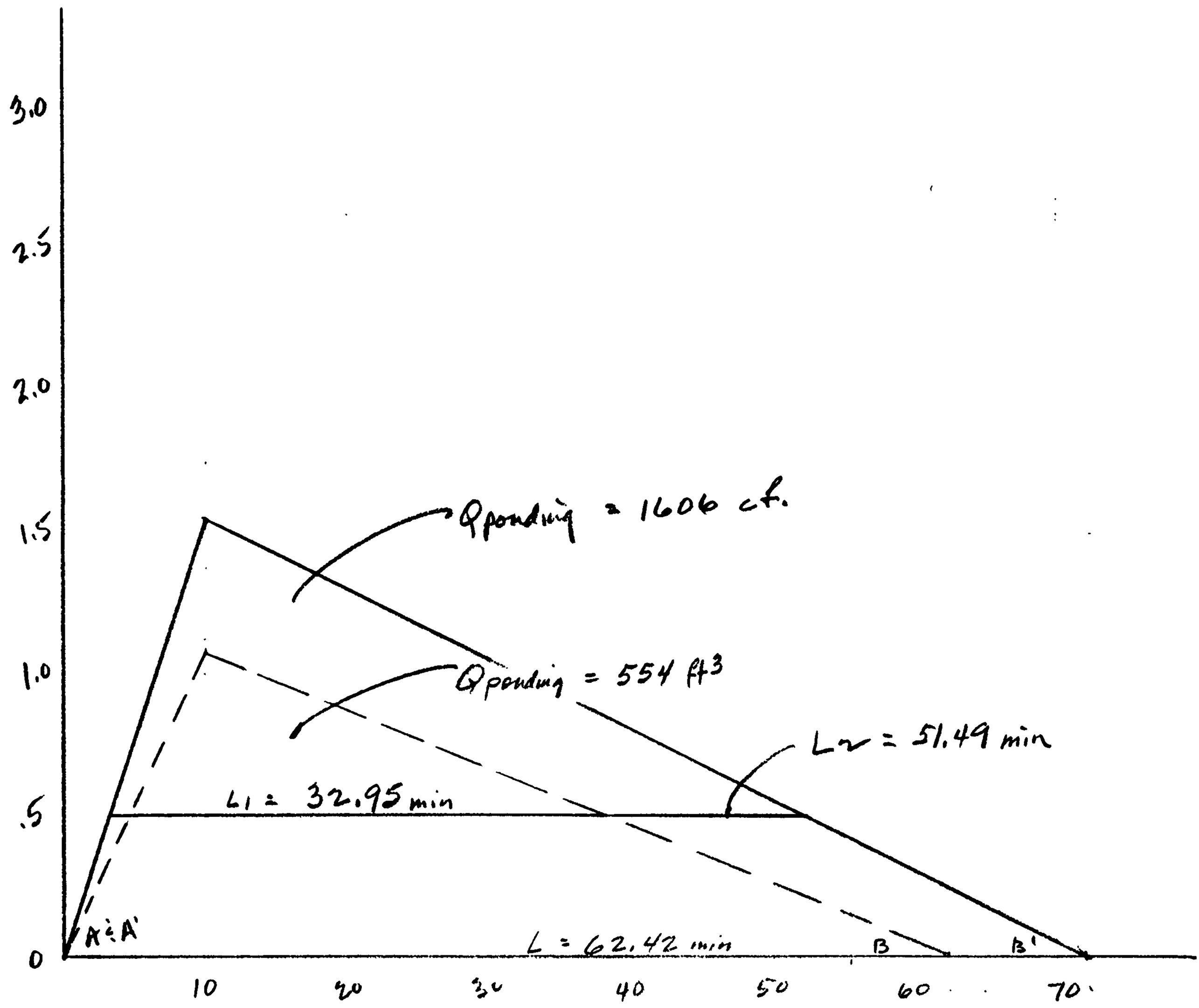
tan. $B^1 = 1.54/66.2 = 0.0233$

$L_2 = L - 0.5/0.154 - 0.5/0.0233$

$= 76.2 - 3.25 - 21.46$

$= 51.49$ min.

Q Ponding = $\frac{51.49 \times 1.04 \times 60}{2} = \underline{1606 \text{ c.f.}}$



West AND
South Pond

7-5-85

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 8, 1985

Mr. Ray Chambers
Chambers, Campbell & Partners
3500 Indian School Road NE
Albuquerque, NM 87106

REF: REVISED DRAINAGE PLAN FOR THE SIGN CENTER AT 12999 COCHITI ROAD, SE (L22-D38) RECEIVED SEPTEMBER 12, 1985

Dear Mr. Chambers:

I have reviewed the above referenced submittal and have the following comments:

1. Per the DPM criteria, ponding within 15 feet of a structure is not allowed without an approved soils report.

2. Since the contractor does not have access to our files, the erosion control plan for the period of construction will need to be included on the plan.

Should you have any questions or comments, please contact this office at 766-7644.

Sincerely,

Billy J. Goolsby

Billy J Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk