

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

October 14, 1986

Ron Bohannon, P.E.
Tierra West Development
4127 Carlisle Blvd., NE
Albuquerque, New Mexico 87107

RE; REVISED DRAINAGE PLAN SUBMITTAL OF SOMBRE DEL RIO RECEIVED
OCTOBER 7, 1986 FOR BUILDING PERMIT APPROVAL (6-12/D13)

Dear Ron:

The above referenced submittal, dated September 30, 1986, is approved for Building Permit sign-off by the Hydrology Section. Include these approved plans with the construction sets routed for sign-off.

Also approved is the design for the 4" PVC tie into the catch basin in Glenwood Road. A separate excavation/construction permit (S.O. #19) will be required for the contractor for this construction.

If you have any questions, call me at 768-2650.

Cordially,

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

cc: Bruce Wylie

RAG/bsj

PUBLIC WORKS DEPARTMENT

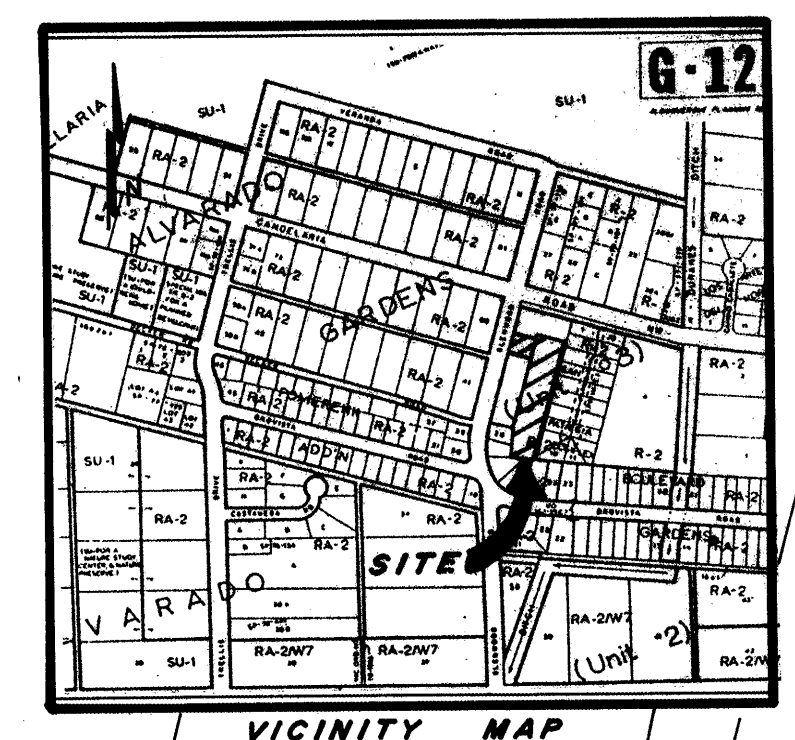
Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

SCALE: 1" = 20'

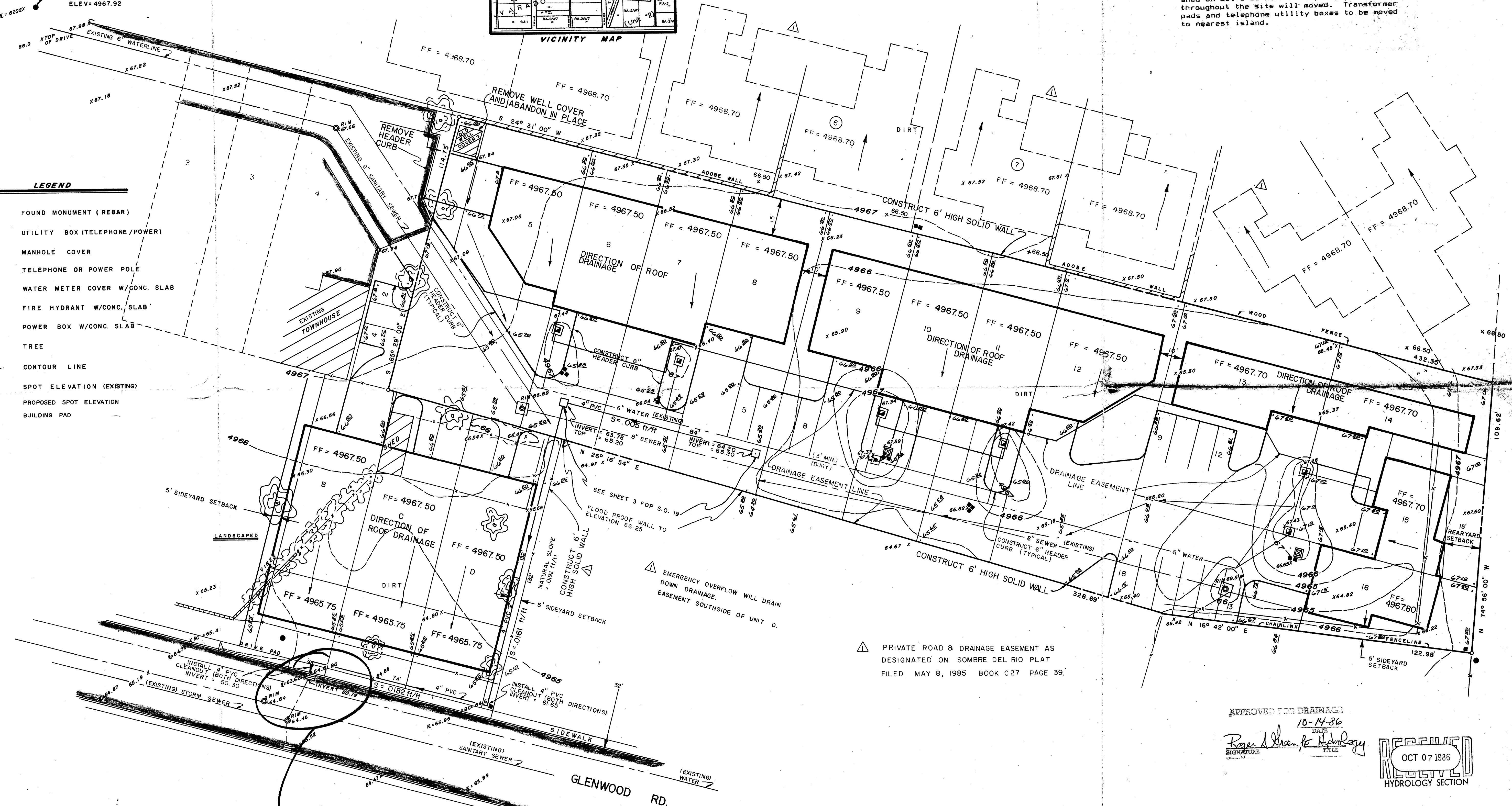


△ DRAINAGE REPORT G-12/D7 PREPARED BY C.C.I.C. UNDER SAN PATRICO COMPLEX. SITE RETAINS ALL FLOWS WITHIN THE BOUNDARIES. REAR YARDS POND WATER WHILE ROOFS ARE DIRECTED TOWARDS FRONT OF UNITS. LOTS 6 & 7 TO BE BUILT IN THE FUTURE.

General Note: Solid Black wall to be built around project to control erosion during construction. Six inch header curb to be installed within the project at limits of pavement section except where pavement abuts outer wall. Existing shed on Lot C as well as any vegetation throughout the site will be moved. Transformer pads and telephone utility boxes to be moved to nearest island.

PROJECT BENCHMARK ELEV. 4968.77 (NAIL IN P POLE)
ELEVATION BASED ON ACS MONUMENT 10-6138
ELEV = 4967.92

- LEGEND**
- FOUND MONUMENT (REBAR)
 - UTILITY BOX (TELEPHONE/POWER)
 - MANHOLE COVER
 - TELEPHONE OR POWER POLE
 - WATER METER COVER W/CONC. SLAB
 - FIRE HYDRANT W/CONC. SLAB
 - POWER BOX W/CONC. SLAB
 - TREE
 - - - CONTOUR LINE
 - SPOT ELEVATION (EXISTING)
 - PROPOSED SPOT ELEVATION
 - BUILDING PAD



△ PRIVATE ROAD & DRAINAGE EASEMENT AS DESIGNATED ON SOMBRE DEL RIO PLAT FILED MAY 8, 1985 BOOK C27 PAGE 39.

S.O.#19
See sheet 3

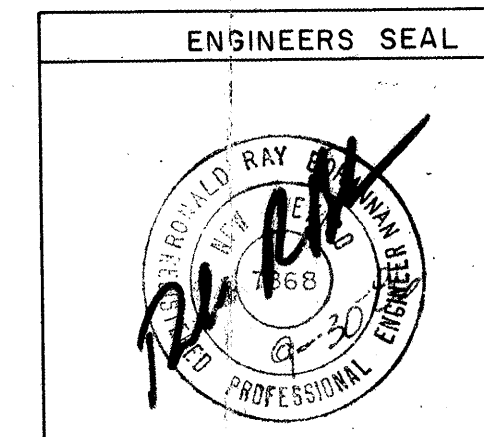
APPROVED FOR DRAINAGE
10-14-86
DATE

Roger A. Thompson
SIGNATURE

OCT 07 1986
HYDROLOGY SECTION

△ REVISED 9/16/86 PER CITY HYDROLOGY COMMENTS

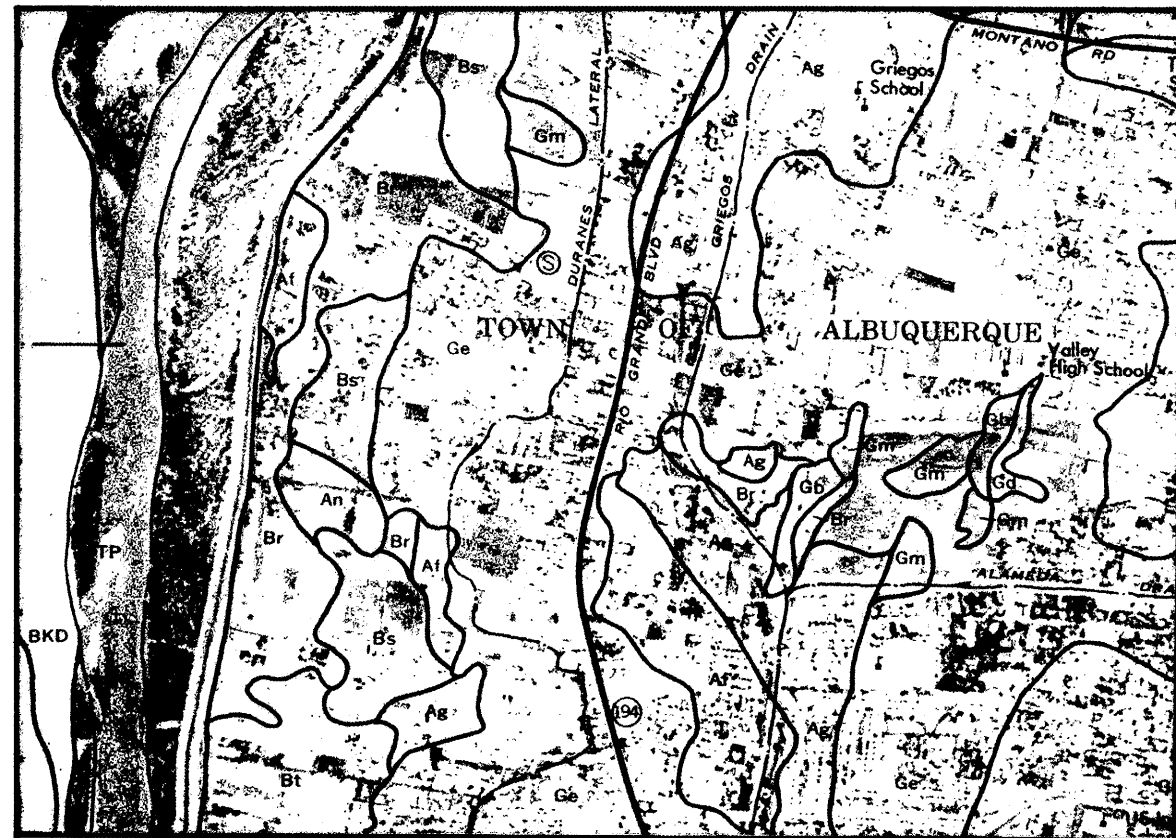
JOB NO 860051



PREPARED BY:
TIERRA WEST DEVELOPMENT
MANAGEMENT SERVICES
4127 CARLISLE N.E., ALB., N.M. 87107
505-883-7592

DATE SUBMITTED 8/18/86

TITLE: GRADING & DRAINAGE PLAN SOMBRE DEL RIO					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
CITY ENGR.					
A.C.E. DESIGN					
A.C.E. HYD.					
A.M.A.F.C.A.					
DRAWING NO.	MAP NO.		SHEET		OF
	G-12		1		3



SOILS MAP



FLOOD HAZARD MAP

VOLUME CALCULATION

The runoff volume was computed using the plates 22.2 C-2, 22.2 C-3, 22.2 C-4 and the Bernalillo County Soil Survey and plate 22.2 D-1. The runoff curve number for average residential lots of 1/8 acre was used to compute the direct runoff.

$$V(100) \text{ DEVELOPED} \\ 1.7 \text{ inches } (0.0833) (60,681) = 8,593 \text{ cf.}$$

$$V(100) \text{ UNDEVELOPED} \\ 0.5 \text{ inches } (0.0833) (68,811) = 2,865 \text{ cf.}$$

The rear yards of all lots are retaining 100 percent of the rainfall. All roof drainage will drain to the front of each unit. The area of the rear yards was not included in the direct runoff volume calculation.

FLOOD HAZARD MAP

The site is located on Panel 22 of 50 of the Flood Insurance Rate Maps. The site lies outside the 100 year flood boundary but lies within the 500 year flood boundary as shown on this sheet.

SITE DATE

The site will consist of draining 12 townhouse lots in Sombre Del Rio through a private access and drainage easement to the south five feet of three townhouse lots to Glenwood Drive.

LEGAL DESCRIPTION

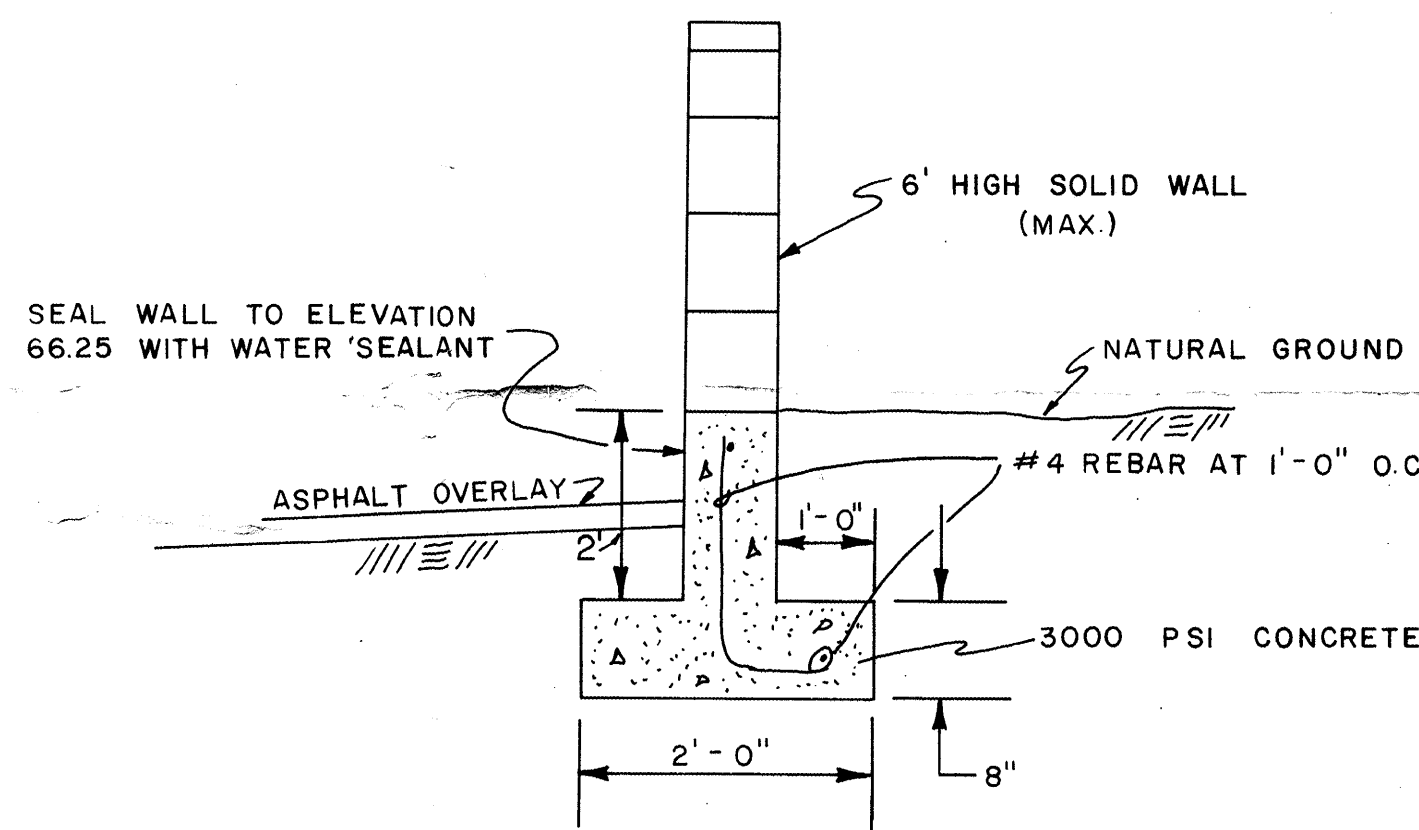
Lots 5 through 14 of the Sombre Del Rio Plat being a replat of a portion of Lot 6, Alvarado Gardens, Unit 3, filed May 8, 1985, book C27, page 39 and Lots E through D of the Northwesterly portion of Tract 6 Alvarado Gardens Unit 3, filed August 1, 1986 both in the office of the County Clerk, Bernalillo, New Mexico.

GROUND COVER

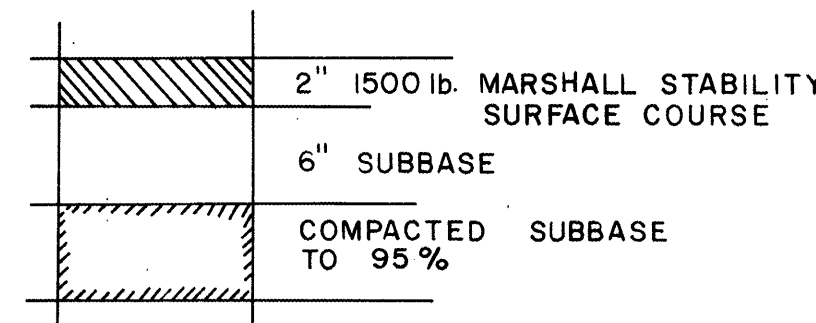
The existing site has been partially graded with the utilities being brought into the site. The site was previously stripped and only weeds cover the existing ground. The soil is Gila Clay Loam (Ge) as shown in SCS Bernalillo County Soil Survey on map 20 and is a Hydrologic Soil Group B.

BENCH MARK

A temporary bench mark located on a nail in a power pole at the northwest corner of the project along Candelaria Road elevation 4968.77 based upon ACS monument 10-513 B, elevation 4987.92.



RETAINING WALL & SEALANT DETAIL
(NO SCALE)



PAVING DETAIL

EXISTING CONDITIONS

The Site was originally retaining 100% of all developed drainage for Lots 5 through 14 Sombre Del Rio as identified in the drainage report submitted by CIS Engineering, Inc., dated 3-13-85. Recent purchase and development of lots E through D will allow the site to drain to Glenwood Road. Both sites are undeveloped and retain the flow presently. The site is bordered by existing development which contains and prevents offsite flow from entering into the site.

PROPOSED CONDITIONS

The site is proposed to surface flow from the south towards lot 6. From lot 6 the drainage will be collected in a private 4 inch storm sewer along the south 5 feet of Lot D. The drainage will flow a drop inlet, located approximately 75 feet north of the southwest corner of Lot D in Glenwood Road. The culvert is part of the Riverside drain system which presently does not have capacity. The drainage will be limited to 0.5 cfs from the site as identified by the City of Albuquerque Hydrology section.

UNDERGROUND UTILITIES

The utilities both water and sewer as well as the power and telephone have been previously installed. The depths used for the utilities were trenched on existing ground and then elevated at connection points. This plan is lowering the grade then was specified on the construction drawings. However, the city and utility minimum clearance will be maintained over the proposed new finished grades.

RATIONAL FORMULA

$$\begin{aligned} \text{Discharge } Q &= CIA \\ R(6) &= 2.2 \text{ inches (DPM Plate 22.2D-1)} \\ A &= 1.4649 \text{ Acres} = 63,811 \text{ SF} \\ I &= R(6)(6.84) T_c^{0.51} = 4.65 \text{ inches/hour} \\ T_c &= 10 \text{ minutes (minimum)} \\ C &= \text{Varies} \end{aligned}$$

EXISTING DRAINAGE CONDITIONS

$$\begin{aligned} \text{Total Area} &= 68,811 \text{ SF} = 1.4649 \text{ Ac} \\ A(\text{imp}) &= \text{Impervious Area} = 0\% \\ C &= 0.40 \\ Q(100) &= (0.40)(4.65)(1.4649) = 2.72 \text{ cfs} \end{aligned}$$

SEE VOLUME CALCULATIONS

DEVELOPED DRAINAGE CONDITIONS

$$\begin{aligned} \text{Total Area} &= 60,681 = 1.3931 \text{ Ac (See Note 1)} \\ \text{Weighted C Factor} &= \\ \text{Roofs} &16,169 * 0.90 = 14,552 \\ \text{Drives/Walks} &38,532 * 0.95 = 36,605 \\ \text{Landscape} &5,980 * 0.25 = 1,495 \\ \text{Total} &60,681 \quad 52,652 \end{aligned}$$

$$\begin{aligned} C &= 52,652 / 60,681 = 0.87 \\ Q(100) &= (0.87)(4.65)(1.3931) = 5.42 \text{ cfs} \end{aligned}$$

SEE VOLUME CALCULATIONS

Pond Volume Provided

Contour	Area	Average	Volume
65.20	1,395	3,695	1,108
65.50	6,000	9,300	4,650
66.00	12,600	13,300	6,650
66.50	14,000		
Total			12,408

100 Year Flood Depth Approx 66.25

NOTE 1

The rear yards of all townhouses will retain 100% of the drainage. As noted in the proposed conditions, all roof areas will drain to the front of each lot.

NOTE 2

10 year frequency is equal .657 of rainfall depth.

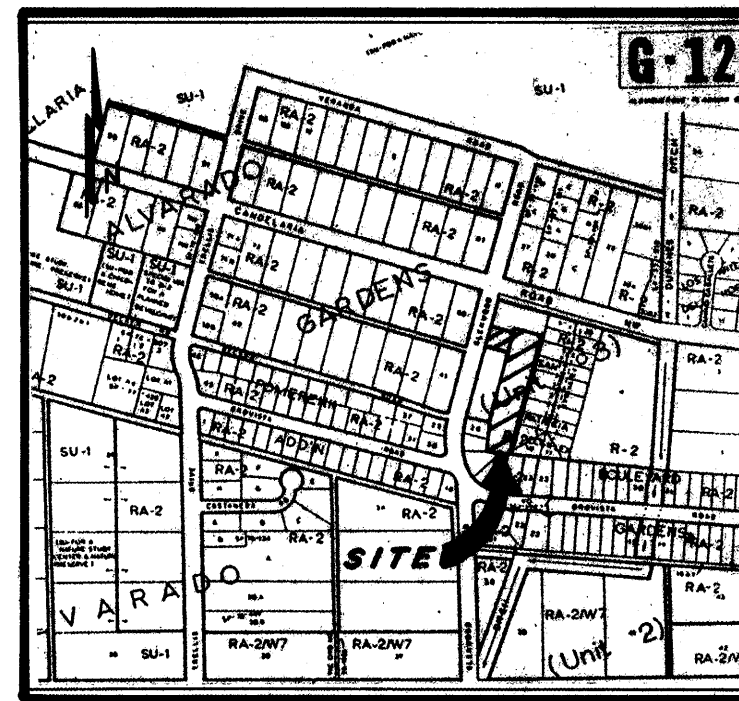
REVISD VOLUME CALCULATIONS 9/16/86
PER CITY HYDROLOGY COMMENTS

RECEIVED
OCT 07 1986
HYDROLOGY SECTION
JOB NO. 860051

PREPARED BY:
TIERRA WEST DEVELOPMENT
MANAGEMENT SERVICES
4127 CARLISLE N.E., ALB., N.M. 87107
505 - 883 - 7592

DATE SUBMITTED 8/18/86

ENGINEERS SEAL	TITLE: GRADING & DRAINAGE PLAN SOMBRE DEL RIO				
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
CITY ENGR.					
A.C.E. DESIGN					
A.C.E. HYD.					
A.M.A.F.C.A.					
DRAWING NO.	MAP NO.	SHEET	OF		
	G-12	2	3		



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UNDER SAN PATRICO COMPLEX. SITE RETAINS ALL
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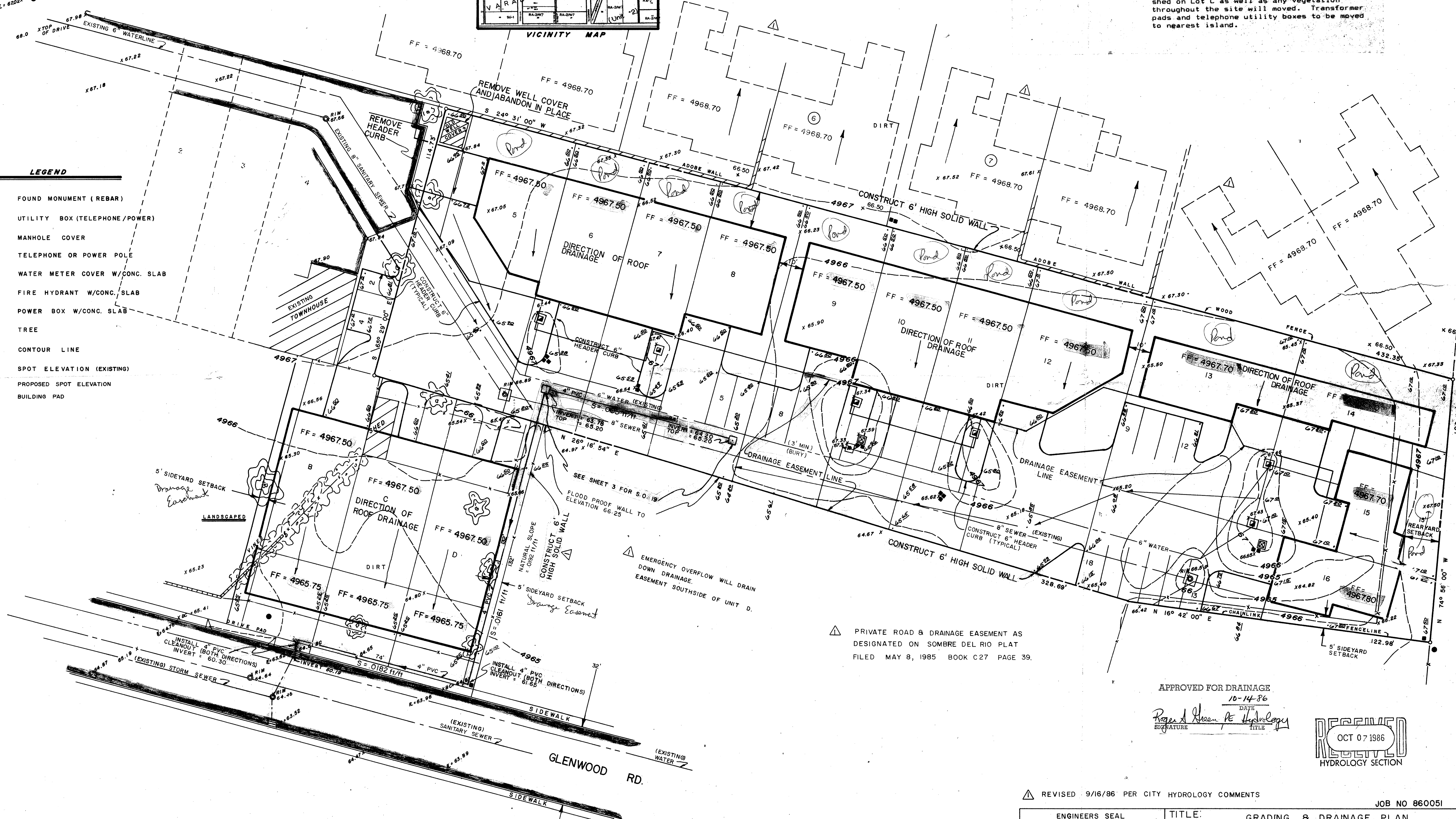
CANDELARIA

PROJECT BENCHMARK ELEV. 4968.77 (NAIL IN P. POLE)
ELEVATION BASED ON ACS MONUMENT 10-G13B
ELEV= 4967.92

LEGEND

- FOUND MONUMENT (REBAR)
- UTILITY BOX (TELEPHONE/POWER)
- MANHOLE COVER
- TELEPHONE OR POWER POLE
- WATER METER COVER W/CONC. SLAB
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- PROPOSED SPOT ELEVATION
- BUILDING PAD

4900
67.33 X
65.50
FF=

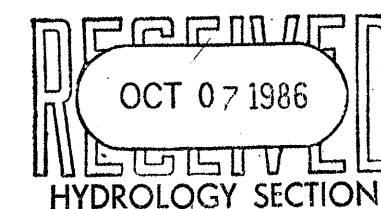


△ PRIVATE ROAD & DRAINAGE EASEMENT AS
DESIGNATED ON SOMBRE DEL RIO PLAT
FILED MAY 8, 1985 BOOK C27 PAGE 39.

APPROVED FOR DRAINAGE

10-14-86

Signature of Roger A. Green, P.E. Hydrology



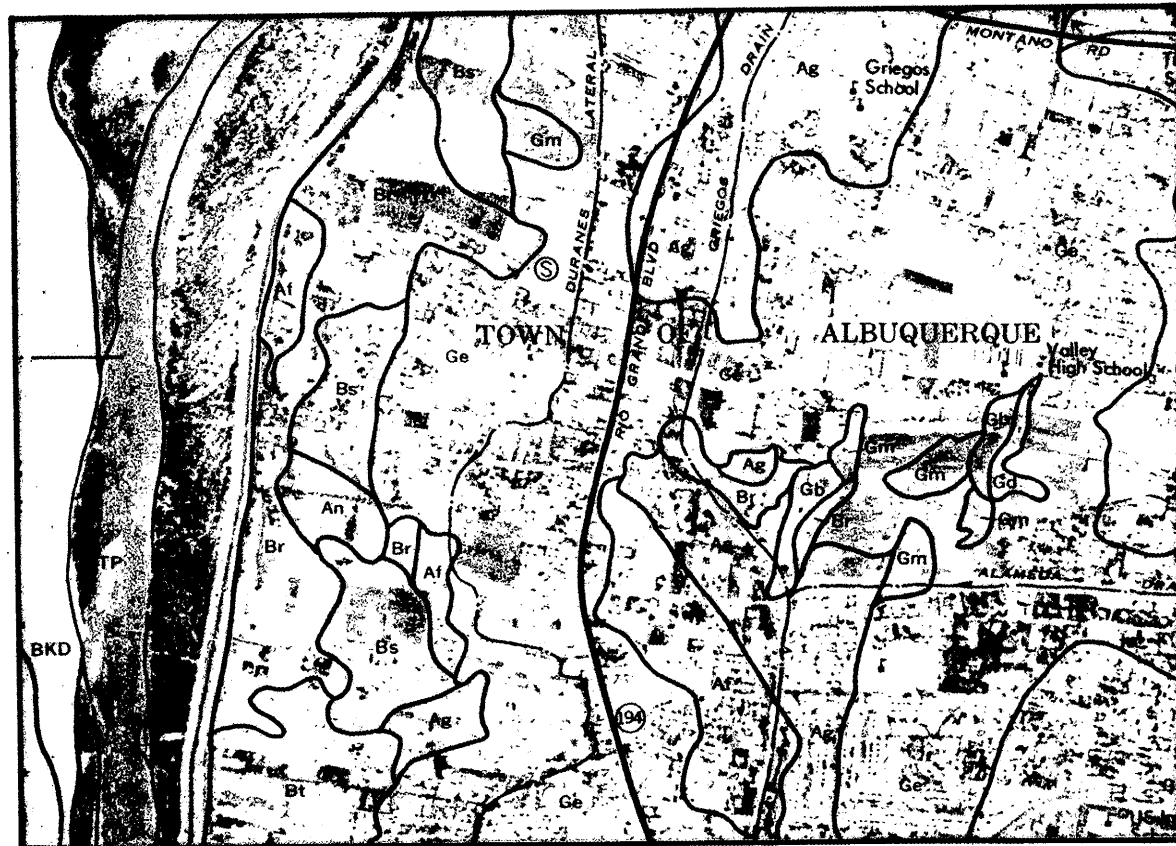
△ REVISED 9/16/86 PER CITY HYDROLOGY COMMENTS

JOB NO 860051

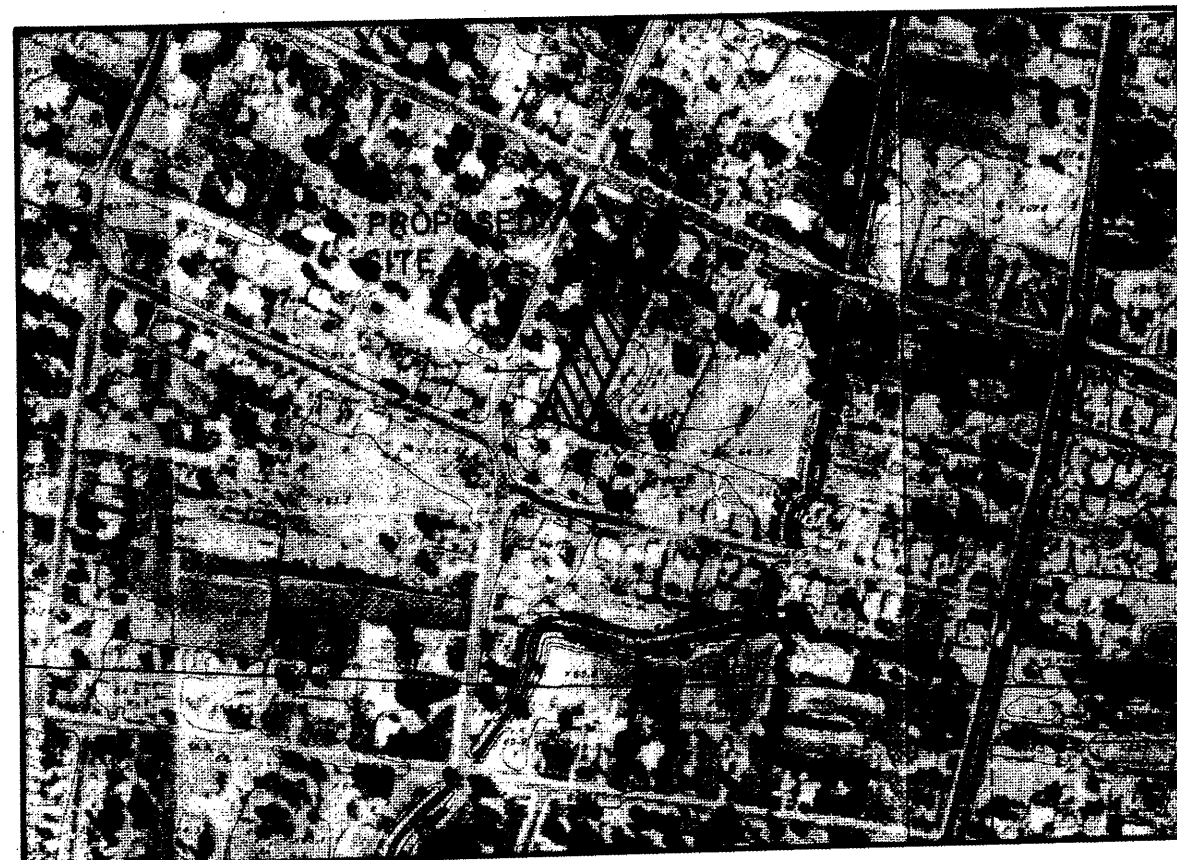
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MANAGEMENT SERVICES
4127 CARLISLE N.E., ALB., N.M. 87107
505-883-7592

DATE SUBMITTED 8/18/86

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A.C.E. DESIGN							
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A.M.A.F.C.A.							
DRAWING NO.	MAP NO.		SHEET		OF		
	G-12		1				3



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FLOOD HAZARD MAP

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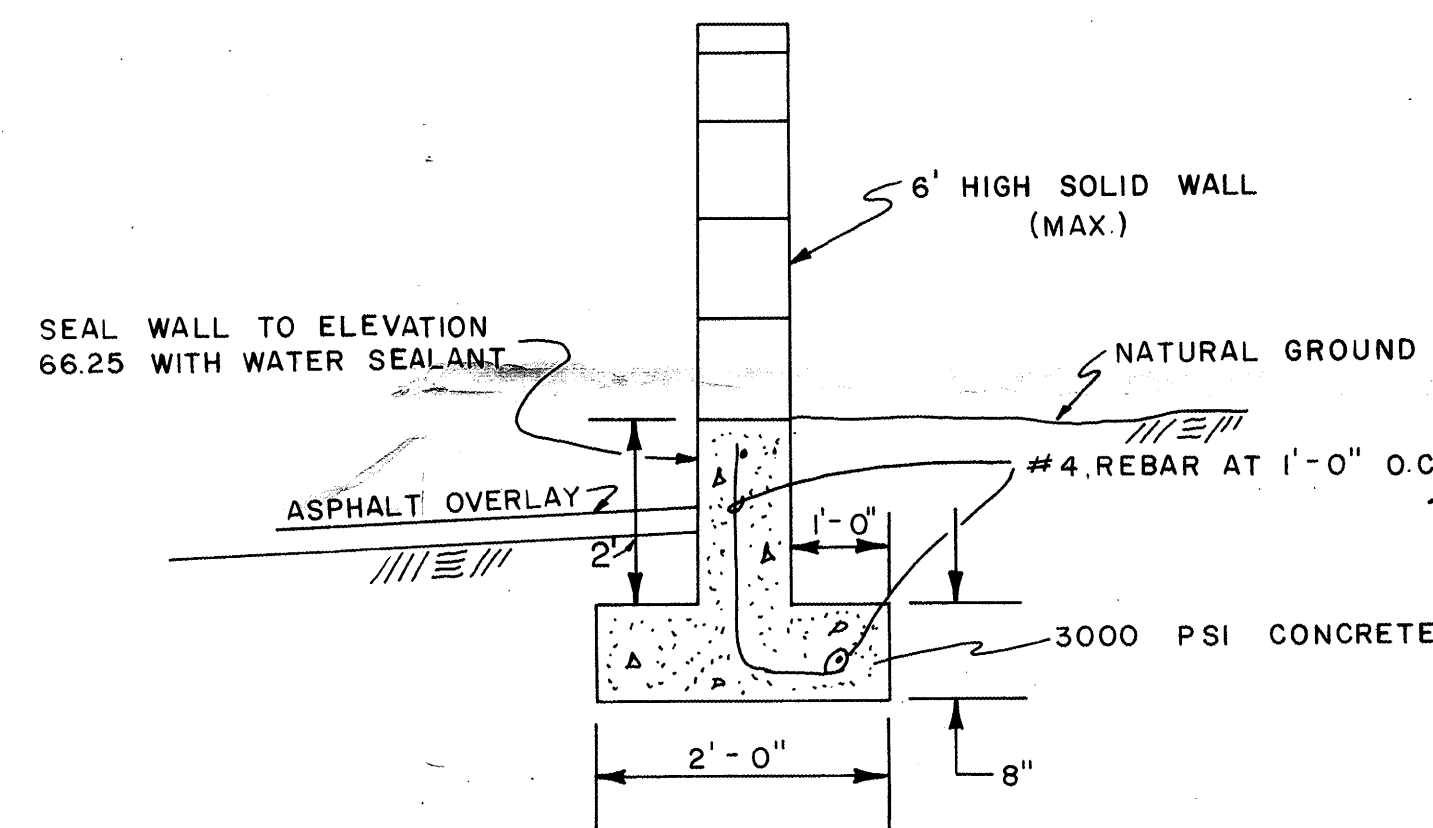
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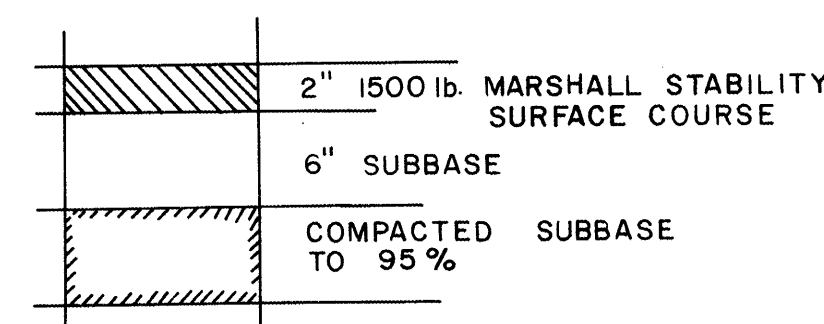
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(NO SCALE)



PAVING DETAIL

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SEE VOLUME CALCULATIONS

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$$\begin{aligned} C &= 52,652 / 60,681 = 0.87 \\ Q(100) &= (0.87)(4.65)(1.3931) = 5.62 \text{ cfs} \end{aligned}$$

SEE VOLUME CALCULATIONS

Pond Volume Provided

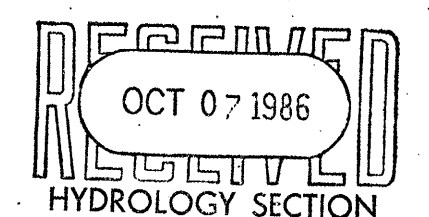
Contour	Area	Average	Volume	Σ Vol
65.20	1,393	3,695	1,108	1168
65.50	6,000	9,300	4,650	5758 ← 8593
66.00	12,600	13,300	6,650	12,408
66.50	14,000			
Total			12,408	

100 Year Flood Depth Approx 66.25

NOTE 1
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NOTE 2
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REVISD VOLUME CALCULATIONS 9/16/86
PER CITY HYDROLOGY COMMENTS

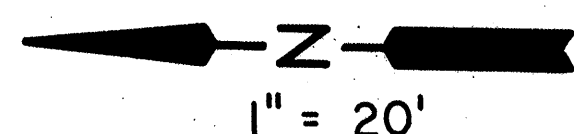


JOB NO. 860051

PREPARED BY:
TIERRA WEST DEVELOPMENT
MANAGEMENT SERVICES
4127 CARLISLE N.E., ALB., N.M. 87107
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DATE SUBMITTED 8/18/86

ENGINEER'S SEAL		TITLE: GRADING & DRAINAGE PLAN SOMBRE DEL RIO					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE		
CITY ENGR.							
A.C.E. DESIGN							
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DRAWING NO.		MAP NO.		SHEET		OF	
		6-12		2		3	



LEGAL DESCRIPTION

Lots 5 through 16 of the Sombre Del Rio Plat being a replat of a portion of Lot 6, Alvarado Gardens, Unit 3, filed May 8, 1985, book C27, page 39 and Lots B through D of the Northwestern portion of Tract 6 Alvarado Gardens Unit 3, filed August 1, 1986 both in the office of the County Clerk, Bernalillo, New Mexico.

NOTICE TO CONTRACTORS

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 City of Albuquerque Interim Standard Specifications for Public Works Construction, 1995 edition.
3. Two working Days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for the location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all constructions. 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 RESIDENTIAL street use.
6. Maintenance of these facilities shall be the responsibility of the Owner of the property as identified in the legal description.

GENERAL NOTES

1. Compaction shall not be less than 90 % ASTM D1557. Beginning around each catch basin and along entire length of drain line.
2. Catch basins shall be maintained periodically by the owner to prevent clogging of drain line. Basins shall be visually inspected for siltling at least every six (6) months.
3. Construct single "D" inlet per City Standard Drawings K-6, invert and top elevation given on plan.
4. Drain material to be 4 inch schedule 40 PVC pipe.

ENGINEER'S SEAL

9-30-86

[illegible]**TIERRA WEST DEVELOPMENT MANAGEMENT SERVICES**

105 - 883 - 7592

APPROVALS	NAME	DATE
ACE/DESIGN		
INSPECTOR		
ACE/FIELD		

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

RECEIVED
OCT 07 1986

TITLE: SOMBRE DEL RIO
CATCH BASIN & DRAIN BASIN
SPECIAL ORDER 19 HYDROLOGY SECTION

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.	MAP NO. G - 12	SHEET 3	OF 3
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