LESCURE ENGINEERS

707 575-3427 • FAX 707 542-2353
4635 OLD REDWOOD HIGHWAY • SANTA ROSA, CA 95403

December 7, 1995

Mr. & Mrs. Jim Maize
4700 Bennett Valley Road
Santa Rosa, CA 95405

Subject: 4700 Bennett Valley Road
APN: 049-170-025
FEASIBILITY FINDINGS

Dear Mr. and Mrs. Maize,

As you know, we have conducted site evaluation of the soil and preliminary mapping of the driveway entrance at Bennett Valley road in order to comment on the feasibility of your proposal to subdivide the subject parcel. Please refer to Exhibit A for details of soil findings, Exhibit B for details of entrance criteria and Exhibit C for scope and fees for the recommended next step.

In summary, the soils are the most limiting factor. Our recommendation at this point is to perform percolation testing in Area 2 and Area 3. Since the clayey soils indicate the need for wet weather testing, and the chances of passing rates are less than optimum, we are proposing a "straw test". This will be a limited percolation test conducted without supervision by the County and without waiting for the official Wet Weather season. The straw testing will be un-official and the purpose will be to gather further data as to the potential for on site sewage disposal in the two areas identified as Area 1 and Area 2. The data gathered cannot be submitted to the Permit Resources and Management Department (PRMD) as a percolation test, however, the limited scope of the test will be much less costly if results are less than favorable.

If the straw test indicates some permeable soils, it would be appropriate to pursue official wet weather percolation tests and groundwater determinations on those soil types indicating potential. Based on official test results, we could design and propose to the PMRD on site sewage disposal capacity to the limits determined by percolation rates, groundwater levels and topography. It is much too early in the process to estimate capacity in terms of bedrooms. The proposal for subdivision of the parcel (tentative map) and configuration and number of new lots would depend on the capacity and location of on site sewage disposal sites determined during the foregoing efforts.

Should straw testing reveal impermeable soils, the next step would be to pursue sewer hook-up and potential for annexation into the City of Santa Rosa.

The entrance to Bennett Valley road appears to be an obstacle, based on Fire Services and County requirements, which can be overcome by proper engineering design. Road design will be a requirement imposed by the Project Review and Advisory Council (PRAC) upon review of the tentative map. The constraints which will have to be addressed with include;

- Approach too steep (15%), may require the design of a vertical curve. This may mean a significant reconfiguration of the first 30 feet of entrance.
- High bank to north blocks site line, requires some removal of bank. This may entail the cooperation of the property owner where removal is outside of the County right of way.
- Some additional paving will be required. Repair of the existing surface will be necessary.

Please sign the enclosed Exhibit C if you wish to pursue straw testing. Please find enclosed an invoice for services to date. If you have any questions, please contact Mike from this office.

Sincerely;

Michael R. Hogan, LSIT
ZL005358
Project Manager

Peter J. Lescure
RCE 28044
Principal Civil Engineer

Encl: Exhibit 'A' (2 pgs)
Exhibit 'B' (1 pg)
Exhibit 'C' (1 pg)

CC: Rowland
File 95082 MAIZ1207.WP6

EXHIBIT A
SOIL FINDINGS

Area 1
The soils in Area 1 are unsuitable for any type of sewage disposal system under current Sonoma County Permit and Resource Management Department (PRMD) guidelines. Profiles P1-P3 exhibit massive to prismatic clays to depths of 50 inches and the area is limited by setbacks to slopes and the drainage from the pond.

Area 2
The soils in Area 2 may be suitable for a standard sewage disposal system with a trench depth of 46 inches on slopes of up to 17%, or a shallow sloping sewage disposal system on slopes up to 30%. Profiles P4-P5 and P29 exhibit adobe clay topsoils to 24 and 36 inches, precluding the use of any other system types. The clay soils are underlain by sandy clays from 36 to 96 and 97 inches. This area will require percolation rates of less than 60 MPI (minutes per inch) at trench depth and (for standard system) subsoil percolation rates of less than 120 MPI at 82 inches. Profiles P6-P7 are not suitable under current PRMD guidelines due to clay subsoils. Potentially suitable area may be 10,000 - 15,000 SF.

Area 3
The soils in Area 3 may be suitable for a standard sewage disposal system with a trench depth of 60 inches on slopes up to 24%, or a shallow sloping sewage disposal system on slopes up to 30%. Profiles P12, 13 and 14 exhibit adobe clay topsoils to 24 and 35 inches and sandy clay subsoils from 35 to 96 inches, which are slightly more dense than the subsoils found in Area 2. Profiles P8-9 and P11 exhibit cemented sand at approximately 70 inches, indicating unsuitability for any type of disposal system currently accepted by the PRMD. Potentially suitable area may be 8,000 - 10,000 SF.

Profiles P18-20 were excavated south of Area 3 along the east edge of the meadow and exhibited shallow, rocky soils which are unsuitable for any type of disposal system under current PRMD guidelines.

Area 4
The soils in Area 4 were varied and generally unsuitable for any type of disposal system under current PRMD guidelines. Profile P23 exhibits a clay loam to 28 inches and a loamy sand to 66 inches but the six nearest profiles in the area failed to exhibit suitability for any type of disposal system due to clay content.

Profiles P21-22 were dug between the barns and driveway and exhibit massive clays to 65 and 89 inches and there are indications of groundwater at 88 inches, making this portion of Area 4 unsuitable for any type of disposal system currently accepted by the PRMD.

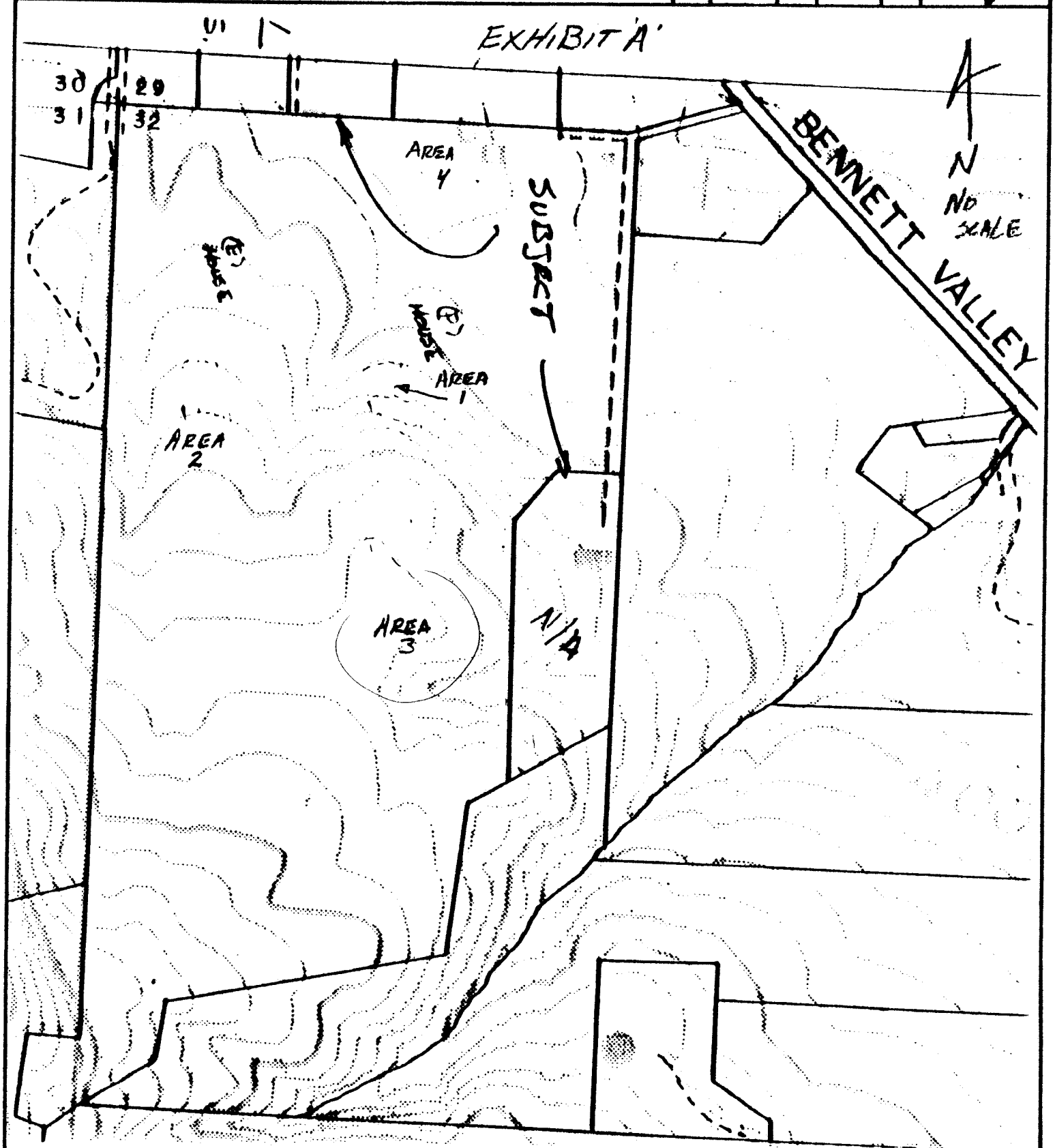
Written report of investigation from Gwen Baert, REHS have not been received as yet. In the field, she indicated that the dense subsoils would probably not yield the required percolation rates to permit a standard system. The written report will be furnished to the client when it is available.

(Please refer to attached sketch map of area locations)

SITE EVALUATION SKETCH

DSN		DRN	MH	CHK		Z

EXHIBIT 'A'



LESCURE ENGINEERS

707 575-3427 SANTA ROSA, CA

4700 BENNETT VALLEY RD
MAIZE
SANTA ROSA, CA
JOB NO. 95082

REQUEST FOR SERVICE

County of Sonoma Department of Health Services
Environmental Health Division
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6500

Location Address 4700 Bennett Valley Road Lot 1	**City, Zip** Santa Rosa 95405
Owner/Facility Name Mr. James Maize	**Assessor's Parcel #** 049-170-025
Address of Owner c/o Lescure Engineers	**City, State, Zip**
Person Requesting Service Michael R. Hogan, LSIT	**Phone** 707-575-3427
Address of Person Requesting Service 4635 Old Redwood Hwy	**City, State, Zip** Santa Rosa CA 95403
Description Site Evaluation - TENT SCHED 11/22/95	
	By

Date ______
Site ID # ______
Permit # SEV95-1477
EHS GR Dist. # 05
Category ______ Priority ______

Classification:
A. Complaint
B. Site review
C. Plan check
D. Recheck/reinspection
E. Vesting
F. Other ______

Disposition:
1. Service completed
2. Follow up
3. Referral
4. Referral/completed
5. Enforcement
6. No violation
7. No action

Report of Investigation

11/22 a prepare site evaluation was conducted with Jeff Toc Lescure Engineers. Two areas were evaluated which showed very little potential for a viable sewage design. Area III had four profiles with high shrink-swell soils overlaying slightly decomposing sandstone. Area IV had one acceptable profile surrounded by unacceptable profiles, P23 had about 56" of loam soil overlaying tuff but holes dug in close proximity did not show similar conditions. Recommend further exploration, the areas evaluated showed no potential for septic systems.

For office use

019610 11 17 95001
\# 0951477
SIEFPR $213.00
***TTL $213.00
CHECK $213.00
CHNG $0.00

DEC 14 1995
LESCURE ENGINEERS

Gwendolyn R Baert
EHS 527693

12/6/95
Date Completed

LU 0044 (Rev. 10/93) S.C. Repro

REQUEST FOR SERVICE

County of Sonoma Department of Health Services
Environmental Health Division
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6500

Field	Value	Field	Value
Location Address	4700 Bennett Valley Road Lot 2	City, Zip	Santa Rosa 95405
Owner/Facility Name	Mr. James Maize	Assessor's Parcel #	047-170-025
Address of Owner	c/o Lescure Engineers	City, State, Zip	
Person Requesting Service	Michael R. Hogan LSIT	Phone	707-575-3427
Address of Person Requesting Service	4635 Old Redwood Hwy	City, State, Zip	Santa Rosa CA 95403
Description	Site Evaluation - TENT SCHED 11-22-95		
By			

Date ______
Site ID # ______
Permit # 95-95-1478
EHS 66 Dist. # 08
Category ______ Priority ______

Classification:
A. Complaint
B. Site review
C. Plan check
D. Recheck/reinspection
E. Vesting
F. Other ______

Disposition:
1. Service completed
2. Follow up
3. Referral
4. Referral/completed
5. Enforcement
6. No violation
7. No action

Report of Investigation

11/22 a [illegible] site evaluation was conducted on this date with Jeff [illegible] Lescure Engineers. Three profiles were evaluated and logged on attached field notes. The soil series is Raynor clay "a black massive clay" 2-3' deep overlaying olive gray sandy loam to depth of profile. Mottling was noted in second clay horizon. The soil conditions appear to have extremely slow permeability which was demonstrated in previous perc tests on this property. Due to massive soil conditions at surface, no system can be considered but a standard system. It appears unlikely that at depth and subsoil depth "46 and 82" standard rates could be expected [illegible] at trench depth and 120 MPI or less at subsoil depth. Any perc testing would need to be conducted in wet-weather conditions. After a review of the file it appears this area may need to be held in reserve for the expansion area for the existing home. Recommend file review.

[signature] 587 1163

EHS

12/6/95

Date Completed

For office use

[illegible]

DEC 14 1995

LESCURE ENGINEERS

LU 0044 (Rev. 10/93) S.C Repro

EXHIBIT C
SCOPE AND FEE PROPOSAL FOR PROFESSIONAL SERVICES
FOR ON-SITE WASTEWATER DISPOSAL SYSTEMS

Project: Determination of on site wastewater disposal capacity of a 60 acre property.

Authorized by:

Client Date

The PROVISIONS OF AGREEMENT, executed November 15, 1995, shall apply to the following scope of services.

FEES FOR SERVICES

Retainer Deposit: $ 500 remains on account

Estimated Fee: $1,385

Fees will be billed on a TIME AND EXPENSE basis per the attached STANDARD RATES SCHEDULE for all services and consultations. Site and/or regulatory conditions may require additional efforts and fees.

SCOPE OF SERVICES - WORK INCLUDED

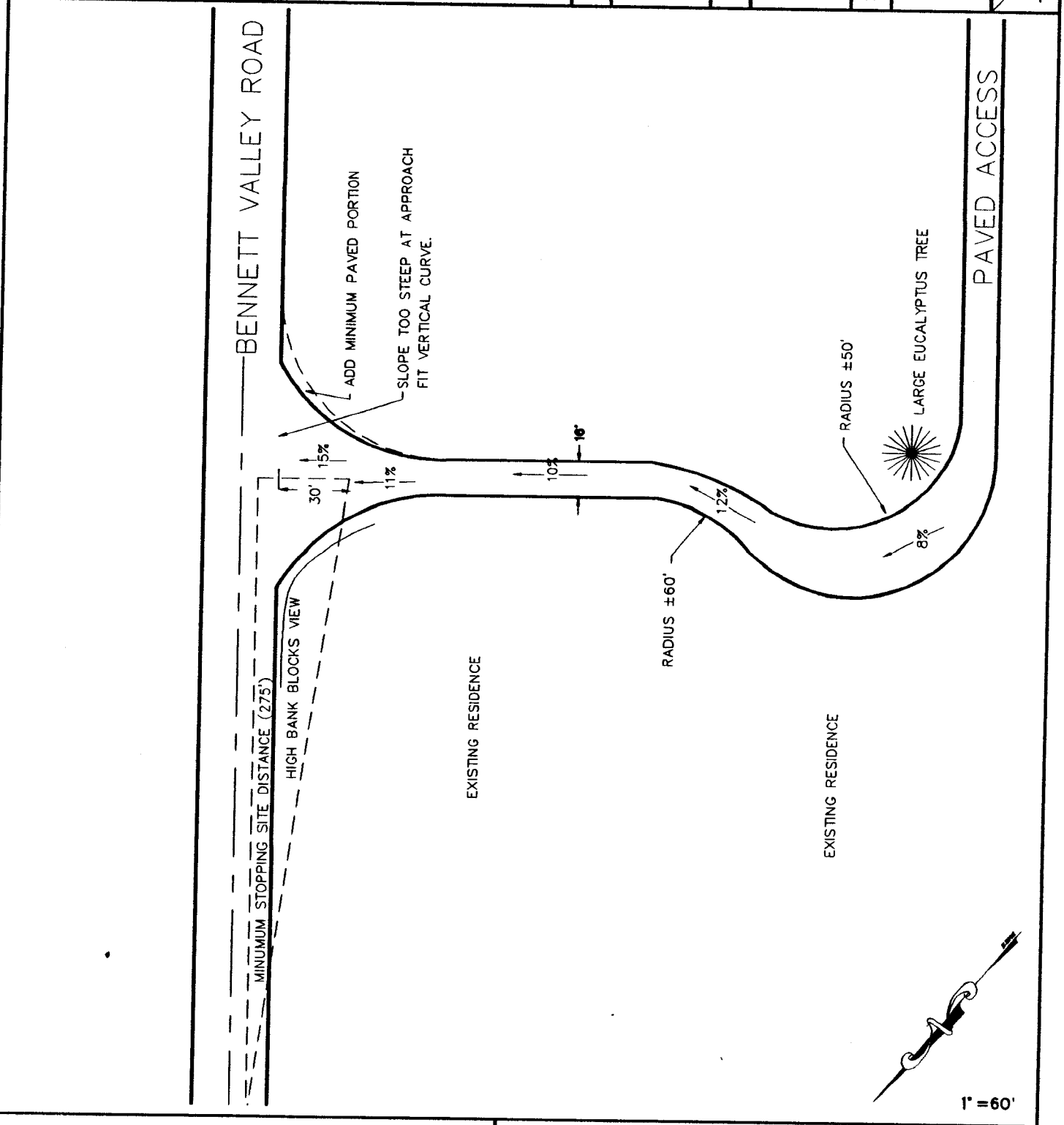
Phase 930 Percolation Testing

Minimum scale percolation testing of Area 2 and 3 without Sonoma County notification. Client will be informed in writing of test results, but no formal percolation test report will be prepared.

EXHIBIT 'B'

APPROACH SKETCH

D S N	MRH 12/4/95	D R N	MRH 12/4/95	C H K		1/1



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DRIVEWAY APPROACH
4700 BENNETT VALLEY ROAD
SANTA ROSA, CA

JOB NO: 95-082