

**DEVELOPMENT & BUILDING SERVICE CENTER
ONE STOP SHOP
600 SECOND ST. N.W.**

ATTENTION: _____
505-924-3900

Records Withdrawal Form

Project No. H12/D13

Date: 4/27/06

Project Title: HIGH LONESOME RANCH

a. File

b. Mylars

c. Redlines/Comments

d. Other _____

Requested by: MARGU J GARCIA, ABO ENGINEERING **Phone No.:** 255-7802
Name and Company

Comments: ENTIRE FILE

Anticipated Return Date: _____

I hereby accept full responsibility for the security of the above noted records/plans until return receipt acknowledgement is completed. Records/plans will be returned to the Development and Building Services Center on or before the indicated anticipated return date.

Delivery Picked Up By:

Name: JUSTIN JONES

Organization: ACADEMY REPRO

Print

Signed: [Signature]

Date: 4/27/06

Office Use Only

Return Acknowledged:

Received By: [Signature]

Date: 4/27/06

Print



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 26, 1999

Kim Kemper, P.E.
Kemper-Vaughan
3700 Coors Road NW
Albuquerque, NM 87120

***RE: HIGH LONESOME RANCH (H12-D13). DRAINAGE REPORT AND GRADING
PLAN FOR PRELIMINARY AND FINAL PLAT APPROVALS. ENGINEER'S
STAMP DATED DECEMBER 9, 1998.***

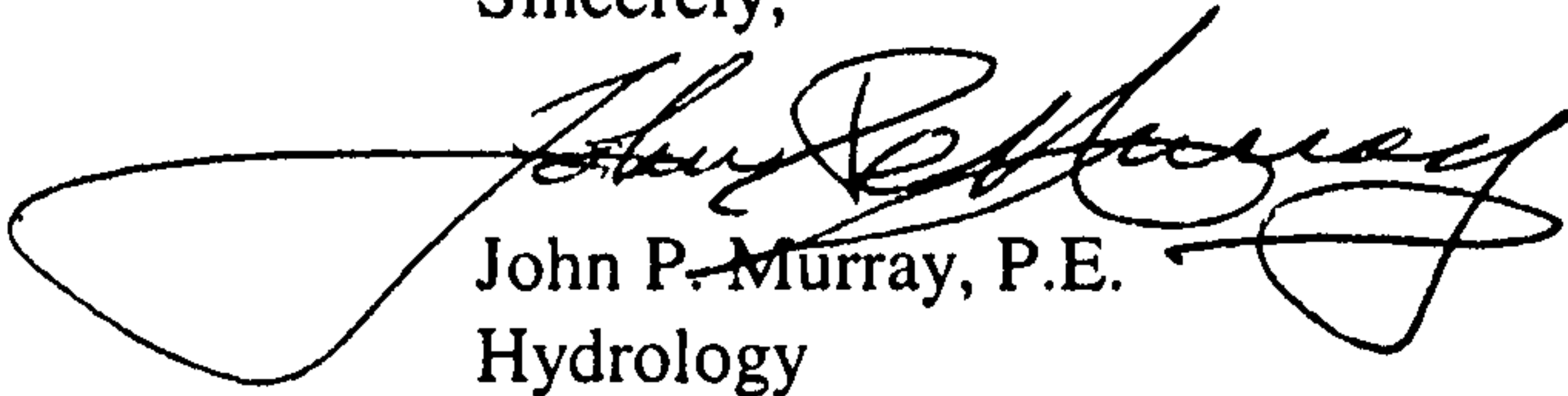
Dear Mr. Kemper:

Based on the information provided on your December 9, 1998 submittal plus the supplemental data furnished with the (revised) section for Gabaldon Road on January 25, 1999, the above referenced project is approved for both Preliminary and Final Plats_x

That typical section at Gabaldon Road with the required sidewalk should be shown on the G&D Plan in future submittals.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,


John P. Murray, P.E.
Hydrology

c: Andrew Garcia
✓ File

DRAINAGE INFORMATION SHEET

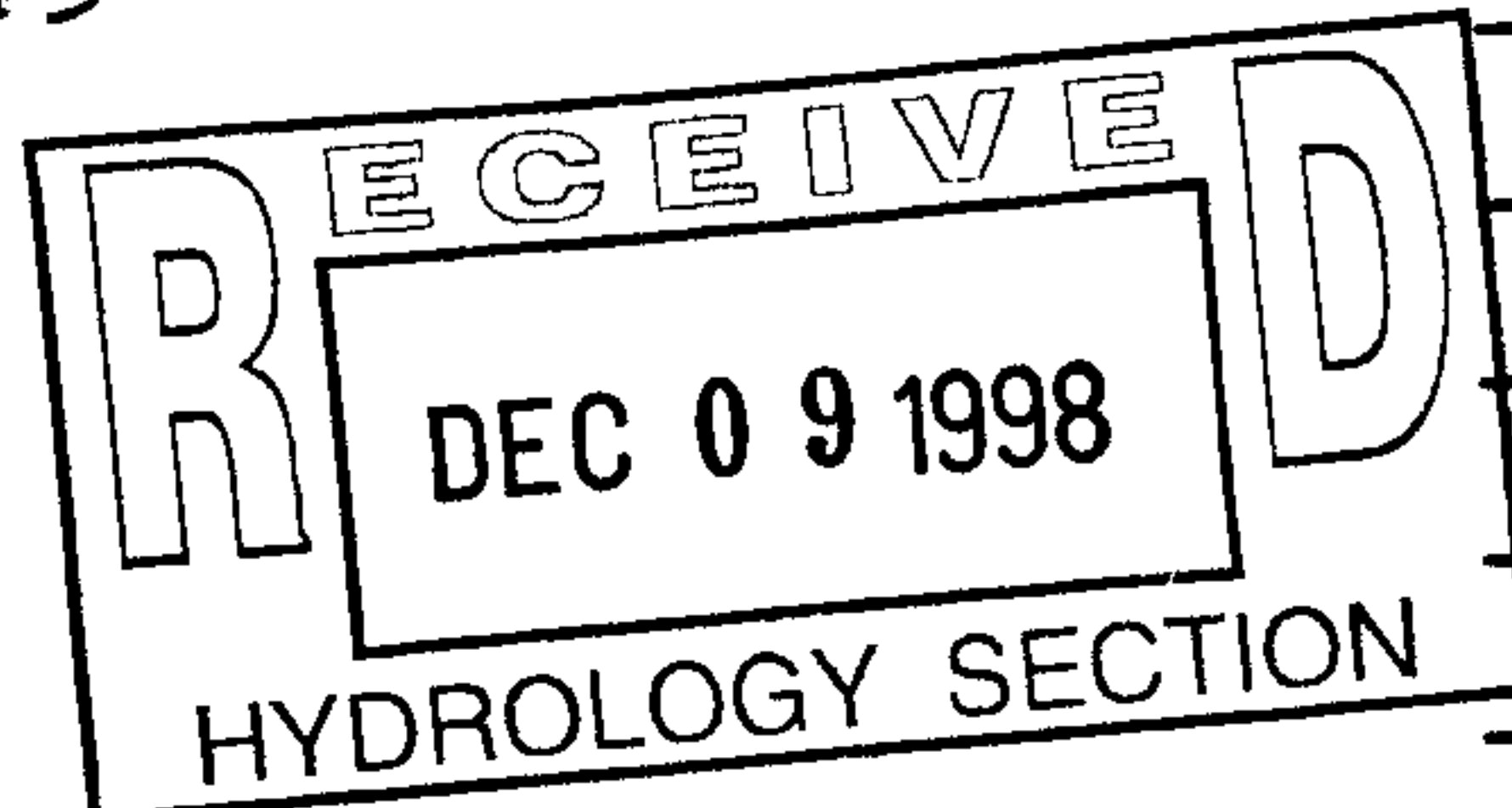
PROJECT TITLE: HIGH LONESOME RANCH. ZONE ATLAS/DRNG. FILE #: H-12/D13
 DRB #: 98-146 EPC #: AK-98-8 WORK ORDER #: _____
 LEGAL DESCRIPTION: TRACTS 1A & 1C EDEN LANDS.
 CITY ADDRESS: 1000 GABALDON RD NW
 ENGINEERING FIRM: KEMPER-VAUGHAN CONSULTING, ENGRS CONTACT: KIM R. KEMPER
 ADDRESS: 3700 COORS RD NW, SUITE C PHONE: 831-4520
 OWNER: HIGH LONESOME RANCH. CONTACT: D'AUNA WOOD.
 ADDRESS: 1000 GABALDON RD. PHONE: 247-9336
 ARCHITECT: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 SURVEYOR: RIO GRANDE SURVEYING CONTACT: REX VOGLER
 ADDRESS: 3700 COORS RD PHONE: 831-4519
 CONTRACTOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☐ OTHER _____

PRE-DESIGN MEETING:

☒ YES No Minutes
☐ NO
☐ COPY PROVIDED



CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL
☒ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☒ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED:

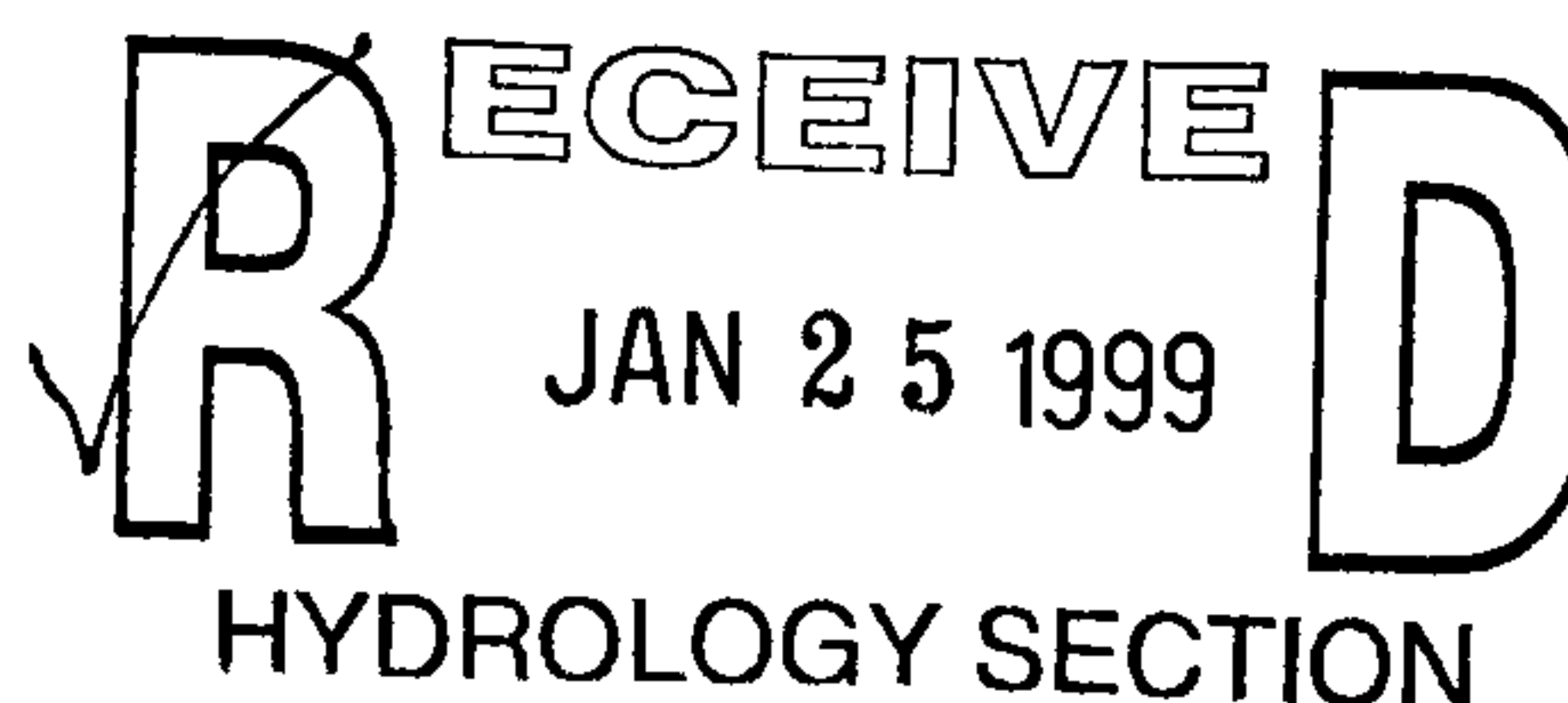
BY:

12/9/98
[Signature]

GABALDON AREA = 25 sf/lf

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.



EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

AREA

TREATMENT A	0 sf
TREATMENT B	0 sf
TREATMENT C	15 sf
TREATMENT D	10 sf

PROPOSED CONDITIONS:

AREA

TREATMENT A	0 sf
TREATMENT B	0 sf
TREATMENT C	8.4 sf
TREATMENT D	16.6 sf

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (0.00) + (1.13) \times (15.00) + (2.12) \times (10.00) / 25.00 \text{ sf} \\ &= 1.53 \text{ in.} \\ \text{V100-360} &= (1.53) \times (25.00) / 12 = 3.18 \text{ cf/lf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q100 = (1.56) \times (0.00) + (2.28) \times (0.00) + (3.14) \times (15.00) + (4.70) \times (10.00) = <.01 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (0.00) + (1.13) \times (8.40) + (2.12) \times (16.60) / 25.00 \text{ sf} \\ &= 1.79 \text{ in.} \\ \text{V100-360} &= (1.79) \times (25.00) / 12.0 = 3.72 \text{ cf/lf} \\ \text{V100-1440} &= (3.72) + (16.60) \times (2.75 - 2.35) / 12 = 4.28 \text{ cf/lf}\end{aligned}$$

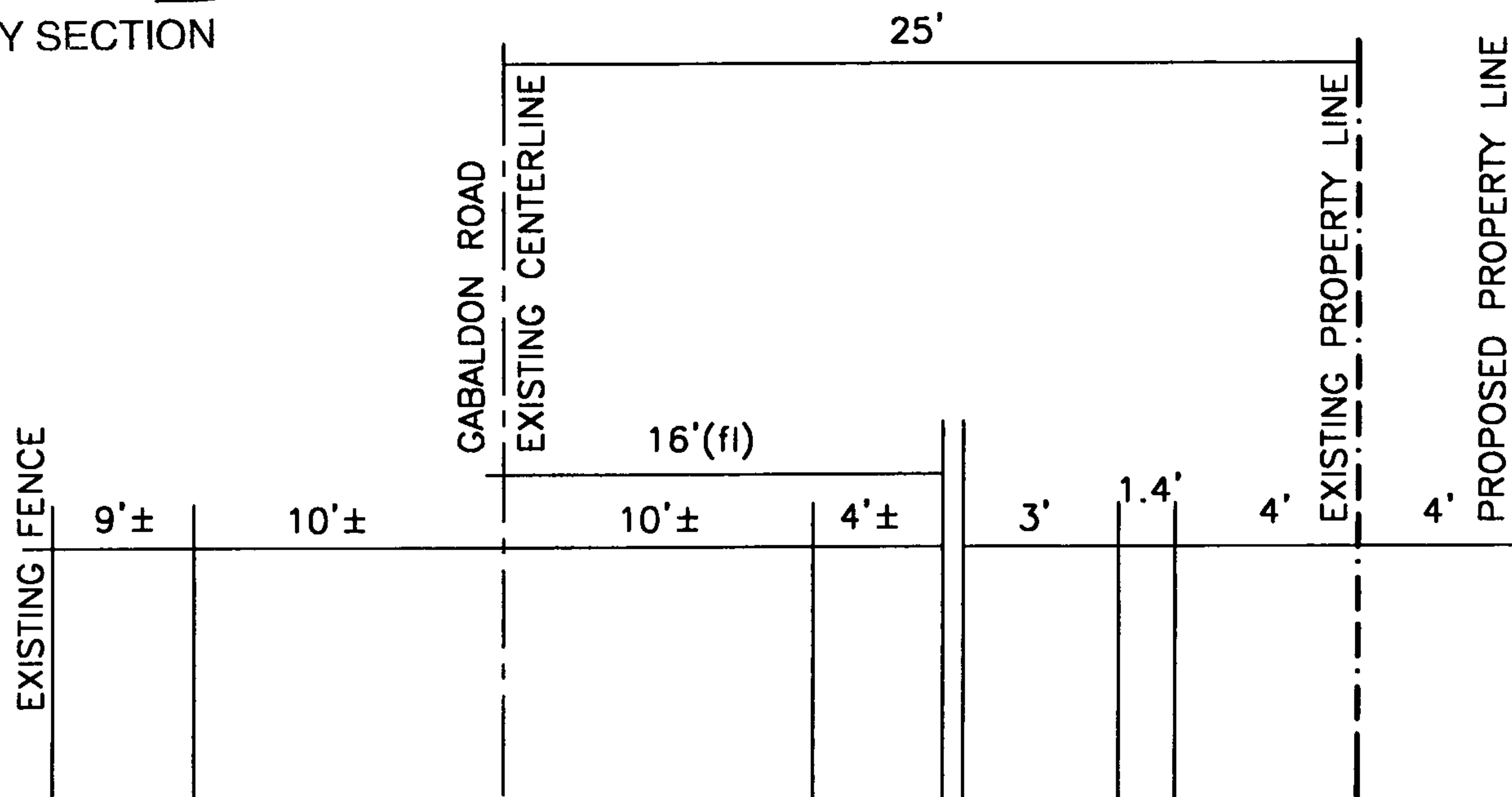
PROPOSED PEAK DISCHARGE:

$$Q100 = (1.56) \times (0.00) + (2.28) \times (0.00) + (3.14) \times (8.40) + (4.70) \times (16.60) = <.01 \text{ cfs}$$

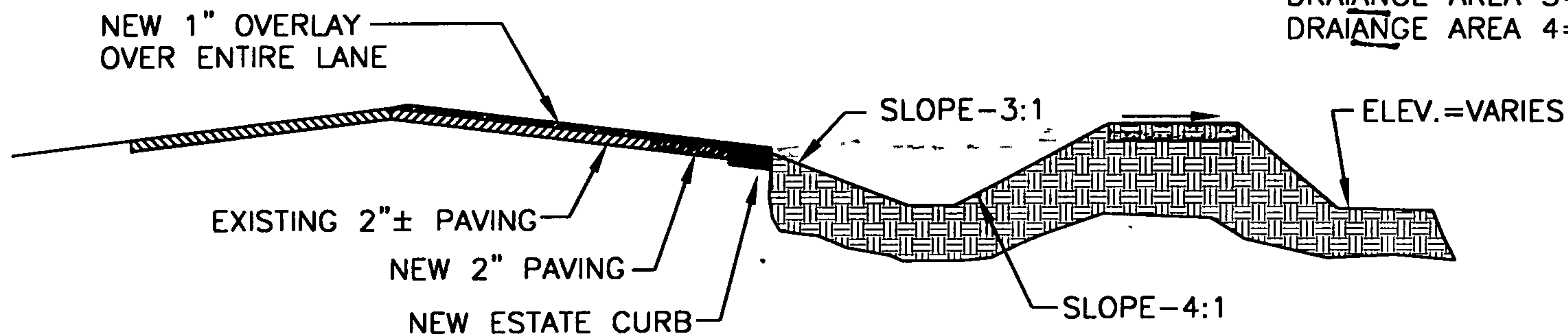
AVAILABLE VOLUME IN BAR-DITCH AS SHOWN ON ATTACHED SECTION

$$\text{VOLUME} = (0.50) \times (3.00) + (1.40) \times (1.00) + (0.50) \times (4.00) = 4.90 \text{ cf/lf}$$

RECEIVED
JAN 25 1999
 HYDROLOGY SECTION



TOP OF SIDEWALK ELEV.
 ADJACENT TO:
 DRAINAGE AREA 1=59.40(min.)
 DRAINAGE AREA 3=59.20(min.)
 DRAINAGE AREA 4=57.40(min.)



TYP. SECTION AT GABALDON RD.
 NO SCALE

HIGH LONESOME RANCH SUBDIVISION

GRADING PLAN & DRAINAGE REPORT

December 1998

Prepared for:

HIGH LONESOME RANCH GENERAL PARTNERSHIP

100 Gabaldon Road NW

Albuquerque, New Mexico 87104

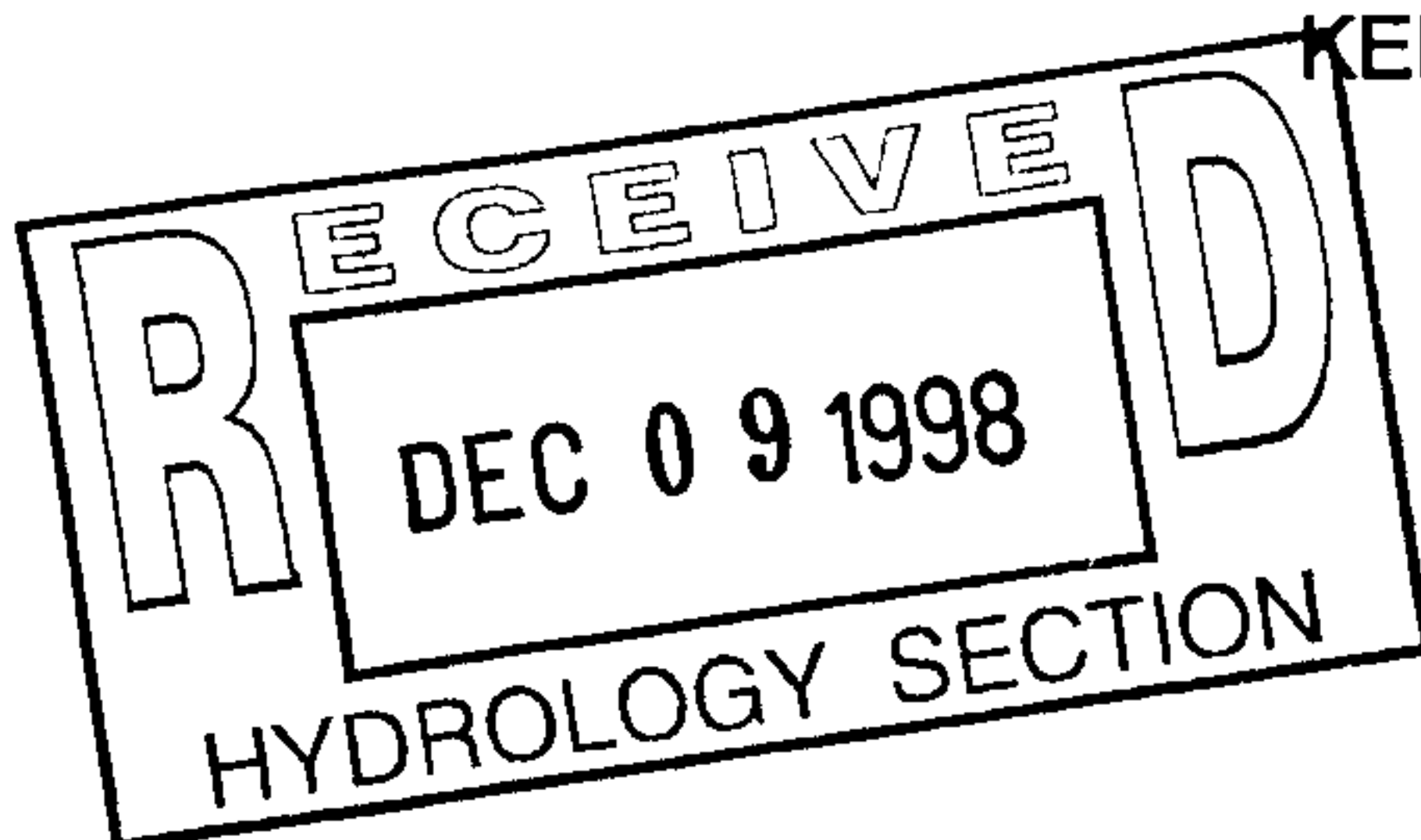


Prepared by:

KEMPER-VAUGHAN CONSULTING ENGINEERS

3700 Coors Road NW

Albuquerque, New Mexico 87120



PROJECT OVERVIEW

The site is located on Gabaldon Road immediately south of I-40 (see enclosed Zone Map H-12). The site is not within a designated 100-yr flood hazard area. The site contains 20.81 acres in total. The property is currently irrigated pastureland and is flood-irrigated regularly. The proposed subdivision incorporates a plan to create 31 single-family lots. There are three (3) existing structures on the property which are all occupied. Although the date of the original construction of these structures is unknown, we have been told the buildings were constructed in the late 1930's or early 1940's. These buildings are shown on lots 10, 11 and 12 of the proposed subdivision.

LEGAL DESCRIPTION

Tracts 1A and 1C of Eden Lands as shown and designated on the plat of Tracts 1A, 1B & 1C of Eden Lands filed and the office of the County Clerk, Bernalillo County, New Mexico on April 16, 1998, Bk. 98C, Page 101.

DRAINAGE PLAN

Due to the nature of the property and the lack on storm drainage facilities, a "flat" grading scheme is proposed for the subdivision. Approximately 80% of the property boundary is active irrigation ditch. There are no off site flows that enter the parcel. Post development, the perimeter lots (17 lots) will have access to irrigation and it is anticipated that the majority of these lots will maintain the existing pasture. As such, the flat grading scheme proposed attempts to keep the disruption of the existing pasture to a minimum. This effort requires the definition of multiple drainage areas or "sub-basins". The attached plans and enclosed calculations show the delineation of six (6) separate drainage areas.

Due to the flat grading scheme requirements for road construction, (the high point of the roadway is to be 4" above the 100-yr 10-day water surface elevation) the proposed roadway would serve as a barrier between these delineated drainage areas. Accordingly, the roadways were used to the extent possible for defining the drainage area boundaries. In drainage area DA4 and DA6, because the roadway traverses the basin, these areas were further analyzed in the calculations provided to better define possible water surface elevations. These drainage areas were divided into two (2) sections (4a & 4b and 6a & 6b) in the calculations provided. Where roadways were not used to delineated drainage areas, a CMU wall is proposed at the property line to provide a permanent barrier between drainage areas. See the attached plans for details of these walls.

With regard to the proposed conditions that are shown in the calculations, the economics of the proposed subdivision suggest that the future homes will be in the area of 3,000 to 3,500 square feet of heated floor space. Therefore, a value of 4,200 square feet was determined to be a reasonable average figure of impervious roof area. Although it is expected that the driveways will be gravel, this will likely not be a requirement in the subdivision covenants. As such, an additional 1,000 square feet was added to the impervious area for future driveways. Because the property zoning is RA-1 which permits livestock, it is possible that out-buildings, of indeterminate size, may be constructed on the individual lots. Therefore, a conservative impervious area value of 7,000 square feet was used in the calculations for each individual lot. Actual existing values were used on the lots currently developed (10, 11 & 12). Further, as an additional conservative measure, all other area in the proposed calculations were treated as Land Treatment B in lieu of Treatment A.

PLAN RESULTS

	Total Area	Base Elevation	Water Surface Elevation		
			V360	V1400	V10day
Drainage Area 1	1.14 ac.	4959.10	4959.26	4959.28	4959.34
Drainage Area 2	3.82 ac.	4960.20	4960.34	4960.36	4960.40
Drainage Area 3	3.23 ac.	4958.90	4959.06	4959.08	4959.13
Drainage Area 4a	2.74 ac.	4957.10	4957.26	4957.27	4957.42
Drainage Area 4b	1.83 ac.	4957.10	4957.25	4957.26	4957.41
Drainage Area 5	5.47 ac.	4959.80	4959.92	4959.93	4959.96
Drainage Area 6a	0.76 ac.	4958.10	4958.27	4958.29	4958.36
Drainage Area 6b	1.82 ac.	4958.10	4958.25	4958.27	4958.31

DRAINAGE AREA 1 AREA = 1.14 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

AREA

TREATMENT A	1.14 ac.
TREATMENT B	0 ac.
TREATMENT C	0 ac.
TREATMENT D	0 ac.

PROPOSED CONDITIONS:

AREA

TREATMENT A	0 ac.
TREATMENT B	0.73 ac.
TREATMENT C	0 ac.
TREATMENT D	0.41 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (1.14) + (0.78) \times (0.00) + (1.13) \times (0.00) + (2.12) \times (0.00) / 1.14 \text{ ac.} \\ &= 0.53 \text{ in.} \\ \text{V100-360} &= (0.53) \times (1.14) / 12 = 0.050350 \text{ ac-ft} = 2193 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (1.14) + (2.28) \times (0.00) + (3.14) \times (0.00) + (4.70) \times (0.00) = 1.78 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (0.73) + (1.13) \times (0.00) + (2.12) \times (0.41) / 1.14 \text{ ac.} \\ &= 1.26 \text{ in.} \\ \text{V100-360} &= (1.26) \times (1.14) / 12.0 = 0.119883 \text{ ac-ft} = 5222 \text{ cf} \\ \text{V100-1440} &= (0.12) + (0.41) \times (2.75 - 2.35) / 12 = 0.133550 \text{ ac-ft} = 5817 \text{ cf} \\ \text{V100-10day} &= (0.12) + (0.41) \times (3.95 - 2.35) / 12 = 0.174550 \text{ ac-ft} = 7603 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (0.73) + (3.14) \times (0.00) + (4.70) \times (0.41) = 3.59 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 0.73 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 5222 / (0.73) \times (43560) = 0.16 \text{ ft. } 1.97 \text{ in.} \\ \text{V100-1440} &= 5817 / (0.73) \times (43560) = 0.18 \text{ ft. } 2.2 \text{ in.} \\ \text{V100-10day} &= 7603 / (0.73) \times (43560) = 0.24 \text{ ft. } 2.87 \text{ in.}\end{aligned}$$

DRAINAGE AREA 2 AREA = 3.82 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
 1140 = 2.75 in.
 10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

AREA

TREATMENT A	3.82 ac.
TREATMENT B	0 ac.
TREATMENT C	0 ac.
TREATMENT D	0 ac.

PROPOSED CONDITIONS:

AREA

TREATMENT A	0 ac.
TREATMENT B	2.51 ac.
TREATMENT C	0.18 ac.
TREATMENT D	1.13 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (3.82) + (0.78) \times (0.00) + (1.13) \times (0.00) + (2.12) \times (0.00) / 3.82 \text{ ac.} \\ &= 0.53 \text{ in.} \\ \text{V100-360} &= (0.53) \times (3.82) / 12 = 0.168717 \text{ ac-ft} = 7349 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (3.82) + (2.28) \times (0.00) + (3.14) \times (0.00) + (4.70) \times (0.00) = 5.96 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (2.51) + (1.13) \times (0.18) + (2.12) \times (1.13) / 3.82 \text{ ac.} \\ &= 1.19 \text{ in.} \\ \text{V100-360} &= (1.19) \times (3.82) / 12.0 = 0.379733 \text{ ac-ft} = 16541 \text{ cf} \\ \text{V100-1440} &= (0.38) + (1.13) \times (2.75 - 2.35) / 12 = 0.417400 \text{ ac-ft} = 18182 \text{ cf} \\ \text{V100-10day} &= (0.38) + (1.13) \times (3.95 - 2.35) / 12 = 0.530400 \text{ ac-ft} = 23104 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (2.51) + (3.14) \times (0.18) + (4.70) \times (1.13) = 11.60 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 2.69 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 16541 / (2.69) \times (43560) = 0.14 \text{ ft.} \quad 1.69 \text{ in.} \\ \text{V100-1440} &= 18182 / (2.69) \times (43560) = 0.16 \text{ ft.} \quad 1.86 \text{ in.} \\ \text{V100-10day} &= 23104 / (2.69) \times (43560) = 0.20 \text{ ft.} \quad 2.37 \text{ in.}\end{aligned}$$

DRAINAGE AREA 3 AREA = 3.23 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

AREA

TREATMENT A	3.05 ac.
TREATMENT B	0 ac.
TREATMENT C	0 ac.
TREATMENT D	0.18 ac.

PROPOSED CONDITIONS:

AREA

TREATMENT A	0 ac.
TREATMENT B	2.09 ac.
TREATMENT C	0 ac.
TREATMENT D	1.14 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (3.05) + (0.78) \times (0.00) + (1.13) \times (0.00) + (2.12) \times (0.18) / 3.23 \text{ ac.} \\ &= 0.62 \text{ in.} \\ \text{V100-360} &= (0.62) \times (3.23) / 12 = 0.166508 \text{ ac-ft} = 7253 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (3.05) + (2.28) \times (0.00) + (3.14) \times (0.00) + (4.70) \times (0.18) = 5.60 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (2.09) + (1.13) \times (0.00) + (2.12) \times (1.14) / 3.23 \text{ ac.} \\ &= 1.25 \text{ in.} \\ \text{V100-360} &= (1.25) \times (3.23) / 12.0 = 0.337250 \text{ ac-ft} = 14691 \text{ cf} \\ \text{V100-1440} &= (0.34) + (1.14) \times (2.75 - 2.35) / 12 = 0.375250 \text{ ac-ft} = 16346 \text{ cf} \\ \text{V100-10day} &= (0.34) + (1.14) \times (3.95 - 2.35) / 12 = 0.489250 \text{ ac-ft} = 21312 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (2.09) + (3.14) \times (0.00) + (4.70) \times (1.14) = 10.12 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 2.09 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 14691 / (2.09) \times (43560) = 0.16 \text{ ft. } 1.94 \text{ in.} \\ \text{V100-1440} &= 16346 / (2.09) \times (43560) = 0.18 \text{ ft. } 2.15 \text{ in.} \\ \text{V100-10day} &= 21312 / (2.09) \times (43560) = 0.23 \text{ ft. } 2.81 \text{ in.}\end{aligned}$$

DRAINAGE AREA 4a AREA = 2.74 ac.

DRAINAGE ZONE 2

PRECIPITATION:
360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

PROPOSED CONDITIONS:

	AREA	AREA
TREATMENT A	2.66 ac.	0 ac.
TREATMENT B	0 ac.	1.81 ac.
TREATMENT C	0 ac.	0 ac.
TREATMENT D	0.08 ac.	0.93 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (2.66) + (0.78) \times (0.00) + (1.13) \times (0.00) + (2.12) \times (0.08) / 2.74 \text{ ac.} \\ &= 0.58 \text{ in.} \\ \text{V100-360} &= (0.58) \times (2.74) / 12 = 0.131617 \text{ ac-ft} = 5733 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (2.66) + (2.28) \times (0.00) + (3.14) \times (0.00) + (4.70) \times (0.08) = 4.53 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (1.81) + (1.13) \times (0.00) + (2.12) \times (0.93) / 2.74 \text{ ac.} \\ &= 1.23 \text{ in.} \\ \text{V100-360} &= (1.23) \times (2.74) / 12.0 = 0.281950 \text{ ac-ft} = 12282 \text{ cf} \\ \text{V100-1440} &= (0.28) + (0.93) \times (2.75 - 2.35) / 12 = 0.312950 \text{ ac-ft} = 13632 \text{ cf} \\ \text{V100-10day} &= (0.28) + (0.93) \times (3.95 - 2.35) / 12 = 0.405950 \text{ ac-ft} = 17683 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (1.81) + (3.14) \times (0.00) + (4.70) \times (0.93) = 8.50 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 1.81 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 12282 / (1.81) \times (43560) = 0.16 \text{ ft. } 1.87 \text{ in.} \\ \text{V100-1440} &= 13632 / (1.81) \times (43560) = 0.17 \text{ ft. } 2.07 \text{ in.} \\ \text{V100-10day} &= 17683 / (1.81) \times (43560) = 0.22 \text{ ft. } 2.69 \text{ in.}\end{aligned}$$

DRAINAGE AREA 4b AREA = 1.83 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
 1140 = 2.75 in.
 10day = 3.95 in.

EXCESS PRECIPITATION: PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS:	AREA
TREATMENT A	1.83 ac.		0 ac.
TREATMENT B	0 ac.		1.24 ac.
TREATMENT C	0 ac.		0 ac.
TREATMENT D	0 ac.		0.59 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(1.83)+(0.78)x(0.00)+(1.13)x(0.00)+(2.12)x(0.00)/ 1.83 ac.
 = 0.53 in.
V100-360 = (0.53)x(1.83)/ 12 = 0.080825 ac-ft = 3521 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(1.83)+(2.28)x(0.00)+(3.14)x(0.00)+(4.70)x(0.00)= 2.85 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(1.24)+(1.13)x(0.00)+(2.12)x(0.59)/ 1.83 ac.
 = 1.21 in.
V100-360 = (1.21)x(1.83)/ 12.0 = 0.184833 ac-ft = 8051 cf

V100-1440 = (0.18)+(0.59)x(2.75 - 2.35)/ 12 = 0.204500 ac-ft = 8908 cf

V100-10day = (0.18)+(0.59)x(3.95 - 2.35)/ 12 = 0.263500 ac-ft = 11478 cf

PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(1.24)+(3.14)x(0.00)+(4.70)x(0.59)= 5.60 cfs

AREA AVAILABLE FOR "STANDING" STORM WATER = 1.24 ac.

DEPTH OF STORM WATER:

V100-360 =	8051 / (1.24)x(43560)=	0.15 ft.	1.79 in.
V100-1440 =	8908 / (1.24)x(43560)=	0.16 ft.	1.98 in.
V100-10day =	11478 / (1.24)x(43560)=	0.21 ft.	2.55 in.

DRAINAGE AREA 5 AREA = 5.47 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
 1140 = 2.75 in.
 10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

PROPOSED CONDITIONS:

	AREA	AREA
TREATMENT A	2.35 ac.	0 ac.
TREATMENT B	0.57 ac.	2.92 ac.
TREATMENT C	2.00 ac.	1.36 ac.
TREATMENT D	0.55 ac.	1.19 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (2.35) + (0.78) \times (0.57) + (1.13) \times (2.00) + (2.12) \times (0.55) / 5.47 \text{ ac.} \\ &= 0.94 \text{ in.} \\ \text{V100-360} &= (0.94) \times (5.47) / 12 = 0.426342 \text{ ac-ft} = 18571 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (2.35) + (2.28) \times (0.57) + (3.14) \times (2.00) + (4.70) \times (0.55) = 13.83 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (2.92) + (1.13) \times (1.36) + (2.12) \times (1.19) / 5.47 \text{ ac.} \\ &= 1.16 \text{ in.} \\ \text{V100-360} &= (1.16) \times (5.47) / 12.0 = 0.528100 \text{ ac-ft} = 23004 \text{ cf} \\ \text{V100-1440} &= (0.53) + (1.19) \times (2.75 - 2.35) / 12 = 0.567767 \text{ ac-ft} = 24732 \text{ cf} \\ \text{V100-10day} &= (0.53) + (1.19) \times (3.95 - 2.35) / 12 = 0.686767 \text{ ac-ft} = 29916 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (2.92) + (3.14) \times (1.36) + (4.70) \times (1.19) = 16.52 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 4.28 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 23004 / (4.28) \times (43560) = 0.12 \text{ ft.} \quad 1.48 \text{ in.} \\ \text{V100-1440} &= 24732 / (4.28) \times (43560) = 0.13 \text{ ft.} \quad 1.59 \text{ in.} \\ \text{V100-10day} &= 29916 / (4.28) \times (43560) = 0.16 \text{ ft.} \quad 1.93 \text{ in.}\end{aligned}$$

DRAINAGE AREA 6a AREA = 0.76 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
 1140 = 2.75 in.
 10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

PROPOSED CONDITIONS:

	AREA	AREA
TREATMENT A	0.76 ac.	0 ac.
TREATMENT B	0 ac.	0.47 ac.
TREATMENT C	0 ac.	0 ac.
TREATMENT D	0 ac.	0.29 ac.

EXISTING EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.76) + (0.78) \times (0.00) + (1.13) \times (0.00) + (2.12) \times (0.00) / 0.76 \text{ ac.} \\ &= 0.53 \text{ in.} \\ \text{V100-360} &= (0.53) \times (0.76) / 12 = 0.033567 \text{ ac-ft} = 1462 \text{ cf}\end{aligned}$$

EXISTING PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.76) + (2.28) \times (0.00) + (3.14) \times (0.00) + (4.70) \times (0.00) = 1.19 \text{ cfs}$$

PROPOSED EXCESS PRECIPITATION:

$$\begin{aligned}\text{Weighted E} &= (0.53) \times (0.00) + (0.78) \times (0.47) + (1.13) \times (0.00) + (2.12) \times (0.29) / 0.76 \text{ ac.} \\ &= 1.29 \text{ in.} \\ \text{V100-360} &= (1.29) \times (0.76) / 12.0 = 0.081783 \text{ ac-ft} = 3562 \text{ cf} \\ \text{V100-1440} &= (0.08) + (0.29) \times (2.75 - 2.35) / 12 = 0.091450 \text{ ac-ft} = 3984 \text{ cf} \\ \text{V100-10day} &= (0.08) + (0.29) \times (3.95 - 2.35) / 12 = 0.120450 \text{ ac-ft} = 5247 \text{ cf}\end{aligned}$$

PROPOSED PEAK DISCHARGE:

$$Q_{100} = (1.56) \times (0.00) + (2.28) \times (0.47) + (3.14) \times (0.00) + (4.70) \times (0.29) = 2.43 \text{ cfs}$$

AREA AVAILABLE FOR "STANDING" STORM WATER = 0.47 ac.

DEPTH OF STORM WATER:

$$\begin{aligned}\text{V100-360} &= 3562 / (0.47) \times (43560) = 0.17 \text{ ft. } 2.09 \text{ in.} \\ \text{V100-1440} &= 3984 / (0.47) \times (43560) = 0.19 \text{ ft. } 2.33 \text{ in.} \\ \text{V100-10day} &= 5247 / (0.47) \times (43560) = 0.26 \text{ ft. } 3.08 \text{ in.}\end{aligned}$$

DRAINAGE AREA 6b AREA = 1.82 ac.

DRAINAGE ZONE 2

PRECIPITATION: 360 = 2.35 in.
 1140 = 2.75 in.
 10day = 3.95 in.

EXCESS PRECIPITATION:

PEAK DISCHARGE:

TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:

PROPOSED CONDITIONS:

	AREA	AREA
TREATMENT A	1.82 ac.	0 ac.
TREATMENT B	0 ac.	1.23 ac.
TREATMENT C	0 ac.	0 ac.
TREATMENT D	0 ac.	0.59 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(1.82)+(0.78)x(0.00)+(1.13)x(0.00)+(2.12)x(0.00)/ 1.82 ac.
 = 0.53 in.
V100-360 = (0.53)x(1.82)/ 12 = 0.080383 ac-ft = 3501 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(1.82)+(2.28)x(0.00)+(3.14)x(0.00)+(4.70)x(0.00)= 2.84 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(1.23)+(1.13)x(0.00)+(2.12)x(0.59)/ 1.82 ac.
 = 1.21 in.
V100-360 = (1.21)x(1.82)/ 12.0 = 0.184183 ac-ft = 8023 cf
V100-1440 = (0.18)+(0.59)x(2.75 - 2.35)/ 12 = 0.203850 ac-ft = 8880 cf
V100-10day = (0.18)+(0.59)x(3.95 - 2.35)/ 12 = 0.262850 ac-ft = 11450 cf

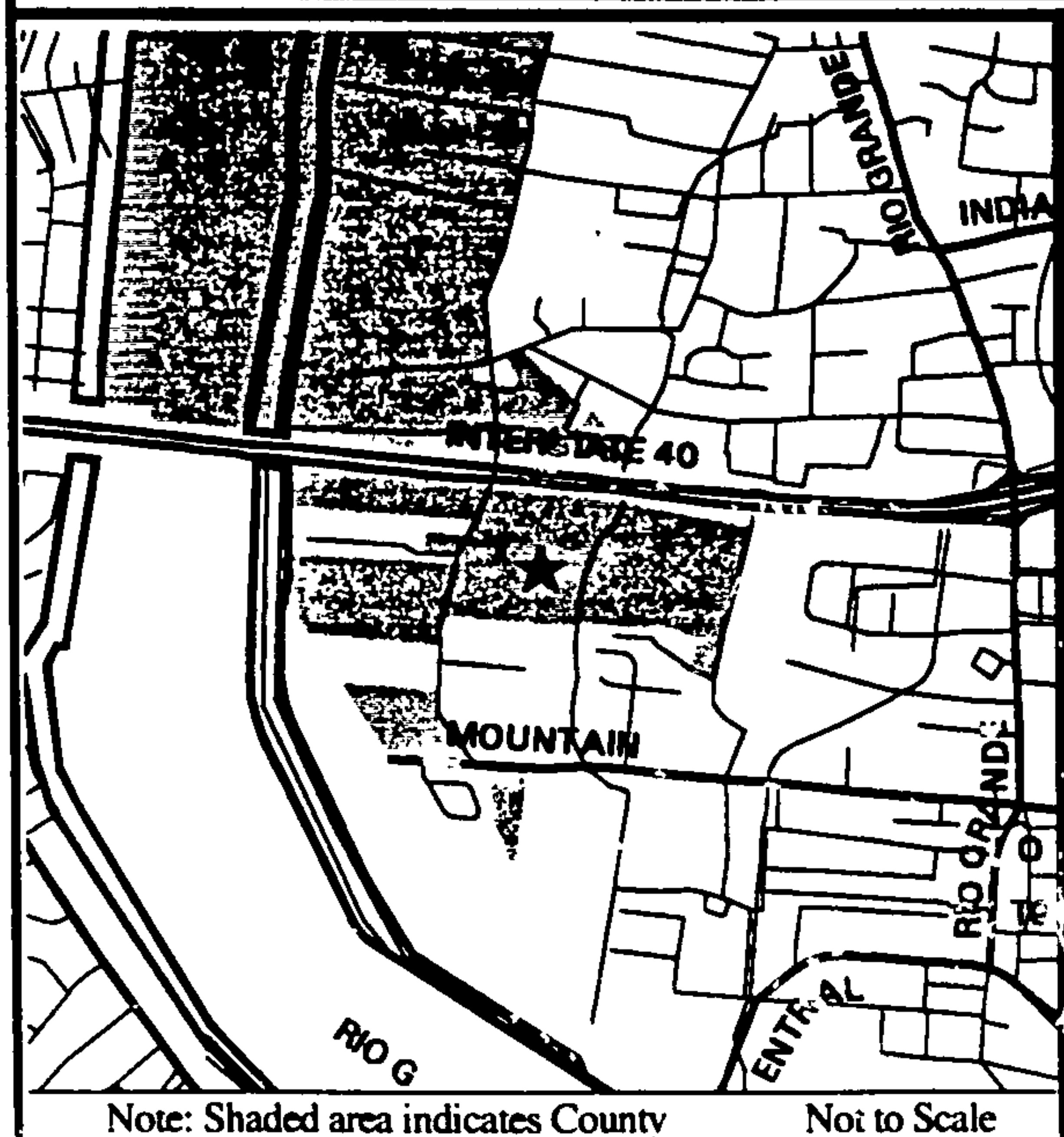
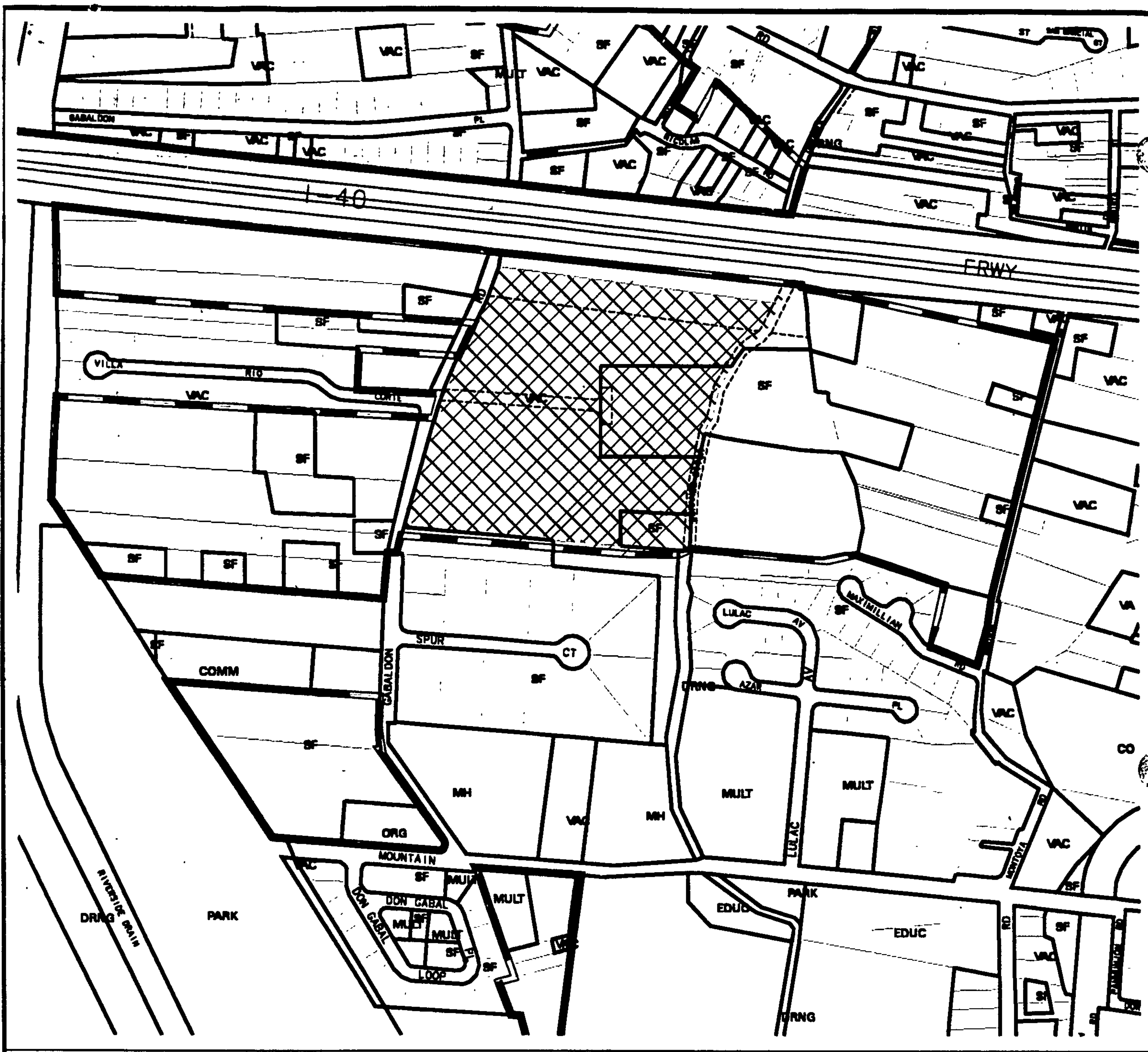
PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(1.23)+(3.14)x(0.00)+(4.70)x(0.59)= 5.58 cfs

AREA AVAILABLE FOR "STANDING" STORM WATER = 1.23 ac.

DEPTH OF STORM WATER:

V100-360 =	8023 / (1.23)x(43560)=	0.15 ft.	1.8 in.
V100-1440 =	8880 / (1.23)x(43560)=	0.17 ft.	1.99 in.
V100-10day =	11450 / (1.23)x(43560)=	0.21 ft.	2.56 in.



LAND USE MAP

KEY to Land Use Abbreviations

AGRI Agricultural
 COMM Commercial - Retail, Service, Wholesale
 DRNG Drainage
 EDUC Public or Private School
 GOLF Golf Course
 MED Medical Office or Facility
 MFG Manufacturing or Mining
 MH Mobile Home
 MULT Multi-Family or Group Home
 OFF Office
 ORG Social or Civic Organization
 PARK Park, Recreation or Open Space
 PRKG Parking
 PUBF Public Facility
 RELG Religious Facility
 SF Single Family
 TRAN Transportation Facility
 UTIL Utility
 VAC Vacant Land or Abandoned Bldg
 WH Warehousing & Storage



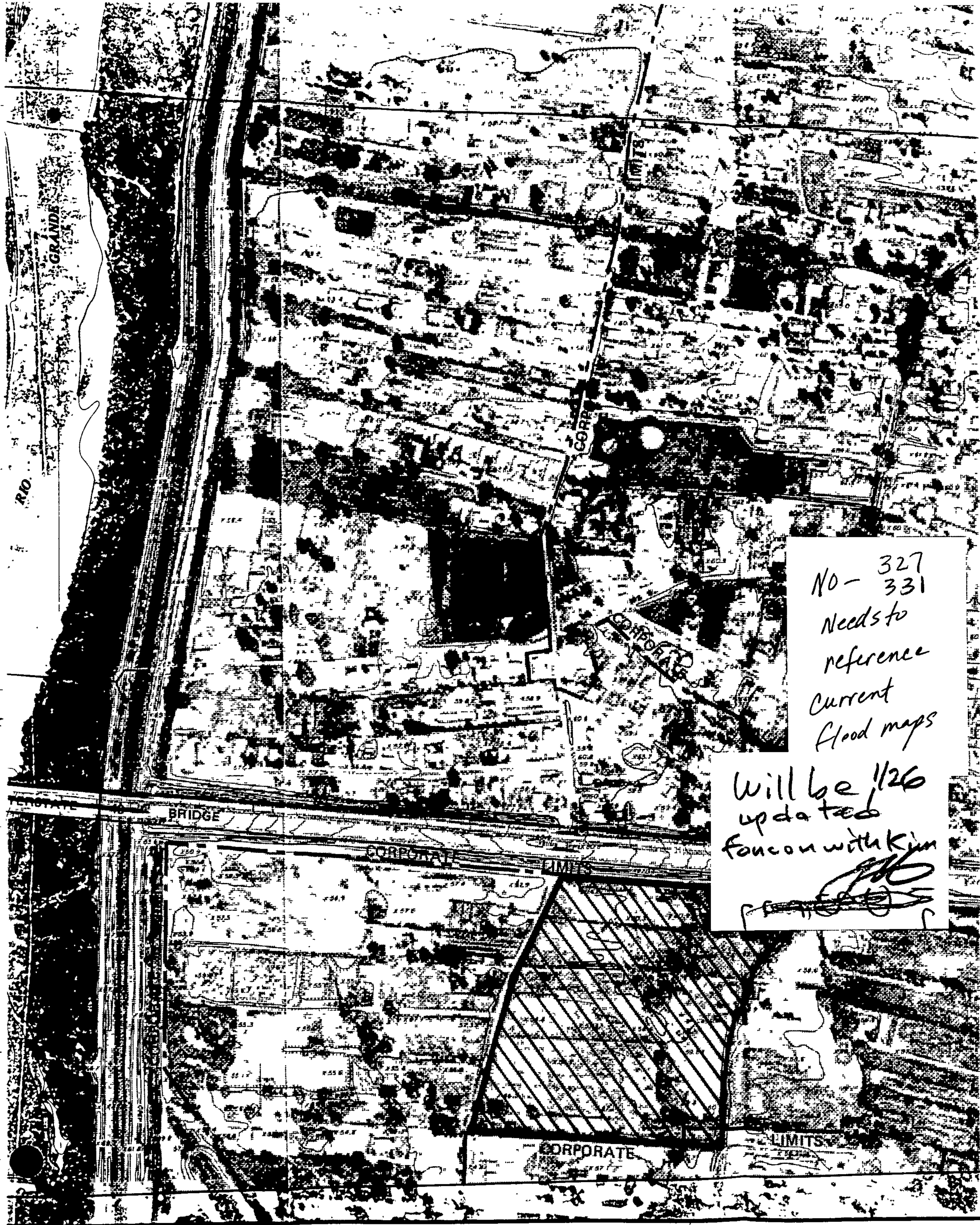
Scale 1" = 514'

CASE PLANNER

HEARING DATE

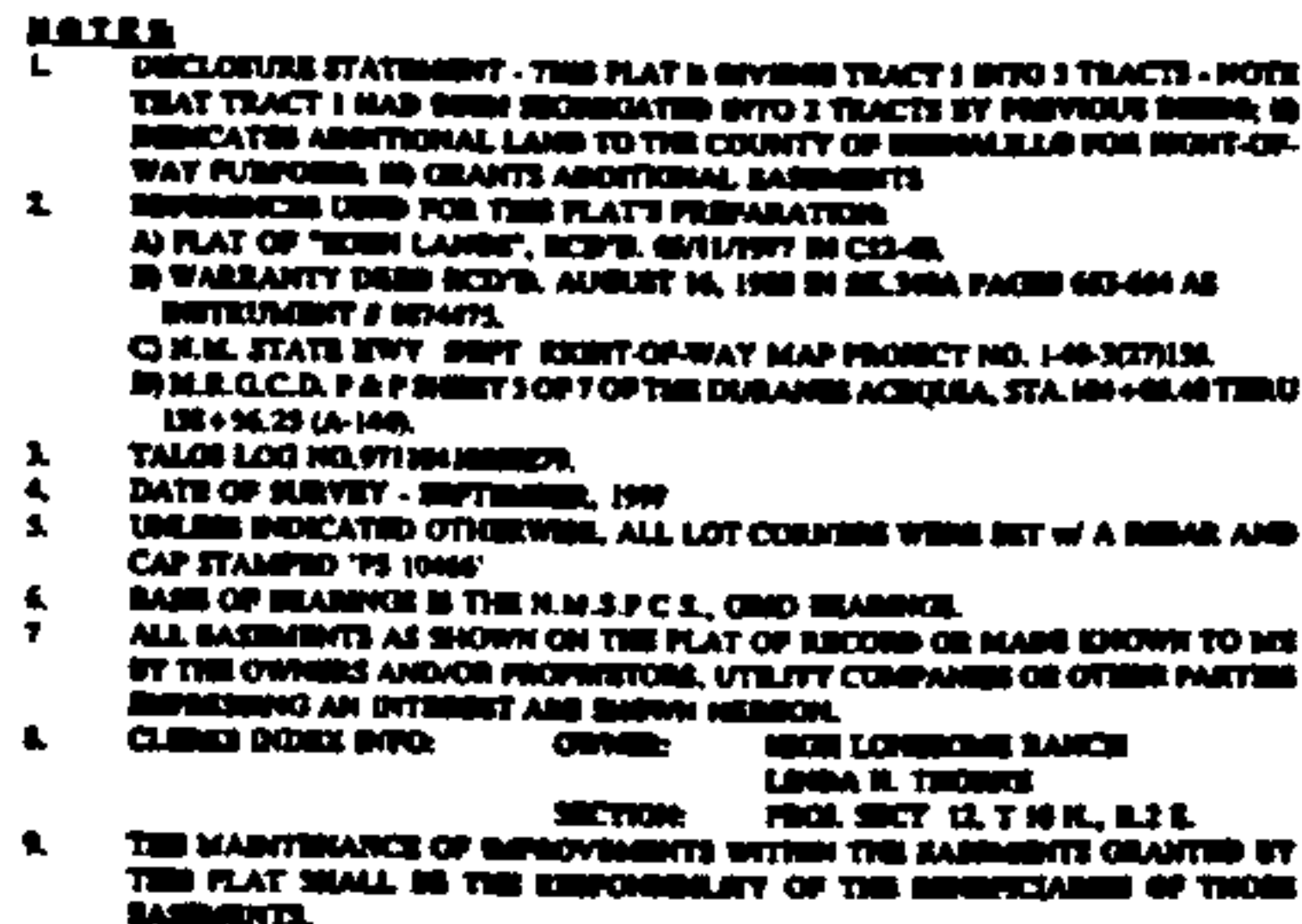
MAP NO.
H-12

FILE NO.



NO- 327
331
Needs to
reference
current
Flood maps

Will be 1/26
updated
Foucon with Kim



Paul Wood
PAUL WOOD, GENERAL PARTNER

Linda H. Thorne
LINDA H. THORNE

Kinda M. Jackson
NOTARY PUBLIC MY COMMISSION EXPIRES 5/6/2001

11/5/97

END GRANDER SURVEYING CO., PC
P.O. BOX 7155
ABQ, NM 87194
(505) 246-8740

45



28-95-TU

APPROVAL: COWI CASE NO. SEP5-97-23 D.R. NO. 97-531

[illegible]

TREASURER'S STATEMENT.
THIS IS TO CERTIFY THAT TAXES ARE CURRENT AND PAID ON

CIC # 708969044000157 *Shono Linda H.*

PROPERTY OWNER OF RECORD: *1-012-059-3A4BAY-LONH*

SUNSHINE COUNTY TREASURER'S OFFICE:

BY *Danice Andrey* DATE *4/10/98*

TREASURER'S STATEMENT
THIS IS TO CERTIFY THAT TAXES ARE CURRENT AND PAID ON:
UTC # 3888888888888888
PROPERTY OWNER OF RECORD: High, Lawrence, Rural 000
BERNARD COUNTY TREASURER'S OFFICE
BY: Barbara Anderson DATE: 4/10/98

028-98-77

WRPG 97-23

