DRAINAGE CERT W/ SURVEY WORK BY OTHERS
12/28/01

DRAINAGE CERTIFICATION

I Robert P Richardson, NMPE 10746 OF THE FIRM Aegean Consulting, LLC HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 7/10/13. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY NMPS 18473 OF THE FIRM Bohannan Huston. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON 2-7-14 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR OCCUPANCY.

(DESCRIBE ANY EXCEPTIONS AND/OR QUALIFICATIONS HERE IN A SEPARATE PARAGRAPH) NONE

(DESCRIBE ANY DEFICIENCIES AND/OR REQUIRED CORRECTIONS HERE IN A SEPARATE PARAGRAPH) NONE

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

XXXXXXXXXXXXXXXX, NMPE XXXX

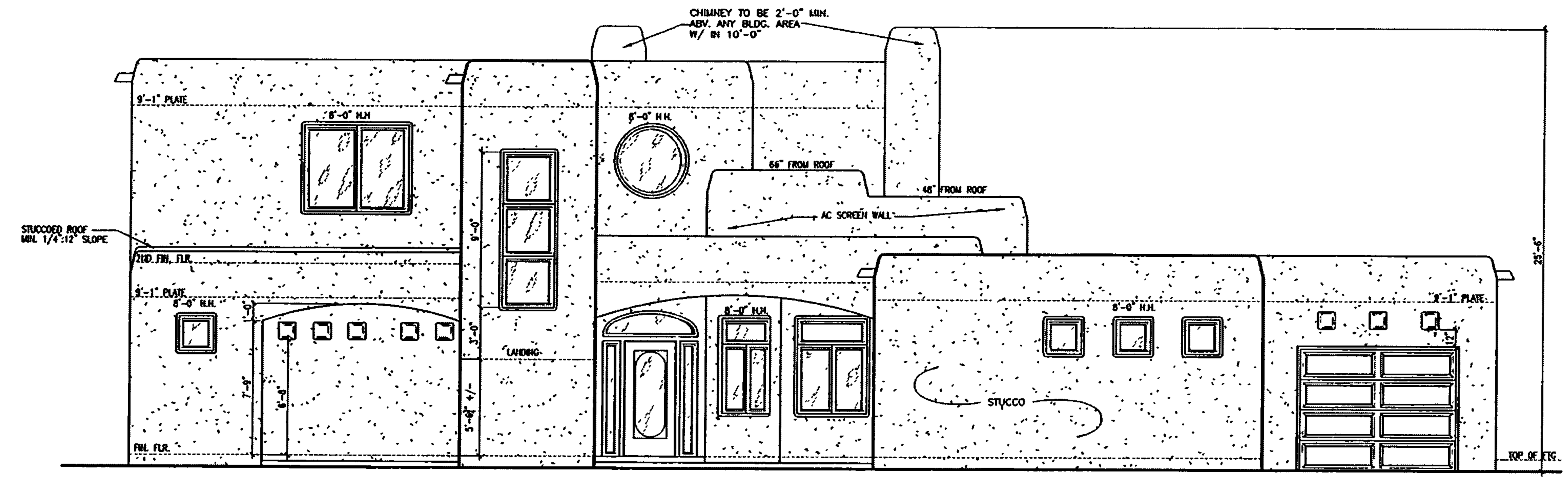
2-11-14
DATE

ROBERT P. RICHARDSON NEW MEXICO 10746 REGISTERED PROFESSIONAL ENGINEER (SEAL)

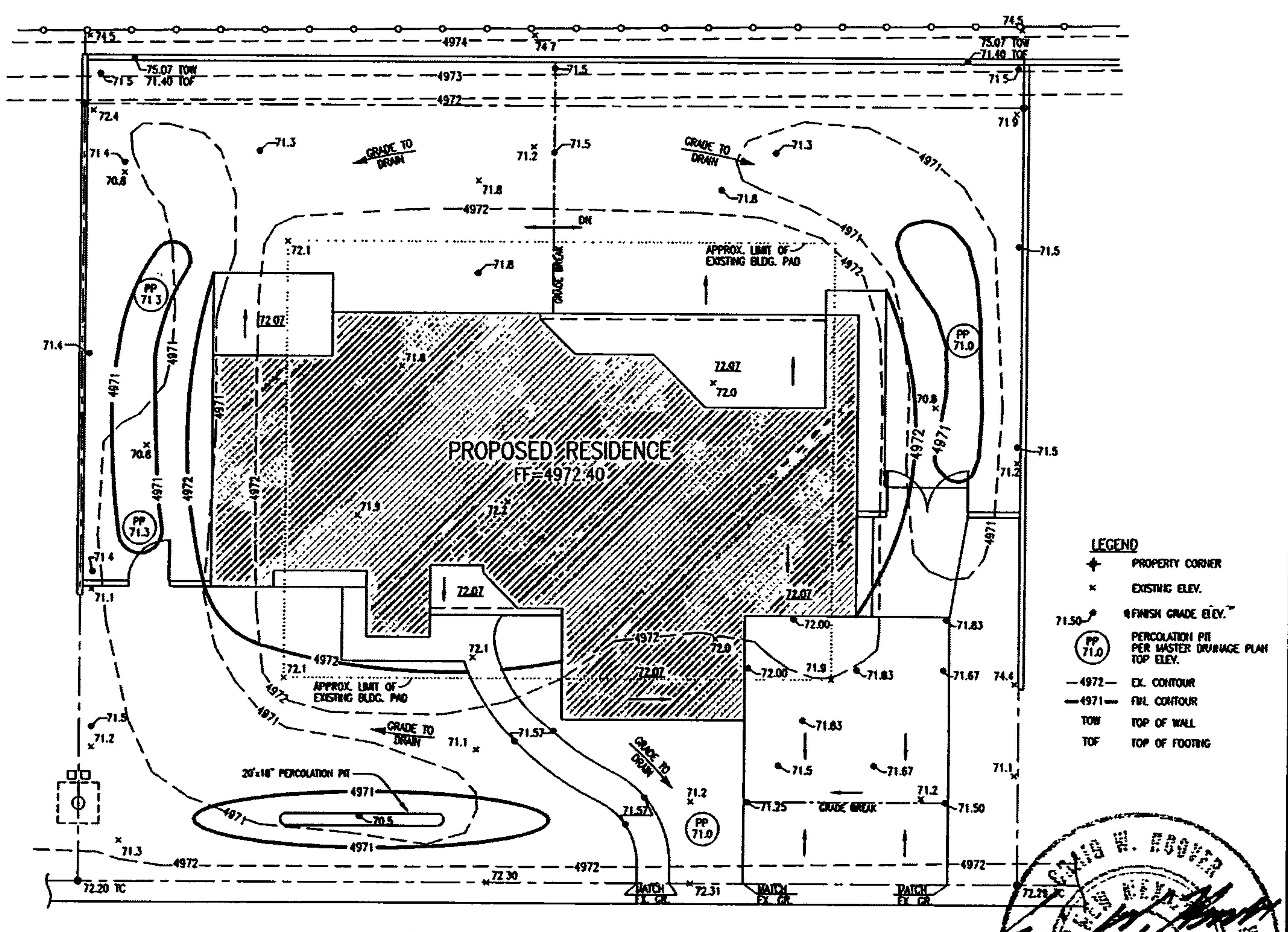
APPROVED BY THE EXECUTIVE COMMITTEE ON 4/9/02

Rev 2/11/14

7901 Holly



FRONT ELEVATION 1/4"=1'-0"

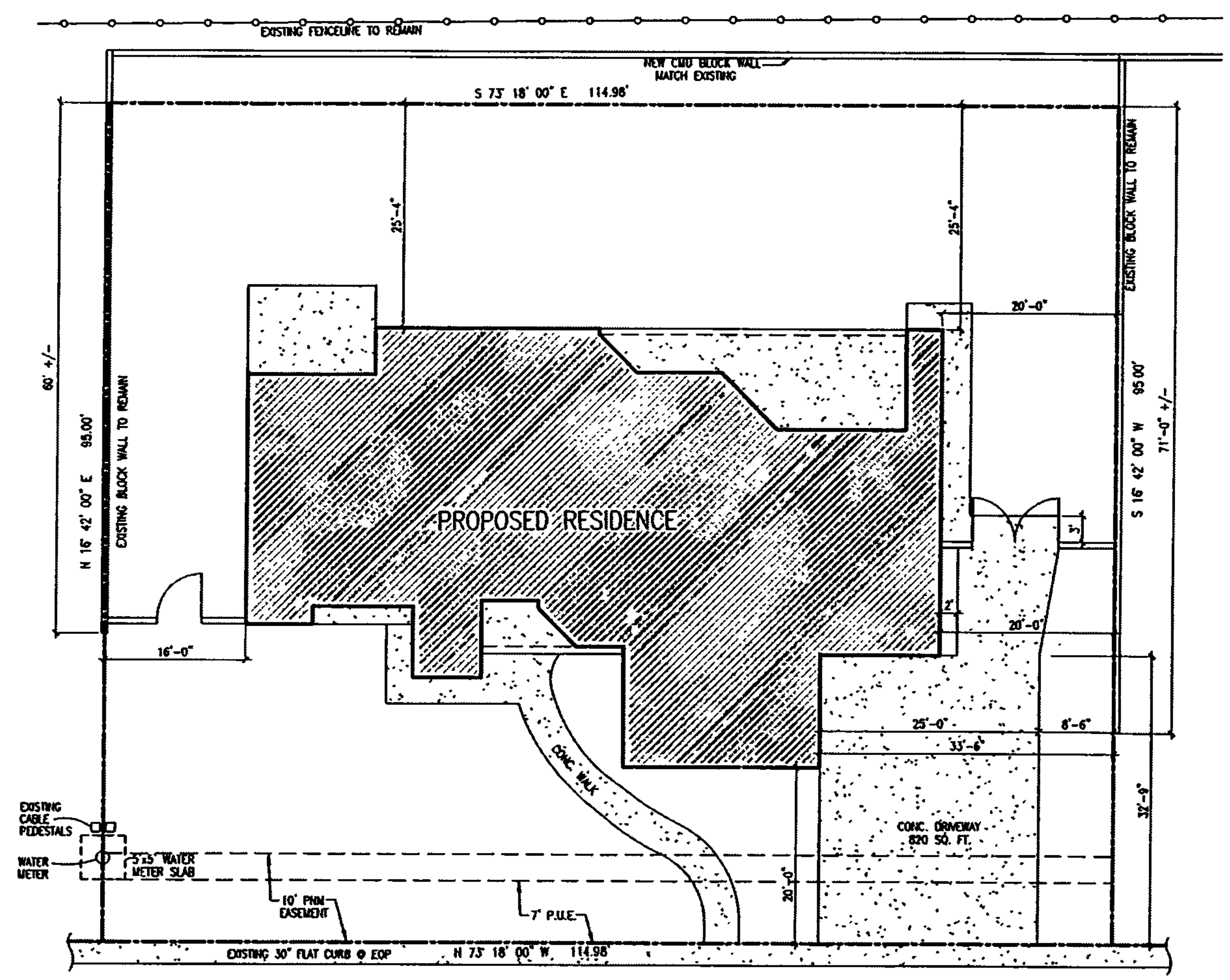


GRADING & DRAINAGE PLAN 1"=10'-0"

GENERAL NOTES:

1. SITE GRADING TO BE +/- 0.1' OF FINISH GRADES SHOWN PRIOR TO START OF FOUNDATION CONSTRUCTION
2. LOCATION OF PERCOLATION PIT TO BE AS SHOWN +/- 2'.

CRAIG W. HOOVER NEW MEXICO 11548 REGISTERED PROFESSIONAL ENGINEER 1/10/14



LOT #9, RANCHO GUADALUPE
ALBUQUERQUE, NEW MEXICO

SITE PLAN 1"=10'-0"

SITE PLAN NOTES:

1. 10' MINIMUM BETWEEN STRUCTURES
2. STUCCO & ROOF COLORS PER SITE DEVELOPMENT PLAN

ALL PRINTS ARE REPRODUCTIONS OF ELECTRONIC DRAWINGS AND THERE IS NO GUARANTEE THAT THE SCALE WILL BE TRUELY PRESENTED. IF YOU PLACE A SCALE ON THE BAR TO THE RIGHT, YOU WILL SEE IF THE SCALE IS CORRECT FOR THIS PRINT.

(F13D002)

REC 2/11/14

RICHARDSON RESIDENCE

RANCHO GUADALUPE TRAIL N.W.
LOT #9, RANCHO GUADALUPE
ALBUQUERQUE, NEW MEXICO

Vineyard Homes

RECORD DRAWING

JAF CONCEPTS (505) 315-9644

DRAWN	CM
CHECKED	
DATE	2-6-20914
SCALE	AS NOTED
JOB NO.	XX
SHEET	1
OF	9 SHEETS

DRAINAGE REPORT

FOR

RANCHO GUADALUPE SUBDIVISION

A 28 LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION

ALBUQUERQUE NEW MEXICO
MAY 1999

Prepared by:

ISAACSON & ARFMAN, P.A.
128 Monroe Street NE
Albuquerque, NM 87108
(505) 268-8828

SCOTT M. McGEE NEW MEXICO 10519 REGISTERED PROFESSIONAL ENGINEER

Scott M McGee 5/10/99

Scott M. McGee, PE **Date**

INTRODUCTION

This 9.5-acre site was platted in 1979, but was not developed as planned. It is bordered on the east by Guadalupe Trail NW and on the south by individual residential lots ranging from one-quarter to one acre. The Griegos Lateral runs along the west boundary while land to the north is developed as the Furr's corporate office, The Estates at Rancho Caballero, and the Columbus Park. Douglas MacArthur Drive NW separates the site from Columbus Park, while a city-owned strip of land platted as Tract M (which overlies two large diameter waterlines) separates the site from The Estates at Rancho Caballero.

I. PROJECT INFORMATION

LEGAL DESCRIPTION: Lots 1 through 28 of the Rancho Guadalupe Subdivision as filed in the records of the County Clerk of Bernalillo on December 28, 1979 in Volume C16, Folio 32.

ENGINEER: Isaacson & Arfman, P.A.
128 Monroe Street NE
Albuquerque, NM 87108
(505) 268-8828
Attn: Scott M. McGee, PE

SURVEYOR: Aldrich Land Surveying, Inc.
Attn: Tim Aldrich, NMPLS No. 7719
(505) 884-1990

BENCHMARK: ACS Control Station "15-F13" located 1900 feet west of the intersection of Guadalupe Trail NW and Montano Road and 51 feet north of the centerline of Montano Road NW.
Elevation: 4974.72

ZONING: RA-2

NUMBER OF EXISTING LOTS: 28

NUMBER OF PROPOSED LOTS: 28

TOTAL AREA: 9.479 Acres
412,905 SF

II. SITE CHARACTERISTICS

FLOOD HAZARD: This site is identified within ZONE X flood hazard designation as determined by Panel Nos. 118 and 119 of the September 20, 1996 edition of the F.E.M.A. maps. This zone is subject to 500-year floods, is identified as an area of 100-year flood with average depths of less than 1-foot or with drainage areas less than 1 square mile, and is an area protected by levees from 100-year flood.

SOILS: A geotechnical report was prepared by Vinyard & Associates (Project No. 99-1-56), dated March 18, 1999. Five test holes were drilled onsite to determine that site soils are sandy clay overlying silty and clean sands. The clay soils were encountered to depths between three and eight feet. This confirms the SCS Soil survey classification (as shown on Sheet 20 of the USDA Soil Survey) of both Gila loam and Agua loam.

EXISTING CONDITIONS: Even though the site extends approximately 2,000 feet east to west, there is less than one-foot difference in elevation across the site. This land was previously farmed with alfalfa and was flood irrigated. One minor irrigation ditch brings water east into the site from the Griegos Lateral. Vegetation is sparse onsite with some elm trees along the perimeter.

OFFSITE FLOWS: Generally, the land surrounding the site is also fairly flat and typically holds the rainfall that falls on it. A small area, east of the bank of the Griegos Lateral, is sloped toward the site. This 0.2-acre area discharges less than 1.0 cfs to the site which is very minor.

III. PROPOSED DEVELOPMENT

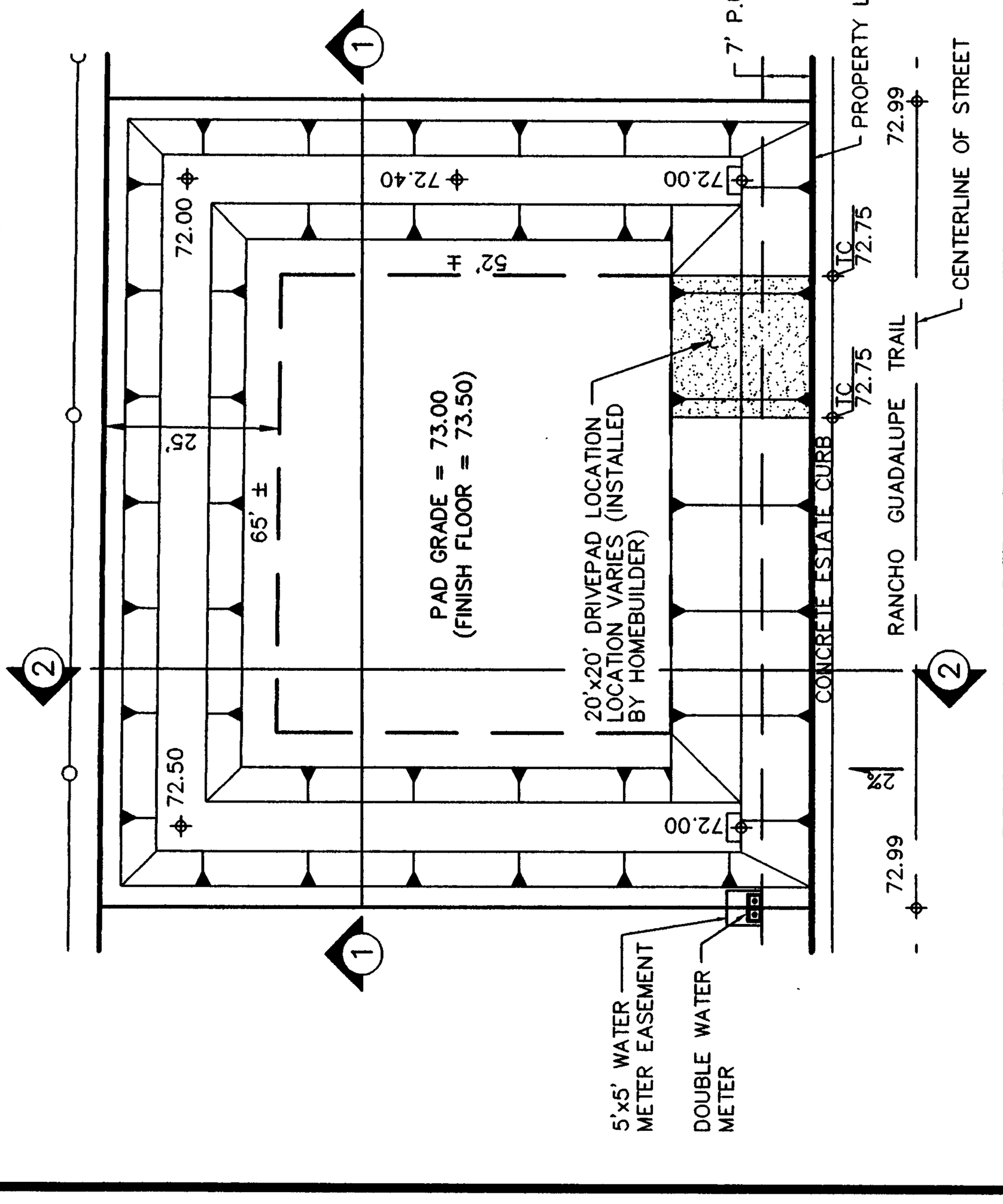
The development of 28 single-family residences and the paved access road will increase the runoff generated by the site. The level nature of this site dictates the use of a "flat-land" drainage solution. This requires that each lot be graded to accept the runoff generated on-lot plus the runoff from half the width of the abutting paved roadway. The proposed grading plan creates ponding volumes on each lot that accommodate this increased runoff volume.

In order to prevent long periods of standing water on each lot, percolation pits are proposed to provide a conduit to the porous sand underlying the clay surface soil. Typical details of both the percolation pits and the lot ponding are included in the Appendix.

SUMMARY

The proposed Grading Plan provides the required 100-year detention volume for developed conditions. This plan is very similar to a Meurer, Serafini, and Meurer Drainage Report on record at City Hydrology (F13-D2), which was prepared in 1979. The addition of the proposed percolation pits prevents standing water and addresses concerns of "back to back" storm events.

TYPICAL LOT GRADING PLAN



ISAACSON & ARFMAN, P.A.

SUBJECT RANCHO GUADALUPE JOB NO 1055
BY SMM DATE 4/99 SHEET NO. 2 OF

PROPOSED CONDITIONS

TOTAL AREA = 9.6471 ACRES

LESS ROADWAY TRACT = 1.1025 "

AREA (LOTS 1-28) = 8.5446 ACRES

LESS LOT 14 = 1.2222 ACRES (NO PONDING PROPOSED)

AREA (LOTS 1-13 & 15-28) = 7.3224 ACRES

∴ AVERAGE AREA FOR PONDED LOT = $\frac{7.3224}{27}$ AC = 0.2712 ACRES (11,813 SF)

LAND TREATMENT

TYPE 'D'

PAD AREA: 52'x65' = 3,380 SF

DRIVEWAY: 20'x20' = 400 SF

IMPERVIOUS AREA = 3,780 SF

3,780/11,813 = 32%

BALANCE OF SITE IS ESTIMATED TO BE LANDSCAPED EQUALLY WITH TURF AND XERISCAPE.

TYPE 'C' @ 33% TYPE 'B' @ 33%

COMPOSITE RUNOFF COEFFICIENT (CFS/ACRE):

Q_{100} = (.33)(2.28) + (.33)(3.14) + (.32)(4.70) = 3.3 CFS/ACRE

V_{100} = (.33)(.0650) + (.33)(.0942) + (.32)(.1767) = 0.1091 FT

EXISTING CONDITIONS

TOTAL AREA = 9.6471 ACRES

LAND TREATMENT: 100% A

PRECIPITATION ZONE: 2

100-YR VOLUME (BASED ON DPM TABLE 8 - FROM SECTION 22.2 HYDROLOGY, CITY OF ALBUQUERQUE)

$$V = (9.6471 \text{ ACRES})\left(\frac{0.53 \text{ IN.}}{12 \text{ IN/FT}}\right) = 0.43 \text{ AC-FT}$$

$$= (18,560 \text{ CUBIC FEET})$$

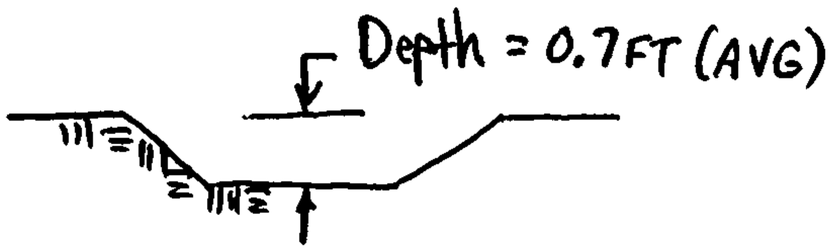
VOLUME REQUIRED TO BE PONDED PER LOT:

FROM AVG LOT: $V=(0.1091)(0.2712\ AC)(43560) = 1{,}289\ CF$

FROM ABUTTING STREET: $V=(115)(15)(.1767FT) = 305\ CF$

VOLUME/LOT REQUIRED = 1,594 CF ←

TYPICAL VOLUME PROVIDED PER LOT:



Cross Sectional Area:

$\frac{7+17}{2}(0.7\ FT) = 8.4\ SF$

Lengths:

Sideyard: $80' \times 2 = 160'$

Rearyard: $90' \times 1 = 90'$

$250'$

PROVIDED VOLUME = $(250\ LF)(8.4\ SF/LF) = 2{,}100\ CF$ ←

THE VOLUME PROVIDED IS APPROXIMATELY 30% MORE THAN REQUIRED FOR THE ANTICIPATED 100-YR VOLUME.

PROPOSED PERCOLATION PITS WILL ALLOW PONDED RUNOFF TO ENTER THE PERVIOUS SAND LAYER BELOW THE SURFACE CLAY SOILS.

City of Albuquerque

December 1, 1999

Scott McGee, P.E.
Isaacson & Arfman
128 Monroe NE
Albuquerque, New Mexico 87108

RE: ***Grading and Drainage Certification Plan for Rancho Guadalupe Subdivision (F13/D2) Engineer's Certification Stamp Dated 11/17/99.***

Dear Mr. McGee:

Based on the information provided on November 18, 1999, the above referenced Grading and Drainage Certification plan for Rancho Guadalupe Subdivision is acceptable to City Hydrology.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Stevan Schoen, Rancho Guadalupe, LLC
File