

County of Bernalillo

State of New Mexico

ONE CIVIC PLAZA, N.W.
ALBUQUERQUE, NEW MEXICO 87102

ADMINISTRATION (505) 768-4000
COMMISSION (505) 768-4217
FAX (505) 768-4329

April 5, 1993

BOARD OF COUNTY COMMISSIONERS

PATRICK J. BACA, CHAIRMAN
DISTRICT 1

JACQUELYN SCHAEFER, VICE CHAIR
DISTRICT 5

ALBERT "AL" VALDEZ, MEMBER
DISTRICT 2

EUGENE M. GILBERT, MEMBER
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JUAN R. VIGIL, COUNTY MANAGER

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PATRICK J. PADILLA, TREASURER

GLADYS M. DAVIS, CLERK

MARK J. CARRILLO, ASSESSOR

THOMAS J. MESSALL, PROBATE JUDGE

Kim R. Kemper, P.E.
Kemper & Co.
P.O. Box 21818
Albuquerque, New Mexico 87154

RE: DRAINAGE PLAN FOR MENDEZ RESIDENCE, (C-22/D27)
ENGINEER'S STAMP DATED FEBRUARY 6, 1992

Dear Mr. Kemper:

Based on the information provided on the referenced submittal received March 17, 1993, the plan is acceptable for Building Permit release.

Please be advised that prior to final inspection of the structure by the County Building Department, an Engineer's Certification that this site was built per the approved plan must be submitted and approved by this office.

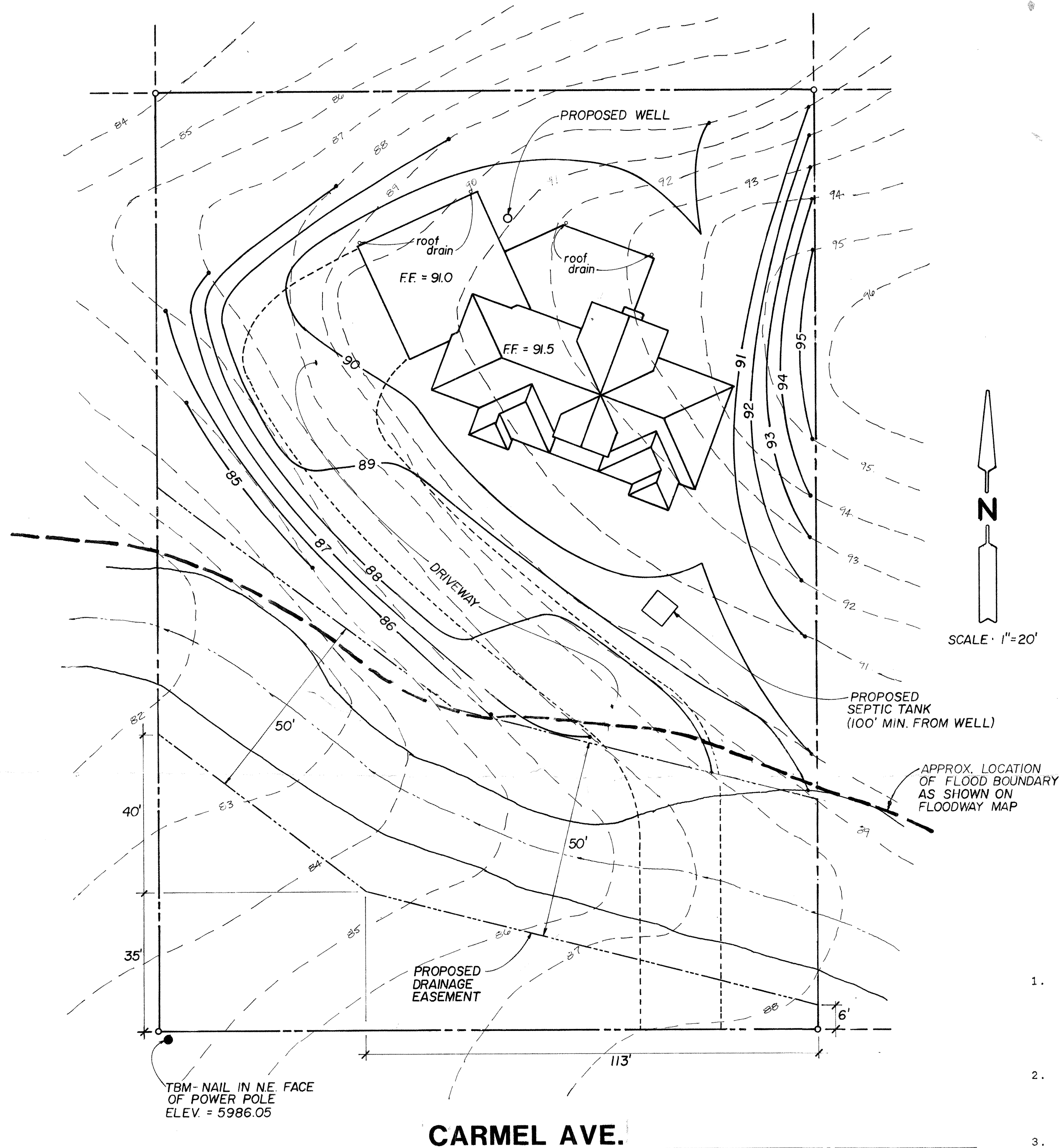
If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
County Floodplain Administrator

xc: Clifford E. Anderson, AMAFCA
Bob Foglesong, Bernalillo County
Tom Burlison, County Building Dept.
Gonzalo Mendez, Owner
File

wp+3188



DRAINAGE PLAN

THE SUBJECT PROPERTY IS LOCATED ON CARMEL AVENUE BETWEEN LOWELL STREET AND TENNYSON STREET IN NORTH ALBUQUERQUE ACRES. THE PLANNED IMPROVEMENTS TO THE PARCEL INCLUDE THE CONSTRUCTION OF A NEW RESIDENTIAL HOME. AS SHOWN ON PANEL 11 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP, DATED OCTOBER 14, 1983, A PORTION OF THIS SITE LIES WITHIN THE DESIGNATED 100 YEAR FLOOD HAZARD AREA.

IN RECENT YEARS THE HISTORICAL DRAINAGE PATTERNS IN THE AREA HAVE BEEN SIGNIFICANTLY MODIFIED WITH THE NEW CONSTRUCTION OF TRAMWAY BLVD. AND OTHER LOCAL IMPROVEMENTS. THEREFORE, FOR PURPOSES OF CONSISTENCY, THIS PLAN INCORPORATES DRAINAGE DATA FROM THESE IMPROVEMENTS AND TAKES A "PRUDENT LINE" APPROACH TO THE DRAINAGE THROUGH THE SUBJECT PROPERTY.

THE DRAINAGE AREA UPSTREAM OF THIS PARCEL IS NOW MORE LIMITED THAN THE AREA REFLECTED ON THE FLOODWAY MAP. THERE ARE THREE (3) SIGNIFICANT FACTORS WHICH HAVE IMPACTED THIS ARROYO. FIRST, THE CONSTRUCTION OF TRAMWAY BLVD. HAS EFFECTIVELY ELIMINATED FLOWS EAST OF ITS ALIGNMENT. SECOND, THE RECENT DEVELOPMENT OF THE "PRINCE OF PEACE CATHOLIC CHURCH" (APPROXIMATELY 500' UPSTREAM, FILE C-22/D20), AND LAST, THE CONSTRUCTION OF AN UNNAMED PUBLIC ROAD WITH A 24" CULVERT IN THE SUBJECT ARROYO (APPROXIMATELY 300' UPSTREAM).

THERE ARE THREE (3) COMPONENTS OF THE OFF-SITE FLOWS TO THIS PARCEL. 1. A UNDEVELOPED PARCEL EAST OF THE NEW CHURCH (REFERRED TO IN OTHER DRAINAGE DOCUMENTATION AS "LOT E"), 2. RUNOFF FROM THE CHURCH PROPERTY (NOTE THAT BOTH THESE FLOWS PASS THROUGH THE CULVERT BENEATH THE UNNAMED PUBLIC ROAD), AND 3. THAT AREA BETWEEN THE PUBLIC ROAD AND THE SUBJECT PARCEL. DATA TAKEN FROM THE HYDROLOGY PLAN FOR THE PROPOSED CHURCH INDICATE THAT THE PEAK DISCHARGE FROM THE CHURCH AND "LOT E" WILL BE APPROXIMATELY 24.1 cfs. THIS FLOW IS VERY NEAR THE CAPACITY OF THE EXISTING CULVERT (24" @ 3%). THE THIRD AREA IS APPROXIMATELY 2.4 ACRES (UNDEVELOPED) WHICH EQUATES TO A PEAK DISCHARGE OF 5.4 cfs. THEREFORE THE TOTAL OFF-SITE FLOW WHICH CONTRIBUTES TO THIS PROPERTY IS APPROXIMATELY 29.5 cfs

THE EXISTING TOPOGRAPHY ON THE PLAN WAS DEVELOPED FROM A SURVEY PERFORMED IN NOVEMBER, 1991, BY SOUTHWEST SURVEY CO., INC. A SUBSEQUENT FIELD REVIEW OF THE SITE, PERFORMED BY THIS OFFICE, REVEALED THAT ALL THE INFORMATION SHOWN ON THIS PLAN IS CONSISTENT WITH THE ACTUAL CONDITIONS THAT EXIST IN THE FIELD.

THE FOLLOWING CALCULATIONS SHOWN ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS OF THE 100-YR., 6-HOUR RAINFALL EVENT. THEY INCLUDE CONSIDERATION OF BOTH THE PROPOSED HOME SITE AND ACCESS DRIVEWAY.

GENERAL NOTES

1. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE TO RESOLVE THE CONFLICT WITH A MINIMUM AMOUNT OF DELAY.
2. ALL WORK ON THIS PLAN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. AND LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OWNER OR FROM EXISTING PLANS, AND THIS INFORMATION MAY BE INCOMPLETE, OR OBSOLETE AT THE TIME OF CONSTRUCTION. THE ENGINEER HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THESE LOCATIONS, LINE SIZES OR MATERIAL TYPE, MAKES NO REPRESENTATION THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE OR UNDERGROUND INSTALLATION IN OR NEAR THE AREA IN ADVANCE OF AND DURING ANY EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES AND UNDERGROUND FACILITIES. IN PLANNING AND CONDUCTING EXCAVATIONS, THE CONTRACTOR SHALL COMPLY WITH ALL STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. THE CONTRACTOR SHALL INSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHTS-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND BY WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY BERNALILLO COUNTY FOR THE COMPLETION OF THE WORK PRIOR TO BEGINNING CONSTRUCTION.

SITE CALCULATIONS

THE FOLLOWING CALCULATION WERE DEVELOPED USING THE INTERIM DRAINAGE DESIGN CRITERIA FOR BERNALILLO COUNTY (IDDC), APRIL 1990.

SITE CHARACTERISTICS:

SITE LOCATION:	ZONE 4 (IDDC TABLE 1)
PRECIPITATION:	P = 2.90 inches (IDDC TABLE 2)
LAND TREATMENT:	EXISTING - TREATMENT A (IDDC TABLE 4) DRIVEWAY - TREATMENT C (IDDC TABLE 4) BUILDINGS - TREATMENT D (IDDC TABLE 4)
	EXISTING PROPOSED
TOTAL AREA	= 0.886 AC.
NATURAL VEG.	= 0.886 AC. = 100.0% 0.679 AC. = 76.6%
DRIVEWAY	= 0.00 AC. = 0.0% 0.118 AC. = 13.3%
BUILDINGS	= 0.00 AC. = 0.0% 0.089 AC. = 10.1%

EXCESS PRECIPITATION & VOLUMETRIC RUNOFF:

EXCESS PRECIPITATION: TREATMENT A E = 0.66 inches (IDDC TABLE 8)
TREATMENT C E = 1.13 inches (IDDC TABLE 8)
TREATMENT D E = 2.57 inches (IDDC TABLE 8)

EXISTING RUNOFF:

$$V_{100-6hr} = (0.66)(0.886)/12 = 0.049 \text{ acre-ft} = 2,134 \text{ cf}$$

DEVELOPED RUNOFF:

$$\text{WEIGHTED E} = \frac{(0.66)(0.679) + (1.13)(0.118) + (2.57)(0.089)}{0.886} = 0.91 \text{ inches}$$

$$V_{100-6hr} = (0.91)(0.886)/12 = 0.067 \text{ acre-ft} = 2,919 \text{ cf}$$

RESULT: 2,919 - 2,134 = 785 cf INCREASE IN RUNOFF VOLUME

PEAK DISCHARGE:

TREATMENT A = 2.26 cfs/acre (IDDC TABLE 9)
TREATMENT C = 3.94 cfs/acre (IDDC TABLE 9)
TREATMENT D = 5.74 cfs/acre (IDDC TABLE 9)

EXISTING DISCHARGE:

$$Q_{100} = (2.26)(0.886) = 2.00 \text{ cfs}$$

DEVELOPED DISCHARGE:

$$Q_{100} = (2.26)(0.679) + (3.94)(0.118) + (5.74)(0.089) = 2.51 \text{ cfs}$$

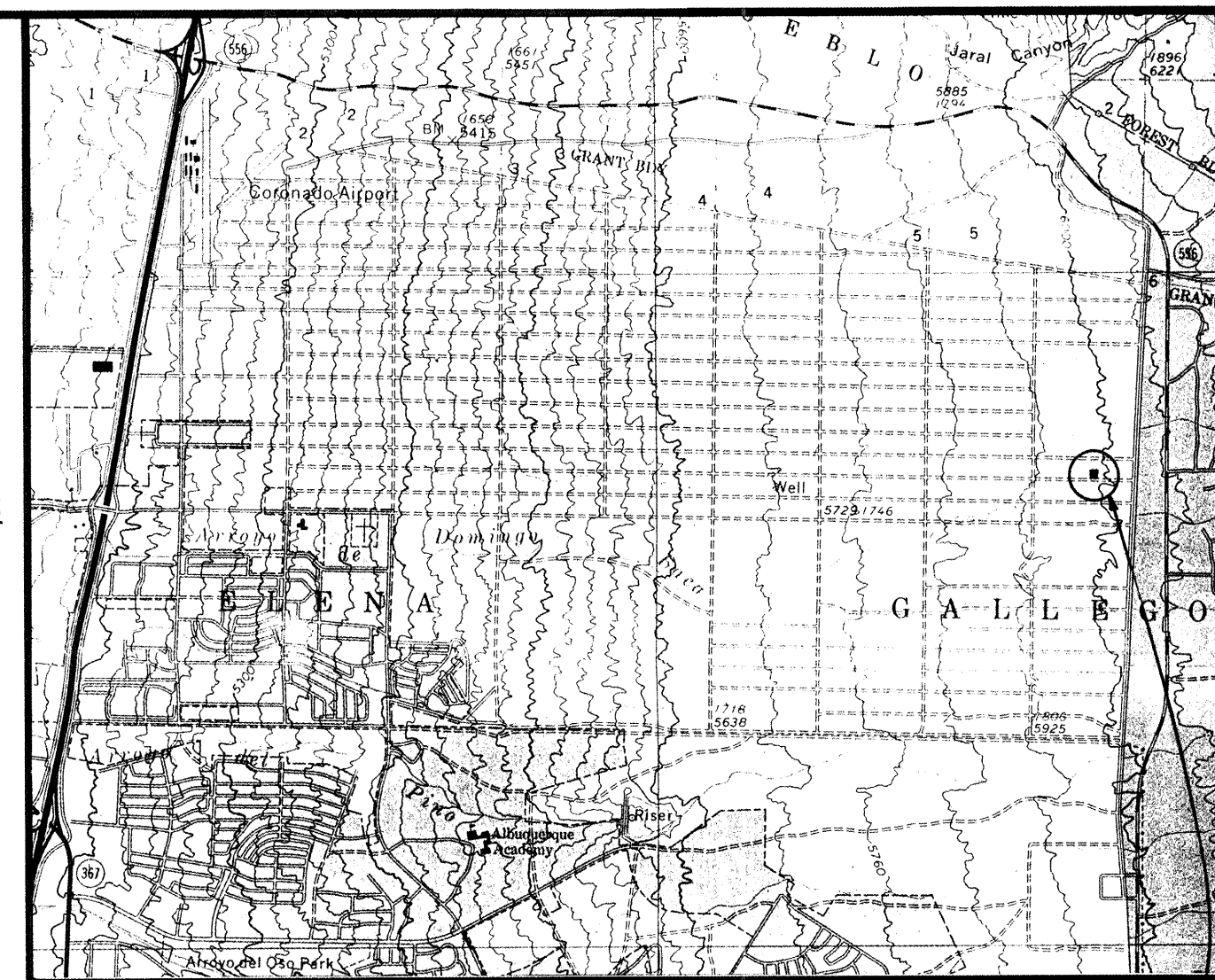
RESULT: 2.51 - 2.00 = 0.51 cfs INCREASE IN PEAK DISCHARGE

BENCH MARK

ACS ALUMINUM CAP STAMPED "2-C21 1985" APPROXIMATELY 108' NORTH AND 26' WEST OF THE INTERSECTION OF BROWNING STREET AND PASEO DEL NORTE. ELEVATION = 5834.1

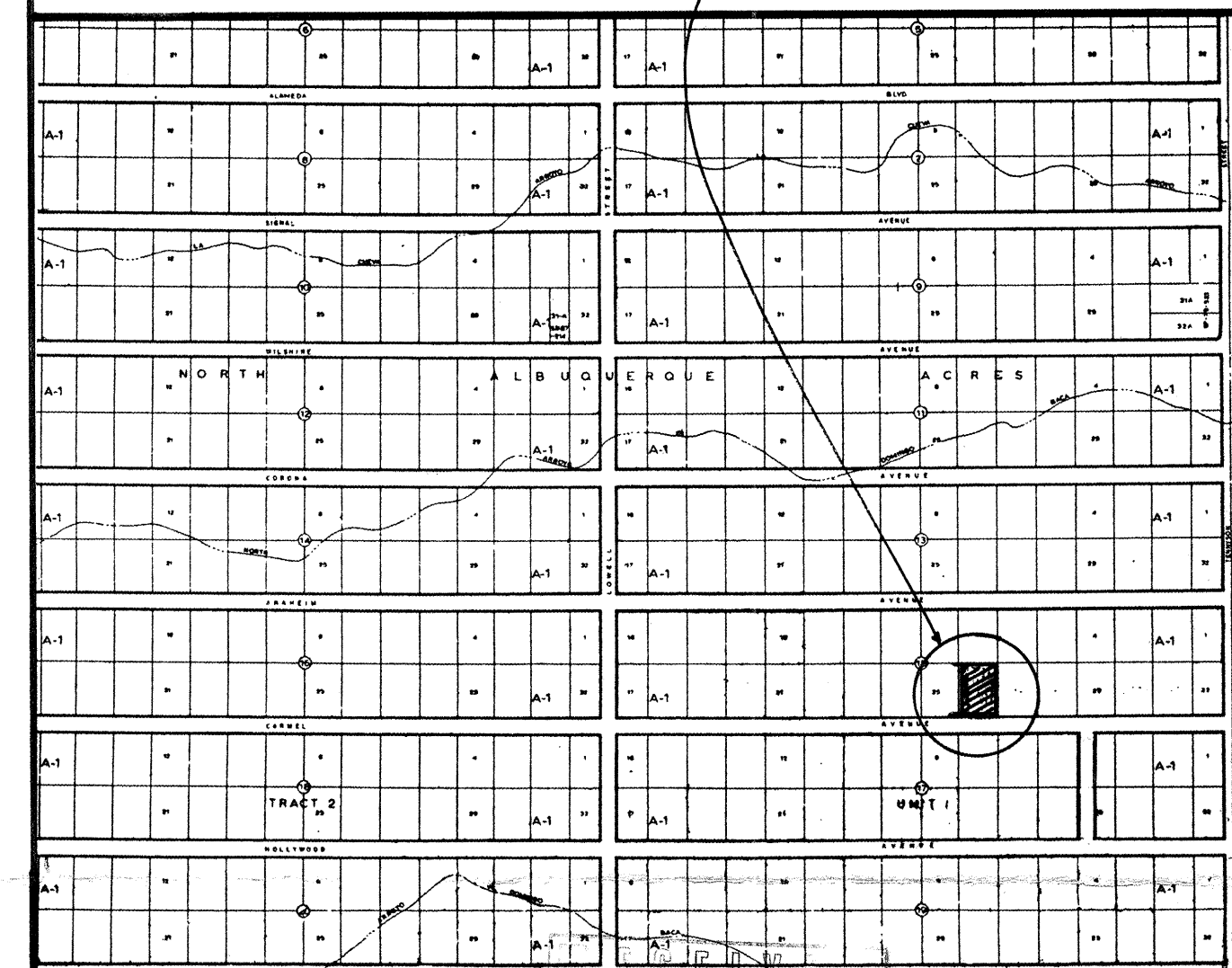
LEGAL DESCRIPTION

LOT 26, BLOCK 15, TRACT 2, UNIT 1, NORTH ALBUQUERQUE ACRES

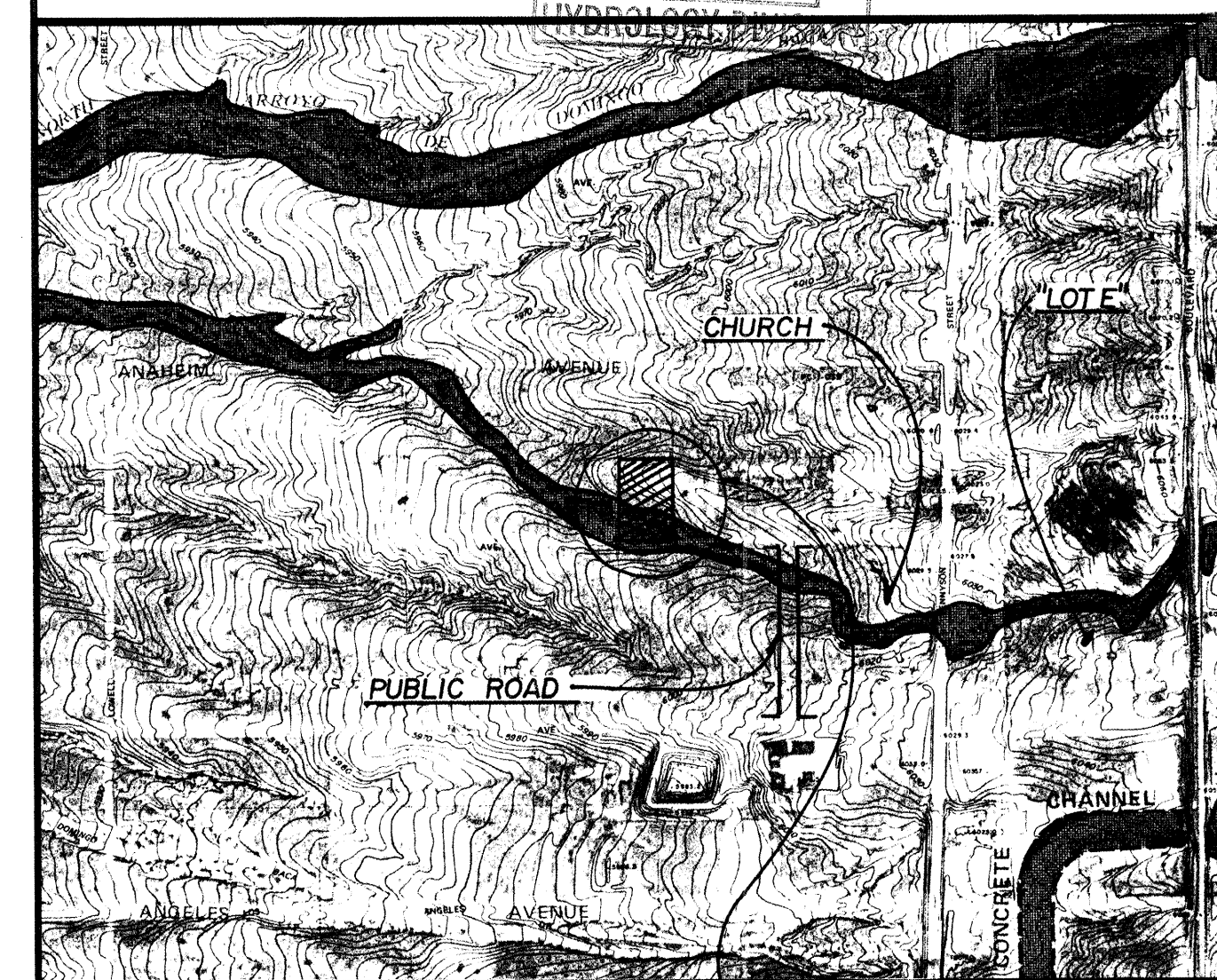


LOCATION MAP

PROJECT LOCATION



ZONE MAP



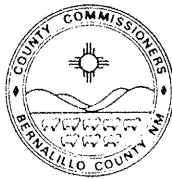
FLOOD BOUNDARY MAP

PROJECT LOCATION

MENDEZ RESIDENCE GRADING & DRAINAGE PLAN

KEMPER & COMPANY			
CONSULTING ENGINEERS			
P.O. Box 21818 • ALBUQUERQUE, NEW MEXICO 87154 • (505) 263-1630			
Designed	Drawn	Checked	Sheet of
File	Date		1 1

CAUTION!
NOTE THAT ALL EXISTING UTILITIES MAY NOT BE SHOWN HEREON AND THAT ANY EXISTING UTILITIES SHOWN ARE IN APPROXIMATE LOCATION ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL THE UTILITY OWNERS AND TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE THE ACTUAL LOCATIONS OF UTILITIES AND OTHER IMPROVEMENTS.



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County of Bernalillo

State of New Mexico

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February 13, 1992

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GLADYS M. DAVIS, CLERK

MARK J. CARRILLO, ASSESSOR

THOMAS J. MESCALL, PROBATE JUDGE

Kim R. Kemper, P.E.
Kemper & Co.
P.O. Box 21818
Albuquerque, New Mexico 87154

RE: DRAINAGE PLAN FOR MENDEZ RESIDENCE, RECEIVED JANUARY 8, 1992 FOR
BUILDING PERMIT APPROVAL, (C-22/D27)

Dear Mr. Kemper:

Based on our telecom two weeks ago we have not received the necessary information; therefore, I will provide you with our comments:

1. The 15 feet of easement does not correspond with the thalwegs of the arroyo. Please justify the fifteen feet with a hydraulic analysis for the 100-year storm and to include the necessary erosion setback per the checklist.
2. Please show the limits of the official 100-year floodplain per the FIRM panel. This is official floodplain until such time that a Letter of Map Revision request is approved by the Federal Emergency Management Agency.
3. Please secure AMAFCA's and Bernalillo County's signature on the plan.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
County Floodplain Administrator

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Bob Foglesong, Bernalillo County

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