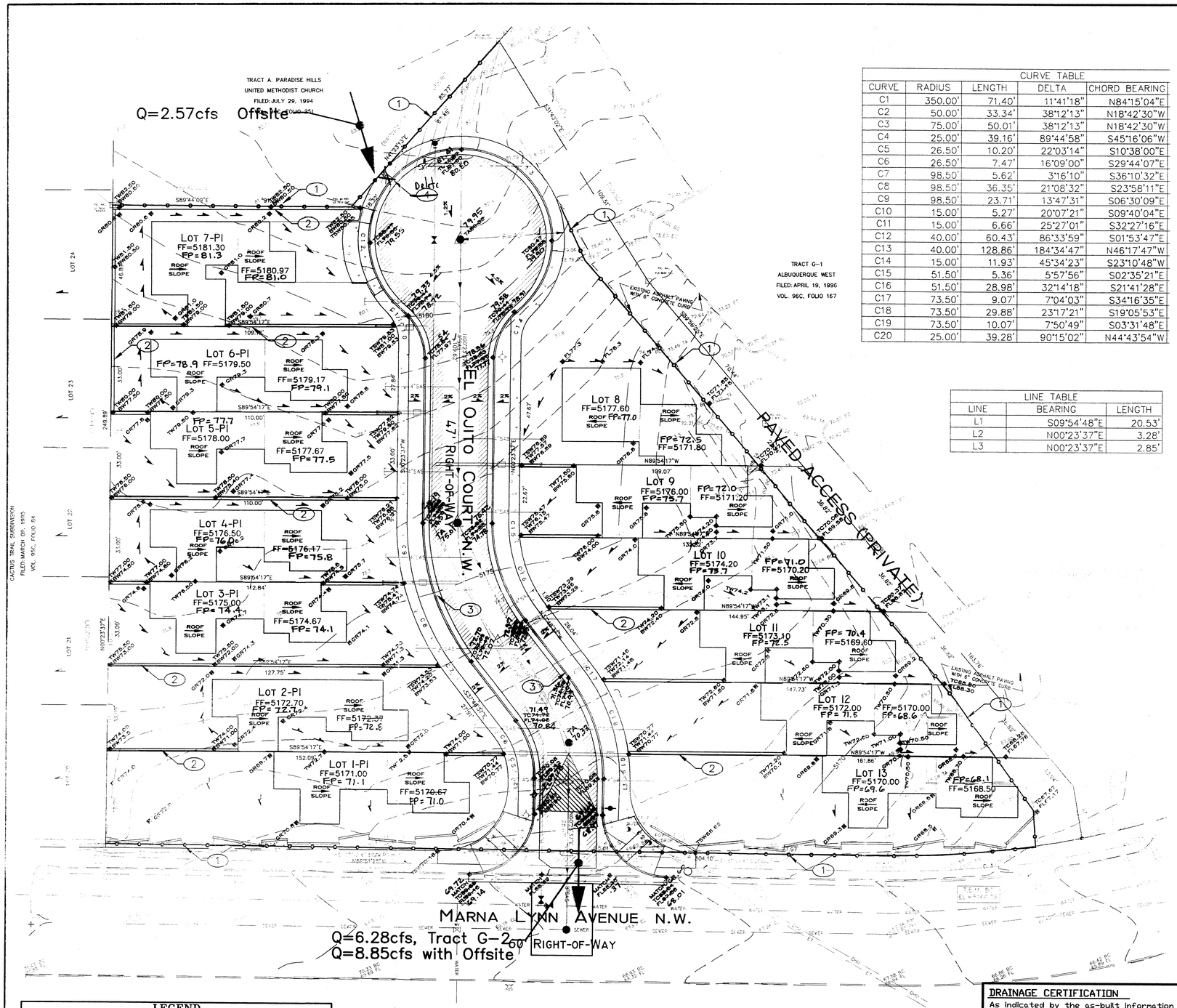
LOTS 1 THROUGH 13
MARNA LYNN AVENUE TOWNHOMES

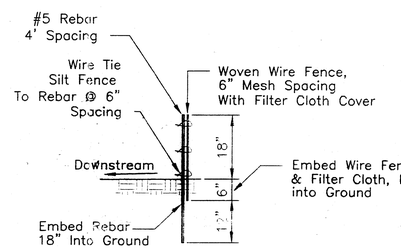


CURVE TABLE				
CURVE	RADIUS	LENGTH	DELTA	CHORD BEARING
C1	350.00'	71.40'	11°41'18"	N84°15'04"E
C2	50.00'	33.34'	38°12'13"	N18°42'30"W
C3	75.00'	50.01'	38°12'13"	N18°42'30"W
C4	25.00'	39.16'	89°44'58"	S45°16'06"W
C5	26.50'	10.20'	22°03'14"	S10°38'00"E
C6	26.50'	7.47'	16°09'00"	S29°44'07"E
C7	98.50'	5.62'	3°16'10"	S36°10'32"E
C8	98.50'	36.35'	21°08'32"	S23°58'11"E
C9	98.50'	23.71'	13°47'31"	S06°30'09"E
C10	15.00'	5.27'	20°07'21"	S09°40'04"E
C11	15.00'	6.66'	25°27'01"	S32°27'16"E
C12	40.00'	60.43'	86°33'59"	S01°53'47"E
C13	40.00'	128.86'	184°34'47"	N46°17'47"W
C14	15.00'	11.93'	45°34'23"	S23°10'48"W
C15	51.50'	5.36'	5°57'56"	S02°35'21"E
C16	51.50'	28.98'	32°14'18"	S21°41'28"E
C17	73.50'	9.07'	7°04'03"	S34°16'35"E
C18	73.50'	29.88'	23°17'21"	S19°05'53"E
C19	73.50'	10.07'	7°50'49"	S03°31'48"E
C20	25.00'	39.28'	90°15'02"	N44°43'54"W

LINE TABLE		
LINE	BEARING	LENGTH
L1	S09°54'48"E	20.53'
L2	N00°23'37"E	3.28'
L3	N00°23'37"E	2.85'

CONSTRUCTION NOTES:

1. PROVIDE SILT FENCE PER DETAIL SHOWN ON THIS SHEET ALONG PERIMETER OF ENTIRE CONSTRUCTION SITE. CONTRACTOR SHALL MAINTAIN SILT FENCE THROUGHOUT CONSTRUCTION UNTIL SUCH TIME THAT FINAL INSPECTION PERFORMED BY CITY OF ALBUQUERQUE OR PERMANENT STABILIZATION HAS BEEN ESTABLISHED.
2. CONSTRUCT RETAINING WALL PER GRADES SHOWN.
3. CONSTRUCT STANDARD CURB AND GUTTER PER CITY STD. DWG. 2415A.
4. CONSTRUCT 18'WIDE SIDEWALK CULVERT PER CITY STD. DWG. 2236



SILT FENCE DETAIL

SCALE: 1/2" = 1'-0'

A

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINES, PIPELINE, OR UNDERGROUND STRUCTURE, AND SHALL PROCEED WITH WORK IN ACCORDANCE WITH SUCH KNOWLEDGE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

GRAPHIC SCALE

20 0 20 40

(IN FEET)
1 inch = 20ft.

LEGEND

5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE	X 5844	EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION	GR56.0	NEW GRADE ELEVATION
TC62.50	NEW TOP OF CURB ELEVATION	FL55.3	FLOWLINE GRADE ELEVATION
FL62.00	NEW FLOWLINE OF CURB ELEVATION	TW95.1	NEW TOP OF WALL ELEVATION
TA60.11	NEW TOP OF ASPHALT ELEVATION	BW93.1	NEW BOTTOM OF WALL ELEVATION
TSW61.87	NEW TOP OF SIDEWALK ELEVATION	TOC93.1	NEW TOP OF CONCRETE ELEVATION
	DRAINAGE SWALE	FP	AS-BUILT PAD EL.

GRADING PLAN

SCALE: 1" = 20'

DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, Marna Lynn Avenue Townhomes Subdivision Grading and Drainage plan has been constructed in substantial compliance with the approved Grading and Drainage Plan. This Certification is presented in fulfillment of drainage requirements requested by the City of Albuquerque. The information shown hereon has been obtained by me or under my direct supervision and is true and correct to the best of my knowledge and belief.

GILBERT ALDAZ — NEW MEXICO — 10848 — REGISTERED PROFESSIONAL ENGINEER

Gilbert Aldaz, NMPE, 10848 — 09-01-06 Date

AS BUILT INFORMATION

CONTRACTOR DATE
WORK STAKED BY DATE
REVISED BY AS-BUILTS DATE
ACCEPTANCE BY DATE
VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS

BENCHMARK IS AN A.C.S. MONUMENT "2-C12", ELEVATION =5175.786, AN ACS 1 3/4" ALUMINUM DISK SET IN TOP OF THE CURB AT THE WNW RETURN LOCATED AT THE INTERSECTION OF PARADISE HILLS BLVD. AND DAVENPORT STREET NW IN THE NW QUADRANT OF THE INTERSECTION.

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN

DESIGNED BY DATE
DRAWN BY DATE
CHECKED BY DATE

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS
1605 Blair Drive NE, Albuquerque, New Mexico 87112
Office: (505) 237-1456 Facsimile: (505) 237-1456

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: GRADING AND DRAINAGE PLAN
MARNA LYNN AVENUE TOWNHOMES

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
776281	C-12	3	5

RECEIVED
SEP 05 2006
HYDROLOGY SECTION

GENERAL NOTES

LEGAL DESCRIPTION: TR. G, ALBUQUERQUE WEST SUBDIVISION, FILED 3-8-90, VOL. C90, FOLIO 67.
SITE AREA: 3.7101 Ac. (PHASE 1: 2.00 Ac., PHASE 2: 1.71 Ac.).
BENCHMARK: ACS B.M. NO. "2-C12" A 1 3/4" ALUMINUM DISK SET ON TOP OF THE CURB AT THE NNW RETURN OF PARADISE HILLS BLVD. AND DAVENPORT STREET. ELEV.: 5175.79
T.B.M.: RAILROAD SPIKE IN POWER POLE APPROXIMATELY 1 BLOCK EAST OF GOLF COURSE ROAD ON SOUTH R.O.W. LINE OF PARADISE BLVD. ELEV.: 5199.82
FLOOD HAZARD STATEMENT: AS SHOWN ON PANEL 08 OF THE FEMA FLOOD INSURANCE RATE MAPS, THIS SITE IS NOT WITHIN A DESIGNATED FLOOD HAZARD AREA.
GRADING HISTORY: SITE WAS INCLUDED IN THE MASS GRADING OF RIVERVIEW I.P.
THE WESTERLY PROPERTY LINE WAS INTENDED AS THE GRADE BREAK BETWEEN PROPERTIES RESULTING IN NO OFF-SITE FLOWS ENTERING UPON THE SITE. church?

HYDROLOGY – DATA:
PHASE 1: 2.00 Ac. PHASE 2: 1.71 Ac.
(A.1) PRECIPITATION ZONE 1
(A.2) DESIGN STORM P360 = 2.20 IN (100-YEAR)
(A.3.1) LAND TREATMENT (TABLE A.4) – EXISTING: A
(A.3.2) PROPOSED LAND TREATMENT (TABLE A.4) – AND EXCESS PRECIPITATION (EP)
PRECIPITATION (EP) (TABLE A.8) – 100-YEAR

TREATMENT	PH.1(Ac)	PH.2(Ac)	EP(IN)
A	0	1.61	0.44
B	0.64	0	0.67
C	0.28	0	0.99
D	1.08	0.10	1.97
	2.00 Ac.	1.71 Ac.	

(A.5) DETERMINE VOLUMES

PHASE 1:
WEIGHTED E = $\frac{(0.67)(0.64)+(0.99)(0.28)+(1.97)(1.08)}{2.00}$
PHASE 1 E = 1.42 IN
VOLUME = (1.42 IN)(2.00 Ac.)(43560 SF/Ac.)(1/12)=10,309 CF

PHASE 2:
WEIGHTED E = $\frac{(0.44)(1.61)+(1.97)(0.10)}{1.71}$
PHASE 2 E = 0.53 IN
VOLUME = (0.53 IN)(1.71 Ac.)(43560 SF/Ac.)(1/12)=3,290 CF
TOTAL SITE = 13,599 CF

LEGEND

- DRAINAGE SWALE
- 5185 EXISTING CONTOUR
- 75 PROPOSED CONTOUR
- EDGE OF ASPHALT
- DI PROP. DRAIN INLET
- TC 63.80 FL 63.18 PROP. TOP OF CURB ELEV. FLOWLINE
- TSW TOP OF SIDEWALK ELEV.
- TA TOP OF ASPHALT ELEV.
- RD ROOF DRAIN

GENERAL NOTES (CONT.)

THE FLOW RATE Q_{100} IS COMPUTED BELOW:

PHASE I (DEVELOPED):

$Q_{100} = Q_{PA} A_P + Q_{PC} A_C + Q_{PD} A_D$
$= 2.03(0.64) + 2.87(0.28) + 4.37(1.08) = 6.82$ CFS

BASIN A => AREA = 0.96 Ac.
Q_{100} = 3.24 CFS

BASIN B => AREA = 1.05 Ac.
Q_{100} = 3.58 CFS

PHASE II (UNDEVELOPED):

$Q_{100} = Q_{PA} A_P + Q_{PD} A_D$
$=1.29(1.61) + 4.37(0.10) = 2.51$ CFS

THE TOTAL AMOUNT OF FLOW ALLOWED FROM TRACT G IS 11.8 CFS. THIS DISCHARGE WAS CALCULATED BY COMMUNITY SCIENCE CORP WHEN THEY PREPARED THE DRAINAGE REPORT FOR HIGHLAND HILLS UNIT ONE. (C-12/D6, DATED 04-05-94.)

THE PROPORTIONATE AMOUNT THAT CAN BE DISCHARGED FROM PHASE I IS 6.25 CFS. THE DETENTION REQUIRED TO REDUCE THE 6.82 CFS TO 6.25 CFS IS PROVIDED BY THE SMALL POND AT THE EAST CORNER OF THE SITE. THE POND DRAINS AT Q_{100} = 1.18 CFS INTO THE VALLEY GUTTER AT THE INTERSECTION OF MARNA LYNN AVE & EDUCATION PLACE. THE REMAINING 3.58 CFS IS ALLOWED FREE DISCHARGE THRU THE SITES TWO DRIVEWAYS.

THE DRAIN PIPE CALCULATIONS ARE PRESENTED BELOW:

ASSUME ORIFICE FLOW UNDER 3' OF HEAD.
TRY 2"-4" PVC PIPES.

$A = 0.087 \times 2 = 0.174\ FT^2$

$Q = C_D A \sqrt{2GH}$

$Q = 0.60(0.174)\sqrt{2(32.2)(3)}$

$Q_{100} = 1.18$ CFS OK

USE 2"-4" DRAIN PIPES AT S = 2.0%

VICINITY MAP

EROSION CONTROL BERM
NTS

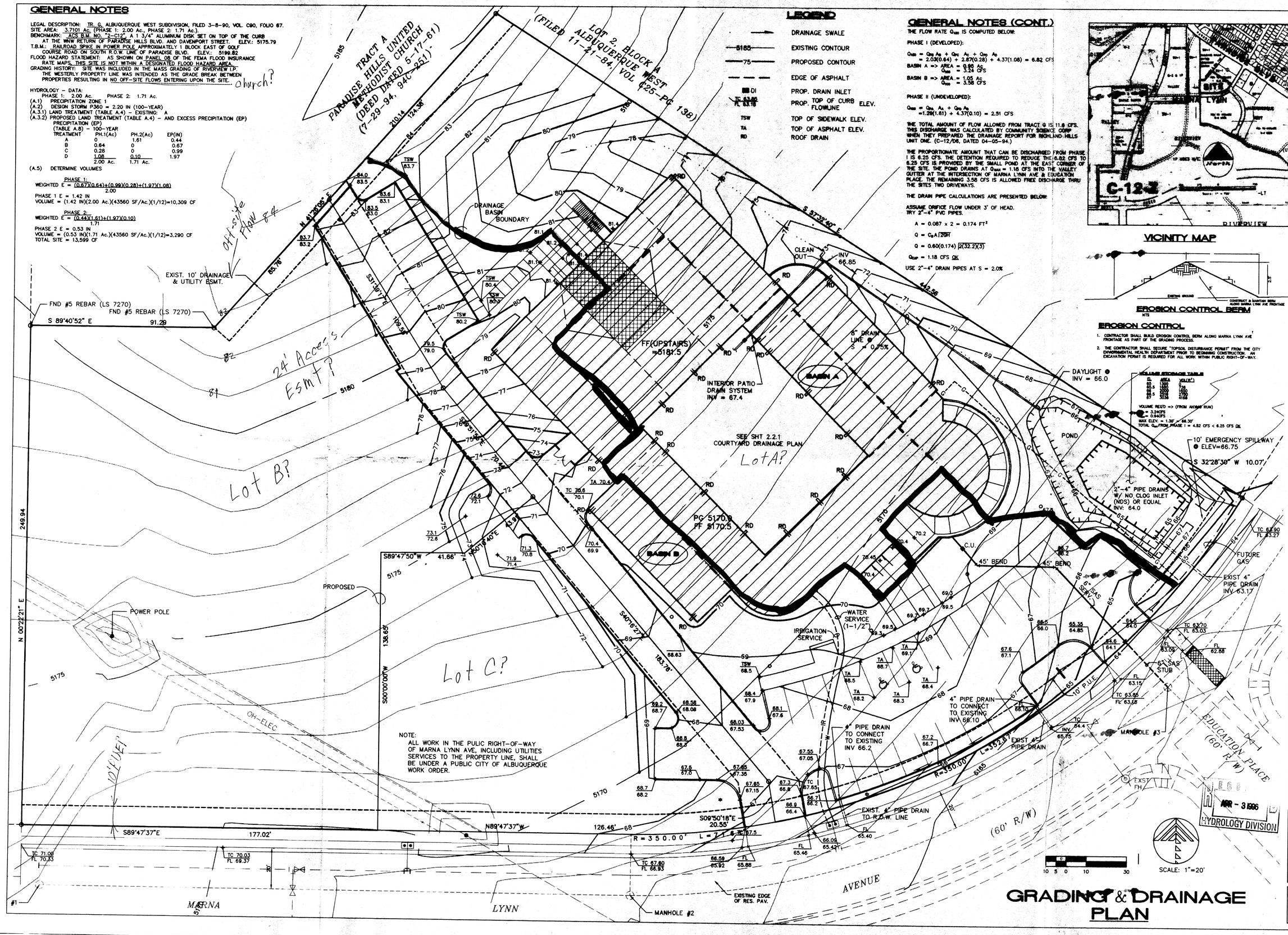
EROSION CONTROL

1. CONTRACTOR SHALL BUILD EROSION CONTROL BERM ALONG MARNA LYNN AVE FRONTAGE AS PART OF THE GRADING PROCESS.
2. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION. AN EXCAVATION PERMIT IS REQUIRED FOR ALL WORK WITHIN PUBLIC RIGHT-OF-WAY.

VOLUME STORAGE TABLE

EL.	AREA	VOLUME
65	1000	0
65.5	1300	575
66	1600	1150
66.5	2000	1825
67	2500	2575

VOLUME REQ'D => (FROM ANYMS RUN)
= 3.24CFS
= 0.54CFS
MAX ELEV. = 1.30' = 66.30'
TOTAL Q_{100} FROM PHASE I = 4.82 CFS < 6.25 CFS OK



GRADING & DRAINAGE PLAN

RECEIVED APR - 3 1996 HYDROLOGY DIVISION

FRED C. ARFMAN 7329 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 6-22-96

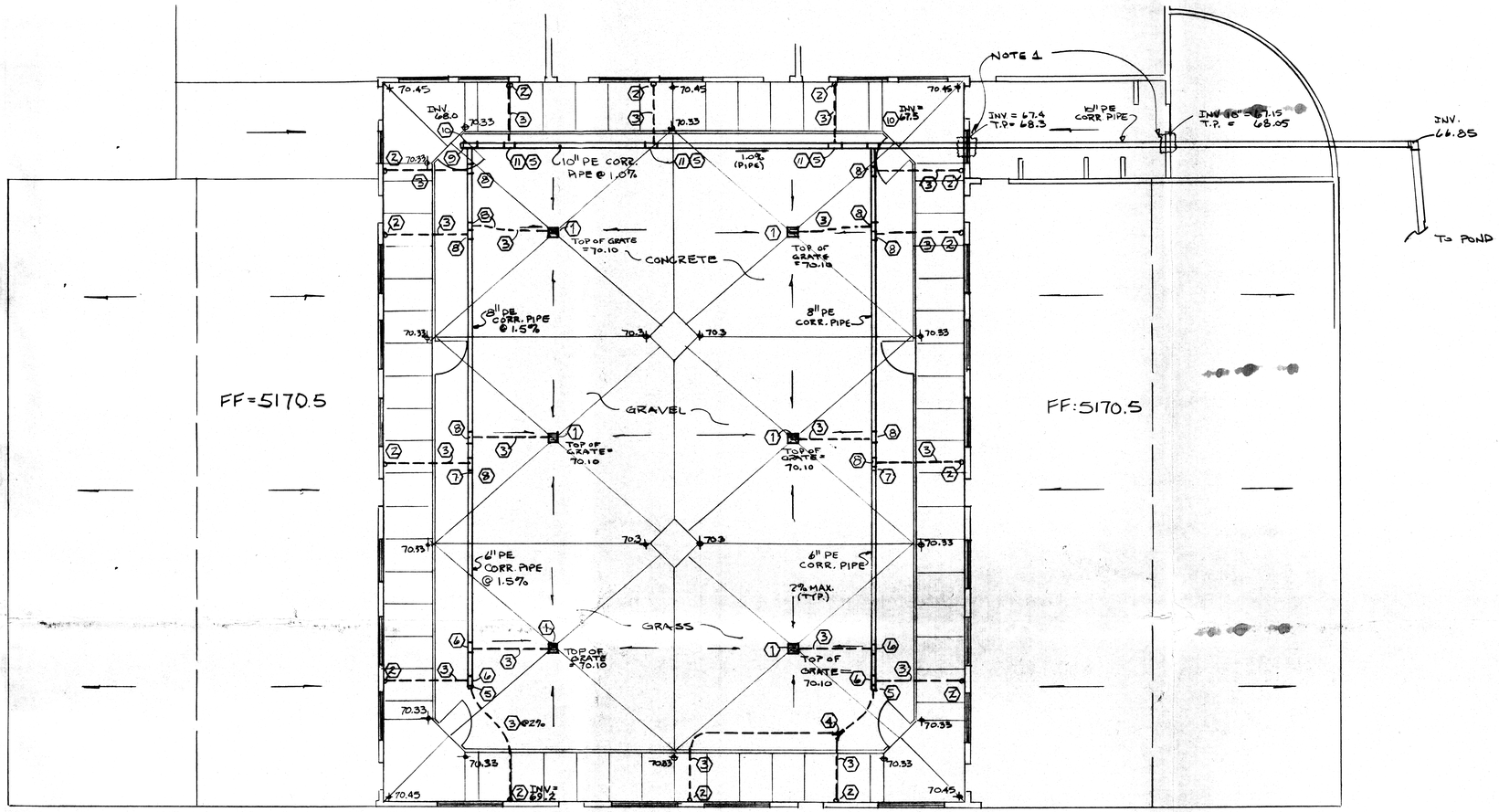
ISAACSON & ARFMAN, P.A.
Consulting Engineers
128 Monroe Street, N.E.
Albuquerque New Mexico
2/22/96
824GRD.DWG

OWNER'S
DR. AURTHER S WERSHAW & JOAN WERSHAW
CANINE COUNTRY CLUB & FELINE INN
7327 FOURTH STREET N.W.
ALBUQUERQUE, NEW MEXICO 87107

New building for:
CANINE COUNTRY CLUB & FELINE INN
MARNA LYNN AVENUE ALBUQUERQUE, NM 87107

COPYRIGHT © 1994 E. JOHN KNAPP

DATE:	DRAWN BY:	CHK'D BY:



PIPE FITTINGS TABLE

1. 9" x 9" basin (NDS-901-4, 4" single outlet) with 9" x 9" grate (2-NDS 990-GRN, 4-NDS 999-Grey).
   Note: Grout fill sump area to drain.
2. 4" downspout adapter (ADS-465).
   Note: Verify downspout compatibility with architectural plans and specifications. Install adapter and 4" ADS corrugated PE pipe prior to placement of PCC sidewalks.
3. 4" diameter ADS corrugated PE pipe.
4. 4" 45° "Y" (ADS-4"-422).
5. 6"-4" reducing coupler (ADS-614).
6. 6" x 6" x 4" reducing tee (ADS-644).
7. 8"-6" reducing coupler (ADS-816).
8. 8" x 8" x 4" reducing tee (ADS-844).
9. 10" split end cap (ADS-1031).
10. 10" x 8" reducing tee (ADS-1044).
11. 10" x 6" reducing tee (ADS-1044).

NOTES:

1 FOUNDATION FTG. TO ENCASE 10" ϕ PE PIPE (REINFORCE AS NECESSARY)

RECEIVED
APR - 3 1996
HYDROLOGY DIVISION

1/8"=1'-0"

FRED C. ARFMAN STATE OF NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER
4-22-96

Date
Designed
Checked

Isaacson & Arfman, P.A.
CONSULTING ENGINEERING ASSOCIATES
Albuquerque, New Mexico

COURTYARD DRAINAGE PLAN

CANINE COUNTRY CLUB & FELINE INN

MARNA LYNN AVE. ALBUQUERQUE, NM

Sheet 2.2.1 of

DRAPHIX INC. 317563