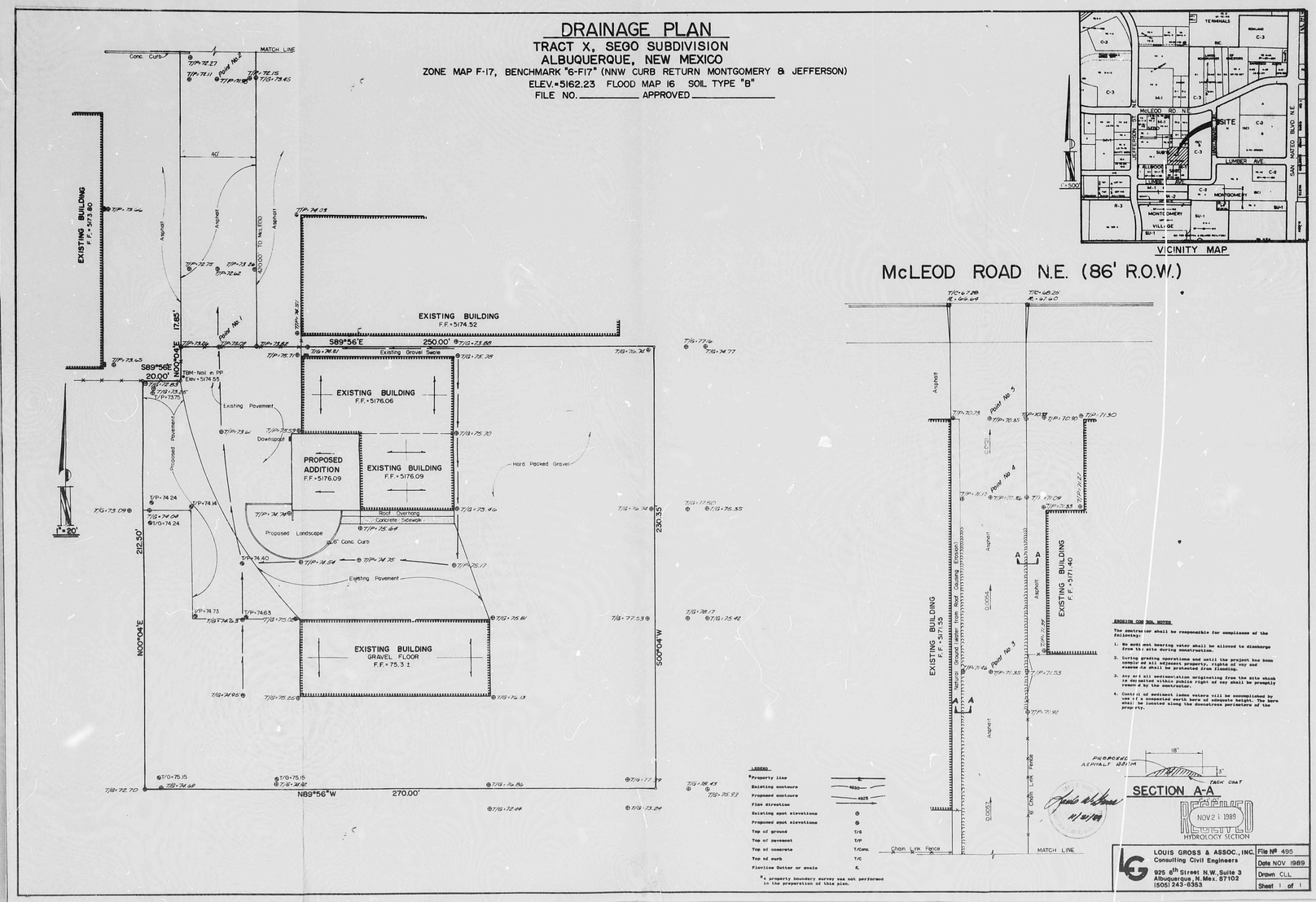
PUBLIC WORKS/HYDROLOGY

F17/D53

DRAINAGE PLAN

TRACT X, SEGO SUBDIVISION
ALBUQUERQUE, NEW MEXICO

ZONE MAP F-17, BENCHMARK "6-F17" (NNW CURB RETURN MONTGOMERY & JEFFERSON)
ELEV.=5162.23 FLOOD MAP 16 SOIL TYPE "B"
FILE NO._____ APPROVED_____



VICINITY MAP

McLEOD ROAD N.E. (86' R.O.W.)

R# 25 DATE 3-19-92 OP KBP

CITY OF ALBUQUERQUE

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PLANS/PLATS ON FILE

FILE DESC: F17/D53

PLANS/PLATS 2

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

DRAINAGE PLAN

TRACT X, SEGO SUBDIVISION
ALBUQUERQUE, NEW MEXICO

ZONE MAP F-17, BENCHMARK "6-F17" (NNW CURB RETURN MONTGOMERY & JEFFERSON)

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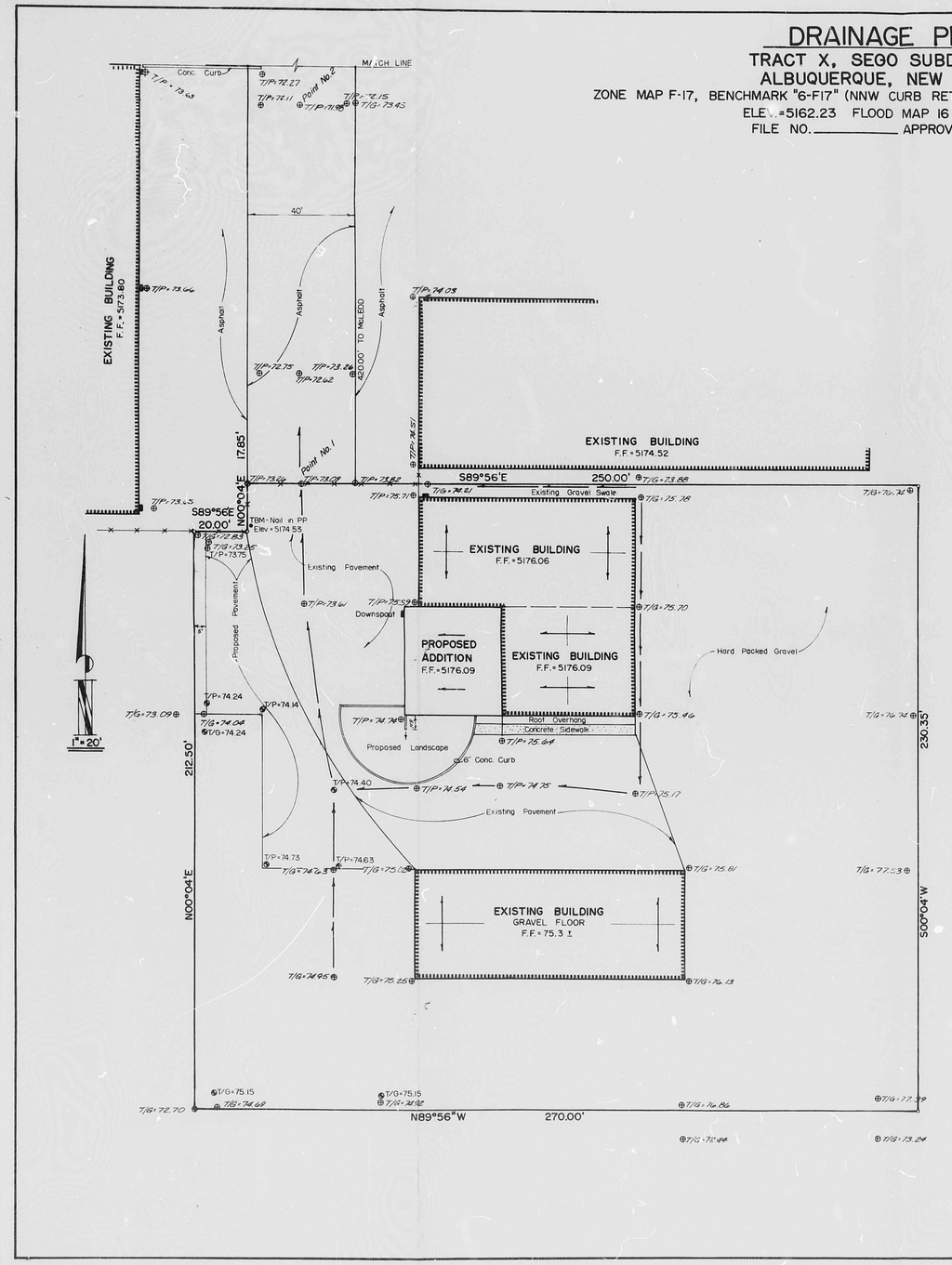
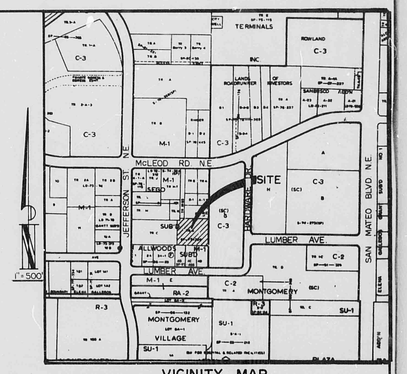
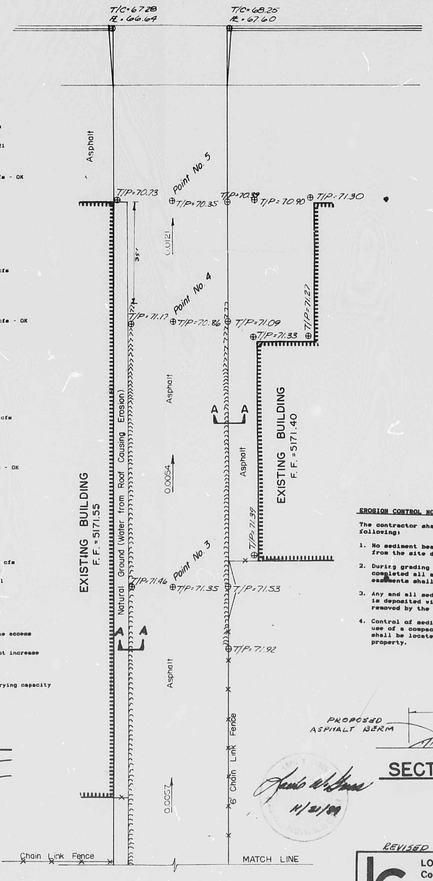




VICINITY MAP

McLEOD ROAD N.E. (86' R.O.W.)



HYDROLOGY

100 yr - 6 hr = 2.2 in I = 2.2 * 6.84 / 3.24 = 4.64 in/hr

Tract "X" Area = 61,838 sf = 1.496 ac

Existing

Roof	= 9,200	* 0.98	= 8,200
Pavement	= 12,640	* 0.95	= 11,848
Hard Packed Gravel	= 40,198	* 0.80	= 32,136
	61,838		52,260

C = 52,260 / 61,838 = 0.85

Q = 0.85 * 4.64 * 1.496 = 5.9 cfs

CN = 92 Direct Run Off = 1.8 in

V = 1.8 / 12 * 61,838 = 9,276 cf

Proposed

Roof	= 10,640	* 0.98	= 9,576
Pavement	= 15,976	* 0.95	= 15,177
Hard packed Gravel	= 35,222	* 0.80	= 28,178
	61,838		52,931

C = 52,931 / 61,838 = 0.85

Q = 0.85 * 4.64 * 1.496 = 5.9 cfs

CN = 92 Direct Run Off = 1.8 in

V = 1.8 / 12 * 61,838 = 9,276 cf

ACCESS LANE TO MC LEOD

Point No. 1

Q (From Tract "X") = 5.9 cfs

A = 11.6 P = 71.3 R = 0.16 $R^{0.67}$ = 0.30

S = 0.012 $S^{0.5}$ = 0.11

Q = 11.6 * 1.486 / 0.017 * 0.30 * 0.11 = 33 cfs - OK

Point No. 2

Area = 51,245 sf = 1.18 cfs

Roof	= 14,825	* 0.98	= 13,343
Asphalt	= 36,420	* 0.95	= 34,599
	51,245		47,942

C = 47,942 / 51,245 = 0.94

Q = 0.95 * 4.64 * 1.18 = 5.2 cfs

Q (Total @ Point No. 2) = 5.9 + 5.2 = 11.10 cfs

A = 46.5 sf P = 35 R = 1.33 $R^{0.67}$ = 1.21

S = 0.006 $S^{0.5}$ = 0.08

Q = 46.5 * 1.486 / 0.017 * 1.21 * 0.08 = 393 cfs - OK

Point No. 3 (With proposed asphalt berm)

Area = 6,075 sf = 0.14 ac

Asphalt	= 3,355	* 0.95	= 3,188
Roof	= 2,720	* 0.98	= 2,448
	6,075		5,636

C = 5,636 / 6,075 = 0.93

Q = 0.93 * 4.64 * 0.14 = 0.60 cfs

Q (Total at Point No. 3) = 11.1 + 0.93 = 12.0 cfs

A = 9.75 P = 30.5 R = 0.32 $R^{0.66}$ = 0.47

S = 0.0055 $S^{0.5}$ = 0.07

Q = 9.75 * 1.486 / 0.017 * 0.47 * 0.07 = 28.0 cfs - OK

Point No. 4 (With proposed asphalt berm)

Area = 7,128 sf = 0.16 ac

Roof	= 2,680	* 0.98	= 2,248
Asphalt	= 3,528	* 0.95	= 3,344
	7,128		6,584

C = 6,584 / 7,128 = 0.92

Q = 0.92 * 4.64 * 0.16 = 0.68 cfs

Q (Total at Point No. 4) = 12.0 + 0.68 = 12.68 cfs

A = 7.5 P = 30.5 R = 0.25 $R^{0.66}$ = 0.40

S = 0.009 $S^{0.5}$ = 0.095

Q = 7.5 * 1.486 / 0.017 * 0.40 * 0.095 = 25 cfs - OK

Point No. 5 (No asphalt berm)

Area = 4,410 sf = 0.10 ac

Roof	= 1,680	* 0.98	= 1,512
Asphalt	= 2,730	* 0.95	= 2,594
	4,410		4,106

C = 4,106 / 4,410 = 0.93

Q = 0.93 * 4.64 * 0.10 = 0.43

Q (Total at Point No. 5) = 12.68 + 0.43 = 13.11 cfs

A = 12.1 P = 46.7 R = 0.26 $R^{0.67}$ = 0.41

S = 0.033 $S^{0.5}$ = 0.18

Q = 12.1 * 1.486 / 0.017 * 0.41 * 0.18 = 78 cfs

CONCLUSIONS

1. The one only way to drain Tract "X" is through the access easement to McLeod Rd.
2. The proposed development on Tract "X" does not increase the storm water run off.
3. No off site flows enter Tract "X".
4. Asphalt berms are needed to increase the carrying capacity of the paved way in the access easement.

LEGEND

*Property line	
Existing contours	4925
Proposed contours	4925
Flow direction	
Existing spot elevations	⊕
Proposed spot elevations	⊕
Top of ground	T/G
Top of pavement	T/P
Top of concrete	T/Conc.
Top of curb	T/C
Flowline Gutter or swale	FL

*A property boundary survey was not performed in the preparation of this plan.

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing water shall be allowed to discharge from the site during construction.
2. During grading operations and until the project has been completed all adjacent property, rights of way and easements shall be protected from flooding.
3. Any and all sedimentation originating from the site which is deposited within public right of way shall be promptly removed by the contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earth berm of adequate height. The berm shall be located along the downstream perimeters of the property.

SECTION A-A

1"=1'-0"

RECEIVED NOV 22 1989 HYDROLOGY SECTION

REVISED 11/20/89

LOUIS GROSS & ASSOC., INC.
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Albuquerque, N. Mex. 87102
(505) 243-6353

File Nº 495	
Date NOV 1989	
Drawn CLL	
Sheet 1 of 1	

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R# 25 DATE 3-19-02 OP 28P

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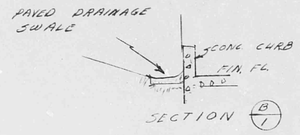
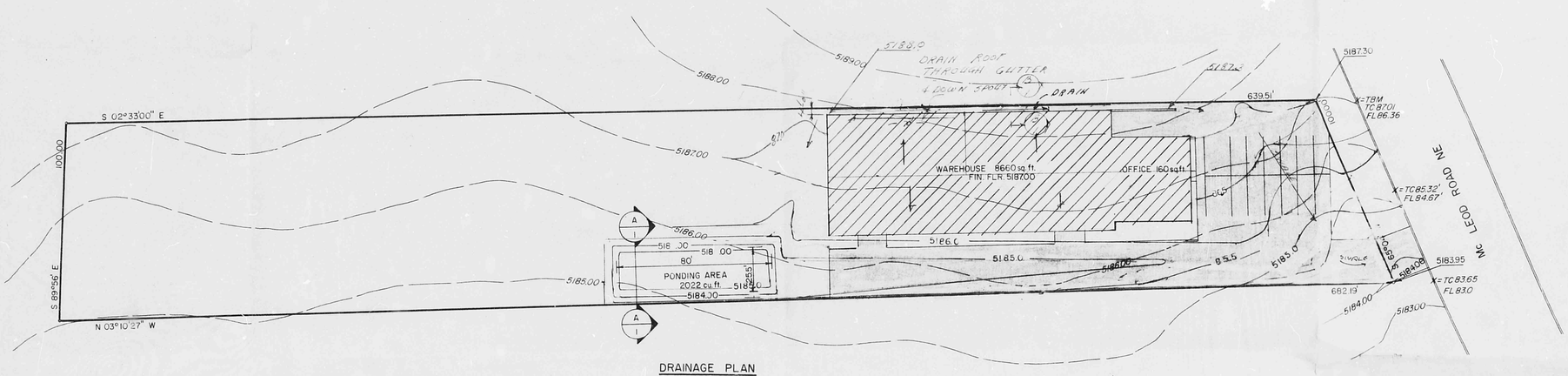
D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D

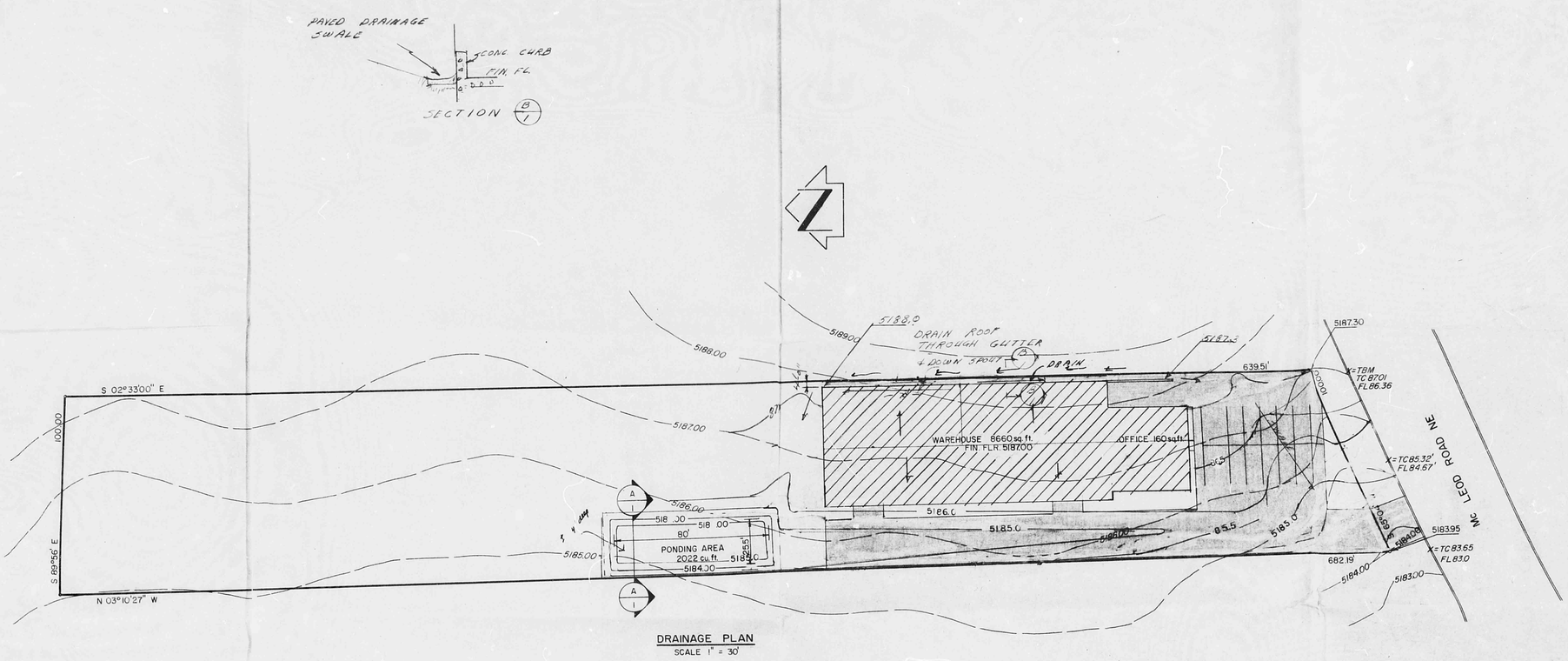
HYDROLOGY

F17/D53

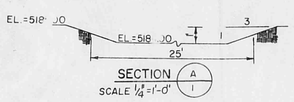
TWO PLANS




S 02°33'00" E
100.00
S 89°56' E
N 03°10'27" W
518.00
518.00
80'
PONDING AREA
2022 cu.ft.
518.30
518.30
518.00
518.00
518.00

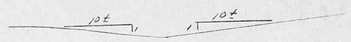


DRAINAGE PLAN
SCALE 1" = 30'

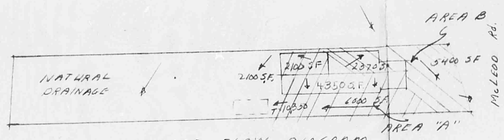


SECTION A/1
SCALE 1/4" = 1'-0"

PONDING FURNISHED								
WIDE	X	LONG	X	DEPTH	=	TOTAL CU. FT.		
255'		80'		1'	=	2040		
PONDING REQUIRED								
BUILDING	+	PAVED AREA	=	TOTAL AREA	X	POND COEFF.	=	TOTAL CU. FT.
8820	+	11400	=	20220	X	0.1	=	2022



TYPICAL SWALE
NO SCALE



DRAINAGE FLOW DIAGRAM

PONDING SUPPLY AREA "A" (ROOF 4350 + 2100 + PAVING 6,000) = 12,450 X .9 X 2.4/12 = 2241 C.F.

STREET RUNOFF AREA B ROOF 2370 + PAVING 5400 = 7,770 X .9 X 2.4/12 = 1400 CF

LEGEND

EXISTING CONTOUR	5186.00
PROPOSED CONTOUR	5186.00
BUILDINGS	
PAVEMENT	
FINISH GRADE	5187.00

DONALD CHAVEZ

SCALE VARIES	TRACT B-3 LANDS OF ROADRUNNER INVESTORS	
DRAWN BY G.A.	DRAINAGE PLAN	
CHECKED BY R.L.H.		
REVISIONS 4/12/79 10/1/79 7/12/79 9/24/79	RAY HARRISON & ASSOC. ALBUQUERQUE NEW MEXICO	