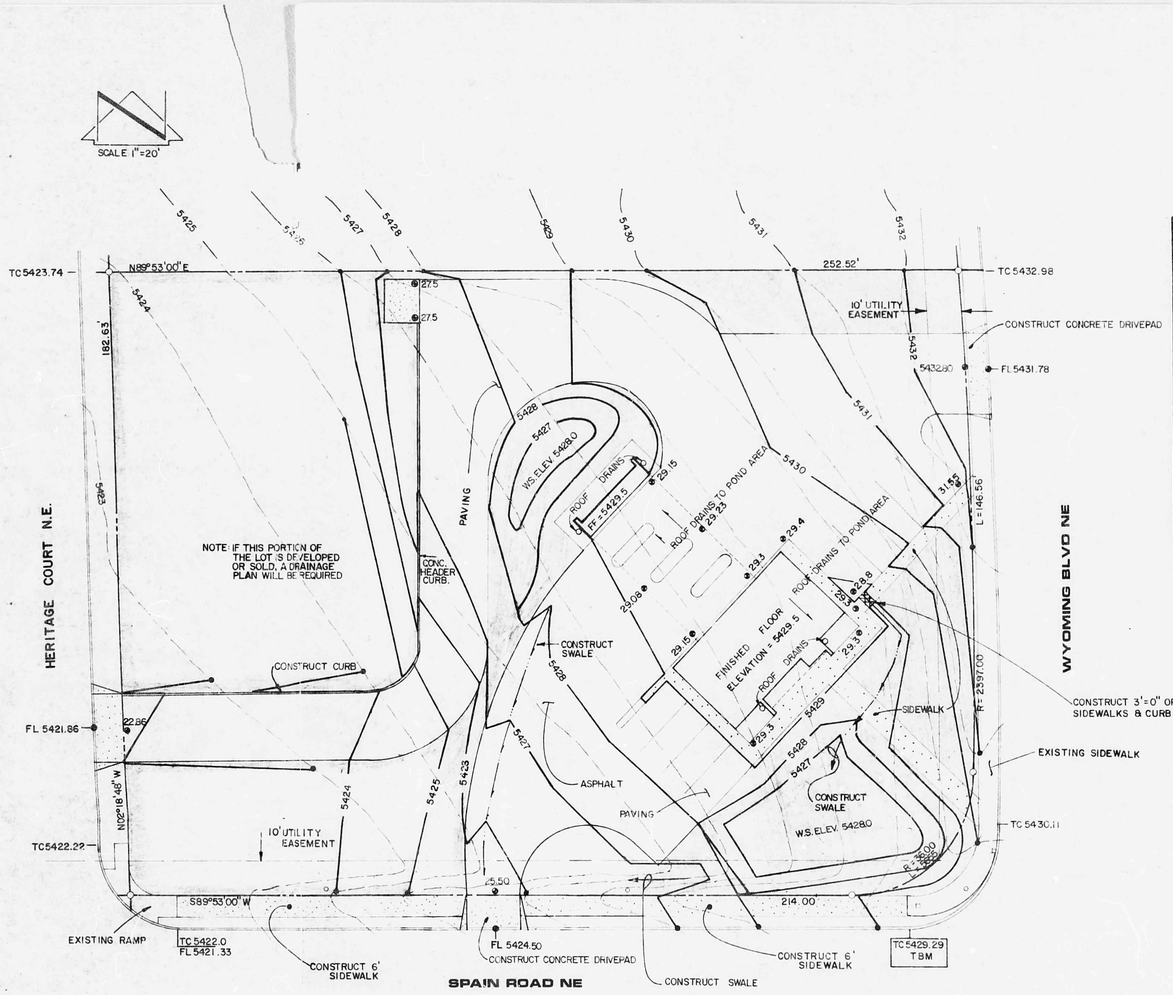
HYDROLOGY

F19/D17
TWO PLANS

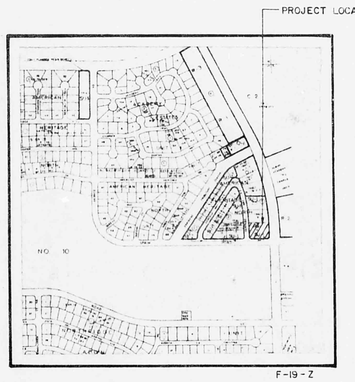
F19/D17

2 Plans



SITE PLAN - GRADING

SCALE: 1" = 20'-0"

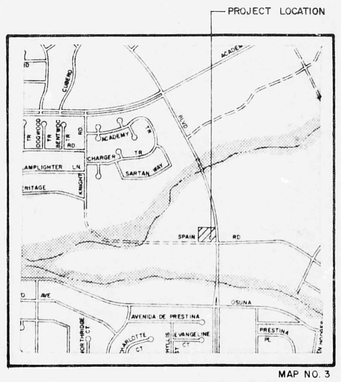


VICINITY MAP

SCALE: 1"= 800'

LEGAL DESCRIPTION

TRACT A, BLOCK 1, AMERICAN HERITAGE NORTH SUBDIVISION



FLOOD HAZARD MAP

SCALE: 1"= 1000'

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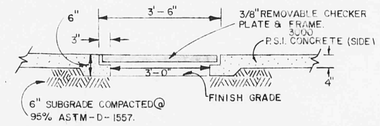
OCT 16 1981

ENGINEERING

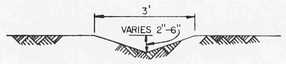
LEGEND

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR



1/C-2 SIDEWALK & CURB OPENING DETAIL

SCALE: 1"=2'



TYPICAL SWALE DETAIL

SCALE: 1"=2'

NOTICE TO CONTRACTORS

1. New Mexico Standard Specifications for Public Works Construction-1978 Edition will be referred to herein as the "Standard Specifications."
2. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for herein, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specifications."
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict arise, the contractor shall notify the engineer or surveyor so that the conflict can be resolved with a minimum amount of delay.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☐ All utilities and utility service lines shall be installed prior to paving.
- ☐ Base/Pill compaction shall be according to specified ASTM test.
- ☐ Tack coat requirements shall be determined by the City Engineer.
- ☐ Sidewalks and wheelchair ramps within the curb returns shall be constructed wherever a new curb return is constructed.
- ☐ If curb is depressed for a driveway, the driveway shall be constructed prior to acceptance of curb and gutter.
- ☑ All storm drainage facilities shall be completed prior to final acceptance.
- ☐ The requestor or developer shall be responsible for repair or replacement of all curb and gutter or sidewalk damaged after approval by the City Engineer of work completed by the Contractor.

THIS DRAWING IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

PROJECT BENCHMARK:

A standard brass cap stamped "3-F19A" set in top of concrete post located at the NW quadrant of the intersection of Wyoming Blvd., N.E. and Osuna Road, N.E. Elevation = 5440.06 feet (M.S.L.D. 1929).

TBM:

Top of concrete curb at the WNW curb return at the intersection of Wyoming Blvd, N.E. and Spain Road, N.E. Elevation = 5429.29 feet (M.S.L.D. 1929)

CONSTRUCTION NOTES:

1. All construction shall comply with The New Mexico Standard Specifications for Public Works Construction and the City of Albuquerque Contract Documents for City-Wide Utilities and Cash Paving No. 30.

Drainage Plan

The following items concerning the Plaza National Bank Branch Drainage Plan are contained hereon:

1. vicinity map
2. flood hazard map
3. grading plan
4. calculations

The proposed building is located in the northwest quadrant of the intersection of Wyoming Boulevard N.E. and Spain Road N.E. The building will be utilized as a branch office for banking with drive-up service and associated parking.

The project site is bordered on three sides by streets. On the east is Wyoming, on the south is Spain Road, and on the west is Heritage Court. The project site is higher than Heritage Court and Spain Road but lower than Wyoming Boulevard. To the north is a Coronado Savings and Loan branch. The drainage from that lot all drains to the west into a pond and eventually into Heritage Court. Therefore, any offsite flows entering the site would be from Wyoming Boulevard. They appear to be minimal and will be routed through the drainage system of the project. The project (1) does not lie in a flood plain, (2) does not lie adjacent to a natural or artificial water course, and (3) has no drainage easements on the property.

The grading plan shows (1) existing contours at 1' 0" intervals, (2) proposed grades indicated by spot elevations and contours, (3) swales, (4) continuity between proposed and existing elevations, (5) that sidewalks are adjacent to the property line and higher than the top of the curb, (6) that runoff will be conveyed into a pond before leaving the site, (7) that retaining walls will not be required, and (8) that erosion will not result from offsite runoff or construction.

The pond will hold in excess of that required. The pond is not greater than 18 inches deep and therefore fencing is not required.

Calculations

East Portion of Property

Area = 165' x 183' = 30195 sf

Impervious Area = 21275 sf = 70%

Pervious Area = 8920 sf = 30%

Composite Curve No = 79(.30)+95(.70) = 90

Plate 4 Farmington

CN 79/90 = 30% ponding

Area to be Retained = 30195 x .30 = 9059 sf

Req'd Pond Volume = 30195 x .30 x 2.5 ÷ 12 = 1887 cf

$$\text{Pond Volume } \frac{3.2 + 0.9}{2}(400)1 + \frac{4.0 + 2.9}{2}(400).5 + \frac{2.9 + 1.3}{2}(400)1 = 2570 \text{ cf}$$

West Portion of Property

Area = 83 x 183 = 15189 sf = 0.35 ac

No Ponding Required. This portion of lot has not changed from undeveloped state.

Spillway Capacity

$Q = 3.33\ Lh^{3/2}$ L = 8.0 ft. h = 0.5 ft.

Q = 9.42 cfs

Orifice Capacity

$V = C_v\sqrt{2gh}$ where h = 1.5 ft. g = 32.2 ft/sec^2 C_v = 0.72

V = 7.08

STATE OF NEW MEXICO — W. L. BURNS NO. 774, R. L. PETERS NO. 789, ALBUQUERQUE N.M. — REGISTERED ARCHITECT

Architect

REGISTERED PROFESSIONAL ENGINEER — STATE OF NEW MEXICO — THOMAS F. MANN — PROFESSIONAL ENGINEER AND LAND SURVEYOR

Engineer

PLAZA NATIONAL BANK WYOMING BRANCH

81-27

PROJECT

THE BURNS/PETERS GROUP

Architects & Planners

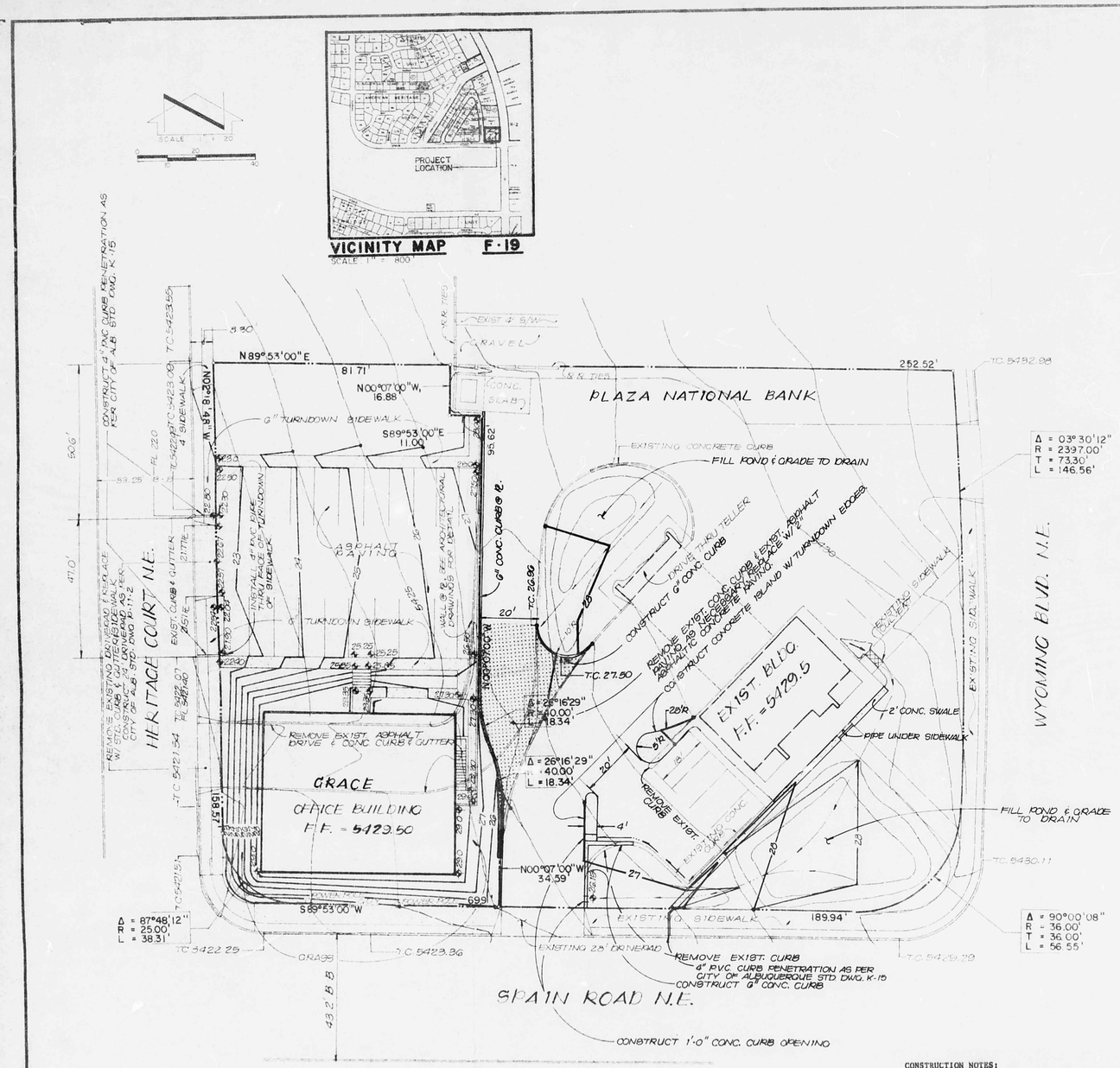
8000 Pennsylvania Circle NE
Albuquerque, New Mexico
87110 505 265 8645

REV. 8-25-81

Date 10 AUG '81

C2

Sheet No.



Drainage Plan

The following items concering the Plaza National Bank Revised Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located at the northwest corner of the intersection of Spain Road N.E. and Wyoming Blvd. N.E. The site is more particularly described as Tract A-1, Block 1, American Heritage North, Unit 3. At present, the site is developed. The adjacent site to the east is currently being developed and will accomodate the development on Tract A-1. This additional work will be done under separate contract.

Based upon a pre-design conference with Mr. Brian G. Burnett, Hydrology Section, on March 10, 1983, downstream capacity exists due to the proximity of the site to the Bear Tributary Arroyo. Because of this, the runoff generated by the developed site will be freely discharged. The discharge of runoff from the site will be via the existing 28' drivepad.

The Grading Plan shows 1) existing and proposed grades indicated by contours at 1'0" intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of the proposed improvements, and 4) the work to be done under separate contract for the adjacent Grace Office Building. As shown by this plan, the proposed improvements include the filling and regrading of the existing retention ponds, and modification to the parking area for traffic circulation. At present, runoff flows from northeast to southwest and drains onto Spain Road N.E. From that point, the runoff turns and flows west to the Bear Tributary Arroyo. This pattern of runoff will not be altered by the revisions.

The Calculations which appear below analyze the drainage condition for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II.

Calculations

Ground Cover Information

1. From SCS Bernalillo Courty Soil Survey, Plate 21:
   EtC Embudo Tijeras Complex and TgB Tijeras Gravelly Fine Sandy Loam
   Hydrologic Soil Group B

2. Existing Condition

   A_{Total} = 29,240 sf = 0.67 Ac

   A_{imp} = 21,275 sf

   % = impervious = 21,275/29,240 = 73%

   'C' = 0.71 (DPM Plate 22.2C-1)

Rational Method

1. Discharge: $Q = CiA$

   where C varies

   $i = P_6 (6.84) T_c^{-0.51} = 5.03$ in/hr

   P_6 = 2.38 in (DPM Plate 22.2D-1)

   T_c = 10 min (minimum)

   A = area = 0.67 Ac

2. Volume: $V = CP_6A(1/12)$

   where C varies

   P_6 = 2.38 in (DPM Plate 22.2 D-1)

   A = 29,240 sf

Existing Condition

$Q_{100} = CiA = 0.71 (5.03) (0.67) = 2.4$ cfs

$V_{100} = CP_6A = 0.71 (2.38/12) 29,240 = 4117$ cf

CONSTRUCTION NOTES:

1 TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.

2 PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

3 ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

PROJECT BENCHMARK:

A standard brass cap stamped "3-F19A" set in top of concrete post located at the NW quadrant of the intersection of Wyoming Blvd. N.E. and Osuna Road N.E. Elevation = 5440.06 feet (MSLD)

TBM:

Top of concrete curb at the WNW curb return at the intersection of Wyoming Blvd., N.E. and Spain Road, N.E. Elevation = 5429.29

LEGAL ADDRESS:

Tract A-1, Block 1, American Heritage North, Unit 3.

3/14/83

BOHANNAN-HUSTON ENGINEERS — DALLAS, N.E. · ALBUQUERQUE · NEW ORLEANS	NO. / DATE / BY / REVISIONS	DESIGNED BY J.G.M. / DRAWN BY M.F. / APPROVED T.T.M.	JOB NO. 30461 / DATE 5 · 83

REVISED GRADING & DRAINAGE PLAN

PLAZA NATIONAL BANK

SHEET 1 OF 1

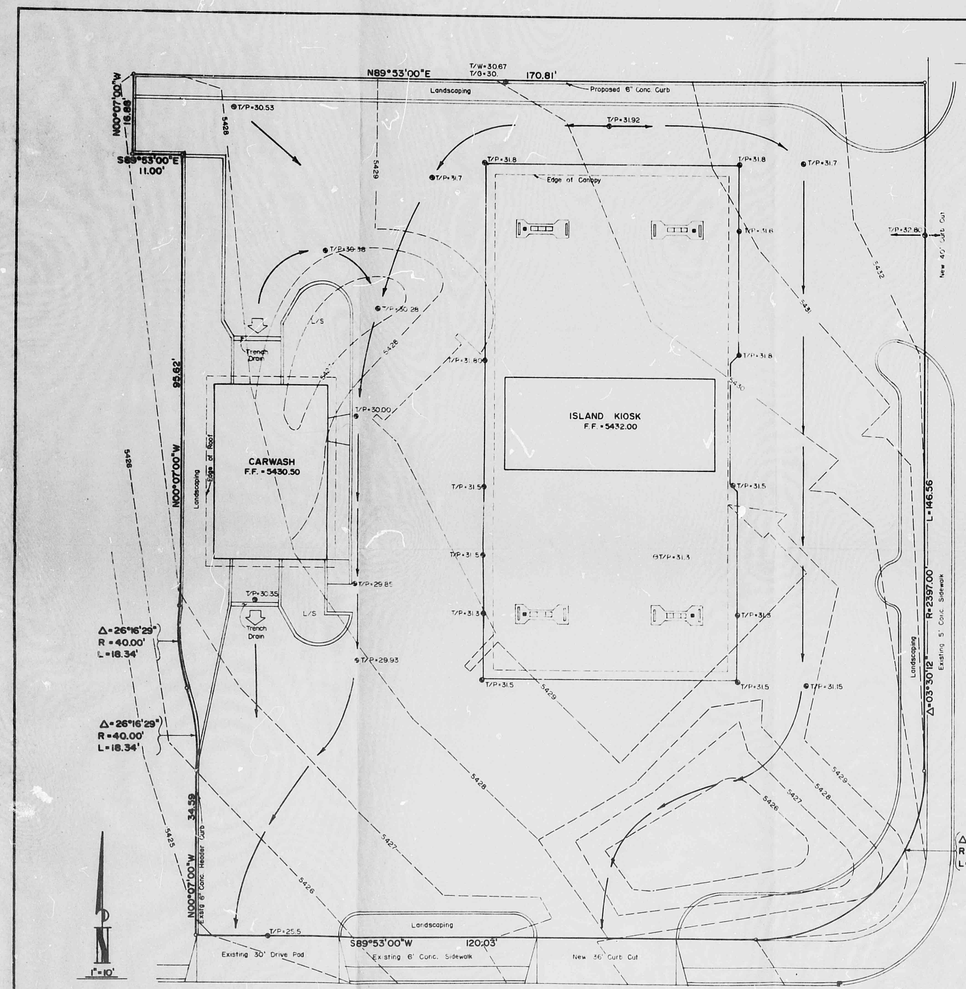
PUBLIC WORKS/HYDROLOGY

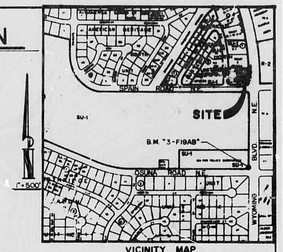
1 OF 2

F19/D17

CONCEPTUAL DRAINAGE PLAN

TRACT A-1, BLOCK I
AMERICAN HERITAGE NORTH, UNIT 3
ALBUQUERQUE, N.M.
ZONE MAP F-19, BENCHMARK "3-F19AB", ELEV.=5440.56
FLOOD MAP 17, SOIL TYPE "B"
F19/ APPROVED_____





HYDROLOGY

100 yr - 6 hr = 2.4 in I = 2.4 X 6.84 / 3.24 = 5.1 in/hr

Area = 29,237 sf = 0.67 ac

Landscape	= 3,298 X 0.25	=	825
Paving	= 20,271 X 0.95	=	19,252
Roof	= 5,666 X 0.90	=	5,099
	29,237		25,251

C = 25,251 / 29,237 = 0.86

Q = 0.86 X 5.1 X 0.67 = 2.9 cfs

CN = 92 Direct Run Off = 1.6 in

V = 1.6 / 12 X 29,237 = 3,898 cf

No off site water enters this site.

All storm water generated on this site will d in to Spain Rd. N.E.

LEGEND

PROPERTY LINE	
EXISTING CONTOURS	5430
PROPOSED CONTOURS	5430
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	E

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JUL 27 1989
HYDROLOGY SECTION

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing waters 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, adjacent property and drainage easements shall be promptly removed by the owner or contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earthen berm of adequate height. The berm shall be located along the downstream perimeters of the property.

LOUIS GROSS & ASSOC., INC.
Consulting Civil Engineers
926 6th Street N.W., Suite 3
Albuquerque, N.Mex. 87102
(505) 243-6363

File Nº 469	
Date July, 1989	
Drawn CLL	
Sheet 1 of 1	

REV 2/6 DATE 3-26-92 DR

CITY OF ALBUQUERQUE

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NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Comm. Exp. 7/14/92

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

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PLANS/PLATS ON FILE

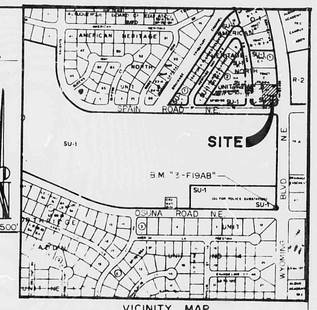
FILE DESC: F19/D17

PLANS/PLATS 5

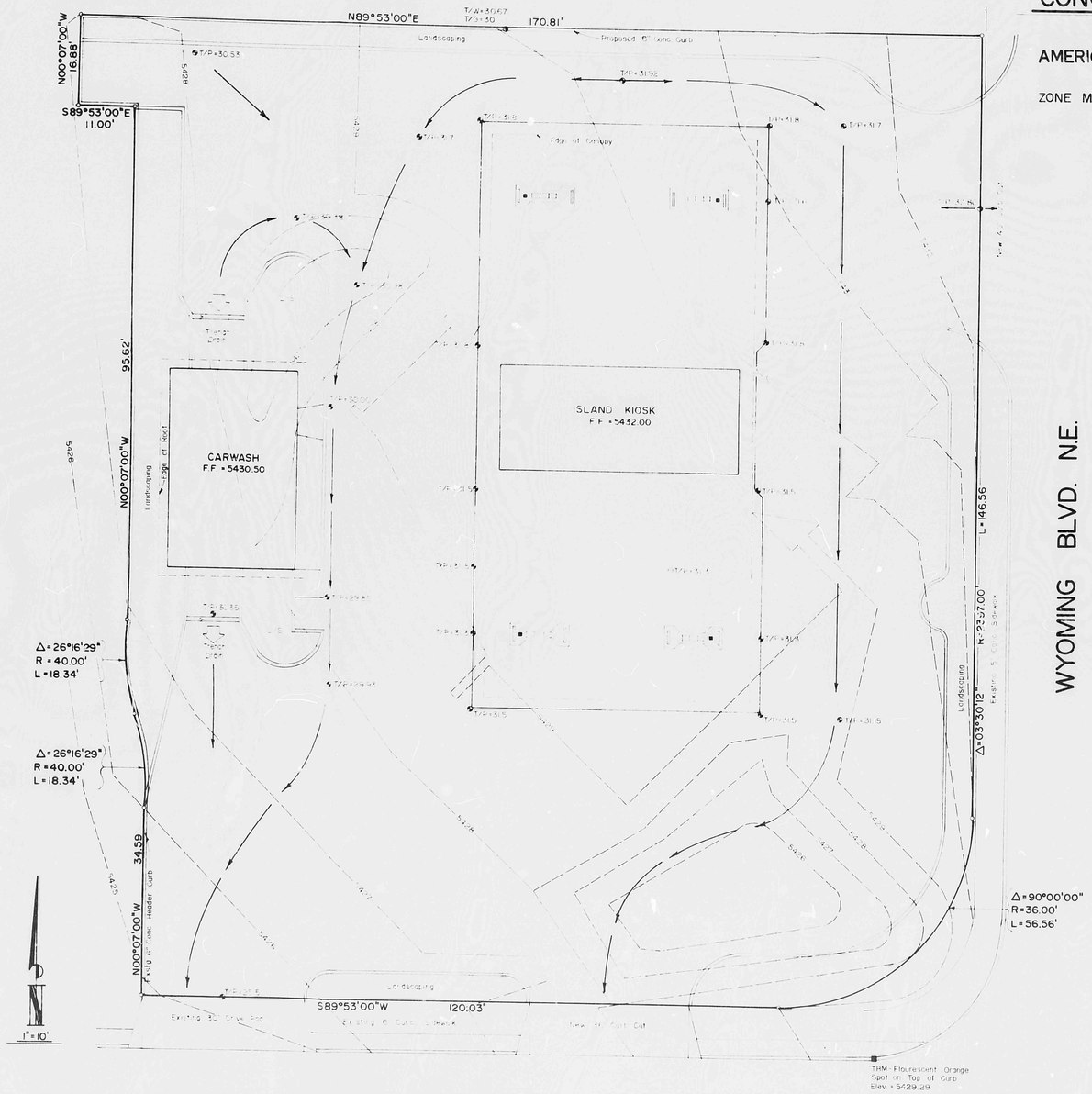
E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

CONCEPTUAL DRAINAGE PLAN

TRACT A-1, BLOCK 1
AMERICAN HERITAGE NORTH, UNIT 3
ALBUQUERQUE, N.M.
ZONE MAP F-19, BENCHMARK "3-F19AB", ELEV.=5440.56
FLOOD MAP 17, SOIL TYPE "B"
F19/ APPROVED_____



VICINITY MAP



WYOMING BLVD. N.E.

HYDROLOGY

100 yr - 6 hr = 2.4 in I = 2.4 X 6.84 / 3.24 = 5.1 in/hr

Area = 29,237 sf = 0.67 ac

Landscape =	3,200 X 0.25 =	800
Paving =	20,371 X 0.95 =	19,352
Roof =	5,666 X 0.90 =	5,099
	29,237	25,251

C = 25,251 / 29,237 = 0.86

Q = 0.86 X 5.1 X 0.67 = 2.9 cfs

CN = 92 Direct Run Off = 1.6 in

V = 1.6 / 12 X 29,237 = 3,898 cf

No off site water enters this site.

All storm water generated on this site will d in to Spain Rd. N.E.

7/25/89

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JUL 27 1989
HYDROLOGY SECTION

LEGEND

PROPERTY LINE	
EXISTING CONTOURS	4930
PROPOSED CONTOURS	4920
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

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing waters 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, adjacent property and drainage easements shall be promptly removed by the owner or contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earthen berm of adequate height. The berm shall be located along the downstream perimeters of the property.

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(505) 243-6353

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PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

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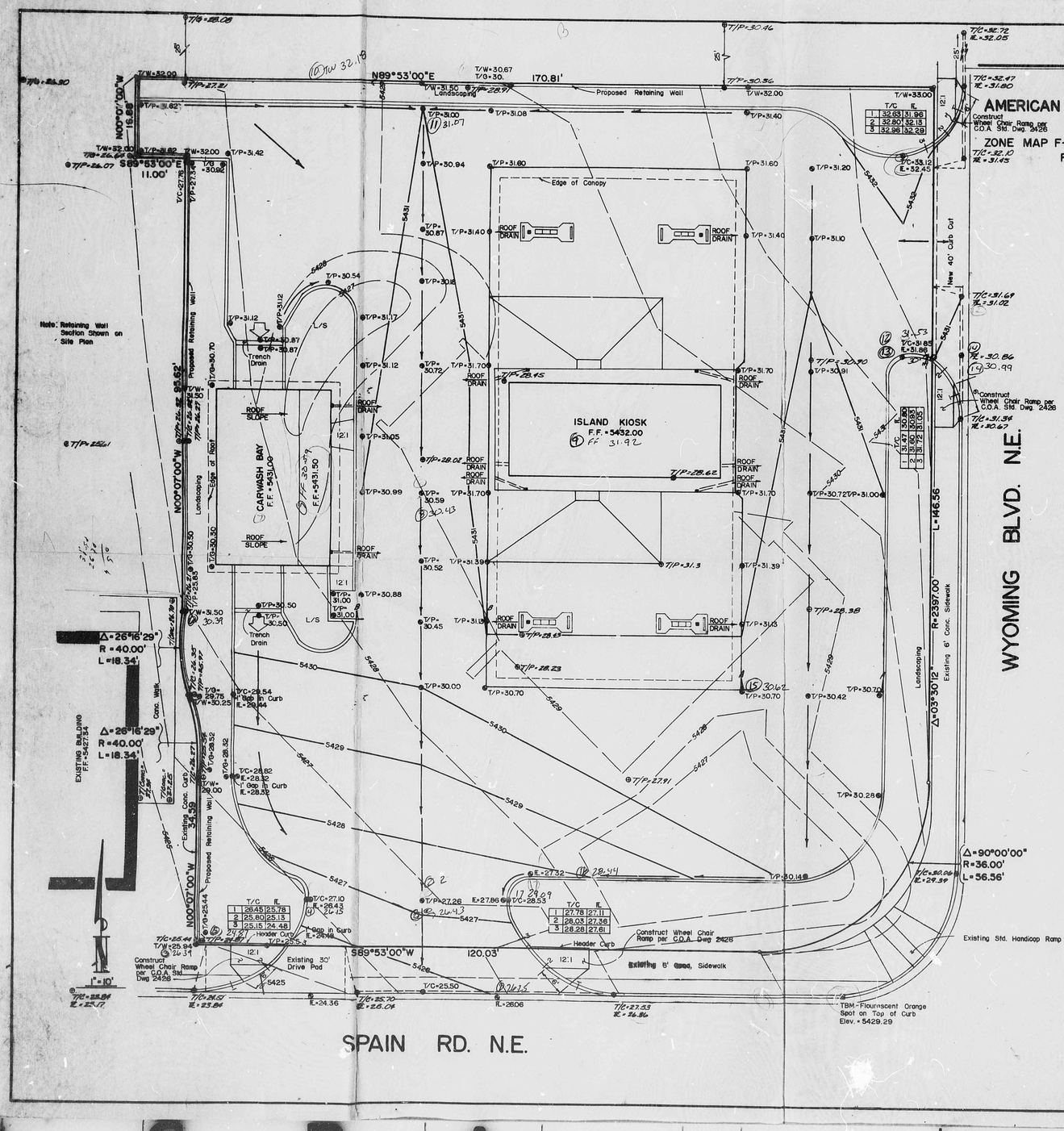
STATE OF NEW MEXICO
07/07/02 Amd

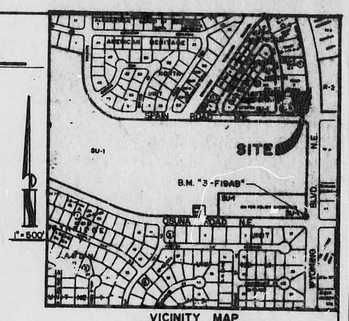
D24 C20 B16 A12 CITY OF ALBUQUERQUE C D

DRAINAGE PLAN

TRACT A-1, BLOCK I
AMERICAN HERITAGE NORTH, UNIT 3
ALBUQUERQUE, N.M.

ZONE MAP F-19, BENCHMARK "3-F19AB", ELEV.=5440.56
FLOOD MAP 17, SOIL TYPE "B"
F19/ APPROVED_____





VICINITY MAP
Zone Map F-20

HYDROLOGY

100 yr - 6 hr = 2.4 in I = 2.4 X 6.84 / 3.24 = 5.1 in/hr

Area = 29,237 sf = 0.67 ac

Landscape =	3,529 X 0.25 =	882
Paving =	18,510 X 0.95 =	17,583
Roof =	7,198 X 0.90 =	6,478
	29,237	25,043

C = 25,043 / 29,237 = 0.86

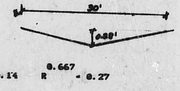
Q = 0.86 X 5.1 X 0.67 = 2.9 cfs

CN = 92 Direct Run Off = 1.6 in

V = 1.6 / 12 X 29,237 = 3,898 cf

SWALE CAPACITIES

Section A - A

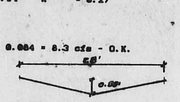


A = 4.2 sf P - 36.5 ft R = 0.14 $R^{0.667}$ = 0.27

S = 0.007 $S^{0.50}$ = 0.084

Q = 4.2 X 1.486 / 0.017 X 0.27 X 0.084 = 8.3 cfs - O.K.

Section B - B



A = 7.7 P = 26 R = 0.275 $R^{0.667}$ = 0.42

S = 0.005 $S^{0.50}$ = 0.07

Q = 7.7 X 1.486 / 0.017 X 0.42 X 0.07 = 20 cfs - O.K.

CONCLUSIONS

1. No off site storm water will enter the site.
2. All storm waters generated on site will exit directly to Spain Rd. N.E. through the driveway.
3. Proposed swales will handle the rate of run off.

HYDROLOGY APPROVAL & INSPECTION

APPROVED FOR BUILDING PERMIT
ENGINEER _____ DATE _____
INSPECTION REQUESTED DATE 7-2-90
APPROVAL DATE 7-3-90 DISAPPROVED _____
SO19 APPROVAL DATE N/A 7-3-90
SURVEY DATE _____
HYDROLOGY BOOK NO./PAGE NO. 89-1 pg 93 #46 (H-1040013)
SURVEYED BY A. Martinez A. Garcia
COMMENTS _____

RECEIVED JAN 1 0 1990 HYDROLOGY SECTION

LEGEND

PROPERTY LINE	
EXISTING CONTOURS	4850
PROPOSED CONTOURS	4850
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	E
TOP PROP. RET. WALL	T/W

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing waters 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, adjacent property and drainage easements shall be promptly removed by the owner or contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earthen berm of adequate height. The berm shall be located along the dormstream perimeters of the property.

Revised for Final Oct. 23, 1989

LOUIS GROSS & ASSOC., INC.
Consulting Civil Engineers
925 6th Street N.W. Suite 3
Albuquerque, N. Mex. 87102
(505) 243-5353

File Nº 469	
Date July, 1989	
Drawn C.L.L.	
Sheet 1 of 1	

PLAN SHOT TWICE ONCE ON LIGHT ONCE ON DARK

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DIRECTOR 11/5/92

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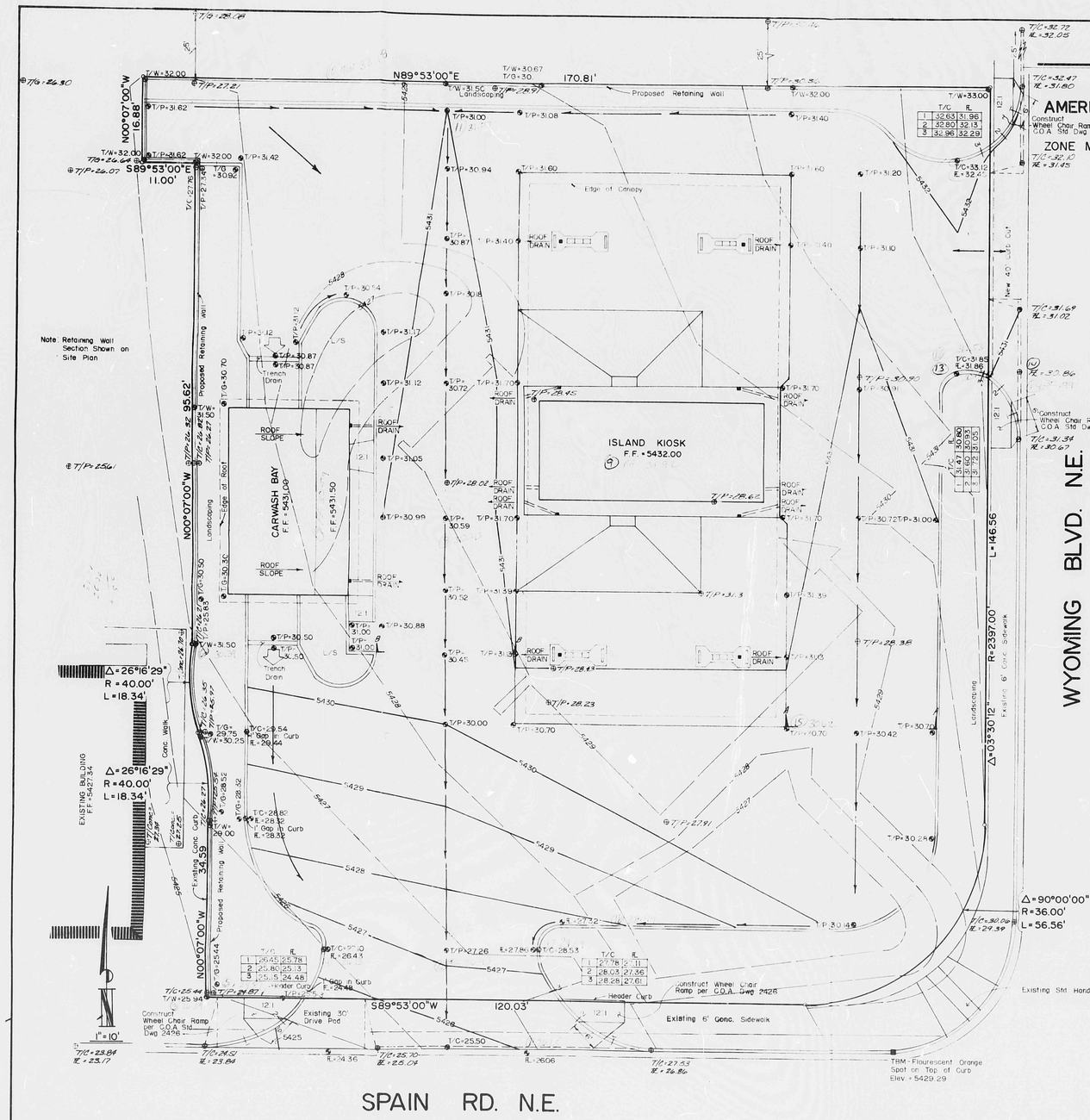
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO

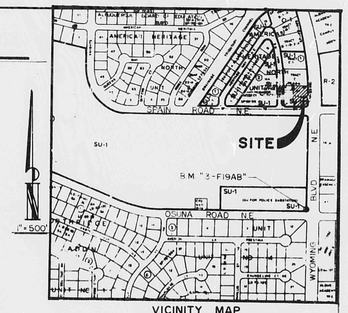
24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D

DRAINAGE PLAN

TRACT A-1, BLOCK 1
AMERICAN HERITAGE NORTH, UNIT 3
ALBUQUERQUE, N.M.

ZONE MAP F-19, BENCHMARK "3-F19AB", ELEV.=5440.56
FLOOD MAP 17, SOIL TYPE "B"
F19/ APPROVED_____





VICINITY MAP
Zone Map F-20

HYDROLOGY

100 yr - 6 hr = 2.4 in I = 2.4 X 6.84 / 3.24 = 5.1 in/hr

Area = 29,237 sf = 0.67 ac

Landscape =	3,529 X 0.25 =	882
Paving =	18,510 X 0.95 =	17,585
Roof =	7,198 X 0.98 =	6,478
	29,237	25,045

C = 25,045 / 25,237 = 0.86

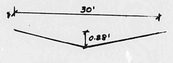
Q = 0.86 X 5.1 X 0.67 = 2.9 cfs

CN = 92 Direct Run Off = 1.6 in

V = 1.6 / 12 X 29,237 = 3,898 cf

SWALE CAPACITIES

Section A - A

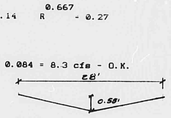


A = 4.2 sf P = 30.5 ft R = 0.14 $R^{0.667}$ = 0.27

S = 0.007 $S^{0.50}$ = 0.084

Q = 4.2 X 1.486 / 0.017 X 0.27 X 0.084 = 8.3 cfs - O.K.

Section B - B



A = 7.7 P = 28 R = 0.275 $R^{0.667}$ = 0.42

S = 0.005 $S^{0.50}$ = 0.07

Q = 7.7 X 1.486 / 0.017 X 0.42 X 0.07 = 20 cfs - O.K.

CONCLUSIONS

1. No off site storm water will enter the site.
2. All storm waters generated on site will exit directly to Spain Rd. N.E. through the driveway.
3. Proposed swales will handle the rate of run off.

7/25/89

HYDROLOGY APPROVAL & INSPECTION

7-2-90

7-3-90
N/A

7-3-90
89-1 pg 93 #46
A. Garcia

A. Martinez

RECEIVED JAN 1990 HYDROLOGY SECTION

LEGEND

PROPERTY LINE	
EXISTING CONTOURS	4930
PROPOSED CONTOURS	4920
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	IE
TOP PROP. RET. WALL	T/W

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing waters 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, adjacent property and drainage easements shall be promptly removed by the owner or contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earthen berm of adequate height. The berm shall be located along the downstream perimeters of the property.

Revised for Final Oct. 23, 1989

LOUIS GROSS & ASSOC., INC.
Consulting Civil Engineers
925 6th Street N.W. Suite 3
Albuquerque, N. Mex. 87102
(505) 243-6353

File Nº 469	
Date July, 1989	
Drawn CLL	
Sheet 1 of 1	

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 26 DATE 3-26-92 OP

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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
07/07/92 Bond

D 24 C 20 B 16 A 12

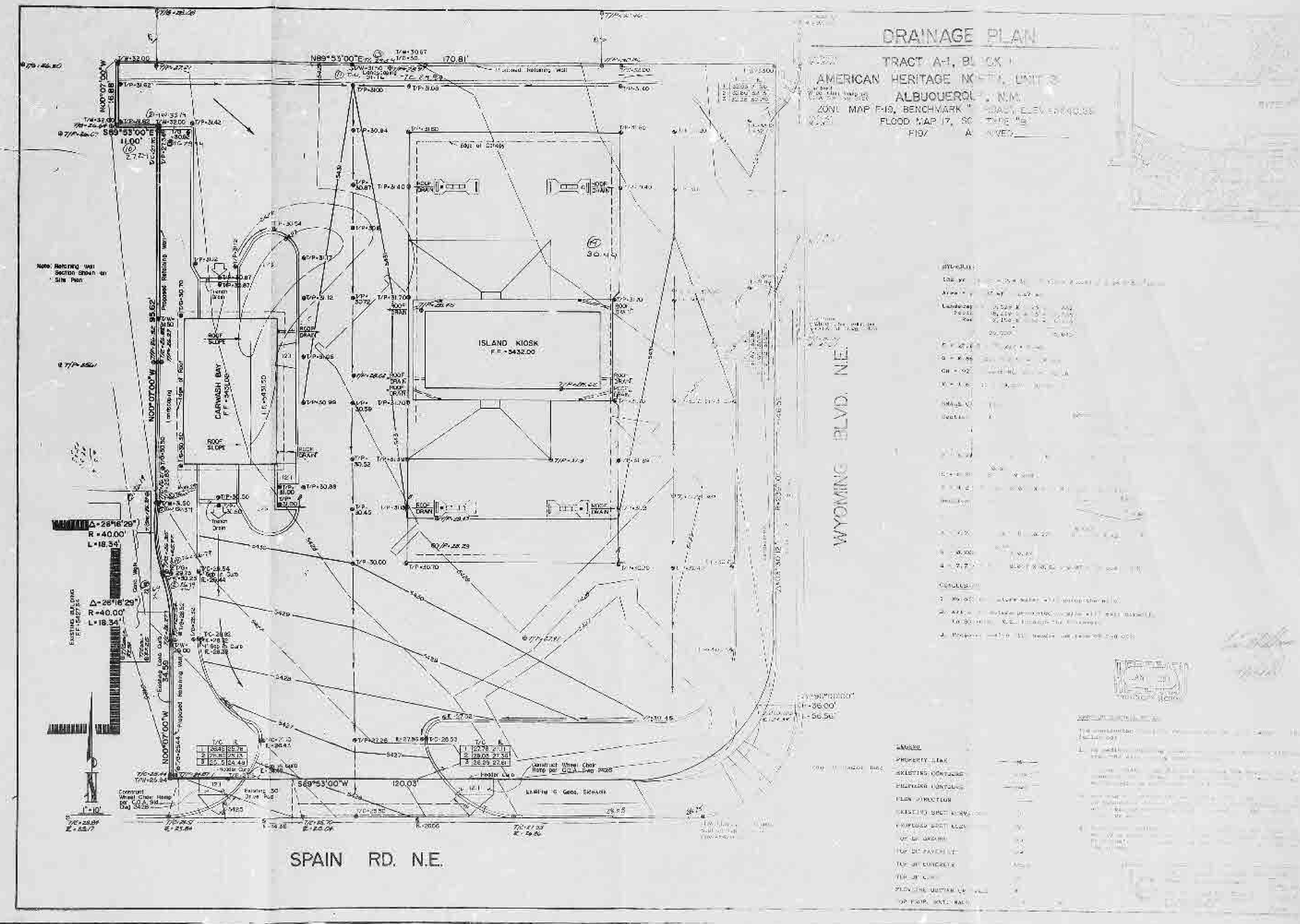
CITY OF ALBUQUERQUE C D

PUBLIC WORKS/HYDROLOGY 2 OF 2

F19/D17

DRAINAGE PLAN

TRACT A-1, BLOCK 1
AMERICAN HERITAGE INDUSTRIAL UNIT 2
ALBUQUERQUE, N.M.
ZONE MAP F-19, BENCHMARK
FLOOD MAP 17, SC
F107 A



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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Robin Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 4-6-92

C 20 B 6 A 12

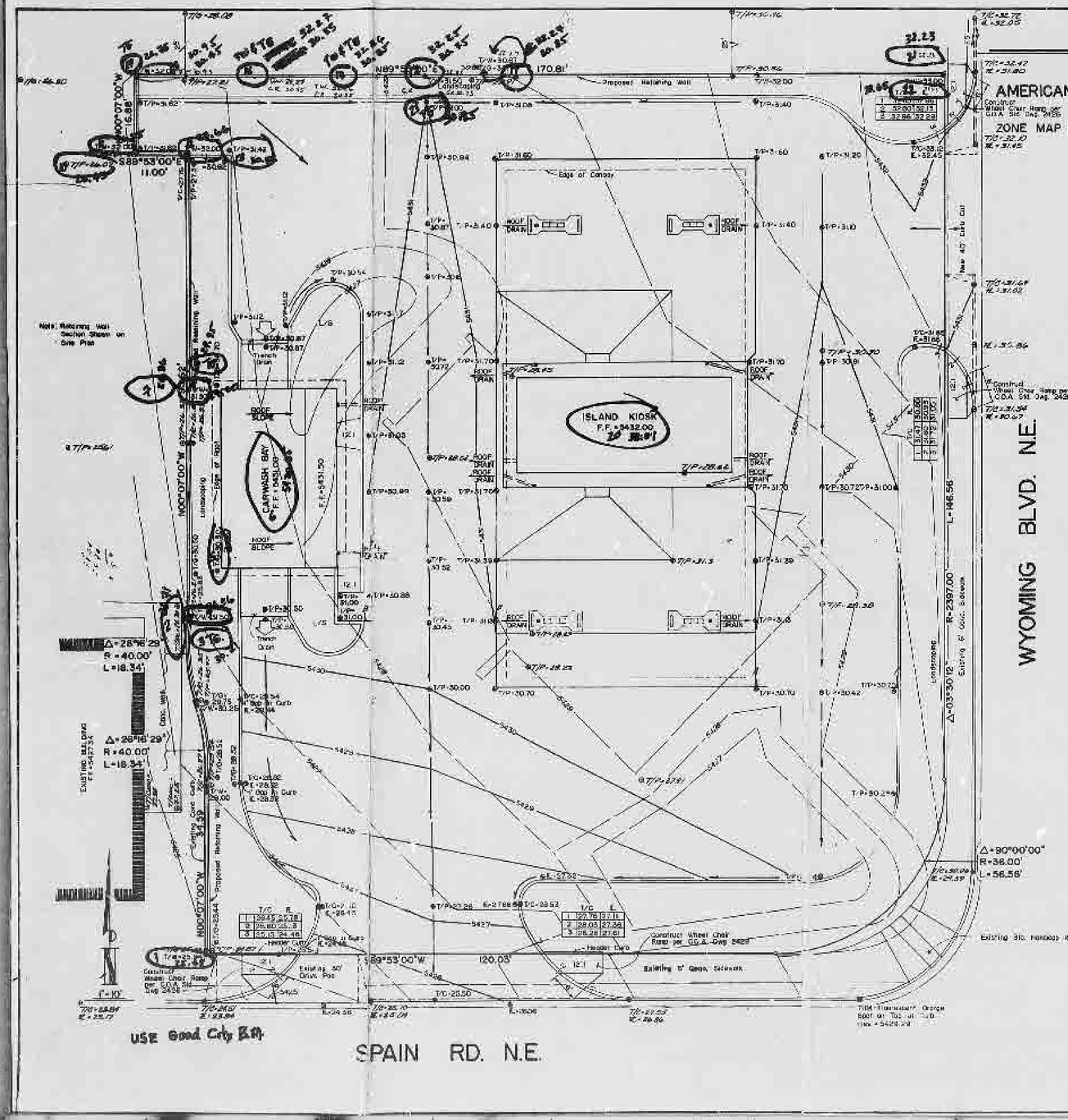
CITY OF ALBUQUERQUE

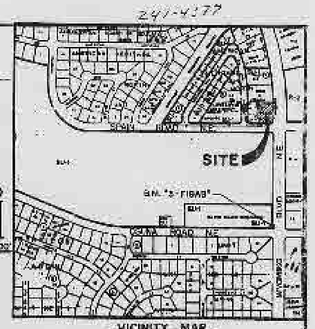
C

241-4377

DRAINAGE PLAN

TRACT A-1, BLOCK 1
AMERICAN HERITAGE NORTH, UNIT 3
ALBUQUERQUE, N.M
ZONE MAP F-19, BENCHMARK "3-F19A3", ELEV.=5440.56
FLOOD MAP 17, SOIL TYPE "B"
F19/ APPROVED_____





HYDROLOGY

100 yr - 6 hr - 2.4 in I = 2.4 X 0.84 / 3.24 = 5.1 in/hr

Area = 25,237 sf = 0.57 ac

Landscape	3,549 X 0.25 =	882	
Paving	18,316 X 0.90 =	17,582	
Roof	7,192 X 0.90 =	6,478	
	29,207	25,942	

C = 25,942 / 29,207 = 0.88

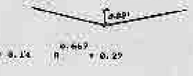
Q = 0.88 X 5.1 X 0.57 = 2.9 cfs

CN = 92 Direct Run Off = 1.6 in

V = 1.6 / 12 X 29,207 = 3,898 cf

SWALE CAPACITIES

Section A - A



A = 4.2 sf P = 20.8 ft R = 0.14 $R^{0.667}$ = 0.27

S = 0.007 $S^{0.5}$ = 0.084

Q = 4.2 X 1.486 / 0.017 X 0.27 X 0.084 = 9.3 cfs - O.K.

Section B - B

A = 7.7 P = 28 R = 0.275 $R^{0.667}$ = 0.42

S = 0.005 $S^{0.5}$ = 0.07

Q = 7.7 X 1.486 / 0.017 X 0.42 X 0.07 = 38 cfs - O.K.

CONCLUSIONS

1. No off site storm water will enter the site.
2. All storm waters generated on site will exit directly to Spain Rd. N.E. through the driveway.
3. Proposed swales will handle the rate of run off.

RECEIVED
JAN 1990
HYDROLOGY SECTION

EROSION CONTROL NOTES

The contractor shall be responsible for compliance of the following:

1. No sediment bearing waters 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, adjacent property and drainage easements shall be promptly removed by the owner or contractor.
4. Control of sediment laden waters will be accomplished by use of a compacted earthen berm of adequate height. The berm shall be located along the downstream perimeter of the property.

Revised to Hydr. Oct. 25, 1989

LEGEND

PROPERTY LINE	
EXISTING CONTOURS	5400
PROPOSED CONTOURS	5400
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	E
TOP PROP. RET. WALL	T/W

HYDROLOGY APPROVAL & INSPECTION
APPROVED FOR GRADING PERMIT
ENGINEER _____ DATE _____
INSPECTION REQUESTED DATE _____
APPROVAL DATE _____ DISAPPROVED _____
SCIP APPROVAL DATE _____
GRADING DATE 5/25/90
HYDROLOGY BOOK NO/PAGE NO Hydro #3
INSPECTOR BY City Survey Crew
COMMENTS _____

LOUIS GROSS & ASSOC., INC.
Consulting Civil Engineers
925 8th Street N.W., Suite 3
Albuquerque, N.Mex. 87102
(505) 243-3303

File No. 459	
Date July 19th	
Drawn CLL	
Sheet 1 of	

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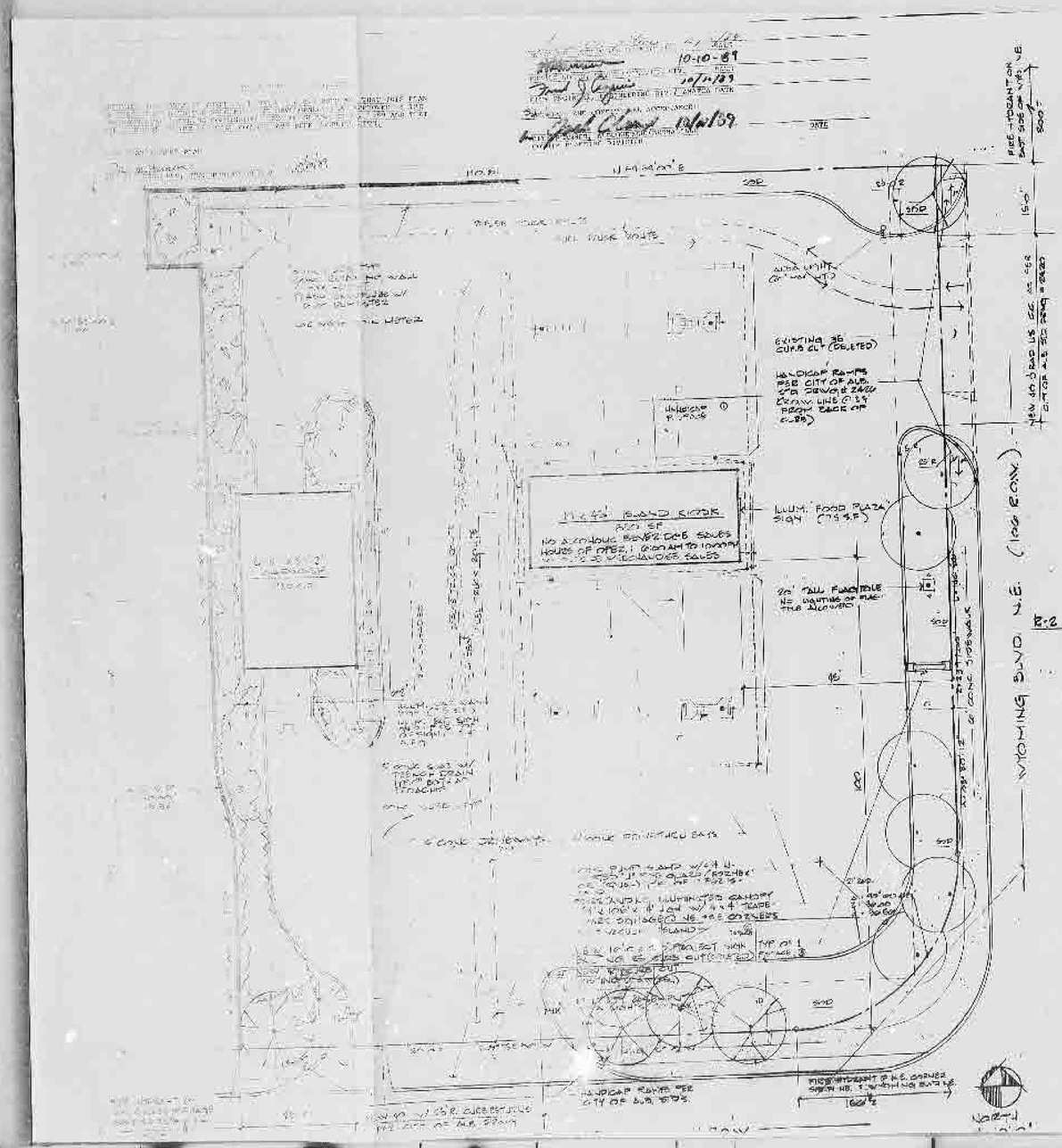
DIRECTOR

NOTARY PUBLIC
OFFICIAL SEAL
Richard Duran
NOTARY PUBLIC
STATE OF NEW MEXICO

B24 C20 B18 A12 CITY OF ALBUQUERQUE C



AMENDED SITE DEVELOPMENT PLAN

Z-76-172.4

ADDRESS: 3201 WYOMING BLVD. NE.
LEGAL DESCRIPTION: TRACT A-1, BLOCK 1, AMERICAN HERITAGE NORTH SUBDIVISION, ALBUQ., N.M.
ZONING: SU-1 PRD C-1 + C-1 USES
ZONE ATLAS PAGE NO.: E-19-Z
SITE AREA: 0.872 ACRES

CHANGES TO ORIGINAL:

1. REMOVE OFFICE BLDG + DRIVETHRU CANOPY FOR REPLACEMENT BY 850 SF CONVENIENCE STORE, 914 SF CARWASH + RR 6, & 2 NPD PUMP SERVICE STA W/ CANOPY
2. ADD 2'-0" FILL TO NORTHERN PORTION OF SITE
3. INSTALL CONCRETE RETAINING WALL @ WEST PL + PORTION OF NORTH PL
4. ADD STREET TREES ALONG WYOMING ST. + SPAIN ST.
5. ENLARGE WYOMING 36' CURB CUT TO 40' RADIUS CURB CUT
6. DELETE 36' CURB CUT @ SPAIN NE.
7. ADD 40' RADIUSED CURB CUT @ SPAIN NE.

PROJECT: CONVENIENCE STORE, CARWASH + GAS PUMPS FOR ROBERTS OIL CO.

ROGER CINELLI ARCHITECTURE · CONSTRUCTION P.O. BOX 365 TIJERAS, NEW MEX. 87059 281-3209

DATE: JULY '89
REV. SEPT. '89

SHEET 1 OF 3

Z-76-172-4

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