

RECEIVED
APR 20 2001
HYDROLOGY SECTION

LEGAL DESCRIPTION

THE SITE IS LOCATED ON TRACT 20, SEC 2, R2E, T10N OF BERNALILLO COUNTY ZONE ATLAS MAP G-11-Z. A DETAILED DESCRIPTION IS AS FOLLOWS:
THE SITE IS LOCATED ON TRACT 20 OF CORONA DEL SOL, A SUBDIVISION IN BERNALILLO COUNTY, NEW MEXICO, AS REFLECTED ON THE MAP FILED BY THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON JULY 25, 1961, TOGETHER THE WEST 1/2 OF THE NORTHERLY VACATED ALLEY ADJACENT THERETO, IN THE MAP BOOK D3 FOLIO 10.

THE EXISTING SITE CONSISTS OF 1.2 ACRES OF UNDEVELOPED AND UNCOMPACTED SURFACE. THE PARCEL SLOPES FROM SOUTH TO NORTH WITH A SLOPE LESS THAN 0.5 PERCENT.

FLOOD HAZARD: THE SITE IS LOCATED WITHIN ZONE "X", COMMUNITY PANEL NO. 350002 0327D, DATED SEPTEMBER 20, 1996, AND IS NOT WITHIN A SPECIAL FLOOD HAZARD BOUNDARY AS INDICATED BY FEMA FLOOD INSURANCE RATE MAPS (FIRM).

DESIGN CRITERIA

THE DESIGN CRITERIA WAS BASED ON SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME 2, JANUARY 1993.

EXISTING DRAINAGE CONDITION

THE SITE IS LOCATED WITHIN THE PRECIPITATION ZONE 1. AT PRESENT THE THE RUNOFF FROM THE SITE IS A SHEET FLOW TO THE NORTH.
LOT AREA = 1.2 ACRES, AND EXCESS PRECIPITATION FOR LAND TREATMENT A, ZONE 1, IS 0.44 FROM TABLE A-8 DPM, PAGE 22-13
VOLUME = 1.2 AC * 0.44 / 12 = 0.044 ACRE-FT. = 1916 CF

FOR THE UNDEVELOPED CONDITION THE PEAK DISCHARGE WAS DETERMINED AS FOLLOWS: LOT AREA = 1.2 ACRES, AND PEAK DISCHARGE FOR LAND TREATMENT A, ZONE 1, IS 1.29 FROM TABLE A-9 DPM, PAGE 22-15
 $Q_p = 1.2 \text{ AC} * 1.29 \text{ CFS/ACRE} = 1.55 \text{ CFS}$

PROPOSED DRAINAGE CONDITION

THE 10 YR AND 100 YEAR 24 HOUR VOLUMES ARE DETERMINED AS FOLLOWS:
10 YEAR

LOT AREA = 1.2 ACRES, AND EXCESS PRECIPITATION FOR LAND TREATMENT B AND D ZONE 1, ARE 0.22 AND 1.24 FROM TABLE A-8 DPM, PAGE 22-13
WEIGHTED $E = (E_{bAb} + E_{dAd}) / (A_{bAb} + A_{dAd}) = (0.22 * 0.5 + 1.24 * 0.7) / 1.2 = 0.815$ EQN. A-5, DPM, PAGE 22-14, VOLUME = WEIGHTED $E * (A_{bAb} + A_{dAd}) / 12 = 0.0815$ ACRE-FT
EQN. A-6, DPM, PAGE 22-14

FOR 24-HOUR STORM

VOLUME(1440) = VOLUME(360) + $A_d * (P_{1440} - P_{360})$ EQN. A-7, DPM, PAGE 22-14, WHERE $P_{1440} = 2.66$ INCHES, $P_{360} = 2.20$ INCHES TABLE A-2, DPM, PAGE 22-8

VOLUME(1440) = $0.0815 + 0.7 * (2.66 - 2.20) / 12 = 0.108$ ACRE-FT. = 4719 CF
EQN. A-7, DPM, PAGE 22-14

100 YEAR

LOT AREA = 1.2 ACRES, AND EXCESS PRECIPITATION FOR LAND TREATMENT B AND D ZONE 1, ARE 0.67 AND 1.97 FROM TABLE A-8 DPM, PAGE 22-13
WEIGHTED $E = (E_{bAb} + E_{dAd}) / (A_{bAb} + A_{dAd}) = (0.67 * 0.5 + 1.97 * 0.7) / 1.2 = 1.43$ EQN. A-5, DPM PAGE 22-14.

VOLUME = WEIGHTED $E * (A_{bAb} + A_{dAd}) / 12 = 0.1428$ ACRE-FT EQN. A-6, DPM, PAGE 22-14

FOR 24-HOUR STORM

VOLUME(1440) = VOLUME(360) + $A_d * (P_{1440} - P_{360})$ EQN. A-7, DPM, PAGE 22-14
WHERE $P_{1440} = 2.66$ INCHES, $P_{360} = 2.20$ INCHES TABLE A-2, DPM, PAGE 22-8
VOLUME(1440) = $0.1428 + 0.7 * (2.66 - 2.20) / 12 = 0.169$ ACRE-FT. = 7390 CF
EQN. A-7, DPM, PAGE 22-14

FOR THE DEVELOPED CONDITION THE LAND TREATMENT DISTRIBUTION IS AS FOLLOWS: $Q_b = 2.03$, $Q_d = 4.37$ FROM TABLE A-9 DPM, PAGE 22-15
 $Q_p = Q_a * A_a + Q_b * A_b + Q_c * A_c + Q_d * A_d$ (EQUATION a-10 DPM, PAGE 22-16)

	AREA	LAND TREATMENT	UNIT PEAK DISCHARGE
LANDSCAPING	Ab = 0.50 AC	B	1.015
PAVEMENT/ROOF	Ad = 0.70 AC	D	3.059
			Q100 = 4.10 CFS

CURB DESIGN

FOR THE MOUNTABLE CURB CHANNELS SHOWN BELOW THE CAPACITY WAS DETERMINED USING MANNING'S EQUATION AS FOLLOWS:

$$V = 1.49 * S^{0.5} * R_h^{0.67} / n$$

$$Q = 1.49 * S^{0.5} * R_h^{0.67} * A / n$$

WHERE n = MANNING'S ROUGHNESS COEFFICIENT = 0.016 FOR CONCRETE AND ASPHALT

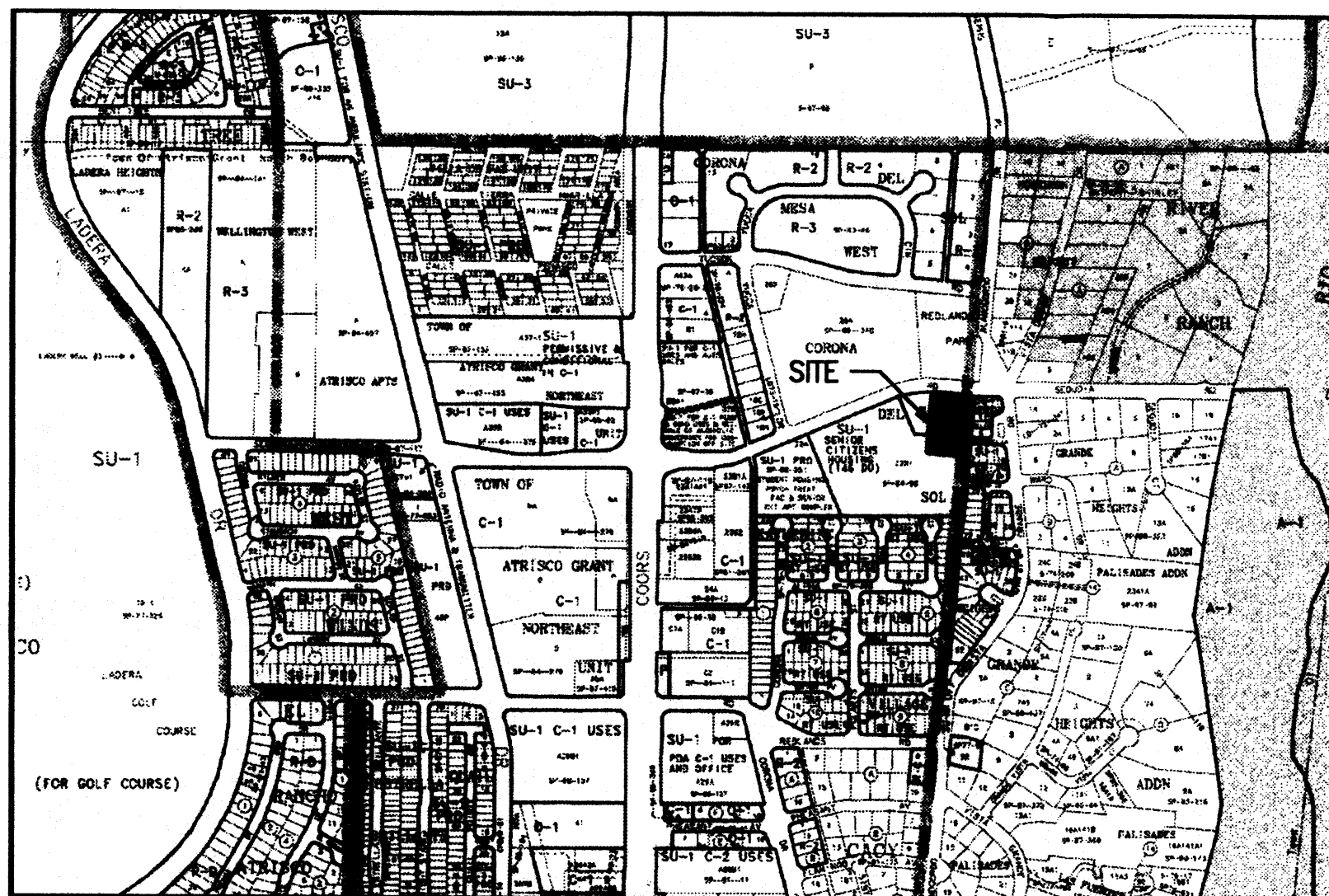
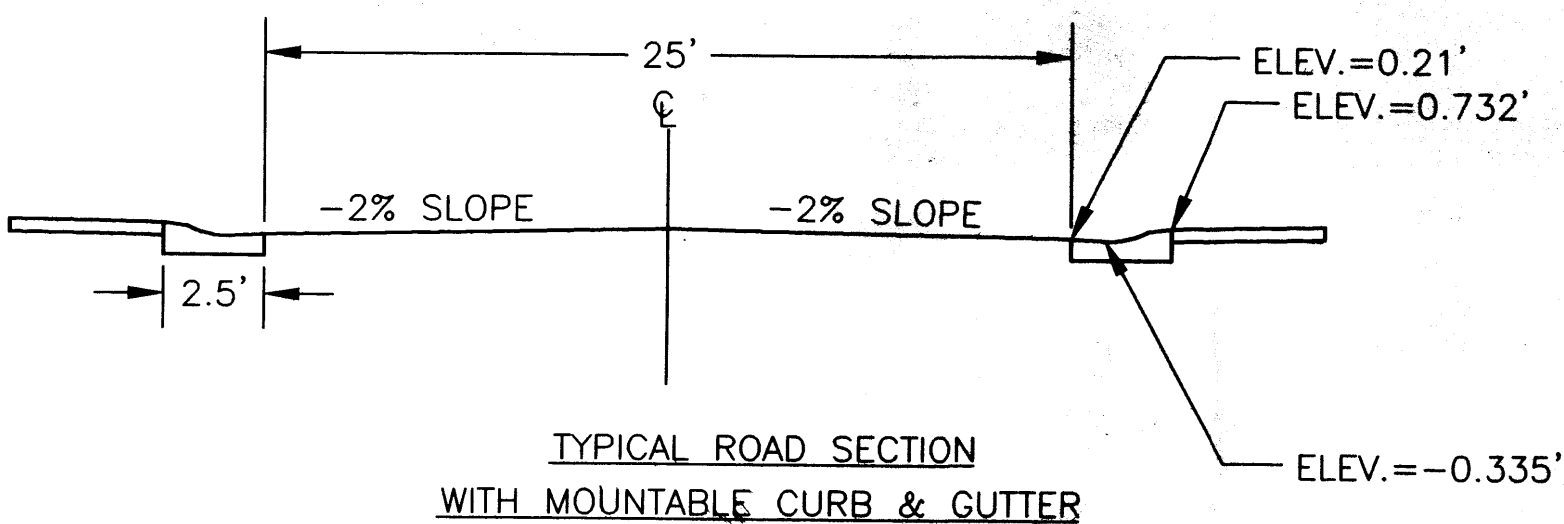
S = SLOPE OF THE CHANNEL = 0.5%

A = AREA OF THE CHANNEL = 1.66 SF.

WP = WETTED PERIMETER = $WP = 12.85$ FT.

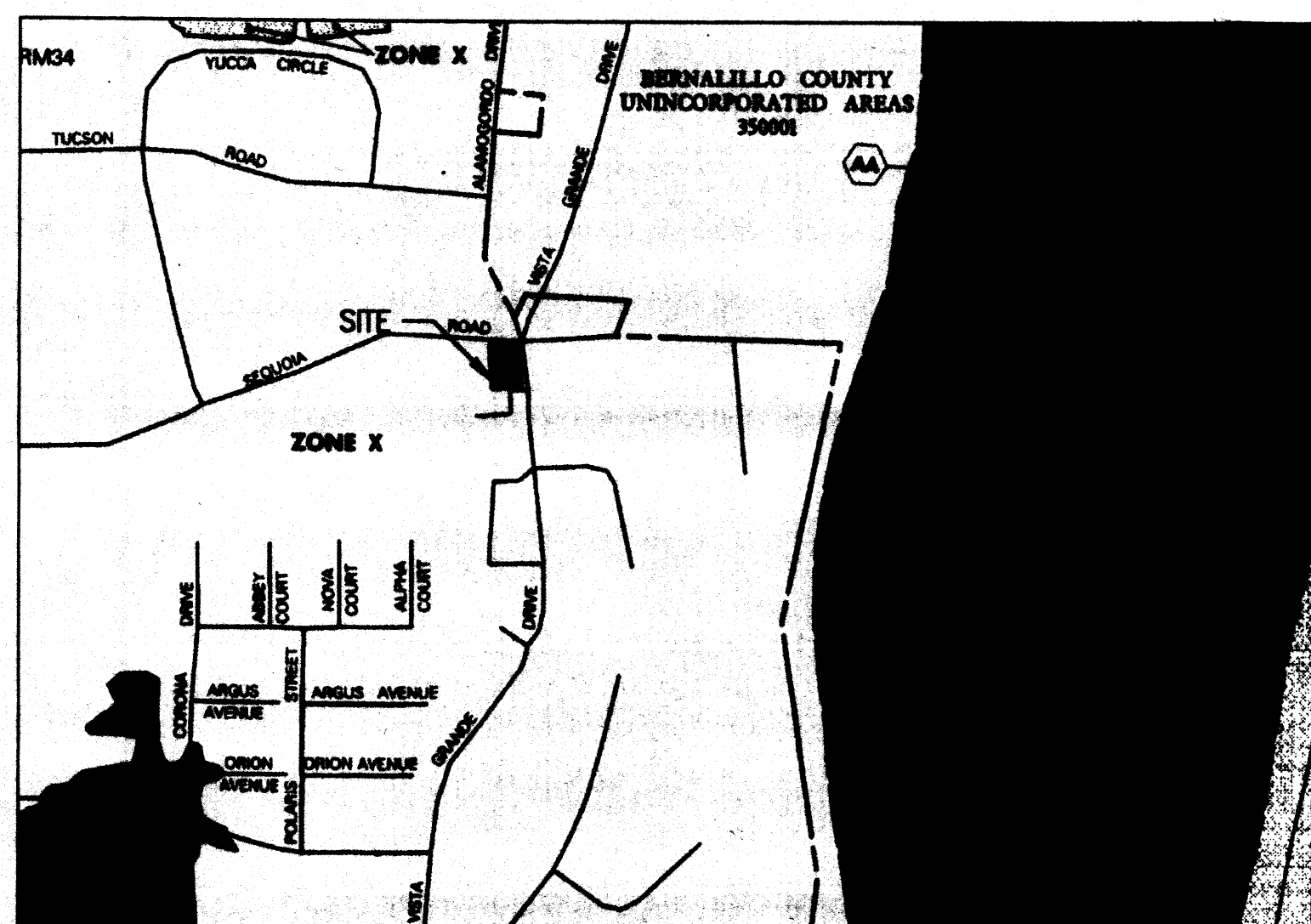
R_h = HYDRAULIC RADIUS = $A / WP = 1.66 / 12.85 = 0.13$ FT.

THUS $V = 1.68$ FPS AND $Q = 2.8$ CFS FOR EACH CURB CHANNEL.
THE 100 YR DISCHARGE $Q = 4.1$ CFS < $2 * 2.8$ CFS = 5.6 CFS
THUS THE CURB CHANNEL HAS THE CAPACITY TO HANDLE 100 YR DISCHARGE.



VICINITY MAP

G-11-Z BERNALILLO COUNTY



PORTION OF FLOODWAY MAP

COMMUNITY PANEL 350002 0327D

STORM DRAIN CAPACITY

THE PROPOSED DEVELOPED FLOW FROM THE SITE WILL BE DISCHARGED INTO THE EXISTING STORM DRAIN, SITUATED ON SEQUOIA RD., THROUGH A PROPOSED DROP INLET, TO BE CONSTRUCTED ON THE WEST SIDE OF THE CURB, PLEASE REFER TO THE DRAWING BELOW.

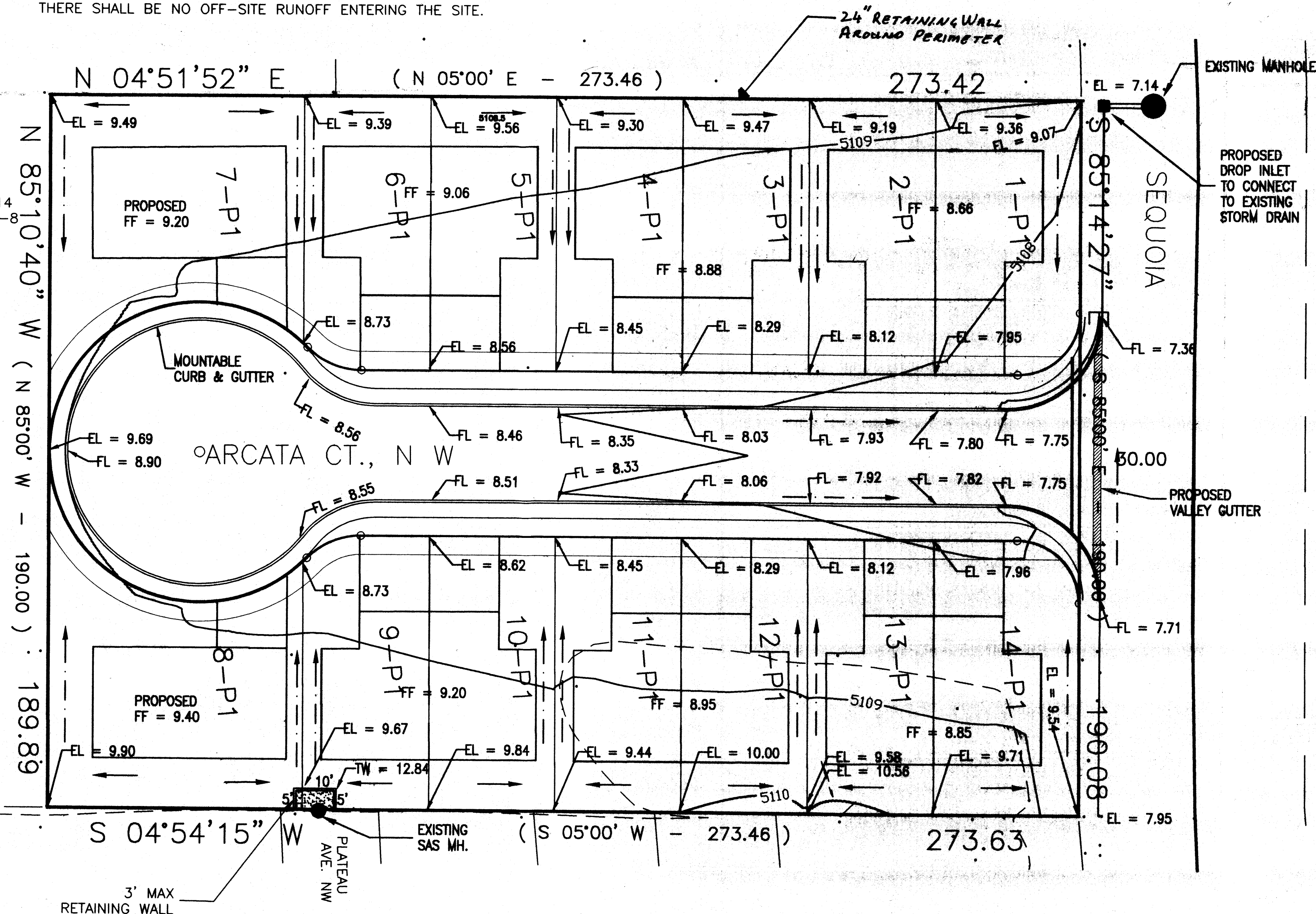
THE EXISTING CAPACITY OF THE STORM DRAIN IS AS FOLLOWS:
 $Q_{100} = 378.7$ CFS, $V_{100} = 9.8$ FPS, LENGTH = 992.05 FT - 84" RCP @ 0.3%.

THE HYDRAULIC GRADE LINE (HGL) IS AT THE MAXIMUM LEVEL IN THE STORM DRAIN. FOR Q_{100} , THE DISCHARGE FROM THE PROPOSED DEVELOPMENT WILL ENTER STORM DRAIN 10 MINS. BEFORE THE STORM DRAIN REACHES ITS MAXIMUM PEAK VALUE.

THERE SHALL BE NO OFF-SITE RUNOFF ENTERING THE SITE.

WALL DESIGN

A TWO FEET HIGH CMU WALL WILL BE CONSTRUCTED AROUND THE SUBDIVISION PERIMETER TO RETAIN 15 INCHES OF DIRT.

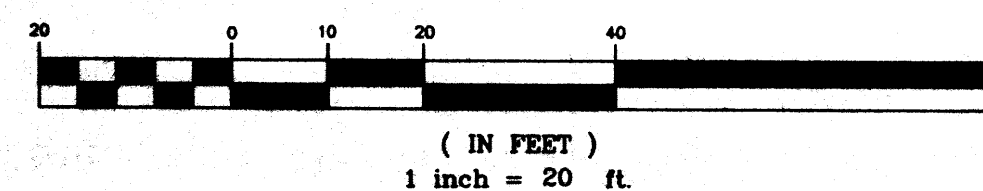


LEGEND

- EXISTING CONTOUR
- DEVELOPED CONTOUR
- CMU RETAINING WALL
- EL = 9.99 GROUND ELEVATION
- TC = 9.99 TOP OF CURB ELEVATION
- WL = 9.99 WATER LEVEL IN THE POND
- FF = 9.99 FINISHED FLOOR ELEVATION
- FLOW LINE
- LANDSCAPE
- WATER BREAK
- EXISTING SD
- PROPOSED SD MANHOLE
- EXISTING SD MANHOLE
- 5108.5 EXISTING ELEVATION



GRAPHIC SCALE



Approved for Rough Grading
Carl A. Montoya 6-18-01



RECEIVED
APR 20 2001
HYDROLOGY SECTION

Approved 4/23/01
needs spot elev's.
on surrounding
area.

REV.	DATE	DESCRIPTION
PROJECT TITLE		
Corona Del Sol Townhomes		
Sequoia and Arcata Ct.		
Albuquerque, NM		
SHEET TITLE		
Drainage Plan		
CAMI		
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.		
DRAWN BY: BEH		
CHK'D BY: Raymond Henley, P.E.		
DATE: 04/20/2001		
D1		

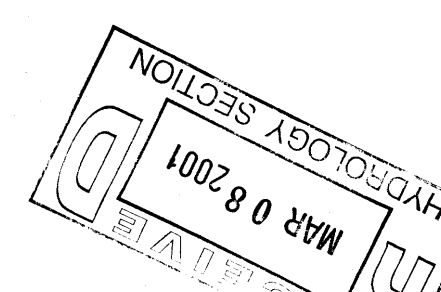
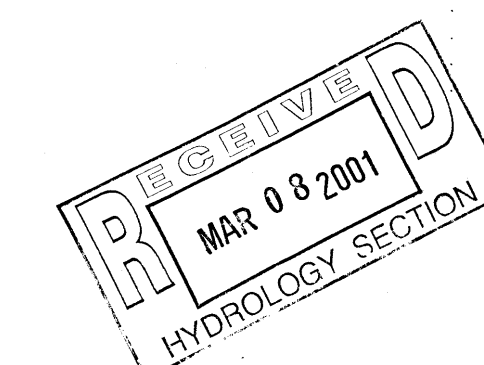
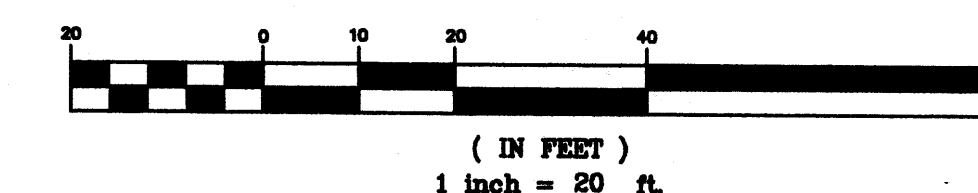
4001 JUAN TABO NE - SUITE A
ALBUQUERQUE, NEW MEXICO 87111
(505) 298-3477

LEGEND

- EXISTING CONTOUR
- DEVELOPED CONTOUR
- CMU RETAINING WALL
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- FLOW LINE
- LANDSCAPE
- WATER BREAK
- EXISTING SD
- PROPOSED SD MANHOLE
- EXISTING SD MANHOLE
- EXISTING ELEVATION



GRAPHIC SCALE



REV.	DATE	DESCRIPTION
PROJECT TITLE Corona Del Sol Townhomes Sequoia and Arcata Ct. Albuquerque, NM		
SHEET TITLE Drainage Plan		
<div style="display: flex; justify-content: space-between;"> <div> <p>CAMI CONSTRUCTION ANALYSIS & MANAGEMENT, INC.</p> </div> <div> <p>DRAWN BY REH</p> <p>CHK'D BY Raymond Hensley, P.E.</p> </div> <div> <p>DATE: 03/07/2001</p> <p>D1</p> </div> </div>		

LEGAL DESCRIPTION

THE SITE IS LOCATED ON TRACT 20, SEC 2, R2E, T10N OF BERNALILLO COUNTY ZONE ATLAS MAP G-11-Z. A DETAILED DESCRIPTION IS AS FOLLOWS: THE SITE IS LOCATED ON TRACT 20 OF CORONA DEL SOL, A SUBDIVISION IN BERNALILLO COUNTY, NEW MEXICO, AS REFLECTED ON THE MAP FILED BY THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON JULY 25, 1961, TOGETHER THE WEST 1/2 OF THE NOTHERLY VACCATED ALLEY ADJACENT THERETO, IN THE MAP BOOK D3 FOLIO 10.

THE EXISTING SITE CONSISTS OF 1.2 ACRES OF UNDEVELOPED AND UNCOMPACTED SURFACE. THE PARCEL SLOPES FROM SOUTH TO NORTH LESS THAN 0.5 PERCENT.

FLOOD HAZARD: THE SITE IS LOCATED WITHIN ZONE "X", COMMUNITY PANEL NO. 350002 0327D, DATED SEPTEMBER 20, 1996, AND IS NOT WITHIN A SPECIAL FLOOD HAZARD BOUNDARY INDICATED BY FEMA FLOOD INSURANCE RATE MAPS (FIRM).

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PROPOSED DRAINAGE CONDITION

THE 10 YR AND 100 YEAR 24 HOUR VOLUMES ARE DETERMINED AS FOLLOWS: 10 YEAR

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WHERE n = MANNING'S ROUGHNESS COEFFICIENT = 0.016 FOR CONCRETE AND ASPHALT

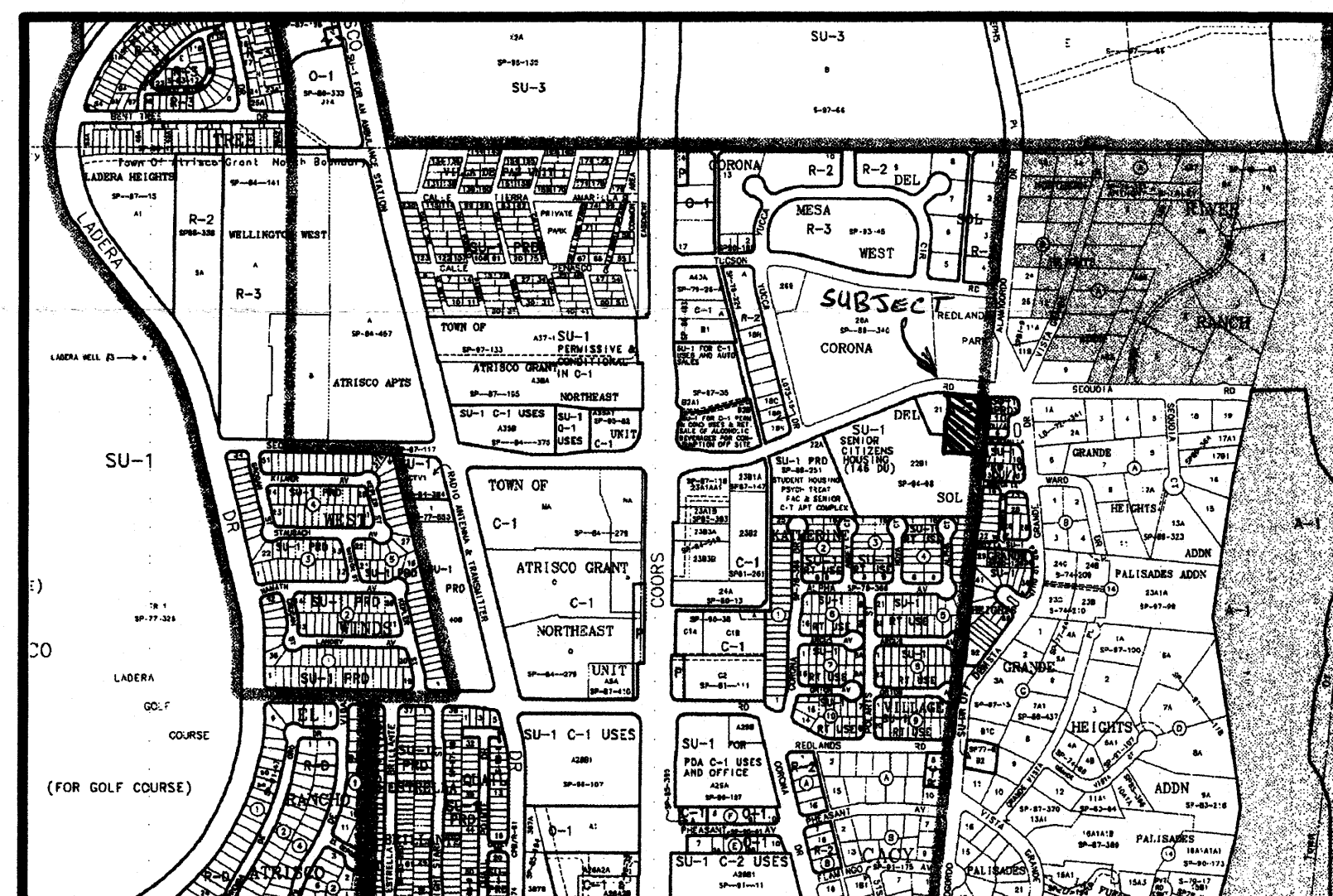
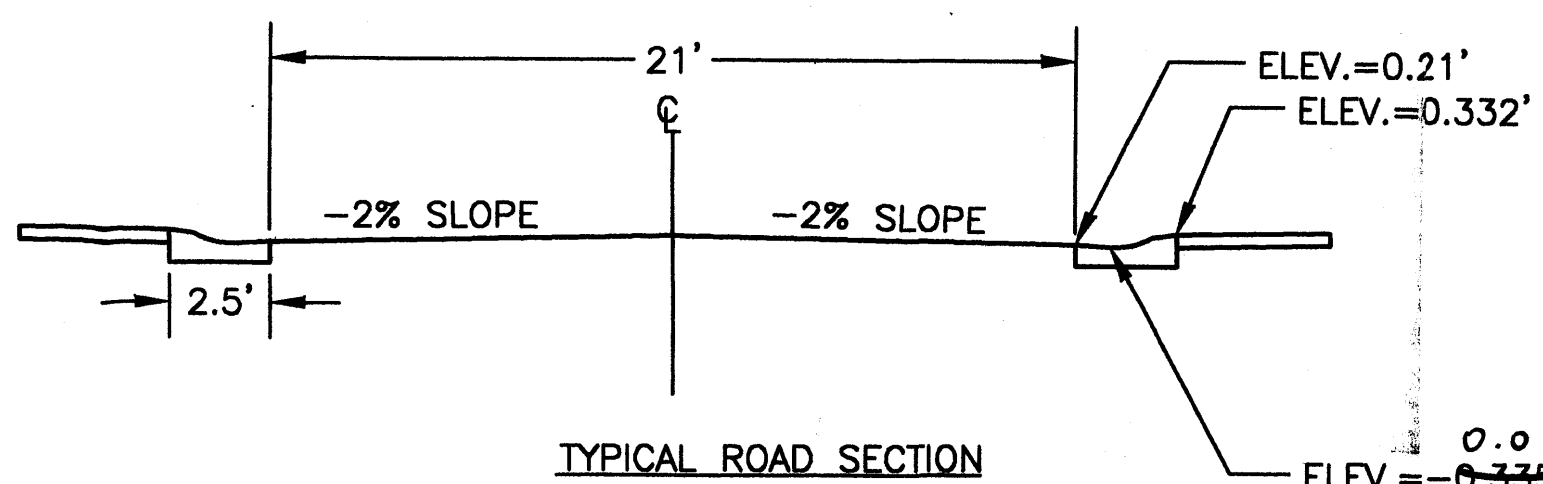
S = SLOPE OF THE CHANNEL = 0.5%

A = AREA OF THE CHANNEL = 1.66 SF.

WP = WETTED PERIMETER = WP = 12.85 FT.

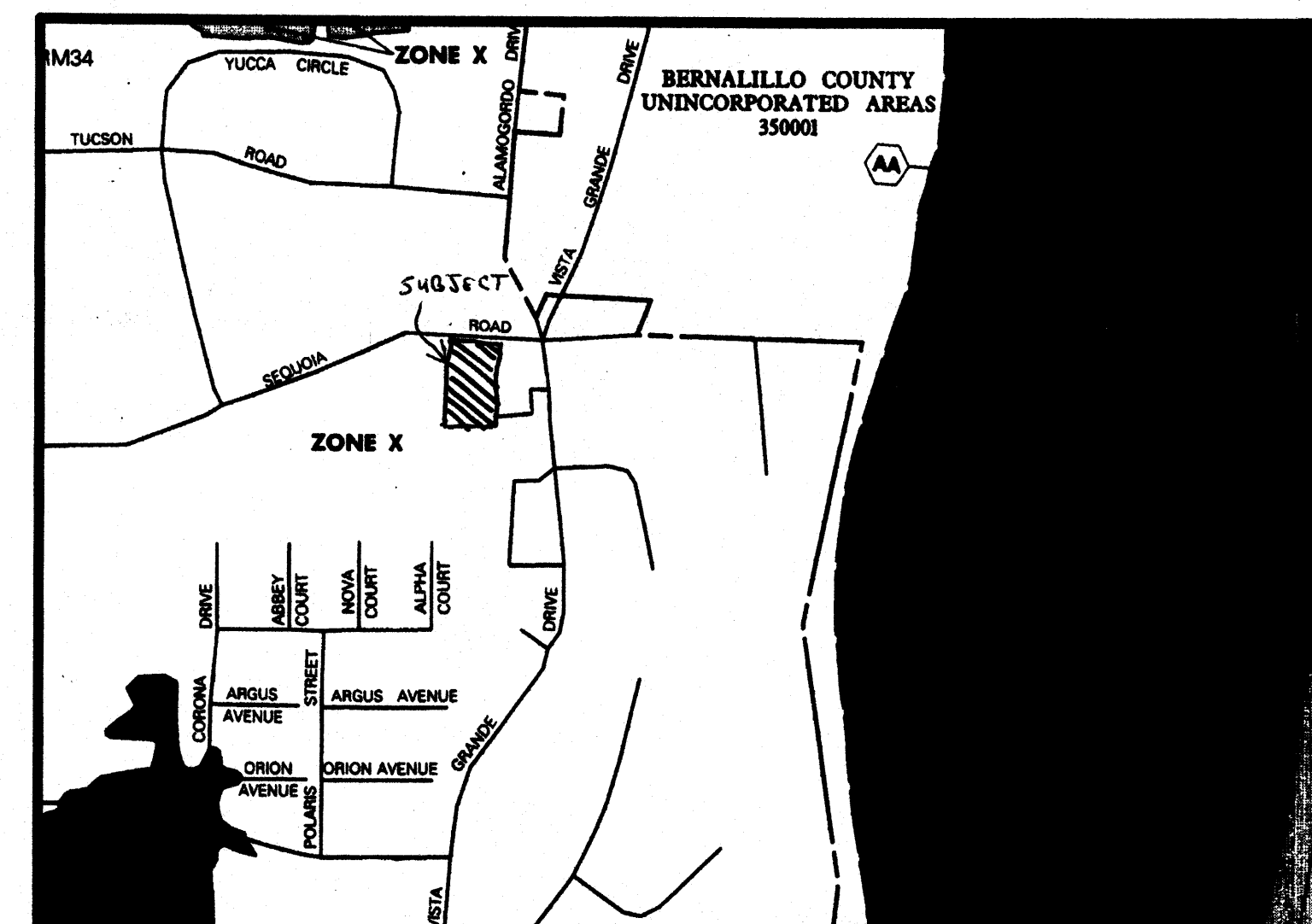
Rh = HYDRAULIC RADIUS = A/WP = 1.66/12.85 = 0.13 FT.

THUS V=1.68 FPS AND Q=2.8CFS FOR EACH CURB CHANNEL. THE 100 YR DISCHARGE Q = 4.10CFS < 2*2.8 CFS = 5.6 CFS. THUS THE CURB CHANNEL HAS THE CAPACITY TO HANDLE 100 YR DISCHARGE.



VICINITY MAP

G-11--Z BERNALILLO COUNTY



PORTION OF FLOODWAY MAP
COMMUNITY PANEL 350002 0327D

STORM DRAIN CAPACITY

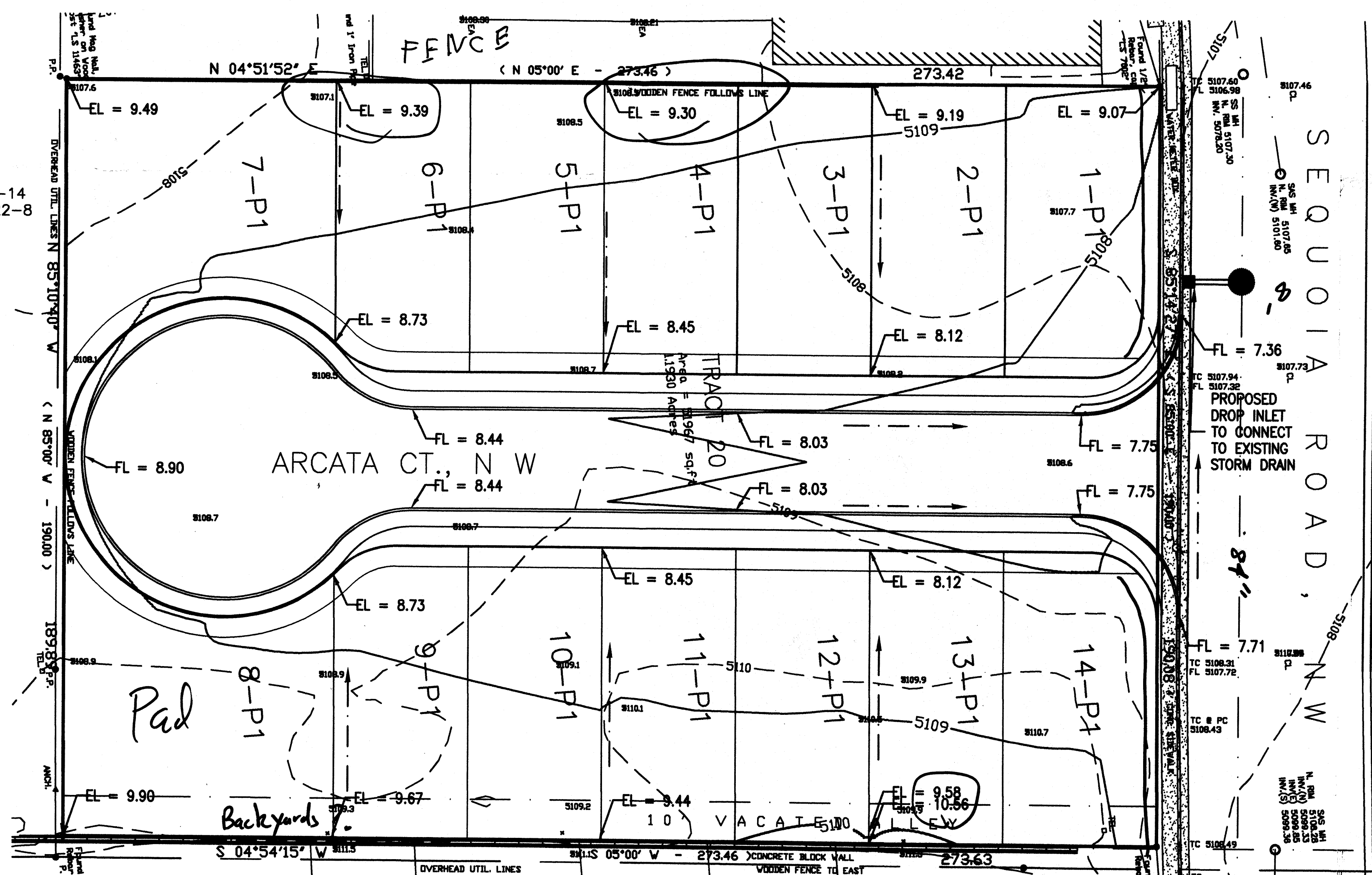
THE PROPOSED DEVELOPED FLOW FROM THE SITE WILL BE DISCHARGED INTO THE EXISTING STORM DRAIN, SITUATED ON SEQUOIA RD. THROUGH A PROPOSED DROP INLET, TO BE CONSTRUCTED ON THE WEST SIDE OF THE CURB, PLEASE REFER TO THE DRAWING BELOW.

THE EXISTING CAPACITY OF THE STORM DRAIN IS AS FOLLOWS:

Q100 = 378.7 CFS, V100 = 9.8 FPS, LENGTH = 992.05 FT - 84" RCP @ 0.3%.

THE HYDRAULIC GRADE LINE (HGL) IS AT THE MAXIMUM LEVEL IN THE STORM DRAIN.

FOR Q100. THE DISCHARGE FROM THE PROPOSED DEVELOPMENT WILL ENTER STORM DRAIN DRAIN 10 MINS. BEFORE THE STORM DRAIN REACHES ITS MAXIMUM PEAK VALUE.



56' x 39'

4001 JUAN TABO NE - SUITE A
ALBUQUERQUE, NEW MEXICO 87111
(505)298-3477