

DRAINAGE INFORMATION SHEET

PROJECT TITLE: C.J. KULINNA ZONE ATLAS/DRNG. FILE #: D-18/D18

LEGAL DESCRIPTION: Lot 21, Block 6, Unit A, Tract A NORTH ALBUQ ACRES

CITY ADDRESS: Coronado Av. N.E.

ENGINEERING FIRM: RIVERA ENGINEERING CONTACT: Raul A. Rivera

ADDRESS: 2624 Valencia Dr. N.E. PHONE: 881-3419

OWNER: C. Jay Kulinna CONTACT: C. Jay Kulinna

ADDRESS: 5911 Coronado Ave. N.E. PHONE: 821-5113

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

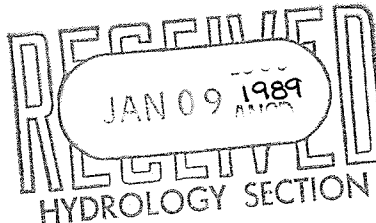
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☐ COPY OF CONFERENCE RECAP SHEET PROVIDED



DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ ROUGH GRADING PERMIT APPROVAL

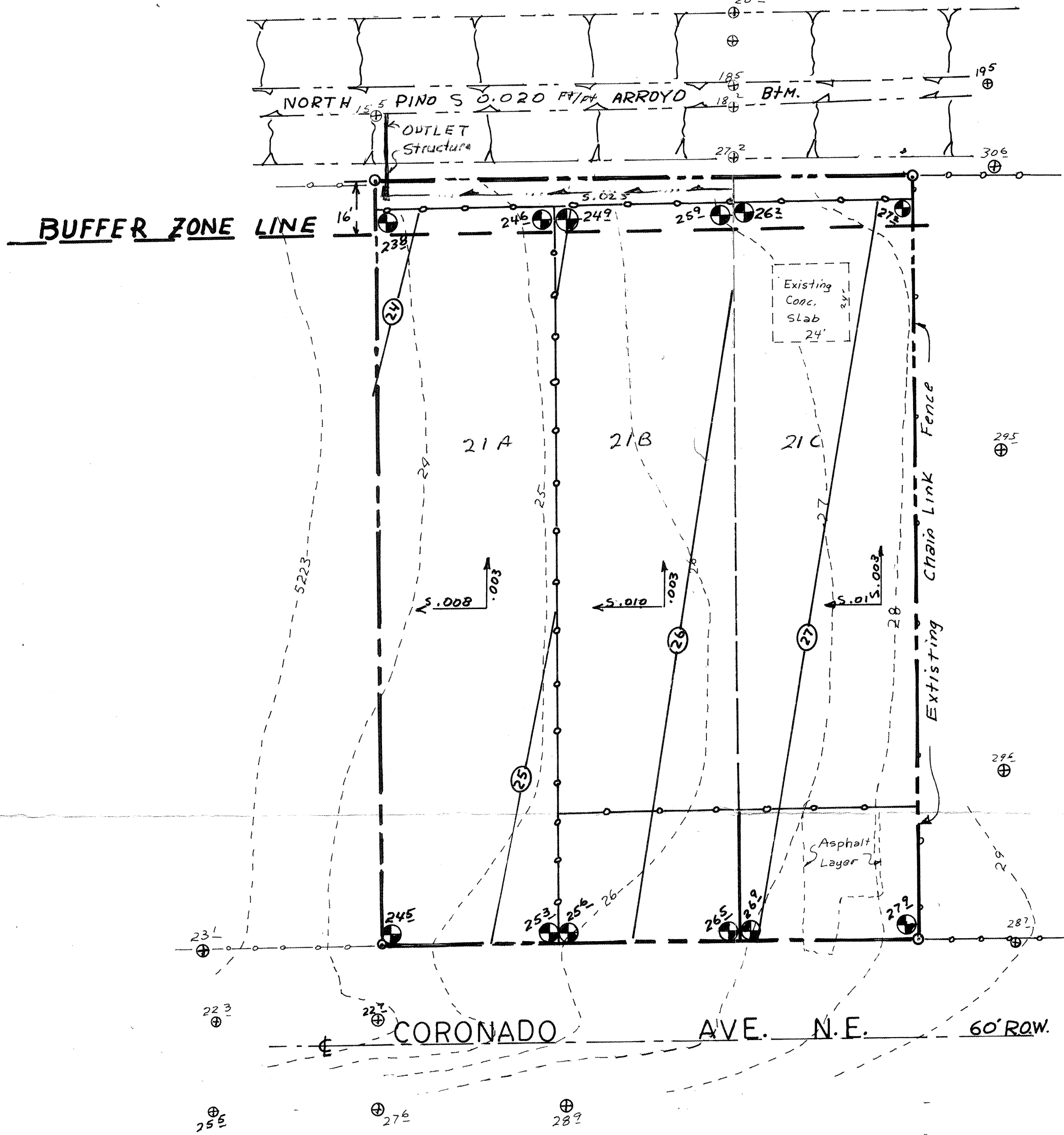
☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: 1-9-89

BY: Raul A. Rivera

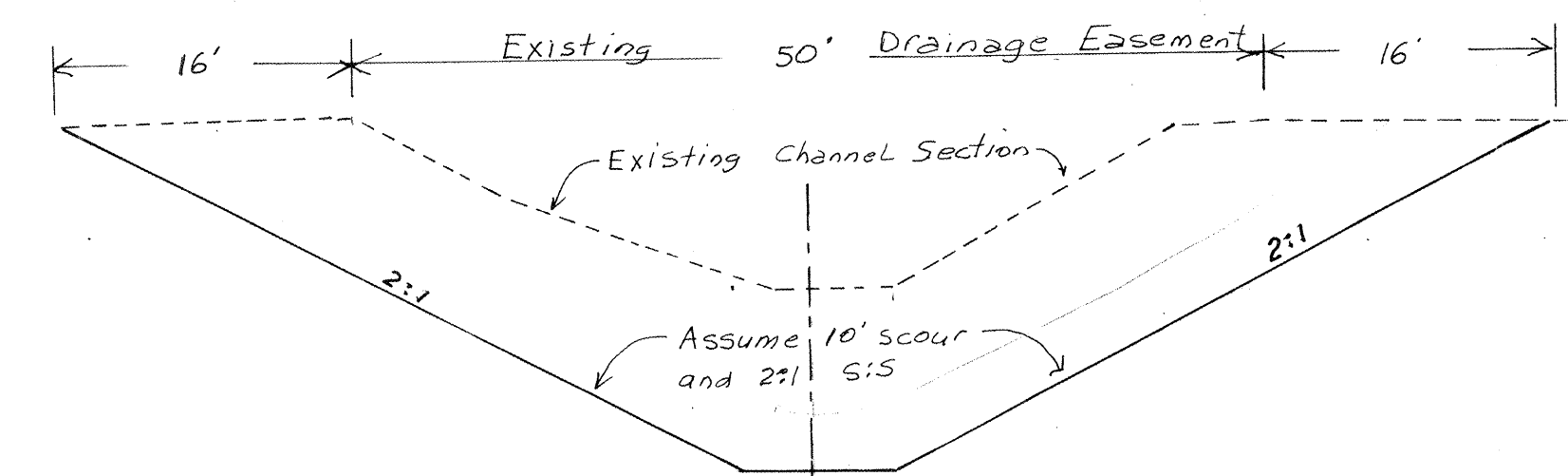
NOTE:
UNTIL CHANNEL IS LINED, NO DEVELOPMENT
WILL BE ALLOWED BETWEEN BUFFER LINE
AND CHANNEL DUE TO POTENTIAL EROSION
HAZARD



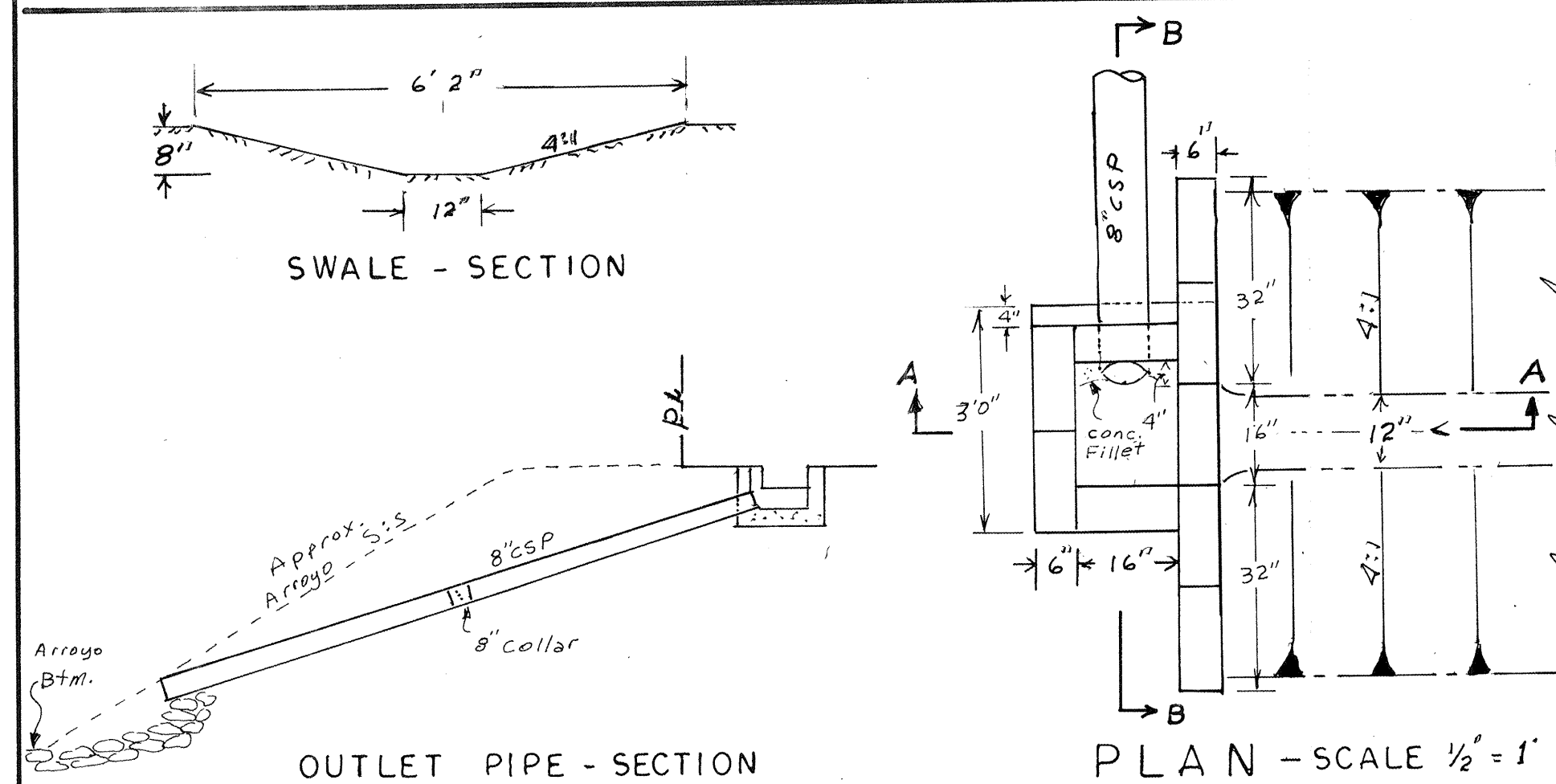
30' 20' 10' 0 15' 30'

SCALE 1"=30'

Property Boundary	
Existing chain link fence	
Existing Arroyo bottom	
Existing Arroyo side slopes	
Existing spot elevations	
Existing contours	
Proposed contours	
Proposed spot elevations	
Proposed swales	

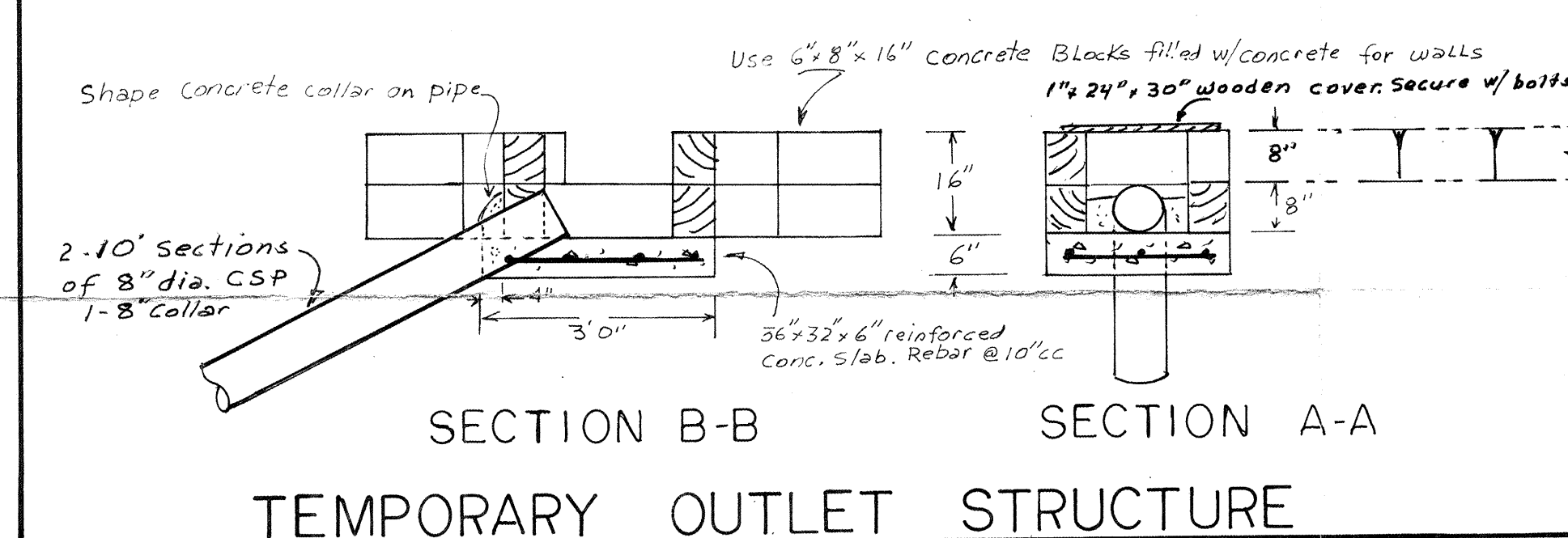


SECTION - BUFFER ZONE ESTIMATE
Scale 1" = 10'



OUTLET PIPE - SECTION

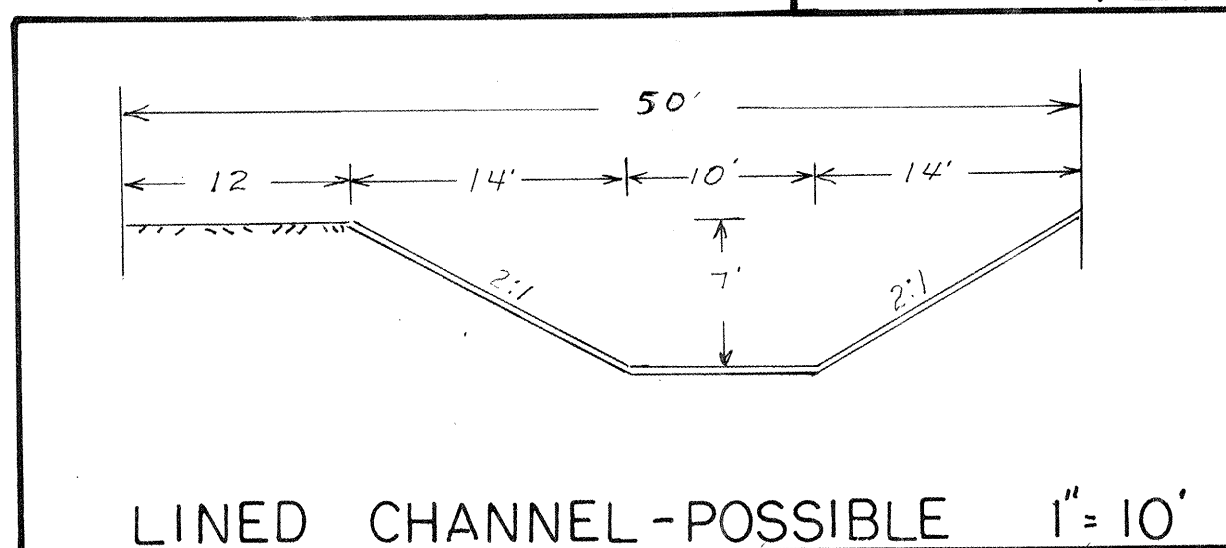
PLAN - SCALE $\frac{1}{2}'' = 1'$



SECTION B-B

SECTION A-A

TEMPORARY OUTLET STRUCTURE



LINED CHANNEL - POSSIBLE $1'' = 10'$

DRAINAGE AND GRADING PLAN

The following items concerning this drainage and grading plan are contained hereon: 1. Vicinity Map 2. Drainage Plan 3. Grading Plan and 4. Calculations.

This plan includes 3 lots; 21A, 21B and 21C, located north of Coronado Avenue N.E. and west of San Pedro Drive N.E.. Each lot is 55 feet X 234 feet containing an area of 0.2955 acres.

The general slope of the land is from east to west on about a 2.45 percent slope, and a slight slope from south to north. The lots are bounded by an unimproved drainage channel on the north and by Coronado Avenue N.E. on the south, both at lower elevations. No offsite runoff comes in from those two sources. Under present conditions, offsite runoff comes into each lot from the lot to the east. At lot 21C an existing chain link fence with debris and blocks stacked close to the lot line, keeps the majority of offsite runoff from entering this lot.

This plan calls for each lot to control the runoff produced by the 100-year 6-hour rain by grading each lot west and north, directing runoff to the north along each west boundary, where a shallow swale will carry the runoff to the northwest corner of Lot 1. A concrete lined channel will be constructed to carry the runoff to the earth channel. A concrete lined channel is planned, sometime in the near future. At that time, arrangements will be made to drop those flows into the lined channel. Estimated discharge from the three lots is 9 c.f. Because improvements are not being installed at this time, discharge from improved conditions were not computed.

Existing site conditions include chain link fences as shown or as indicated on the plan, a small concrete slab along the north side of Lot 21C and a small patch of asphalt on the northeast corner of Lot 21C. Buildings or other improvements are not planned, until the street is improved and the existing earth channel is lined.

The following items concerning the proposed grading show existing contours, proposed grades as indicated by spot elevations or proposed contours, swales with direction of flow and proposed small earth dikes.

Drainage covenants will be prepared to allow drainage across or thru Lot 21A and 21B.

CALCULATIONS

HYDROLOGY: Used Rational Formula for Q and SCS procedures for volume.
Soils: EtC (Embudo-Tijeras Complex) SCS Standard Soil Survey Bern. County
Hydrologic Soil Group = B (Table 8 SCS Standard Soil Survey)

100-year, 6-hour Rainfall = 2.3 inches (Plate 22.2 D-1)
 Assume $T_c = > 10$ min. $I = 2.18$ (Plate 22.2 D-2)
 Intensity = $i = 2.3 * 2.18 = 5.01$
 The 3 lots are the same size $55' * 234'$
 Area = $55' * 234' = 12,870$ sq.ft. = 0.2955 acres
 NOTE: Improvements are not planned at this time

UNDEVELOPED:
C = 0.40 for unimproved condition
CN = 79 range in poor condition for B Soil Group (Plate 22.2 C-2)
Ro = 0.80 Direct runoff (Plate 22.2 C-4)

$$Q_{100} = C * i * A = 0.40 * 5.01 * 0.2955 = 0.59 \text{ c.f.s.}$$

$$V_{01} 100 = R_0 / 12 * A = 0.80 / 12 * 12,870 = 858 \text{ cu.ft.}$$

Q 100 for 3 lots = $3 * 0.59 = 1.77$ c.f.s. Use 1.8 c.f.s.

HYDRAULICS:

1. Swale along north side
Bottom Width = 1.0 ft. $S:S = 4:1$ $N = 0.40$ $s = 0.025$ Ft/Ft
Design $Q = 1.8$ cfs.
- | Depth(ft) | Area(SF) | WP | H.R.2/3 | Vel.(fps) | Quant.(cfs) |
|-----------|----------|------|---------|-----------|-------------|
| 0.10 | 0.14 | 1.82 | 0.18 | 1.06 | 0.15 |
| 0.20 | 0.36 | 2.65 | 0.26 | 1.55 | 0.56 |
| 0.30 | 0.66 | 3.47 | 0.33 | 1.94 | 1.28 |
| 0.40 | 1.04 | 4.30 | 0.39 | 2.28 | 2.37 |
| 0.50 | 1.50 | 5.12 | 0.44 | 2.59 | 3.88 |
2. Existing Arroyo Channel
Bottom width = 9.0 ft. $S:S = 2:1$ $N = .045$ $s = 0.02$ Ft/Ft
Design $Q = 2454$ cfs.
- | Depth(ft) | Area(sf) | WP | H.R.2/3 | Vel.(fps) | Quant.(cfs) |
|-----------|----------|-------|---------|-----------|-------------|
| 4.0 | 68.0 | 26.89 | 1.86 | 8.67 | 590 |
| 5.0 | 95.0 | 31.36 | 2.09 | 9.78 | 929 |
| 6.0 | 126.0 | 35.63 | 2.31 | 10.80 | 1362 |
| 7.0 | 161.0 | 40.30 | 2.52 | 11.76 | 1894 |
| 8.0 | 200.0 | 44.78 | 2.71 | 12.67 | 2534 |
3. Outlet Pipe (Corr. steel pipe) *RCP*
 $D = 8"$ $A = 0.349$ s.f. $L = 240'$ ft. $K_p = 0.199$
Used Formula: $H = H_p + H_e = (K_p \cdot L \cdot V / 2g) + (0.5 \cdot V / 2g)$
- | Q (cfs) | V (fps) | $V / 2g$ | $K_p \cdot L$ | H_p (ft) | H_e (ft) | H (ft) |
|-----------|-----------|----------|---------------|------------|------------|----------|
| 0.5 | 1.43 | 0.032 | 3.98 | 0.13 | 0.02 | 0.15 |
| 0.7 | 2.07 | 0.127 | " | 0.51 | 0.06 | 0.57 |
| 1.0 | 2.90 | 0.29 | " | 1.14 | 0.14 | 1.28 |
| 1.5 | 4.30 | 0.413 | " | 1.64 | 0.21 | 1.85 |
| 2.0 | 5.73 | 0.510 | " | 2.03 | 0.28 | 2.28 |

This is a detailed plat map of a portion of the City of St. Louis, Missouri. The map shows a grid of lots and streets. A large area is labeled "SITE" with an arrow pointing to a specific lot. Other labels include "NEW MOBILE HOME", "MOBILE HOME", "MEADOWS", "COMMUNITIES", and "PARK". The map also shows "NEW MOBILE HOME LIMITED" and "MOBILE HOME" with dimensions. A scale bar at the bottom indicates "1 INCH = 100 FEET".

Key features and labels on the map include:

- Streets:** PINE BLVD, S. 10TH ST, S. 11TH ST, S. 12TH ST, S. 13TH ST, S. 14TH ST, S. 15TH ST, S. 16TH ST, S. 17TH ST, S. 18TH ST, S. 19TH ST, S. 20TH ST, S. 21ST ST, S. 22ND ST, S. 23RD ST, S. 24TH ST, S. 25TH ST, S. 26TH ST, S. 27TH ST, S. 28TH ST, S. 29TH ST, S. 30TH ST, S. 31ST ST, S. 32ND ST, S. 33RD ST, S. 34TH ST, S. 35TH ST, S. 36TH ST, S. 37TH ST, S. 38TH ST, S. 39TH ST, S. 40TH ST, S. 41ST ST, S. 42ND ST, S. 43RD ST, S. 44TH ST, S. 45TH ST, S. 46TH ST, S. 47TH ST, S. 48TH ST, S. 49TH ST, S. 50TH ST, S. 51ST ST, S. 52ND ST, S. 53RD ST, S. 54TH ST, S. 55TH ST, S. 56TH ST, S. 57TH ST, S. 58TH ST, S. 59TH ST, S. 60TH ST, S. 61ST ST, S. 62ND ST, S. 63RD ST, S. 64TH ST, S. 65TH ST, S. 66TH ST, S. 67TH ST, S. 68TH ST, S. 69TH ST, S. 70TH ST, S. 71ST ST, S. 72ND ST, S. 73RD ST, S. 74TH ST, S. 75TH ST, S. 76TH ST, S. 77TH ST, S. 78TH ST, S. 79TH ST, S. 80TH ST, S. 81ST ST, S. 82ND ST, S. 83RD ST, S. 84TH ST, S. 85TH ST, S. 86TH ST, S. 87TH ST, S. 88TH ST, S. 89TH ST, S. 90TH ST, S. 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LOCATION	MAP	ZONE	ATLAS D-I
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LEGAL:
Lots 21A, 21B and 21C
Block 6, Tract A, Unit A
NORTH ALBUQUERQUE ACRES

ADDRESS:

Lot 21A 5915 Coronado Ave. N.E.

Lot 21B 5917 Coronado Ave. N.E.

Lot 21C 5919 Coronado Ave. N.E.

AS BUILT INFORMATION	
CONTRACTOR	
WORK STARTED BY	DATE
FIELD ACCEPTANCE BY	DATE
VERIFICATION BY	DATE
CORRECTED BY	
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

DATE		BENCH MARKS
MO	DAY	
		San Francisco Road N.E. Paving Sheet 3 of 6 July 15, 1982 E.L. 5244.01 - Top of "Curb X" at Curb return on San Pedro Blvd N.E. northwest corner of intersection.
		SITE TBM #1 - Top of Plastic cap on rebar at S.E. corner of Lot 21. E.L. 5228.04

[illegible]

ENGINEER'S SEAL

PAUL A. LIVER
Jan. 6, 1989

PAUL A. LIVER
REGISTERED PROFESSIONAL ENGINEER
No. 12345
1989
STATE OF TEXAS
EXPIRATION DATE

[illegible]

RECEIVED
JAN 09 1989
HYDROLOGY SECTION
RIVERA ENGINEERING
2624 Valencia Dr. N.E.
Albuquerque, NM 87110
Phone 881-3419

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DRAINAGE PLAN
C. JAY KULINNA

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair					
Trans. Dev.					
Utility Dev.					

DRAWING NO.	MAP NO.	SHEET	OF
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