HYDROLOGY

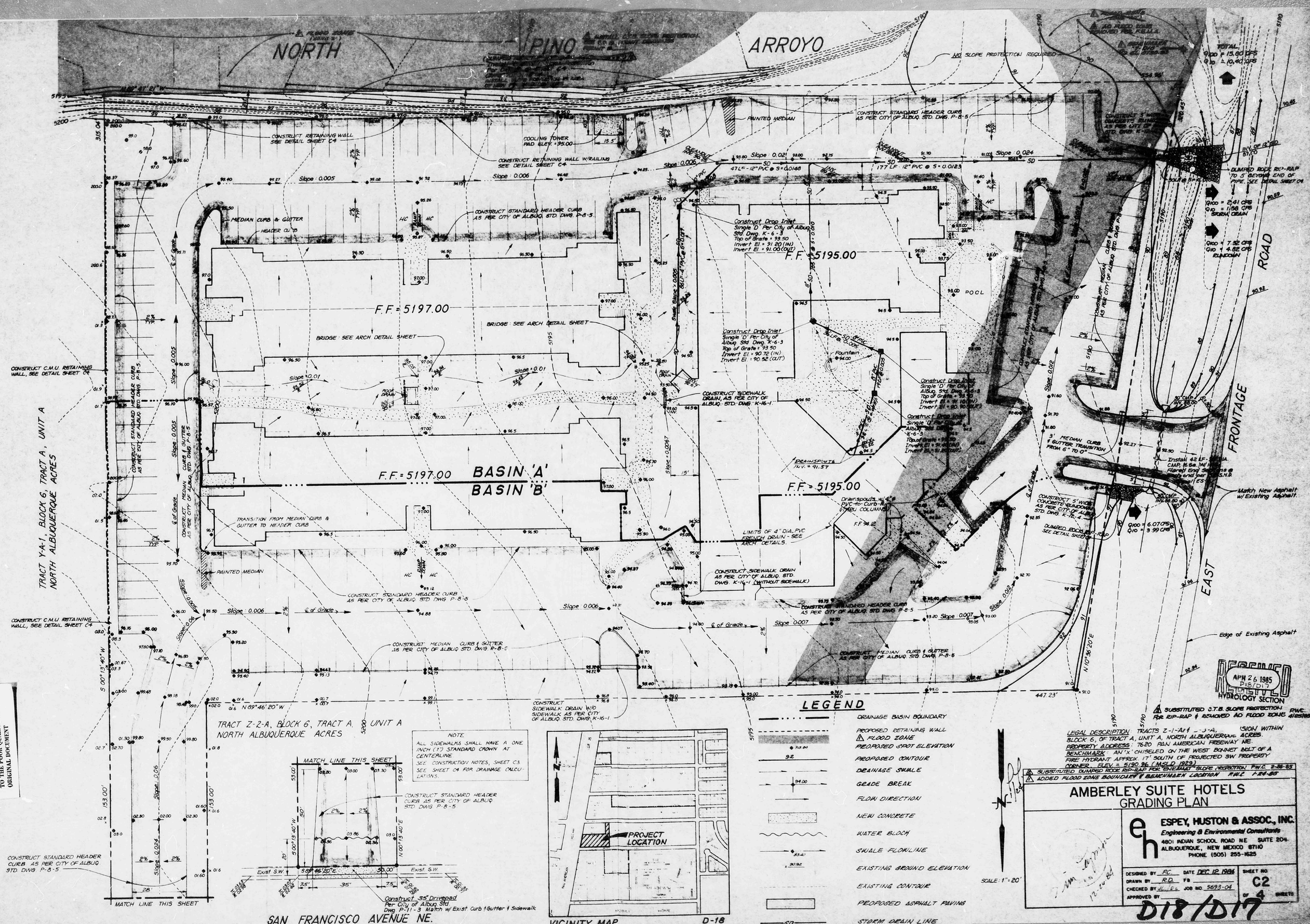
D18/D17

TWO PLANS

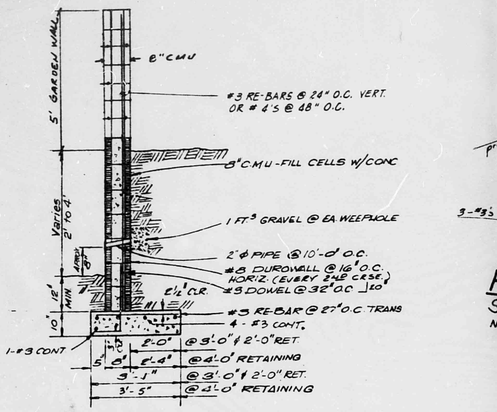
2 PLANS

AMBERLY MOTEL

D18/D17



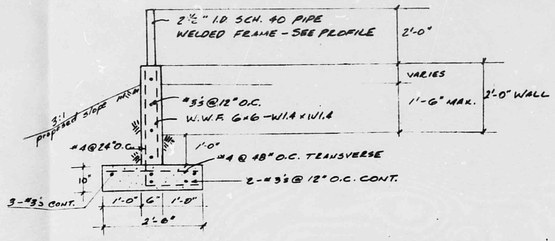
CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT



RETAINING WALL 2'-4'

EAST PROPERTY LINE

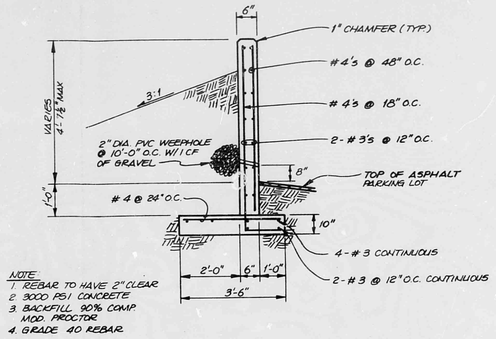
NO SCALE



RETAINING WALL W/HANDRAIL

SOUTH PROPERTY LINE

NO SCALE

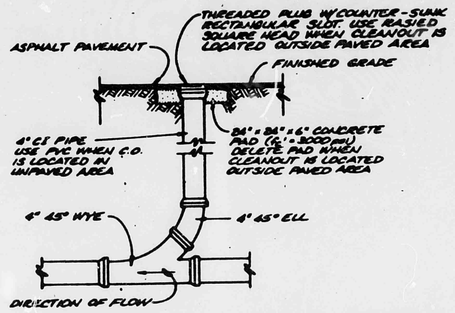


NOTE
1. REBAR TO HAVE 2" CLEAR
2. 3000 PSI CONCRETE
3. BACKFILL 90% COMP. MOD. PROCTOR
4. GRADE 40 REBAR

RETAINING WALL

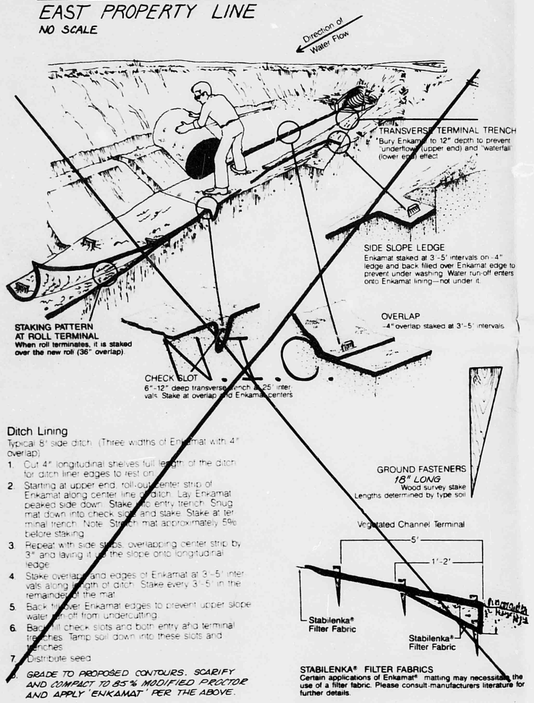
SOUTH PROPERTY LINE

NO SCALE



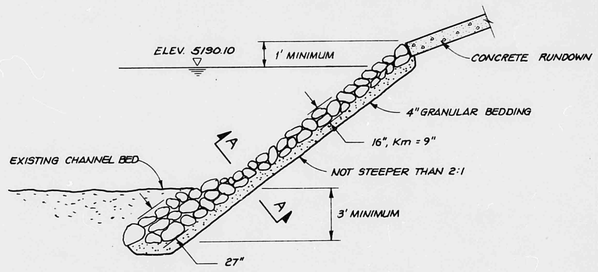
SINGLE CLEANOUT DETAIL

NO SCALE



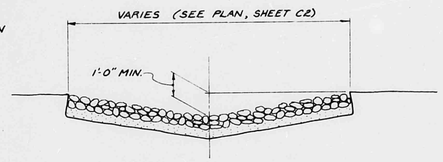
CHANNEL SLOPE PROTECTION 2

NO SCALE



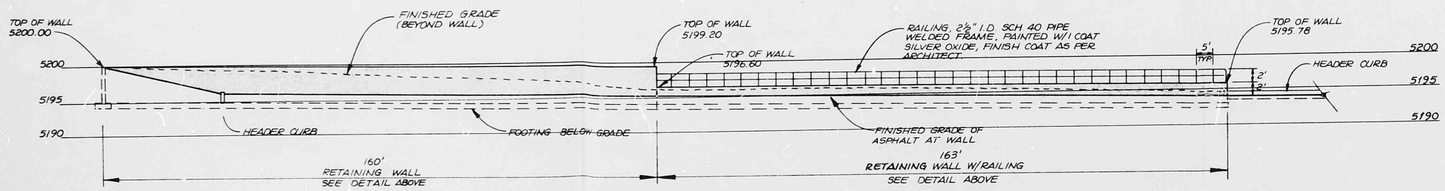
RIP-RAP DETAILS

NO SCALE



SECTION A-A

NO SCALE



SOUTH PARKING - RETAINING WALL PROFILE

SCALE: 1" = 20' HORIZ.
1" = 10' VERT.

GRADING AND DRAINAGE PLAN

The grading and drainage plan shows 1) existing and proposed elevations indicated by spot elevations and contours at 1'-0" intervals, 2) continuity between existing and proposed elevations, 3) proposed buildings and parking areas, and 4) drainage patterns with proposed drainage structures.

The proposed improvements are located on the I-25 East Frontage Road and San Francisco Avenue N.E. The site is more particularly described as TRACTS Z-1 AND Z-3-A, a redivision within Block 6 of Tract A, Unit A, North Albuquerque Acres.

As shown by the Flood Insurance Rate Maps (FIRM) this site is adjacent to an A01 flood hazard zone. Flood proofing of the structures is necessary. A 2'-0" water block will be established at the access at San Francisco Avenue. The lowest structure is 5'+ above the highest flowline of the existing ditch along the East Frontage Road.

Existing off-site flows enter the project on the east property line. This off-site flow is considered minimal and will easily be handled by the proposed on-site improvements.

As shown by the plan all storm runoff will be routed overland into the existing East Frontage Road ditch. Free discharge shall be allowed after analyzing the downstream capacity of the North Pino Arroyo.

No temporary erosion control will be necessary as the site is bounded on the south by the existing unimproved North Pino Arroyo and on the west by an existing unimproved ditch between the project's west boundary and the East Frontage Road.

Permanent channel stability will be provided in the form of "Enkamat" lining which will line the north side slope of the North Pine Arroyo adjacent to the project's south boundary.

CALCULATIONS

1. DESIGN CRITERIA
   P100=2.20 P10=1.45
   TC=0.0078L*0.77/S*0.385
   i=P6.84TC*(-0.51)
   Q=CiA
   VOL=PCA
   SOILS GROUP 'B' :EmB,TIJERAS EMBUDO ASSOC.

2. EXISTING CONDITION
   A=4.0 ACRES
   C=0.34
   TC=10 MIN.
   i100=4.65 IN/HR. i10=3.06IN/HR.
   Q100=6.32CFS Q10=4.16CFS
   VOL100= 10,861 C.F. VOL10= 7,158 C.F.

3. DEVELOPED CONDITION

BASIN	AREA	'C' FACTOR	Q100	Q10
A	1.75AC.	.90	7.32	4.82
B	1.45AC.	.90	6.07	3.99
COURTS/ROOF	0.80AC.	.66	2.41	1.58
TOTAL	4.0AC.	--	15.80CFS	10.40CFS

4. SPILLWAY DESIGN
   USING THE WEIR EQUATION : Q=3.33LH*1.5
   WHERE: Q=7.32CFS AND Q=6.07CFS
   H=0.67FT
   L=4.0FT AND L=3.32FT RESPECTIVELY
   THEN USE 5'-0" WIDTH AT BOTH LOCATIONS

5. SIZE STORM DRAIN AT COURTYARD (BLDG.#1)
   C=0.92 AREA=0.17AC.
   Q10=0.48CFS
   USE ORIFACE EQ. : Q(PROV)=AC(2gh*.5)
   WHERE: TRY 6"DIA. PIPE
   A=0.20 SF
   P=1.57 FT.
   C=0.80
   h=3.61FT THEN Q(PROV.)=2.44CFS
   CHECK USING MANNING'S
   THEN Q(FLOWING FULL)=0.44CFS OK.....

6. SIZE STORM DRAIN AT DROP INLET BETWEEN BLDG.#1/BLDG.#3
   'CC'=COMPOSITE 'C'=0.60
   AREA =0.60AC.
   i10=3.06IN/HR.
   Q10=1.1CFS
   USING MANNING'S
   TRY 8 INCH PIPE WITH S=1%
   THEN: Q(PROV)=1.32CFS>1.10CFS OK....
   USE 8 INCH PIPE MINIMUM

7. SIZE STORM DRAIN DISCHARGING INTO EXISTING CULVERT
   Q10(TOTAL)= 0.48 + 1.10 =1.58CFS

   TRY 10 INCH P.V.C. @1%
   THEN: Q(PROV)=2.4CFS>1.58CFS OK...
   USE 10 INCH DIA. PIPE MINIMUM

8. SIZE C.M.P. CULVERT AT DRIVEWAY ENTRANCE
   'CC'=0.45 AND WATERSHED BASIN (OFF-SITE) = 34AC.
   i10=3.06IN/HR.
   Q10=46.44CFS
   U.S.D.T. F.H.A. NOMOGRAPH 1-30" C.M.P. CULVERT

9. SIZE RIP-RAP per A.M.A.F.C.A.
   DET. VELOCITY .... USING MANNING'S
   CRITERIA FOR EXISTING ARROYO .... A=87.75SF
   P=49.43FT.
   R=1.78
   n=.03..EARTH
   S=1%

   VELOCITY=7.3 FPS
   USE TYPE 'L' RIP RAP
   Km=9 INCHES
   BURY 3 FT..TOE=27" MIN. THICKNESS

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FEB 26 1985
HYDROLOGY SECTION

2. SUBSTITUTED DUMPED ROCK RIP-RAP FOR "ENKAMAT" SLOPE PROTECTION P.W.C. 2-26-85

AMBERLEY SUITE HOTEL
DETAIL SHEET

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Engineering & Environmental Consultants
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ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 255-1625

DESIGNED BY P.C. DATE DEC 12 1984
DRAWN BY R.D. FB
CHECKED BY
JOB NO. 5693-04
APPROVED BY
SHEET NO. C4 OF 4 SHEETS

D15/D17