



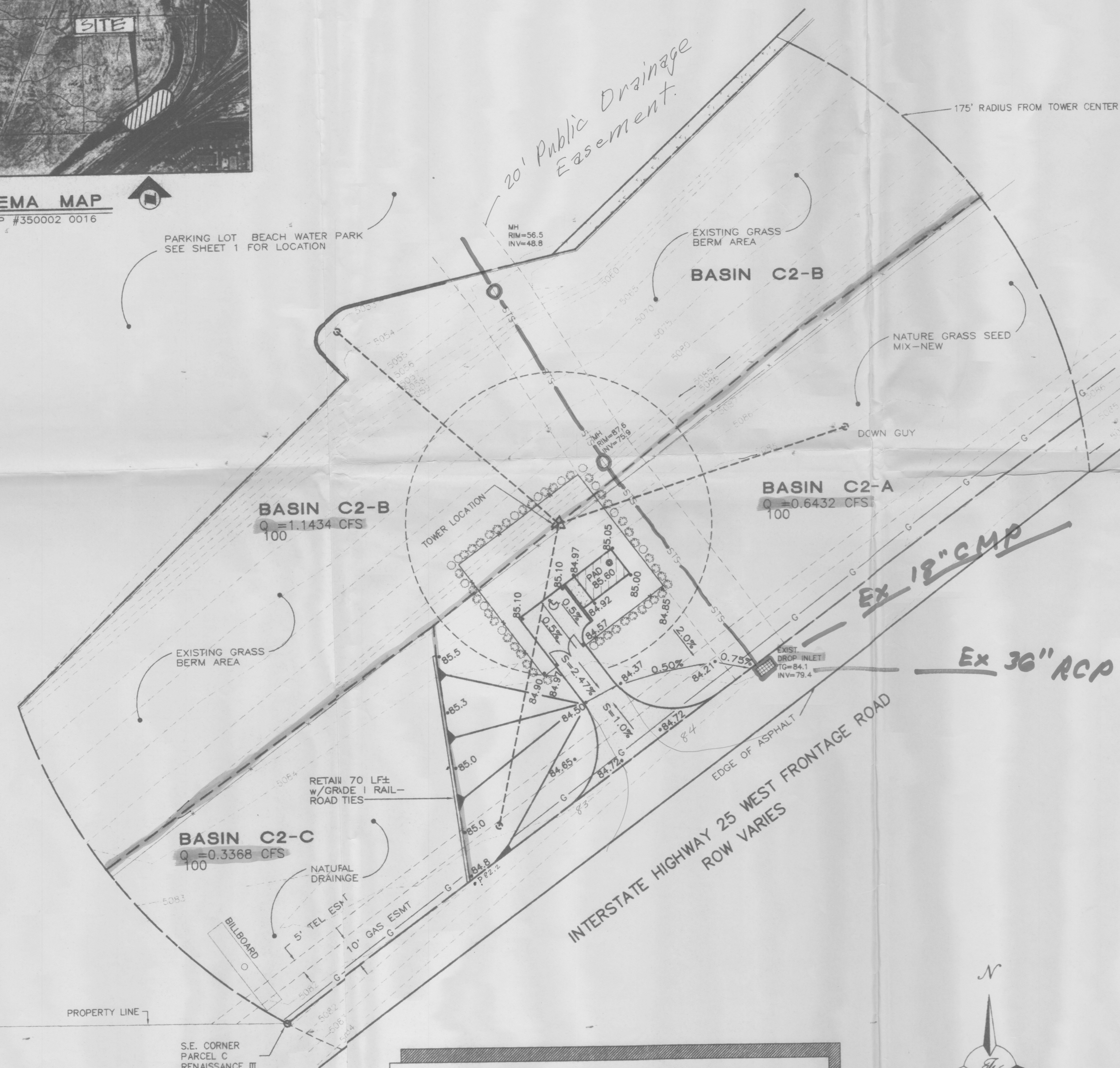
NOTE: PROPOSED SITE IS NOT IN THE FLOOD ZONE.

**FEMA MAP**  
MAP #350002 0016

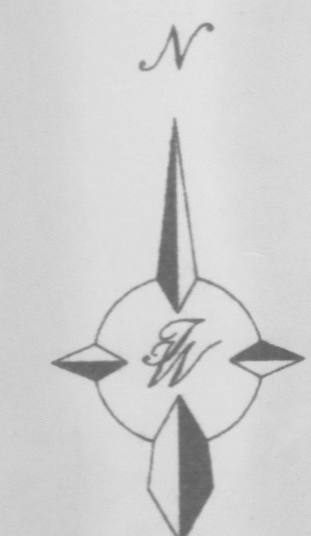


PARKING LOT BEACH WATER PARK  
SEE SHEET 1 FOR LOCATION

20' Public Drainage Easement.



**GRADING / DRAINAGE PLAN FOR  
SUBDIVISION PURPOSES AND BUILDING PERMITS**  
**KRZY ANTENNA**



SCALE: 1"=20'

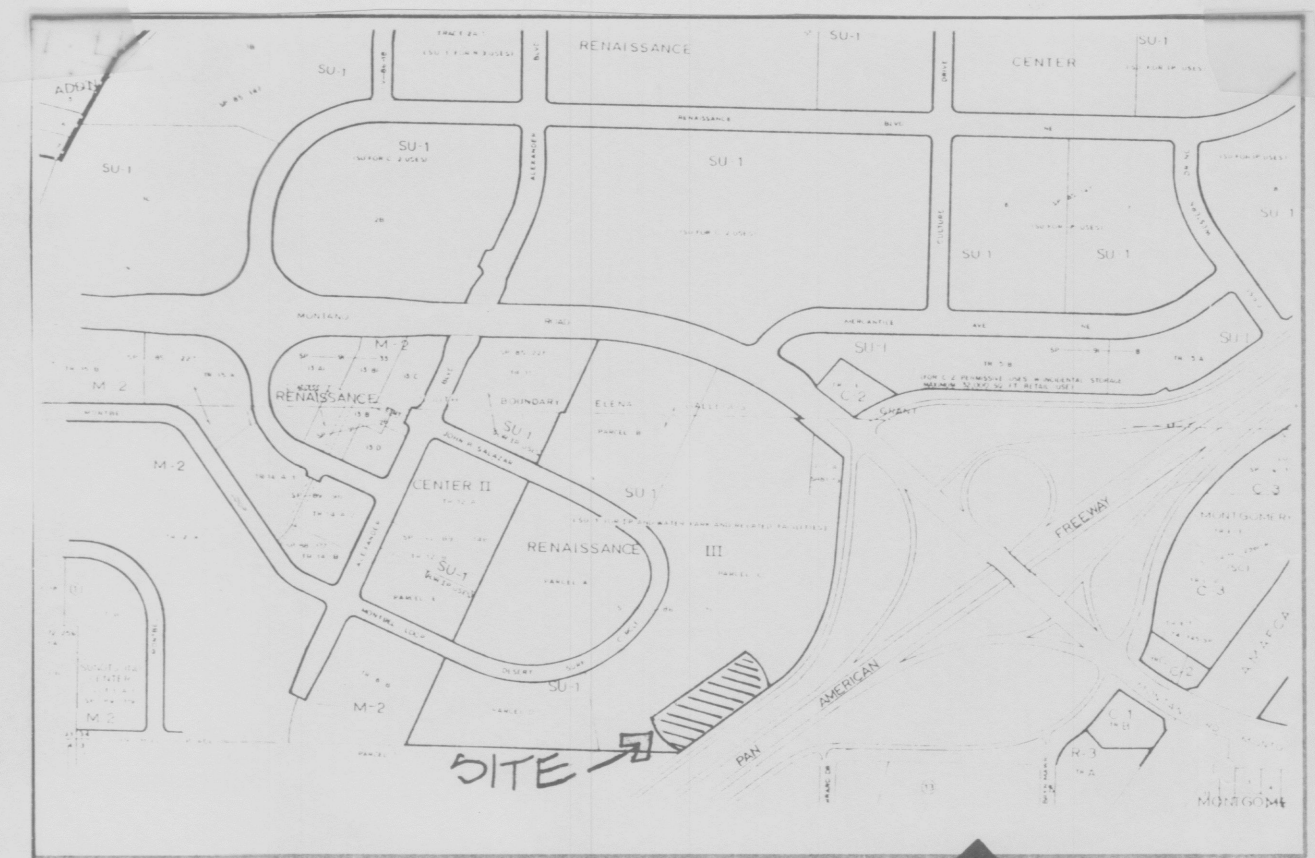
- LEGEND**
- 50.00 CONTOUR (MAJOR)
  - 50.04 CONTOUR (MINOR)
  - CURB AND GUTTER
  - CONCRETE
  - WALL OR HEAD WALL
  - STORM SEWER MANHOLE
  - SPOT ELEVATION
  - WIRE FENCE
  - GAS LINE
  - GRATE
  - PYROCRATHIA PLANT
  - ASPHALT CONCRETE
  - BUILDING
  - PROPERTY LINE
  - 84.91 NEW SPOT ELEVATION

**DRAINAGE CALCULATIONS**

**DRAINAGE REPORT**  
**LEGAL DESCRIPTION**  
Parcel C of Renaissance III, Field June 24, 1987 Book C4 page 6 Containing 18.9835 acres (Zone Map F-16). The site does not lie within designated Flood Hazard Zone.  
**PURPOSE AND SCOPE**  
Subdividing Parcel C into two tracts C-1 (17.8816 Acres) and C-2 (1.1019 Acres). Let C-2 be an existing water park which include water rides and pools, support facility building, and paved parking. Let C-2 be proposed antenna site and will include transmitter building, paved parking, and landscaping.  
**SOIL PROFILE**  
The soil for the subject property is shown in the USGS Soil Survey to be of type Wink-Eubank, Hydrologic Soil Group B.  
**DESIGN CRITERIA**  
In order to be consistent with the drainage report for the entire Renaissance III tract (F16/0021), the old Rational Method is used to compute design flows using criteria set forth in Volume 2, City of Albuquerque Development Planning Manual. The runoff coefficient is based on the land use shown on the site plan. The undeveloped and developed 10 and 100-year runoff computations are attached to this report with a comparison peak flow computation from Engineer's Drainage Report (BEACH WATER PARK, FILE F16/0021).  
**OFF-SITE DRAINAGE**  
The drainage area 1, from Engineer's Drainage Report (BEACH WATER PARK, FILE F16/0021), which includes all of the paved parking area as well as for anticipated additional parking areas on the upper part of the site. The 100-year peak flow rate of 24.59 cfs discharges to Desert Surface Creek through a series of sidewalk culverts.  
**ON-SITE DRAINAGE**  
The attached grading plan shows existing and proposed grades indicated by spot elevations, contours, and on-site drainage patterns. The total acreage on the drainage basin on the proposed lot C-2 is 1.2239 Acres, which has been divided into two subbasins C2-A (0.3088 Acres) and C2-B (0.9151 Acres), and C2-C (0.1811 Acres).  
As shown on the plan the proposed improvements on basin C2-A, with a 100-yr run-off of 0.6432 cfs, consists of an antenna, a building, asphalt concrete parking, and landscaping. Run-off from the roof will be conveyed into the parking lot and then through the driveway into an existing catch basin. The landscape run-off will drain into an existing catch basin.  
Basin C2-B and C2-C will remain undeveloped with a 100-yr run-off of 1.1434 cfs and 0.3368 cfs which drain naturally.

**CALCULATIONS**  
Calculating the runoff using old version of Rational Method same as it was used in "BEACH WATER PARK DRAINAGE REPORT"  
 $Q = CIA$   
 $I_{100} = (2.20884N)^{0.81}$  WHERE  $N = 10$  min.  
 $I_{10} = 0.607 \times I_{100}$   
 $I_{100} = 4.65$  AND  $I_{10} = 3.05$   
 $C = 0.85$  for building, pavements  
 $= 0.25$  for sodden 7 irrigated areas  
 $= 0.45$  for undeveloped areas or area with moderate landscaping  
 $= 0.05$  for water features, as no run-off will be developed in these areas  
**BASIN C2-A**  
 $T_p = 0.0078 \times \frac{L^{0.77}}{S^{0.38}}$   
WHERE  $L = 250$  ft. AND  $S = 0.5\%$   
 $T_p = 0.0078 \times \frac{250^{0.77}}{0.005^{0.38}} = 2.69$  min  
 $= 161.49$  sec  
**VELOCITY** =  $250 / 161.49 = 1.55$  ft/s  
**TOTAL AREA**  
AREA = 13.350 ft<sup>2</sup>  
**NEW BUILDING**  
AREA = 150 ft<sup>2</sup>  
 $= 0.0034435$  Acres  
**EXISTING PARKING**  
AREA = 1078.82 ft<sup>2</sup>  
 $= 0.02476$  Acres  
**CONCRETE**  
AREA = 45 ft<sup>2</sup>  
 $= 0.000103$  Acres  
**DRAINAGE BASIN C2-A**  
 $D\% = (0.0034435 + 0.02476 + 0.000103) / 0.3088 = 0.82\%$   
 $B\% = 100 - 8.2 = 91.8\%$

**BASIN C2-B**  
 $Q_{100-yr} = 0.85(4.65)(0.0291) + 0.40(4.65)(0.2767) = 0.6432$  cfs  
 $Q_{10-yr} = 0.85(3.05)(0.0291) + 0.40(3.05)(0.2767) = 0.4253$  cfs  
 $Q_{100-yr} \text{ (C2-B)} = 0.85(4.65)(0.3008) = 1.1434$  cfs  
 $Q_{10-yr} \text{ (C2-B)} = 0.85(3.05)(0.3008) = 0.7677$  cfs  
**COMPARISON OF THE EXISTING WITH NEW DEVELOPMENT**  
 $Q_{100-yr} \text{ (C2-A)} = 1.3095$  cfs - 0.6432 cfs  
 $Q_{10-yr} \text{ (C2-A)} = 0.7077$  cfs - 0.4253 cfs  
 $Q_{100-yr} \text{ (C2-B)} = 0.85(4.65)(0.0115) = 0.4433$  cfs  
 $Q_{10-yr} \text{ (C2-B)} = 0.4433$  cfs - 0.4253 cfs  
**DRAINAGE BASIN C2-C**  
AREA = 26.781 ft<sup>2</sup>  
 $= 0.6130$  Acres  
 $B\% = 100\%$   
 $Q_{100-yr} = 0.40(4.65)(0.6130) = 1.1434$  cfs  
 $Q_{10-yr} = 0.40(3.05)(0.6130) = 0.7438$  cfs  
**DRAINAGE BASIN C2-C**  
AREA = 26.781 ft<sup>2</sup>  
 $= 0.6130$  Acres  
 $B\% = 100\%$   
 $Q_{100-yr} = 0.40(4.65)(0.1811) = 0.3368$  cfs  
 $Q_{10-yr} = 0.40(3.05)(0.1811) = 0.2217$  cfs  
**Note:** It is obvious that the new runoff should be less than the old runoff calculated on Beach Water Park since there were calculated for a proposed future parking lot, where there would be more runoff.



**VICINITY MAP**  
ZONE ATLAS # F-16-Z

	ENGINEER'S SEAL	KRZY ANTENNA / TRANSMITTER BLDG	DRAWN BY DLM
		GRADING / DRAINAGE	DATE 6-23-93
		TIERRA WEST DEVELOPMENT MANAGEMENT SERVICES	KRZYGR.DWG
		4127 CARLISLE BLVD. N.E. ALBUQUERQUE, NEW MEXICO 87107 (505)883-7592	SHEET # 3 OF 4
			JOB # 930015