HYDROLOGY M14/D7 1 PLAN

M 14/D7

1 Plan

CITY OF ALBUQUERQUE

⚠ FLOW DATA FROM CITY HYDROLOGY/Dan Holgan

Q_{100} = 331 c.f.s., s = 0.0016 ft/ft

PIPE CAPACITY FOR 2-72" R.C.P.'s UPSTREAM FROM JUNCTION BOX
Manning Equation, where n = 0.013 for R.C.P.
Q cap. = 358 c.f.s., v = 6'/sec.

BEND LOSS AT MANHOLE

$h_b = k_b(v^2/2g) = 2.2(3^2/2g) = 1.2'$

MANHOLE LOSS

$h_{M.H.} = 0.05(v^2/2g) = 0.03'$

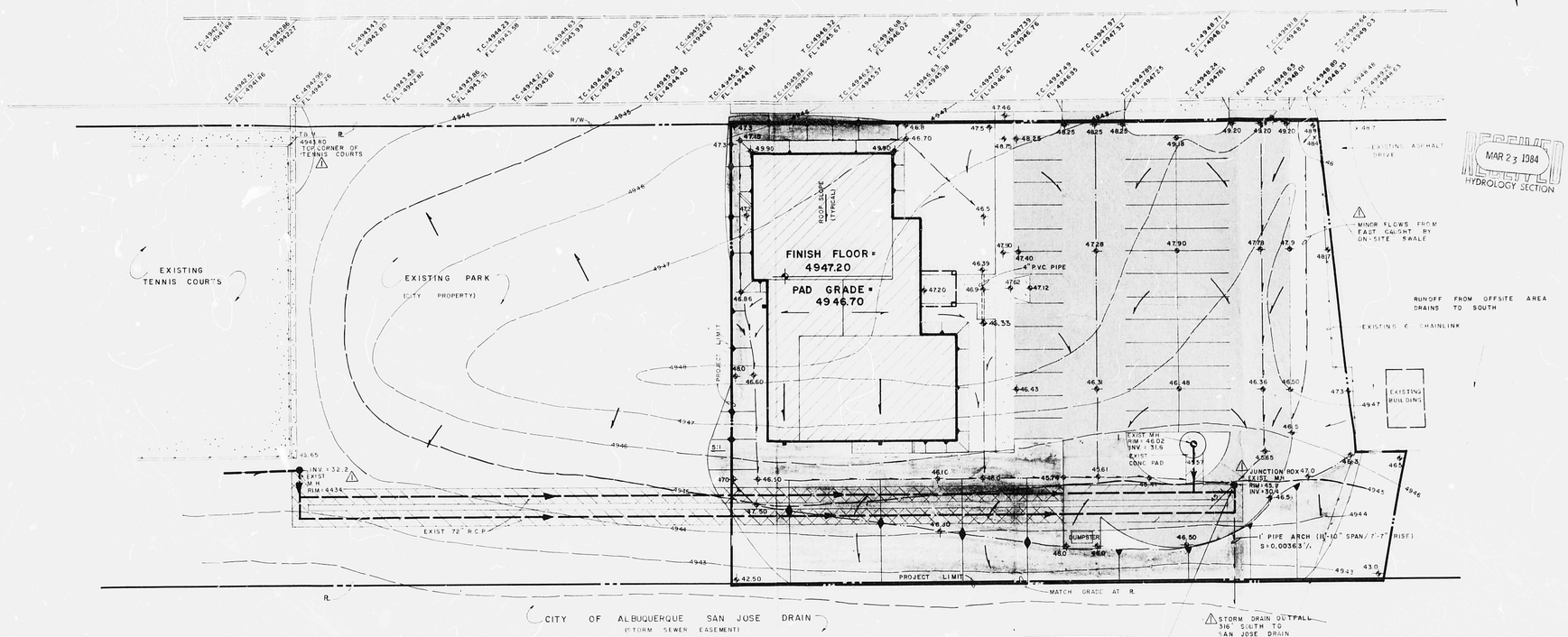
⚠ PIPE CAPACITY FOR PIPE ARCH DOWNSTREAM FROM JUNCTION BOX

Q cap = 425 c.f.s., s = 0.00363, n = 0.025,
A = 71 ft^2, p = 33'

SUMMARY
Pipe flowing full, but not under pressure, at upstream side of Junction Box/Water Surface = 36.4/Distance above water surface to Rim = 8.7'. Head loss at bend of 1.2' offset by increased pipe size outflow pipe, which is not flowing full for given Q.

0 10 20 40

SAN JOSE AVENUE



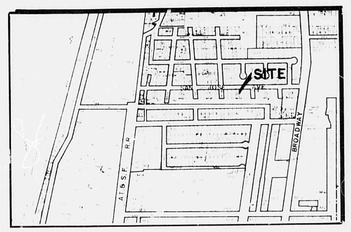
RECEIVED MAR 23 1984 HYDROLOGY SECTION

NORTH

GRADING AND DRAINAGE PLAN

1":20'-0"

⚠ RESUBMITTAL DRAINAGE PLAN _____ CHRIS WEISS _____ DATE



VICINITY MAP - M-14

LEGEND
- ASPHALT PAVING
- LANDSCAPED AREA
- PROPERTY LINE
- EXISTING CURB & GUTTER W/SIDEWALK
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED FINISHED CONTOUR
- SURFACE FLOW DIRECTION
- BUILDING STRUCTURE
- SODDED BERM
- STORM DRAIN PIPE

Approved # 3/23/84

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12-16-83

DRAINAGE PLAN PREPARED BY C.T.S., INC

DRAINAGE AND GRADING PLAN NOTES

1. Legal Description: City property known as the San Jose Community Center, located on Block 18 of the lower Broadway Addition.
2. Benchmark: City of Albuquerque 1-M14, elevation 4,942.97. TBM. N.E. corner of Tennis Court playing surface, elevation 4,943.80.
3. Flood Hazard Area: Zone C, Panel 350002-0034 of the Flood Insurance Rate Map dated September 15, 1983.
4. Soil Group: From the ATL soils report dated 4-19-83 for the San Jose Community Center the soils are sandy clay. Hydrologic Soil Group B.
5. Off-Site Flow: This site sets on a ridge and any flows from the north is intercepted by San Jose Avenue. There are no off-site flows passing through this site.
6. Undeveloped Conditions: The site is 100% pervious. Using plate 22.2C-1, C=0.34. The 100 year-6 hour rainfall amount is equal to 2.3 inches using plate 22.2D-1e. The 10 min. intensity is equal to $I = (2.3)(6.84)(10)^{-.51} = (2.11)(2.3) = 4.9$ inches/hour.

   The site is divided by the ridge into two basins. The northerly basin is 0.18 acres draining to San Jose Avenue. Q = CIA = (0.34)(4.9)(.18) 0.30 c.f.s. The balance of the 0.77 acres drains to the south to the MRGCD San Jose Drain. Q = CIA = (0.34)(4.9)((.77) = 1.28 c.f.s.
7. Developed Drainage Management Plan: There are 2-72" dia. R.C.P. storm sewer traversing this site. The outfall for this storm sewer is located approximately 300' South into the San Jose Drain. Since the outfall is only 300' south,the discharge of this site to the storm sewer would be acceptable in that the peaks should not coincide.

   The flows from this entire site will drain to an existing manhole, the manhole cover and grate will be replaced with a Neenah R-2503-B with a square footage opening of 1.3 sq. ft., the flow rate to this grate is determined as follows:
   $Q = Co\sqrt{2gh} = (0.6)(1.3)\sqrt{64.4(.4)} = 4$ c.f.s
   Total acreage = 0.95 acres of which 0.25 acres is landscaping pervious area, hence % impervious is 73% and using plate 22.2C-1, C = 0.71
   Q = CIA = (0.71)(4.9)(.95) = 3.3 c.f.s.

   The required depth of flow for this is less than 0.4 feet which is acceptable for a parking lot.

revisions	drwn.	ckd.	no.	date
	CLW	CWJ		12-15-83

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project SOUTH SAN JOSE MULTI-PURPOSE CENTER
CITY OF ALBUQUERQUE
DEPT. OF PARKS & RECREATION

title GRADING AND DRAINAGE PLAN

sheet C4 4 of 21

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C D