J21/D19

PRINCESS JEANNE

ADDITION

1 PLAN

SCALE: 1" = 20'

REVISED 5-15-85: PONDING ON BUILDING ROOF DRAINAGE INFORMATION ADJUSTED ACCORDINGLY

Christopher L Weiss
CHRIS WEISS — DATE

LEGEND

- ASPHALT PAVING
- LANDSCAPED AREA
- PROPERTY LINE
- EXISTING CURB & GUTTER W/SIDEWALK
- x 12.7 EXISTING SPOT ELEVATION
- 12 EXISTING CONTOUR
- ● 12.7 PROPOSED SPOT ELEVATION
- 12 PROPOSED FINISHED CONTOUR
- SURFACE FLOW DIRECTION
- BUILDING STRUCTURE

Pond Vol. Divided as follows

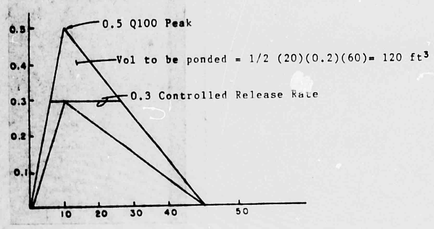
Proposed Bldg. = 6,000 ft² to pond on roof w/controlled release thru a 2" opening in downspout.

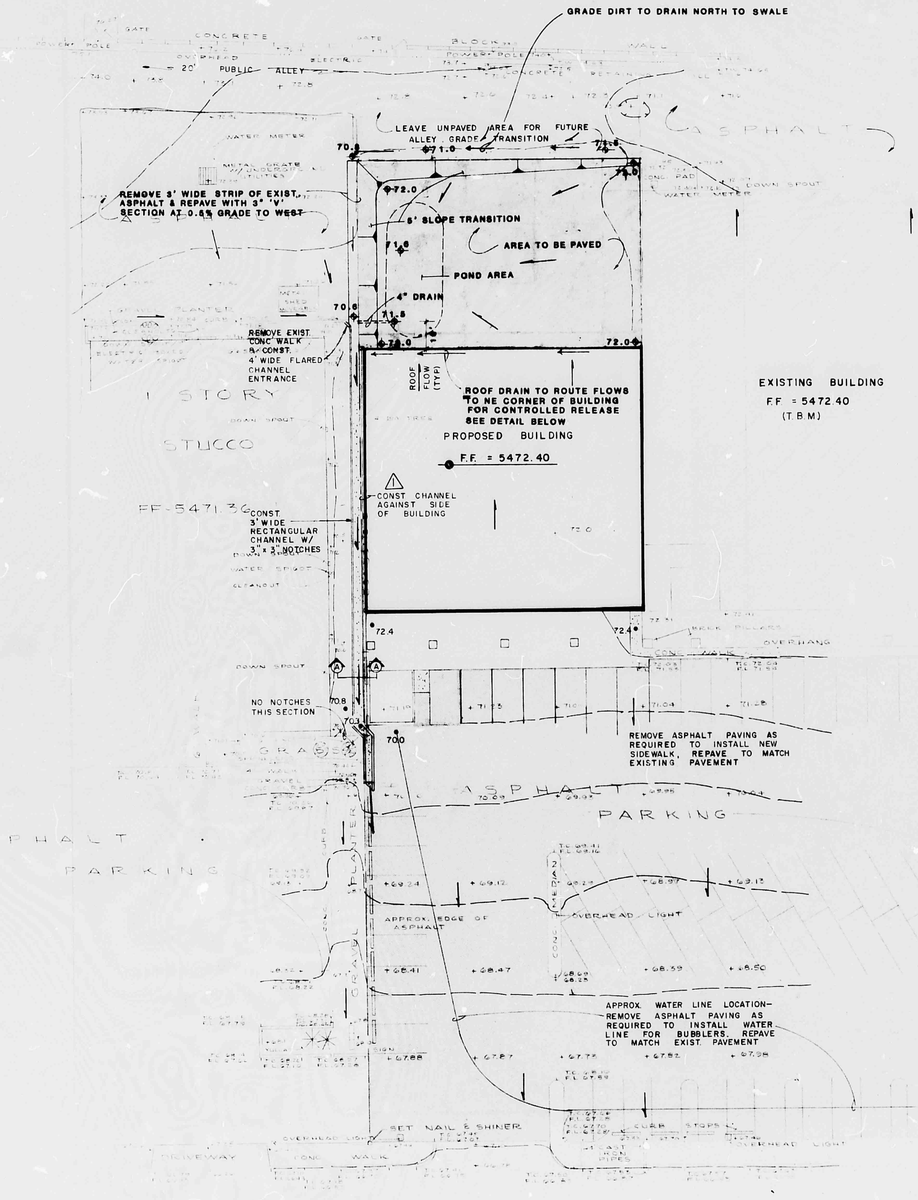
Max Q = 0.04 cfs, where Q = CA $\sqrt{2gh}$ = (0.6)(0.02)$\sqrt{(13.42)}$

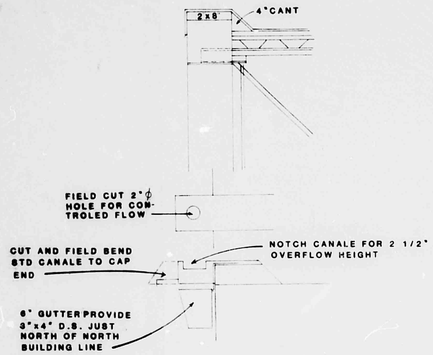
Check total time to drain roof - 6,000 ft²(2.4"/12)/0.04 ft³/sec = 8.3 hrs. < 24 hrs. OK

Rear Parking Area Remaining Area to be ponded on asphalt = 4,320 ft² (0.10 Ac).
Q100 = (1.0)(2.11)(2.4)(0.10) = 0.5 cfs.
Max. release rate = 0.3 cfs. (see original hydrograph).
Release rate from 4" pipe under a head of 0.25' = 0.30 cfs.

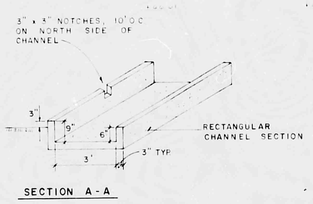
Vol. to be ponded = 120 ft³ on the asphalt behind the building
Pond size = 40' long, avg. depth = 0.4', avg. width = 15'





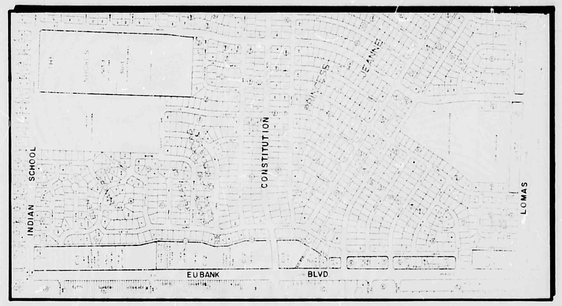


ROOF DRAIN DETAIL



SECTION A-A

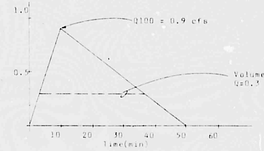
EUBANK BOULEVARD



VICINITY MAP - J 21

NOTES:

1. Legal: Tract A-1, Blk. 1, Princess Jeanne Park, Albuq. N.M.
2. Surveyor: Ron Forstbauer Survey Company, 4-84.
3. B.M.: G-121, Elevation 5468.89
4. T.B.M.: FF of adjacent Bldg. to south of site, Elevation 5472.40
5. Soils: SCS Soils Map #32, Soil Type "Ute" Hydrologic Group "B".
6. Flood Hazard: Site is not located in a Flood Hazard Area. (AMOS J-21)
7. Drainage Criteria:
   a) Drainage Plan per DPM required.
   b) Ponding required due to flooding on Eubank Blvd.
   c) Approved Alley grades required.
   d) Easement required if drainage onto adjacent property is required.
8. Area affected by development = 10,530 ft²
   a) Undeveloped runoff rate Q100 = (2.15)(2.4)(0.4a)(0.24Ac) = 0.4 cfs
   b) Developed runoff rate Q100 = (2.15)(2.4 + 0.71)(0.24Ac) = 0.9 cfs
   c) Maximum allowable developed discharge rate = 0.5 cfs/Ac or flow through 4" outlet pipe for areas less 1.0 Ac.
9. Calculation of Pond Volume and Outlet Control:
   a) Maximum available head for ponding area is about 0.5'. For 4" outlet pipe and Q = CA$\sqrt{2gh}$, maximum Q @ h = 0.5' = 0.6 (.087) (8.02)(.5') = .1 cfs
   b) Developed area hydrograph for Q100 = 0.9 cfs



   c) Use asphalt-lined pond with volume > 803 cu.ft. and 4" outlet pipe as shown on plans.
10. Spillway and Channel Capacity Requirements:
   a) North side of pond will have lip at 71.8' to act as emergency spillway. At 0.25' head, spillway capacity Q = (1.49/.2 x 2.4(2.5) (.25)^3/2 = 4.1 cfs.
   b) Calculate of Q100 routed to pond and over spillway:
      A = 17,000 sq. ft. impervious + 2800 undisturbed (assume future paving); C = 0.95
      Q = CIA = 0.95 (2.4)(2.15)(.45 Ac) = 2.2 cfs spillway capacity O.K.
   c) Calculate channel capacity for flows routed along north side of property to parking lot
      A = 30,000 sq. ft. impervious area, C = 0.95
      Q = CIA = 0.95(2.4)(2.15)(.69) = 3.4 cfs
      Try 3' wide, 0.5' deep rectangular channel, Q = 3.4, n = .015, S = .002?
      From Manning type and normal depth monograph Chow, p. 136
      D_n = 0.45' 0.9'

RECEIVED APR 24 1985 HYDROLOGY SECTION

J21/D19

REVISED 5-31-84 TO SHOW 3' CONC. CHANNEL AGAINST BLDG. & TO MOVE POND 5' MORE TO THE NORTH

6-15-84

CITY OF ALBUQUERQUE
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no.	date	revision

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Addition to Princess Jeanne Shopping Center
1522 Eubank Blvd. N.E.

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