HYDROLOGY

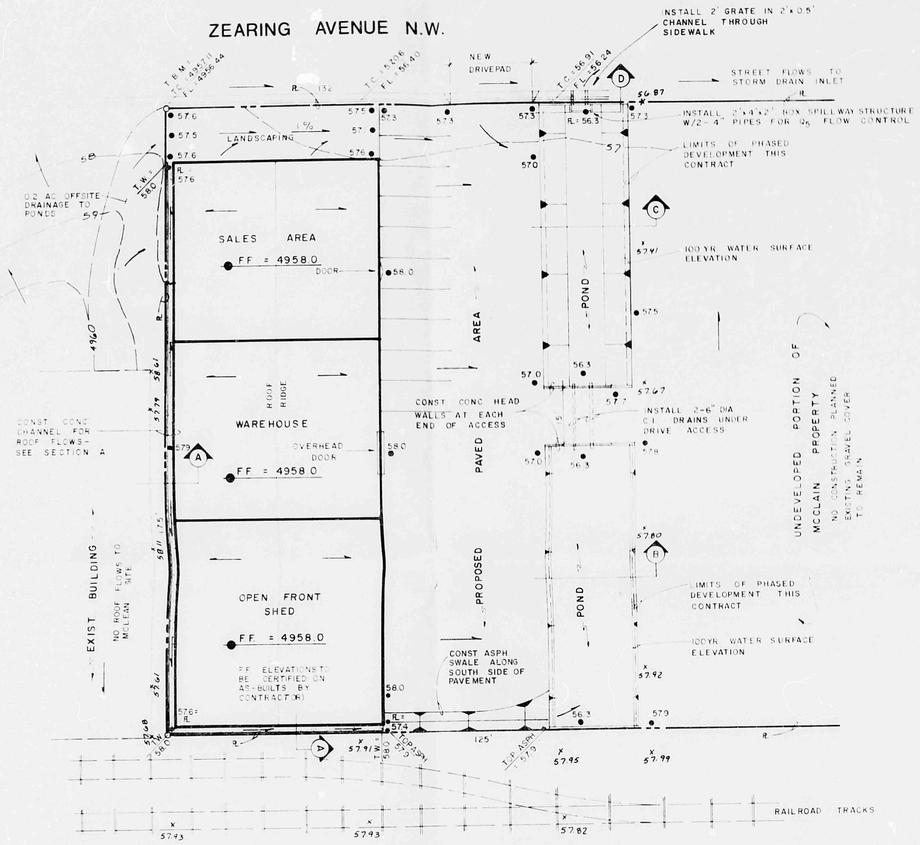
H13/D13
1 PLAN

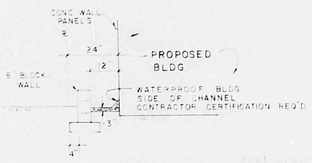
H13/D13

1 PLAN

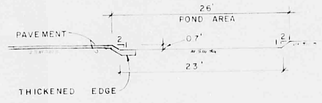
RESUBMITTAL 7-24-84 MOVED BLDG 2' NORTH FROM SOUTH R. / HIGH - POINTED SWALE ALONG WEST SIDE OF BLDG TO FLOW NORTH & SOUTH/CONTINUED SWALE ALONG SOUTH SIDE OF BLDG TO OUTLET ONTO PARKING/REGRADED SWALE IN ASPHALT TO FLOW TO POND FROM S.E. CORNER OF BLDG.

SCALE: 1" = 20'



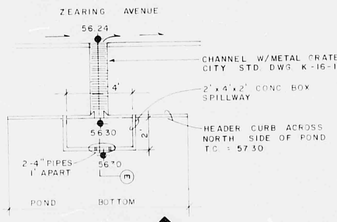


SECTION A

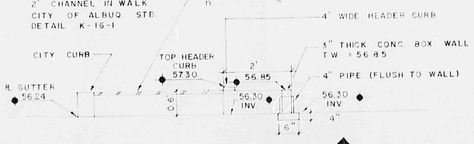


SECTION B

SECTION C



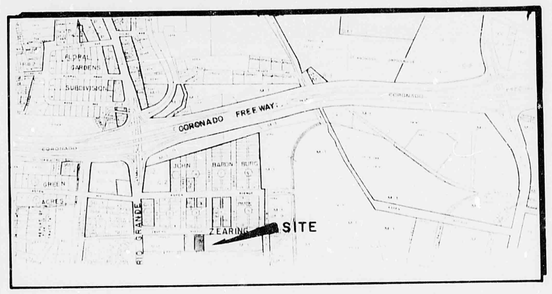
SECTION D



SECTION E

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



VICINITY MAP H-13

SEP 07 1984
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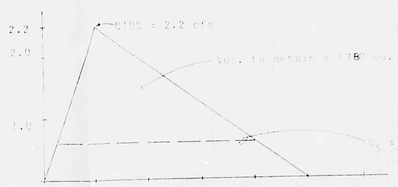
HYDROLOGY SECTION

NOTES:

1. Legal: Western most 110' of tract 3482-A-1, M.R.G.C.D. Map 33
2. Albuquerque, N.M.
   Bench Mark: 1967. A square chisled on top of concrete curb at "X" corner, located at the intersection of Rio Grande Boulevard and Lilac Avenue, N.W., Quadrant of intersection.
   Elevation: 4959.70
3. T.B.M.: 1.C. west to line projection to Zearing Ave.
   Elevation: 4957.11, "X" chisled on curb
4. Scale: S.D.R. 35 [illegible] 1" = 50' [illegible] from "B".
5. Flood hazard: Site is location adjacent to a Flood Hazard Area. See Map.
6. Surveyor: Ken Hyle, P.E.
7. Site to drainage: Site and surrounding terrain very flat. Minor offsite drainage from northern portion of adjacent site to west to be accepted onsite in front of proposed outlook.
8. Drainage Criteria: Per Discussion meeting with City Hydrology on 7-23-84, the following criteria was established:
   a) Drainage plan per D.P.M. required.
   b) Min. F.F. elevation to be established 1' above flood elevations of 4956.
   c) Special Order #19 document required for sidewalk culvert
9. Flow Calculations:
   a) Undeveloped Site, presently covered with gravel
      $Q_{100} = (2.15)(2.2)(0.50)(0.50\ Ac.) = 1.2\ c.f.s.$
   b) Developed site, crainion to none
      $Q_{100} = (2.15)(2.2)(0.92)(0.50\ Ac.) = 2.2\ c.f.s.$
      $Q_{10} = (2.15)(1.2)(0.92)(0.50)(0.50\ Ac.) = 1.2\ c.f.s.$
   c) Pond Volume Calculations:

Depth	Area	Avg. Depth	Volume
56.60'	3300	0.27'	904
56.85'	3770	0.47'	1785

   d) Channel Calculations: W=2', S=0.01, n=0.02 (conservative to account for turbulent entrance)
      $D_n = 0.33' < 0.5'$
10. Ponding and Outlet Control:
   a) From triangular design hydrograph and Q_{10} = 0.6 cfs, required pond detention is 1785 cu. ft.



   b) Pond shown on plan will detain approximately 1785 cu. ft. at spillway elevation = 56.85'
   c) Two 4" outlet pipes with invert elevation = 56.3 control discharge to below 0.6 cfs until pond reaches elevation 56.85. Calculation based on King and Brater 5th Ed., Chap. 4
      $Q = CA\sqrt{2gh}$
      $0.3 = 0.7\ (.087)(9.02)(h)^{1/2}$
      $h = 0.78'\ (.78' + 56.47' = 56.85')$
   d) Box spillway (2'x2'x4') with overflow elevation 56.85 will convey 2.2 cfs as shown by broad-crested weir formula (King & Brodu 5th Ed Chap. 5)
      $Q = CLH^{3/2}$
      $Q = 2.5(8)(0.25)^{3/2} = 2.5\ c.f.s$

Resubmittal July 10, 1984

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(505) 266-3444

REVISIONS	DATE

DESIGNED
DRAWN
CHECKED

DRAINAGE / GRADING PLAN
OFFICE & WAREHOUSE SITE
ZEARING AVENUE N.W.

SHEET 1 OF