HYDROLOGY

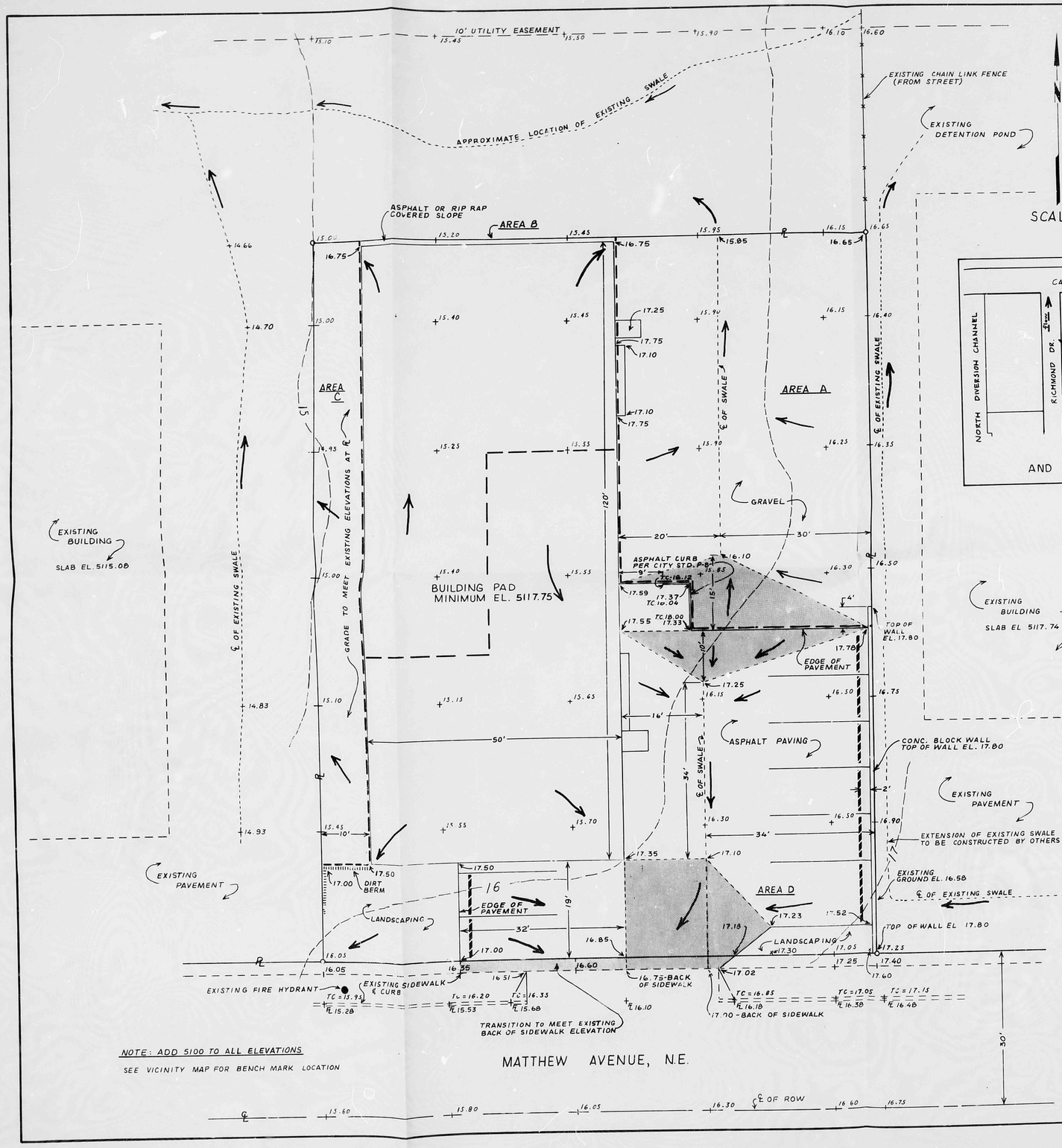
H16/D56

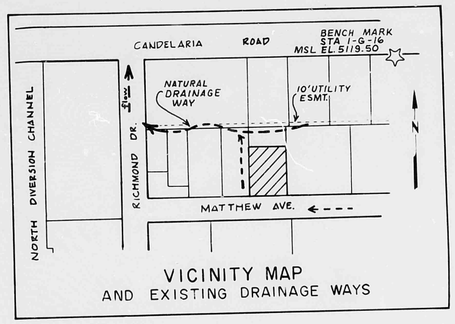
ONE PLAN

1 PLAN FOR

C+M OFFICE/WAREHOUSE

H16-D56





VICINITY MAP
AND EXISTING DRAINAGE WAYS

LEGEND

- DRAINAGE AREA BOUNDARY
- DIRECTION OF FLOW
- TRANSITION AREA
- EXISTING CONTOUR
- PRECAST CONCRETE PARKING BUMPER

GENERAL

Zone Atlas page H-16 Flood Hazard Zone C ✓

LAND USE

Present - undeveloped lot, no existing structures, frontage on Matthew Avenue, N.E., which is a paved street with curbs and gutters. Existing industrial buildings on three sides.
Proposed - to be developed as office/warehouse building.

SOIL TYPE -- Wink-Embudo, sandy loam, Hydrologic Soil Group B.

TOTAL LOT AREA = 140 ft x 110 ft = 15,400 sq ft = 0.35 ac.

HYDROLOGY

TIME OF CONCENTRATION
Flow length is diagonal across lot = 178 ft
Elevation difference = 2.25 ft
Slope = 1.3% and velocity = 0.65 fps
Time of concentration = 4.6 minutes; use 10 minutes

RAINFALL INTENSITY
10-yr = 3.28 in/hr
100-yr = 4.84 in/hr

6-HR. RAINFALL DEPTH
10-yr = 1.45 inches
100-yr = 2.20 inches

RUNOFF COEFFICIENTS
Undeveloped lot C = 0.34
Roof areas C = 0.98
Gravel paved area C = 0.45
Parking and landscaped areas C = 0.80

RUNOFF RATES

Undeveloped -- all draining to northwest corner
10-yr 0.39 cfs
100-yr = 0.58 cfs

Developed -- by drainage subarea	10-yr	100-yr
Subarea A	.127	.166
Subarea B	.001	.002
Subarea C	.031	.046
1/2 roof area	.222	.328
Total draining to NW corner	.381 cfs	.542 cfs
Subarea D	.265	.391
1/2 roof area	.222	.328
Total draining to street	.487 cfs	.719 cfs

RUNOFF VOLUMES

Undeveloped -- all draining to NW corner
10-yr = 631 cu ft
100-yr = 905 cu ft

Developed -- by drainage subarea	10-yr	100-yr
Subarea A	205	309
Subarea B	2	3
Subarea C	50	75
1/2 roof area	357	543
Total draining to NW corner	612 cu ft	930 cu ft
Subarea D	427	648
1/2 roof area	357	543
Total draining to street	784 cu ft	1,191 cu ft

Therefore, discharge to the back of the lot does not exceed predevelopment levels, and has been agreed to by the adjacent landowner.

OFF SITE FLOWS
There are no off site flows affecting the site at present. Previously, the lot immediately to the east was illegaly discharging runoff onto this lot; but that problem has now been corrected and all of that runoff is now directed to a detention pond at the back of the lot.

STREET CAPACITY
Matthew Avenue is a 45-foot wide street at a slope of 1.23 percent. One-half the street capacity at 6 inches of flow depth is 15 cfs. The 100-year flow rate from this development is 4.8 percent of this capacity, or 2.4 percent of the total street capacity.

EROSION CONTROL
During construction on this lot, no dirt will be stockpiled closer than 15 feet from any property line. Contractor will remove any sediment that may wash off the site as soon as possible after he is aware of such occurrence, although this is not expected. A properly compacted and stabilized berm will be required around all temporary detention areas, if any are found necessary.

H16-D56

Same as 5/7/84

APR 10 1984 RESOURCE TECHNOLOGY SECTION

GRADING & DRAINAGE PLAN
OFFICE / WAREHOUSE BUILDING
for
C & M BUILDING PARTNERSHIP

RESOURCE TECHNOLOGY, INC.

DESIGNED BY	E.D. & S.D.	DATE MARCH '84
DRAWN BY	S.D. & E.S.	DATE APRIL '84
CHECKED BY	E.D.	DATE APRIL '84

H16/D56