HYDROLOGY

M15/D18

TWO PLANS

2 PLANS FOR

APPLIED TECHNOLOGY

BLDG.

M15-D18

ANALYSIS

Industrial Park West-Unit 1

Not in flood plain
No flows affect this site
(Plate 41)

Master Drainage Report: M-15, d-11

NOTE: see also Report M-15, d-17 which establishes an allowable release rate of one (1) CFS per acre of land

Time of concentration: Tc = 10 minutes
Intensity (Plate 22.2 D-1 & 22.2 D-2):
I = (2.3)(2.15) = 4.95

Drainage Area I: approximately 10 to 20 feet along the north property line which discharge directly into the street through curb cuts. (Plate 22.2 C-1) 2900 sf at 47% impervious: C = 0.66
Q = CIA = (.66)(4.95)(2900/43560)
= 0.19 CFS

Drainage Area II: remainder of the site with three ponding areas; flows are routed into the street via a sidewalk culvert as a controlled rate: since 0.19 CFS (I released from Area I, Area II must be restricted to (1.0 - 0.19) = .81CFS (Plate 22.2 C-1) 1060 SF at 5% impervious: C = 0.70

Inflow/Outflow Equations:

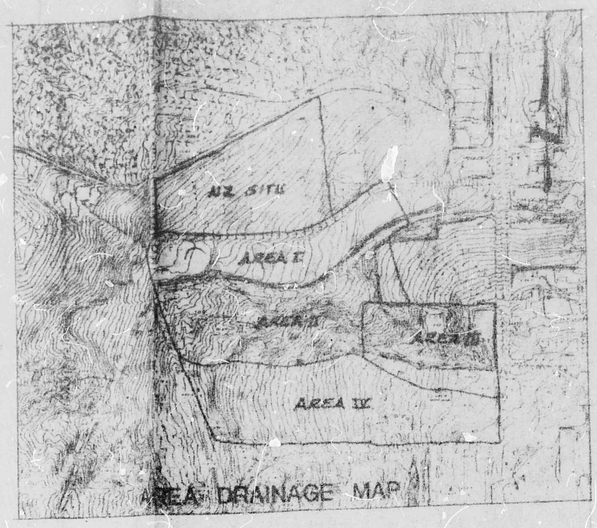
Time to maximum volume: T =
-25 + SQR(7087.5CA/Qo) =
51 minutes

Maximum volume at 51 minutes: V =
(11340CAT/(t+25)) - (40QoT) =
5021 - 2462 =
2558 CF

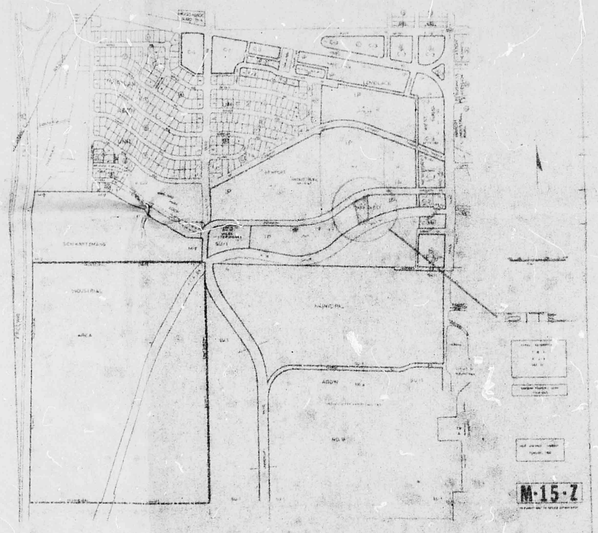
Ponding Furnished:

Pond A: 1449 SF x 0.9 FT = 1309 CF
Pond B: 3676 SF x 0.25FT = 901 CF
Pond C: 2800 SF x 0.25FT = 703 CF

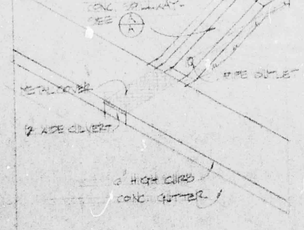
Total Volume = 2907 CF > 2558 reqd
At 2.3 FT head a 4-1/2" pipe will control the flow.



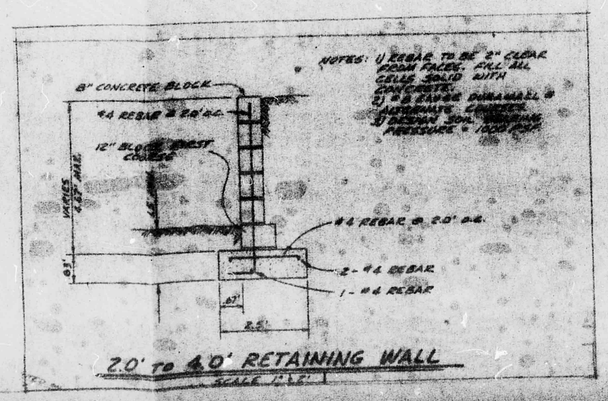
AREA DRAINAGE MAP



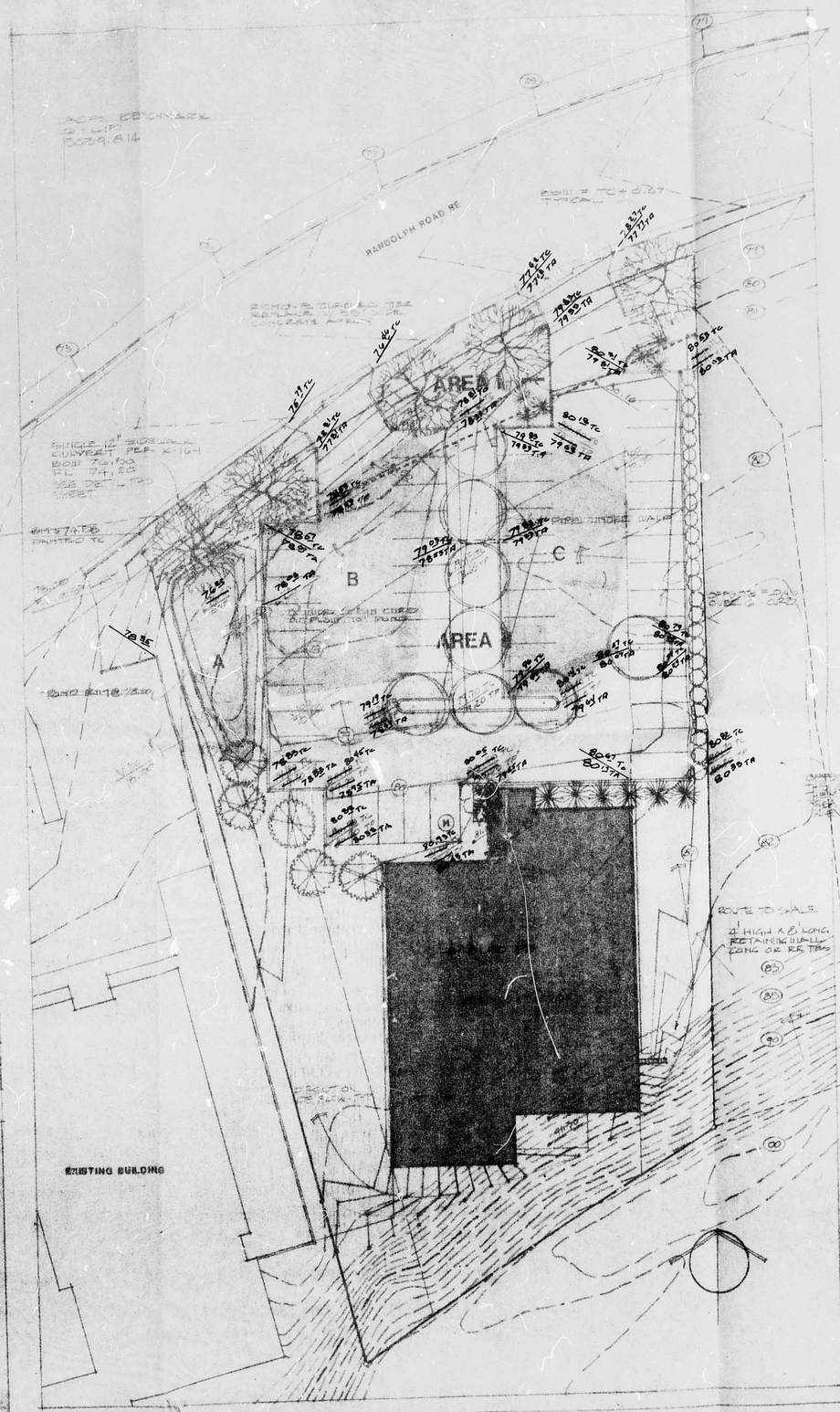
VICINITY MAP



SIDEWALK CULVERT DETL
NO SCALE



2.0' TO 4.0' RETAINING WALL
SCALE 1"=1'



SITE PLAN - GRADING & DRAINAGE
1"=20'-0"

INDEX TO DRAWINGS

LEGEND

SYMBOL	DESCRIPTION
	PONDING AREA
	NEW CONC APRON
	BLDG LOCATION
	SOD AREA
52	EXISTING CONTOUR
52	NEW CONTOUR
	DIRECTION OF FLOW
79.00	NEW SPOT ELEVATION
	EDGE OF PAVED AREAS
	EDGE OF PROPOSED FLOW AREA

AS-BUILT
4/9/84

JAMES E. BLACKWELL
NEW MEXICO
7145
REGISTERED PROFESSIONAL ENGINEER

NOTE: AS-BUILT POND LEVELS & VOLUME CALC'S ARE WITHIN SUBSTANTIAL CONFORMANCE OF THE APPROVED DRAINAGE PLAN.

M15/D18

THE APPLIED TECHNOLOGY BUILDING

STATE OF NEW MEXICO
Joe P. Schlegel
No. 218
James C. Lewis
No. 979
REGISTERED ARCHITECTS

Schlegel and Lewis architects
1621 Central SE • Albuq., N.M. 710 • (505) 241-1526

PROJECT:
JOB NO.:
DATE:
SHEET A

SITE GRADING & DRAINAGE

DRAINAGE ANALYSIS

Parcel B
Tract 4
Newport Industrial Park West-Unit 1

Zoning: IP
Site not in flood plain
No off site flows affect this site
SCS soils C (Plate 41)

Master Drainage Report: M-15, d-11

NOTE: see also Report M-15, d-17 which establishes an allowable release rate of one (1) CFS per acre of land

Time of concentration: Tc = 10 minutes
Intensity (Plate 22.2 D-1 & 22.2 D-2):
I = (2.3)(2.15) = 4.95

Drainage Area I: approximately 10 to 20 feet along the north property line which discharge directly into the street through curb cuts. (Plate 22.2 C-1) 2500 sf at 47% impervious: C = 0.66
Q = CIA = (.66)(4.95)(2500/43560)
= 0.19 CFS

Drainage Area II: remainder of the site with three ponding areas; flows are routed into the street via a sidewalk culvert at a controlled rate; since 0.19 CFS if released from Area I, Area II must be restricted to (1) - (.19) = .81CFS (Plate 22.2 C-1) 41060 SF at 59% impervious: C = 0.70

Inflow/Outflow Equations:

Time to maximum volume: T =
-25 + SQR(7087.5CA/Qo) =
51 minutes

Maximun volume at 51 minutes: V =
(11340CAT/t+25) - (40QoT) =
5021 - 2462 =
2558 CF

Ponding Furnished:

Pond A: 1445 SF x 0.9 FT = 1300 CF
Pond B: 3676 SF x 0.25FT = 904 CF
Pond C: 2800 SF x 0.25FT = 703 CF

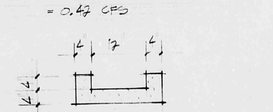
Total Volume = 2907 CF > 2558 reqd
At 2.3 FT head a 4-1/2" pipe will control the flow.

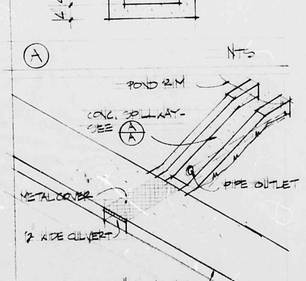
ACTUAL DISCHARGE RATE:
Q = CIA (A)/0.7

POND A - Q = .33 (0.09 SF)/0.7
= 0.66 CFS

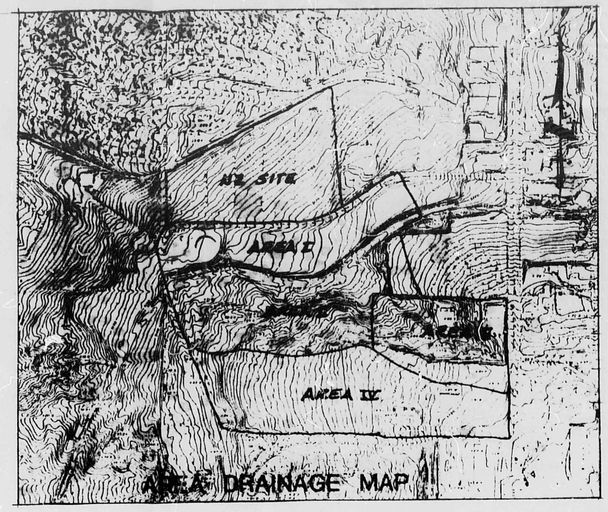
POND C - Q = .33 (0.09 SF)/0.7
= 0.3 CFS

POND B - PER ENG. ED FORMULA
Q = 3.32 (1.88)^1.07
= 3.32 (0.33 ft)^1.07
= 0.47 CFS

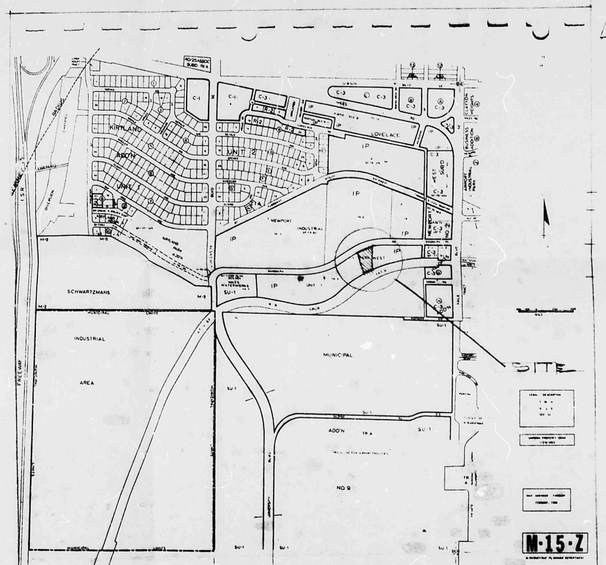




SIDEWALK CULVERT DETL.
NO SCALE



AREA DRAINAGE MAP



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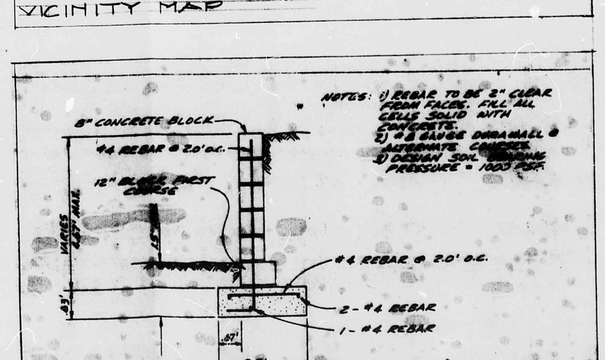
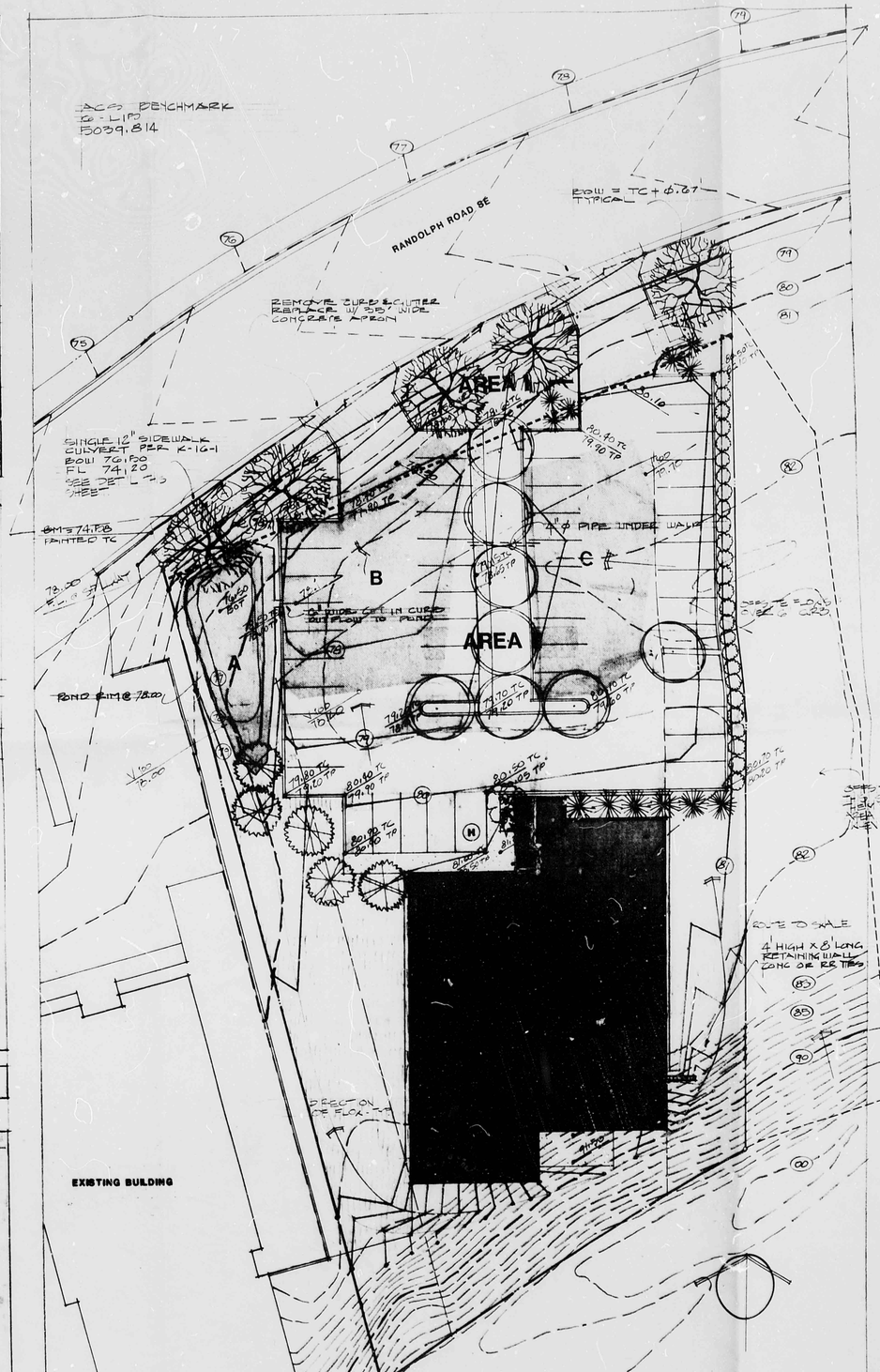


2.0' TO 4.0' RETAINING WALL
SCALE 1"=1'



SITE PLAN - GRADING & DRAINAGE
1"=20'-0"

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A GRADING & DRAINAGE PLAN
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SITE DETAILS
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FOUNDATION DETAILS
3 1ST FLOOR PLAN
2ND FLOOR PLAN
4 FLOOR FRAMING
ROOF FRAMING
5 STEEL CHOP DWGS.
S2 " " "
S3 " " "
6 WALL SECTIONS
7 BUILDING SECTIONS
8 STAIR SECTIONS
9 ENLARGED FLOOR PLANS
10 ELEVATIONS
M1 PLUMBING PLAN
M2 MECHANICAL PLAN
E1 LIGHTING PLAN
E2 POWER PLAN
TI TENANT IMPROVEMENTS

LEGEND

SYMBOL	DESCRIPTION
	PONDING AREA
	NEW CONC APRON
	BUILDING LOCATION
	SOD AREA
82	EXISTING CONTOUR
82	NEW CONTOUR
	DIRECTION OF FLOW
89.00	NEW SPOT ELEVATION
	EDGE OF BASIN AREAS I & II
	EDGE OF OFFSITE FLOW AREA

OFFSITE FLOW AREA = 6000 SF
THIS AREA IS TRIBUTARY TO THE PONDING AREAS ON THIS SITE
NEW FLOW TO BE ADDRESSED RATHER THAN SITE SPECIFICS

For Revision
For Revisions 12-7-83
12-1-83
9-7-83

M15/D18

THE APPLIED TECHNOLOGY BUILDING

STATE OF NEW MEXICO
Don P. Schlegel No. 218
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REGISTERED ARCHITECTS

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PROJECT:
JOB NO.:
DATE:
SHEET A

SITE GRADING & DRAINAGE 11/1/83 2/6/83 9/8/83