HYDROLOGY

E19/D5
1 PLAN

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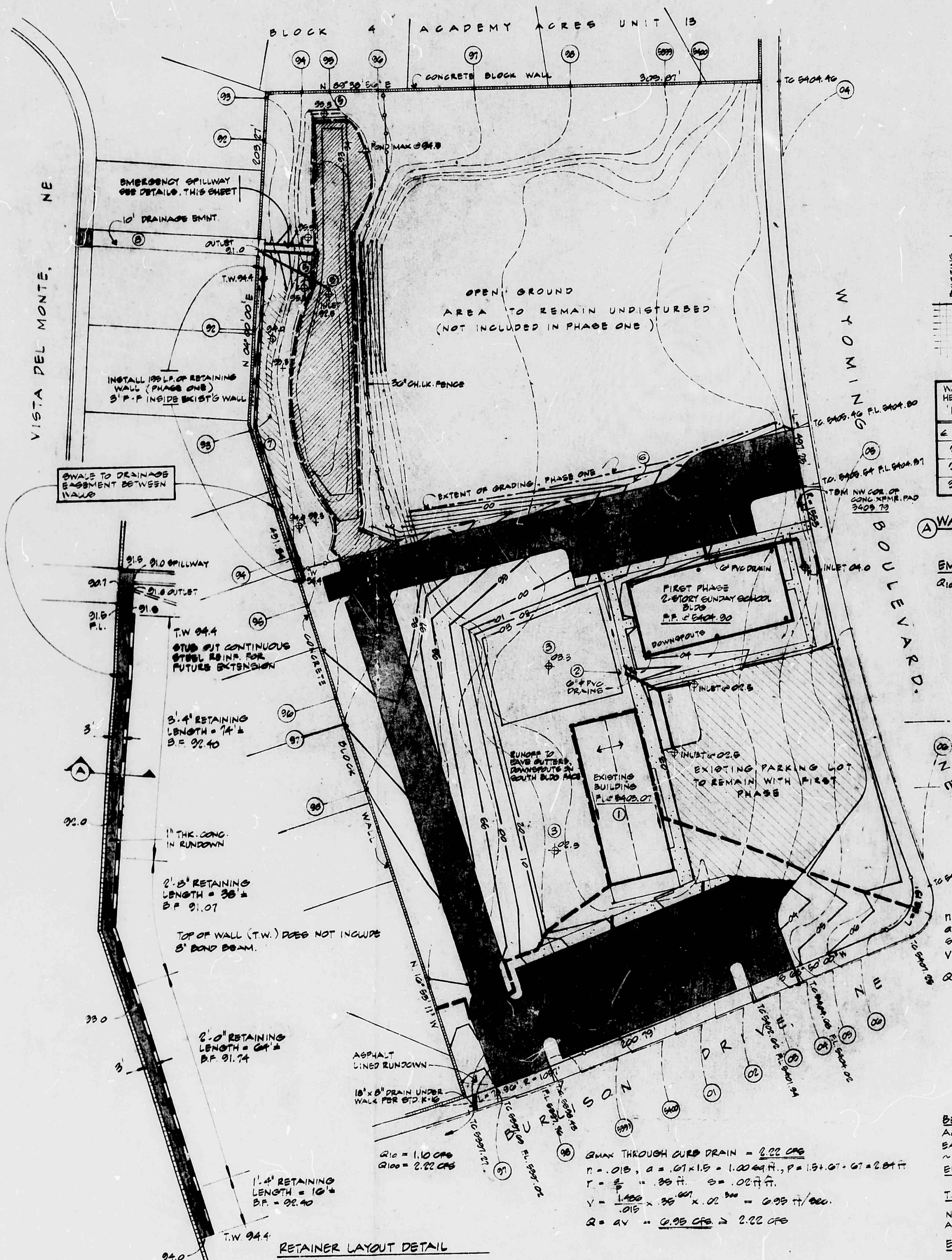
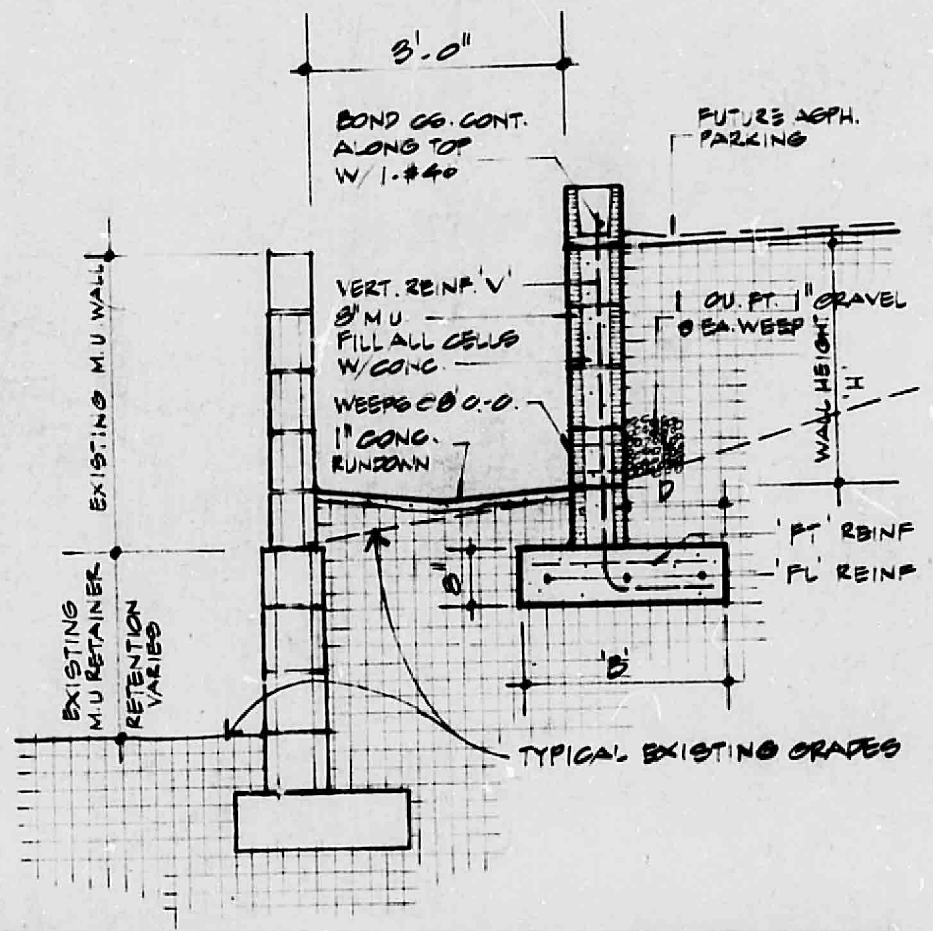
1 Plan


BLOCK 4 ACADEMY ACRES UNIT 13
CONCRETE BLOCK WALL
VISTA DEL MONTE NE
WYOMING BOULEVARD
BURLISON DRIVE NE
EMERGENCY SPILLWAY SEE DETAILS THIS SHEET
10' DRAINAGE EASEMENT
OPEN GROUND AREA TO REMAIN UNDISTURBED (NOT INCLUDED IN PHASE ONE)
INSTALL 159 L.F. OF RETAINING WALL (PHASE ONE) 3' F-F INSIDE EXIST'G WALL
36" CH. LK. FENCE
SWALE TO DRAINAGE EASEMENT BETWEEN WALLS
EXTENT OF GRADING, PHASE ONE
FIRST PHASE 2-STORY SUNDAY SCHOOL BLDG F.F. = 5404.90
EXISTING BUILDING F.F. = 5403.07
EXISTING PARKING LOT TO REMAIN WITH FIRST PHASE
TBM NW COR. OF CONC. XFMR. PAD 5405.79
91.5 91.0 SPILLWAY
91.0 OUTLET
T.W 94.4
STUB OUT CONTINUOUS STEEL REINF. FOR FUTURE EXTENSION
3'-4" RETAINING LENGTH = 74'± B.F. 92.40
1" THK. CONC. IN RUNDOWN
2'-8" RETAINING LENGTH = 38'± B.F. 91.07
TOP OF WALL (T.W.) DOES NOT INCLUDE 8" BOND BEAM.
2'-0" RETAINING LENGTH = 64'± B.F. 91.74
1'-4" RETAINING LENGTH = 16'± B.F. 92.40
ASPHALT LINED RUNDOWN
18" x 8" DRAIN UNDER WALK PER STD. K-16

Q10 = 1.10 CFS
Q100 = 2.22 CFS

QMAX THROUGH CURB DRAIN = 2.22 CFS
n = .013, a = .67 × 1.5 = 1.00 sq ft., p = 1.5 + .67 + .67 = 2.84 ft
r = $\frac{a}{p}$ = .35 ft. s = .02 ft/ft.
V = $\frac{1.486}{.015}$ × .35$^{.667}$ × .02$^{.500}$ = 6.95 ft/sec.
Q = aV = 6.95 CFS ≥ 2.22 CFS

RETAINER LAYOUT DETAIL
1" = 20'

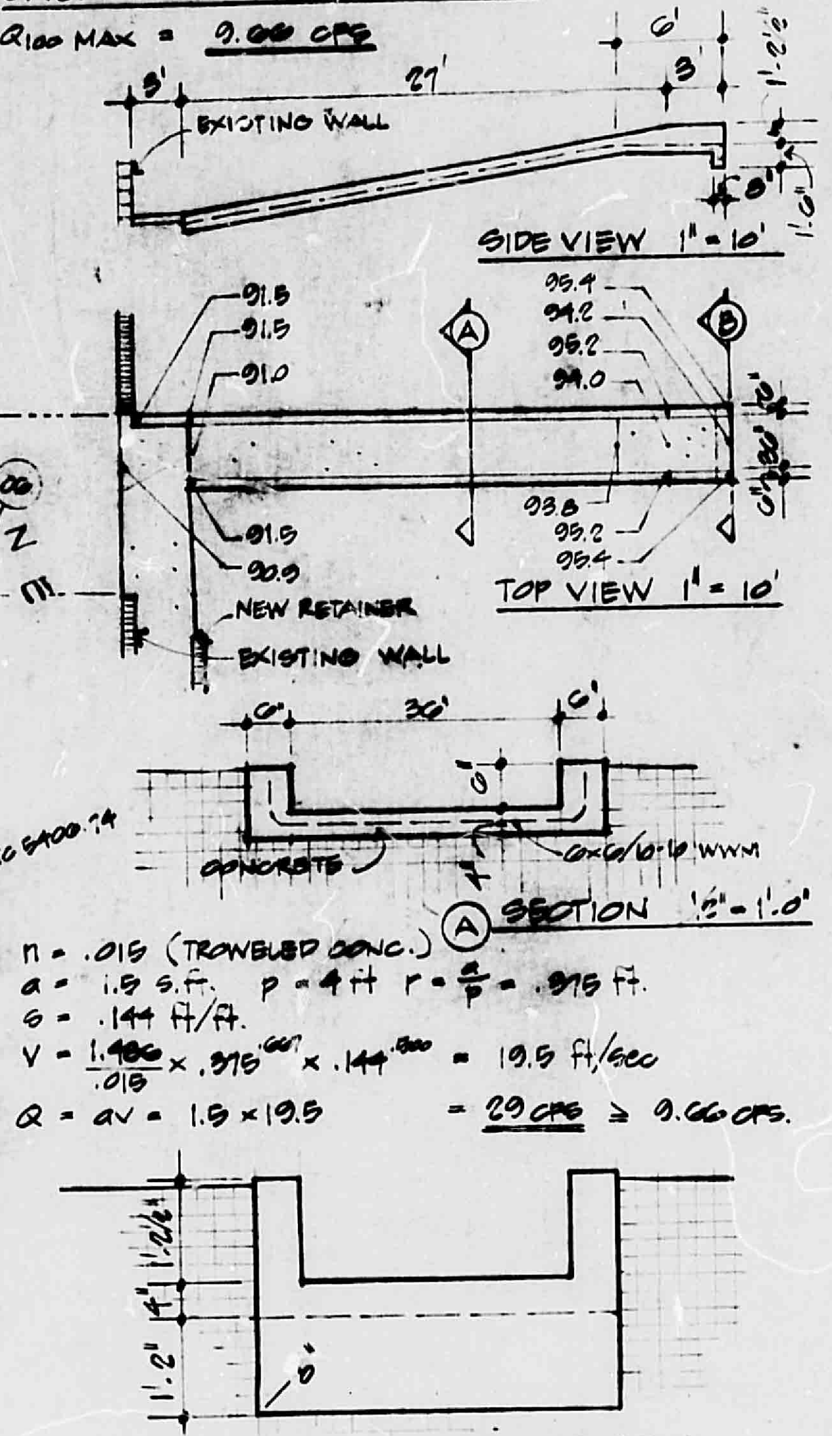

3'-0"
BOND BM. CONT. ALONG TOP W/ 1 #4
FUTURE ASPH. PARKING
VERT. REINF 'V'
8" M.U. FILL ALL CELLS W/ CONC.
WEEPS @ 8'-0"
1" CONC. RUNDOWN
1" OU. FT. 1" GRAVEL @ EA. WEEP
WALL HEIGHT 'H'
'FT' REINF
'FL' REINF
EXISTING M.U. WALL
EXISTING M.U. RETAINER VARIES
TYPICAL EXISTING GRADES

WALL HEIGHT 'H'	FOOTING WIDTH 'B'	HEEL 'D'	VERTICAL REINF. 'V'	FOOTING REINF. TRANSVERSE 'FT'	FOOTING REINF. CONTINUOUS 'FL'
≤ 1'-4"	1'-4"	5"	#3 @ 32" O.C.		2 - #4
2'-0"	1'-8"	7"	#3 @ 24" O.C.		2 - #4
2'-8"	2'-0"	10"	#4 @ 24" O.C.	#3 @ 24" O.C.	2 - #4
3'-4"	2'-4"	12"	#4 @ 24" O.C.	#3 @ 24" O.C.	3 - #4

Ⓐ WALL DETAIL ½" = 1'-0"

EMERGENCY SPILLWAY

Q100 MAX = 9.66 CFS


6'
27'
3'
EXISTING WALL
SIDE VIEW 1" = 10'
91.5
91.0
94.4
94.0
93.2
TOP VIEW 1" = 10'
NEW RETAINER
EXISTING WALL
36"
CONCRETE
6x6/10-10 WWM
Ⓐ SECTION ½" = 1'-0"
Ⓑ INLET VIEW

n = .015 (TROWELED CONC.)
a = 1.5 s.ft. p = 4 ft r = $\frac{a}{p}$ = .375 ft.
s = .144 ft/ft.
V = $\frac{1.486}{.015}$ × .375$^{.667}$ × .144$^{.500}$ = 19.5 ft/sec
Q = aV = 1.5 × 19.5 = 29 CFS ≥ 9.66 CFS.

BENCH MARK 6-E19

ACS BRASS CAP SET IN CONCRETE CURB ON EAST SIDE OF WYOMING BOULEVARD, NE ~250' N. OF BURLISON DRIVE.
ELEV 5403.279

T.B.M.

N.W. CORNER OF CONCRETE TRANSFORMER PAD AT APPROX MID-POINT OF EAST PROPERTY LINE
ELEV. 5405.79

NOTES

AS KEYED ON PLAN

① EXISTING BUILDING TO BE FITTED WITH GUTTERS & DOWNSPOUTS DURING PHASE ONE CONSTRUCTION.
RUNOFF SHALL BE DIRECTED TO SOUTHWEST CORNER, ROUTED UNDER WALK.

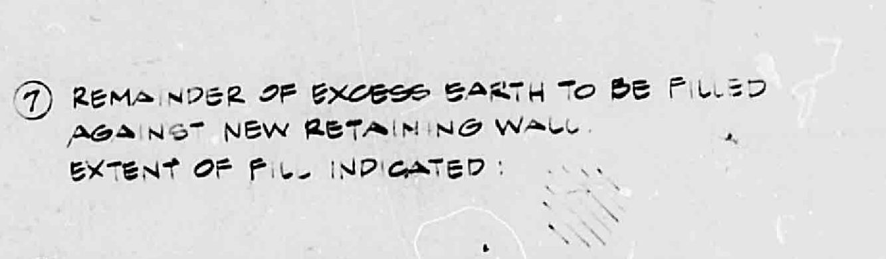
② 6" ⌀ PVC DRAINS FROM EXISTING PARKING AREA. TO REMAIN IN PLACE WITH SUBSEQUENT PHASES FOR CONVEYANCE OF ROOF DRAINAGE.

③ TEMPORARY PADS FOR FUTURE BUILDINGS. GRADES ARE SET FOR QUANTITY BALANCING (PH. ONE) AND DO NOT NECESSARILY REPRESENT FIN. FLOOR ELEVATIONS OF SAID BLDGS.
THESE AREAS ARE TO BE SODDED PER SCHEDULE ON THE LANDSCAPING PLAN.

④ NORTH SIDE PARKING LOT SHALL BE INSTALLED PER SPECIFIC SURFACE GRADES SHOWN ON OVERALL DRAINAGE PLAN.
CONTRACTOR SHALL DETERMINE SUBGRADES FROM PAVING SPECS.

⑤ FILL GAP IN EXISTING BERM. COMPACT EAST FACE OF REMAINDER OF BERM SHALL NOT BE DISTURBED.
CONSTRUCTION OF TEMPORARY BERM TO BE HELD TO A MINIMUM OF FIFTEEN FEET (15') FROM EXISTING M.U. WALL ON NORTH PROPERTY LINE.

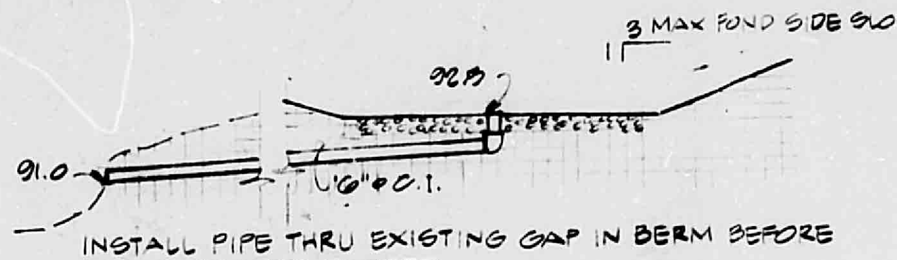
⑥ SWALE THREE FEET NORTH OF NEW PARKING LINE W/ 1" ⌀ PIT RUN


3'
3 MAX SLOPE TO MATCH EXIST GRADE
1
ASPHALT
.5'

⑦ REMAINDER OF EXCESS EARTH TO BE FILLED AGAINST NEW RETAINING WALL.
EXTENT OF FILL INDICATED:

⑧ SEE OVERALL PROJECT DRAINAGE PLAN, BOTTOM LEFT, FOR TENTATIVE CONFIGURATION OF IMPROVEMENTS WITHIN 10' EMNT.

⑨ DRAIN INLET: INSTALL ½ CU. YD 1½"-2" GRAVEL IN 4' R. AROUND PIPE


3 MAX POND SIDE SLOPE
1
92.5
91.0
6" ⌀ C.I.

INSTALL PIPE THRU EXISTING GAP IN BERM BEFORE GAP IS GRADED CLOSED

INTERIM DETENTION / CALCS.

CONTRIBUTARY AREA 3.66 AC
SCS SOILS GROUP B
% IMPERVIOUS 28%
'C' FACTOR (PL. 22.2 C-1) .48
I (PER CURVE, 22.2 D-2) @ 10 MIN Tc 5.5 IN/HR.

Q_{100} = .48 (5.5) 3.66 = 9.66 CFS PEAK
VOL. = (.48) 3.66 × 43560 × $\frac{2.5}{12}$ = 15943 FT³

PROPOSED OUTLET DRAIN: 6" ⌀

Qd FOR 6" ⌀ PIPE
= .62 (.196 sq ft) × $\sqrt{2(32.2 \text{ ft/sec}) 3.9 \text{ ft MAX}}$
= 1.9 CFS MAX
.62 (.196 s.f.) × $\sqrt{2(32.2 \text{ ft/sec}) 1.5 \text{ ft MIN}}$
= 1.19 CFS MIN
= 1.55 CFS AVG

T = $\frac{15943 \times 2}{9.66}$ = 3300 SECONDS DURATION

VOL. DISCHARGE OF DURATION
= 3300 × 1.55 CFS = 5115 CU. FT.

NET RETENTION VOLUME
15943 - 5115 = 10828 CU FT

@ FULL VOLUME, WATERSURFACE ELEVATION IS 5394.9 AS INDICATED ON PLAN

RECEIVED
MAR 08 1984
HYDROLOGY SECTION

LEGEND

CONTOUR INTERVAL 1-FT
(06) - - - - EXISTING CONTOUR
—— 06 —— PROPOSED CONTOUR
+06.0 EXISTING SPOT ELEVATION
⌖06.0 PROPOSED SPOT ELEVATION
PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE FINISH SURFACES
EXISTING BLOCK WALL
PROPOSED RETAINING WALL
LIMIT OF INTERNAL TRIBUTARY AREAS
POND AREA, ELEVATIONS AS INDICATED ON PLAN
-o—o—o—o- CHAIN LINK FENCE (36")

PHASE ONE DRAINAGE PLAN

6501 WYOMING BOULEVARD, NE
TRACT 'A-1', REPLAT OF TR. 'A'
ACADEMY ACRES SUBDIVISION UNIT - 13
ALBUQUERQUE, NEW MEXICO
MAY 27, 1982

FOR

ACADEMY BAPTIST CHURCH

ENCHANTMENT ENGINEERING
9910 INDIAN SCHOOL ROAD, NE
ALBUQUERQUE, NM
505 294-8859

REVISION: FEB. 6, 1984
REVISION: MAR. 8, 1984

83-3-146

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