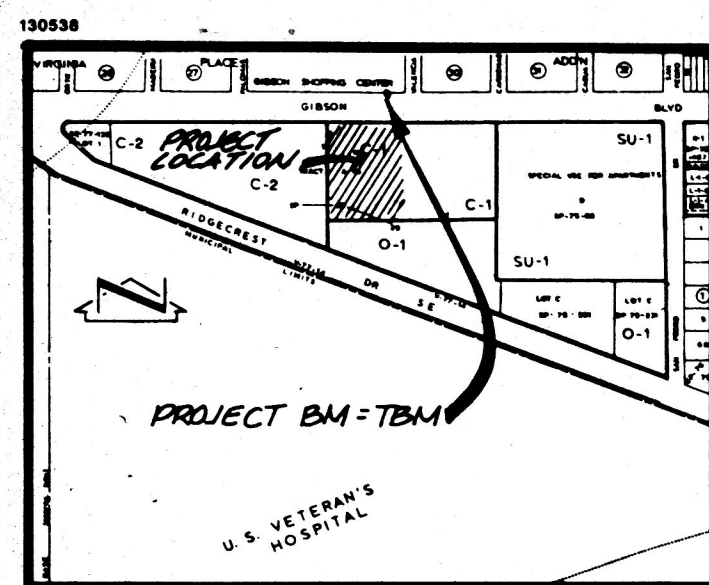




VICINITY MAP
SCALE: 1" = 800'

PROJECT BENCHMARK
AN A.C.S. STATION 16.4' BEING A 3" ALUMINUM TABLET SET IN CONCRETE PROJECTING 0.5' ABOVE THE ASPHALT SURFACE AT THE INTERSECTION OF GIBSON BLVD. S.E. & SAN PEDRO DRIVE S.E. DATED 04-18-1984.
ELEVATION = 5317.32' (M.S.L.D.)

TEMPORARY BENCHMARK
T.B.M. = EXISTING MANHOLE RIM, AS SHOWN HEREON
ELEVATION = 5308.67 FEET (M.S.L.D.)

LEGAL DESCRIPTION
TRACT A-1-A, LOVEFACE HOSPITAL

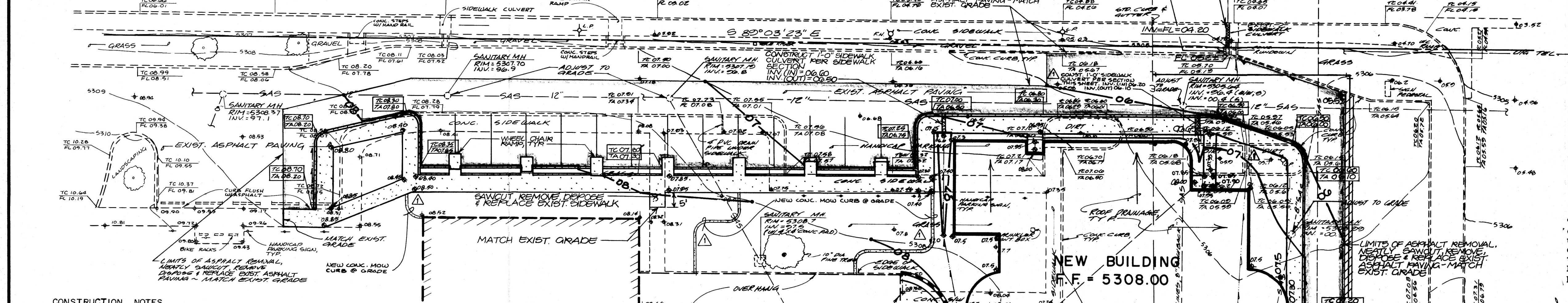
LEGEND

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- TOP OF CURB / FINISH GRADE
- EXISTING GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED INVERT
- PROPOSED ASPHALT
- PROPOSED TOP OF CURB ELEV.
- PROPOSED TOP OF ASPHALT ELEV.

CONSTRUCT 1'-0" SIDEWALK CULVERT PER C.O.A. STD. DWG. 2230

SAVING REMOVE & DISPOSE OF EXIST. CURB, CONSTRUCT 1'-0" CONCRETE RUNDOWN PER SECTION A-A

SCALE: 1" = 20'

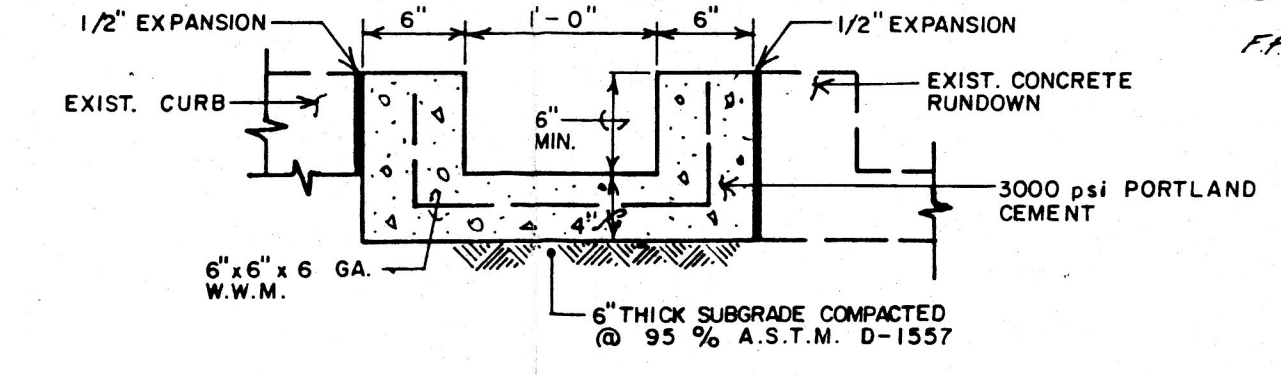


CONSTRUCTION NOTES

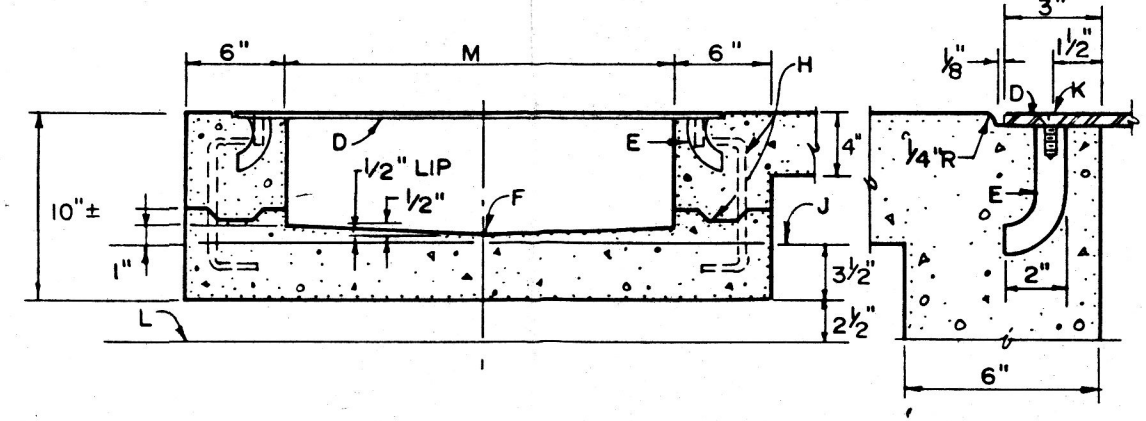
- Two (2) working days prior to any excavation, contractor must contact New Mexico One Call Service 260-1990, for location of existing utilities.
- Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
- All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
- All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
- If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
- An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
- Backfill compaction shall be according to ARTERIAL street use.
- Maintenance of these facilities shall be the responsibility of the owner of the property served.
- The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.

Erosion Control Measures

- The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
- The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
- The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.



SECTION A - A
SCALE: 1" = 1'-0"



DOWEL DETAIL

SIDEWALK CULVERT SECTION

HYDROLOGY APPROVAL & INSPECTION

APPROVED FOR BUILDING PERMIT
ENGINEER: *[Signature]* E 527490

INSPECTION REQUESTED DATE: _____

APPROVAL DATE: _____

SO19 APPROVAL DATE: _____

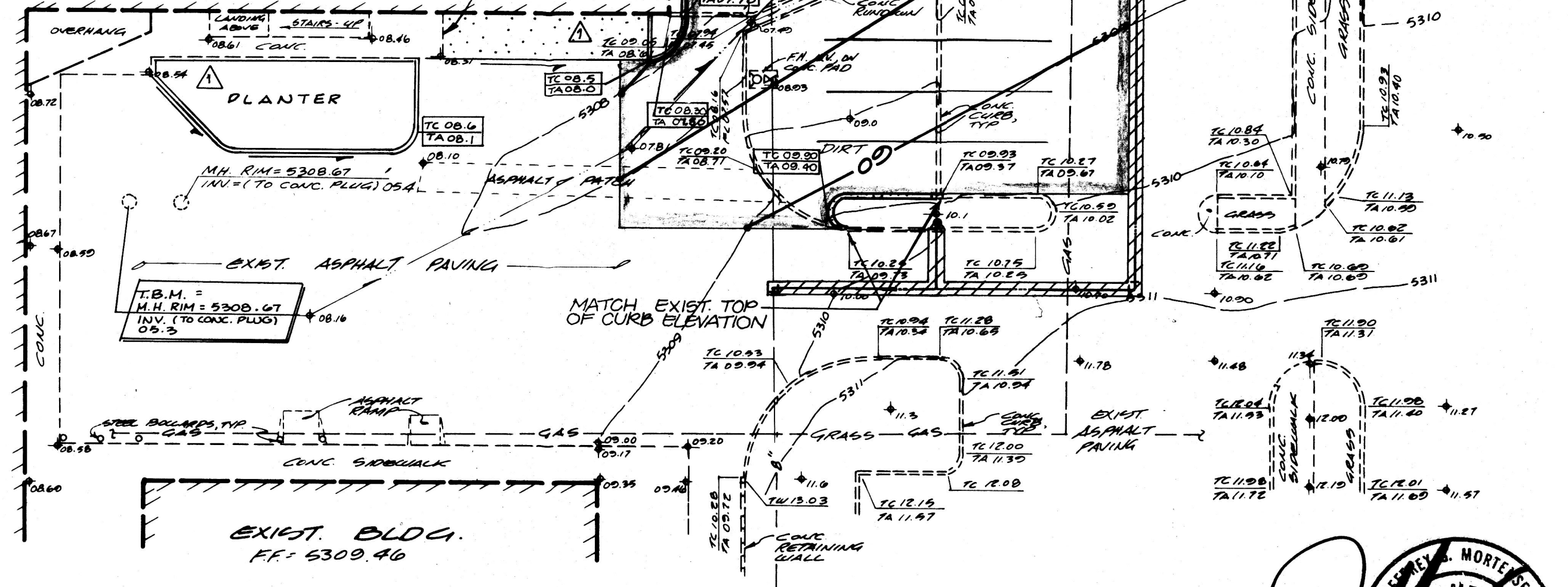
SURVEY DATE: _____

HYDROLOGY BOOK NO./PAGE NO.: _____

SURVEYED BY: _____

COMMENTS: _____

EXISTING BUILDING
FF = 5308.68



DRAINAGE PLAN

The following items concerning the Lovelace Educational Building Grading and Drainage Plan are contained hereon:

- Vicinity Map
- Grading Plan
- Calculations

As shown by the Vicinity Map, the site is located on the south side of Gibson Boulevard S.E. between vacated Ridgecrest Drive S.E. and San Pedro Drive S.E. At present, the site is developed, much of the surrounding area is currently developed commercially making this a modification to an existing site within an infill area. As shown by Plate L-18 of the Albuquerque Master Drainage Study, this site does not lie within a designated flood hazard zone. In addition, it does not appear that this site contributes runoff to an existing flood hazard area. Many capital improvements (CIP) have been implemented in this area to alleviate the localized flooding within the surrounding public streets. At present runoff generated by the site drains from south to north to Gibson Boulevard S.E. via the existing sidewalk culverts. From that point, runoff flows east along the south edge of Gibson Boulevard S.E. to existing storm drain inlets located at the intersection of Gibson Boulevard S.E. and California Street S.E. No offsite flows are anticipated from the north because the improved street appears to contain runoff flowing within the roadway. No offsite flows are anticipated from the east because the existing private drive appears to contain runoff flowing within the roadway. No offsite flows are anticipated from the west and south because the existing buildings appear to route runoff away from the project site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the removal of existing paving and landscaping and the construction of a new educational building along with adjacent paving and landscaping. Runoff generated by the proposed improvements will be routed from south to north onto Gibson Boulevard S.E. via the existing sidewalk culverts. From that point, runoff will flow east to the aforementioned storm drain inlet. Based upon the fact that this site is a modification to an existing site within an infill area, the proximity of downtown facilities, and the minor increase in runoff anticipated, the free discharge of runoff from this site is appropriate.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will increase the peak discharge by approximately 0.4 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31: WaB - Wink fine sandy loam, LtB - Latene sandy loam
Hydrologic Soil Group: B
Existing Pervious CN = 61 (DPM Plate 22.2 C-2)
Open Space: good condition)

Time of Concentration/Time to Peak

$T_c = 0.0078 L^{0.77} S^{0.385}$ (Kirpich Equation)
 $T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.35$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = C i A$
where C varies
 $i = P_6 (6.84) T_c^{-0.51} = 4.97$ in/hr
 $P_6 = 2.35$ in (DPM Plate 22.2 D-1)
 $T_c = 10$ min (minimum)
 $A =$ area, acres

SCS Method

Volume: $V = 3630 (DRO) A$
Where DRO = Direct runoff in inches
 $A =$ area, acres

Existing Condition

Atotal = 71,570 sf = 1.64 Ac
Roof area = 1,230 sf (0.02)
Paved area = 49,470 sf (0.69)
Landscaped area = 17,070 sf (0.24)
Dirt area = 3,800 sf (0.05)
 $C = 0.75$ (Weighted average per Emergency Rule, 1/14/86)
 $Q_{100} = C i A = 0.75 (4.97) (1.64) = 6.1$ cfs
 $A_{imp} = 50,700$ sf; % impervious = 71 %
Composite CN = 88 (DPM Plate 22.2 C-2)
DRO = 1.3 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 7,740$ cf

Developed Condition

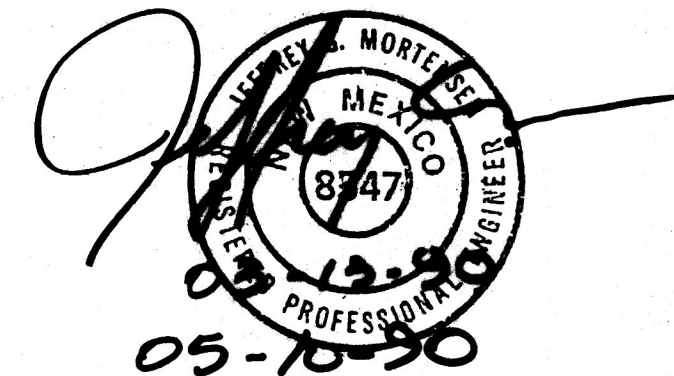
Atotal = 71,570 sf = 1.64 Ac
Roof area = 9,130 sf (0.13)
Paved area = 47,270 sf (0.66)
Landscaped area = 15,170 sf (0.21)
 $C = 0.80$ (Weighted average per Emergency Rule, 1/14/86)
 $Q_{100} = C i A = 0.80 (4.97) (1.64) = 6.5$ cfs
 $A_{imp} = 56,400$ sf; % impervious = 79 %
Composite CN = 90 (DPM Plate 22.2 C-2)
DRO = 1.42 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 8,454$ cf
 $Q_{100} = (0.657) (6.5) = 4.3$ cfs

Comparison

$\Delta Q_{100} = 6.5 - 6.1 = 0.4$ cfs (increase)
 $\Delta V_{100} = 8,454 - 7,740 = 714$ cf (increase)

Sidewalk Culvert Capacity (3'0" Opening - Wier Equation)

$Q = CLH^{3/2} = 6.2$ cfs $> Q_{100}$
Where $C = 3.09$
 $L = 3'0"$
 $H = 0.6$ ft (average)



JEFF MORTENSEN & ASSOCIATES, INC.
811 ALBUQUERQUE, N.M. 87110
ENGINEERS & ARCHITECTS
TELEPHONE (505) 265-6111

APPROVALS	NAME	DATE
A.C.E. / DESIGN		
INSPECTOR		
A.C.E. / FIELD		

GRADING & DRAINAGE PLAN
LOVELACE EDUCATIONAL BUILDING

DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
L.P.U.	1	5/90	J.M.	MINOR SITE PLAN REVISIONS	891127
DRAWN BY					DATE
C.V.M.					02/90
APPROVED BY					SHEET
J.M.					1 OF 1