

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 18, 1993

Jeff Mortensen Jeff Mortensen & Associates 6010-B Midway Park Blvd. NE Albuquerque, NM 87109

RE: ENGINEER CERTIFICATION FOR AN ADDITION TO LOVELACE-CARLISLE CLINIC (G16-D83) ENGINEER'S CERTIFICATION STATEMENT DATED 2/16/93.

Dear Mr. Mortensen:

Based on the information provided on your February 17, 1993 submittal, Engineer Certification for the building addition is acceptable.

Please advise your client that once the future parking lot modifications are completed, Engineer Certification will be required for that portion also.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

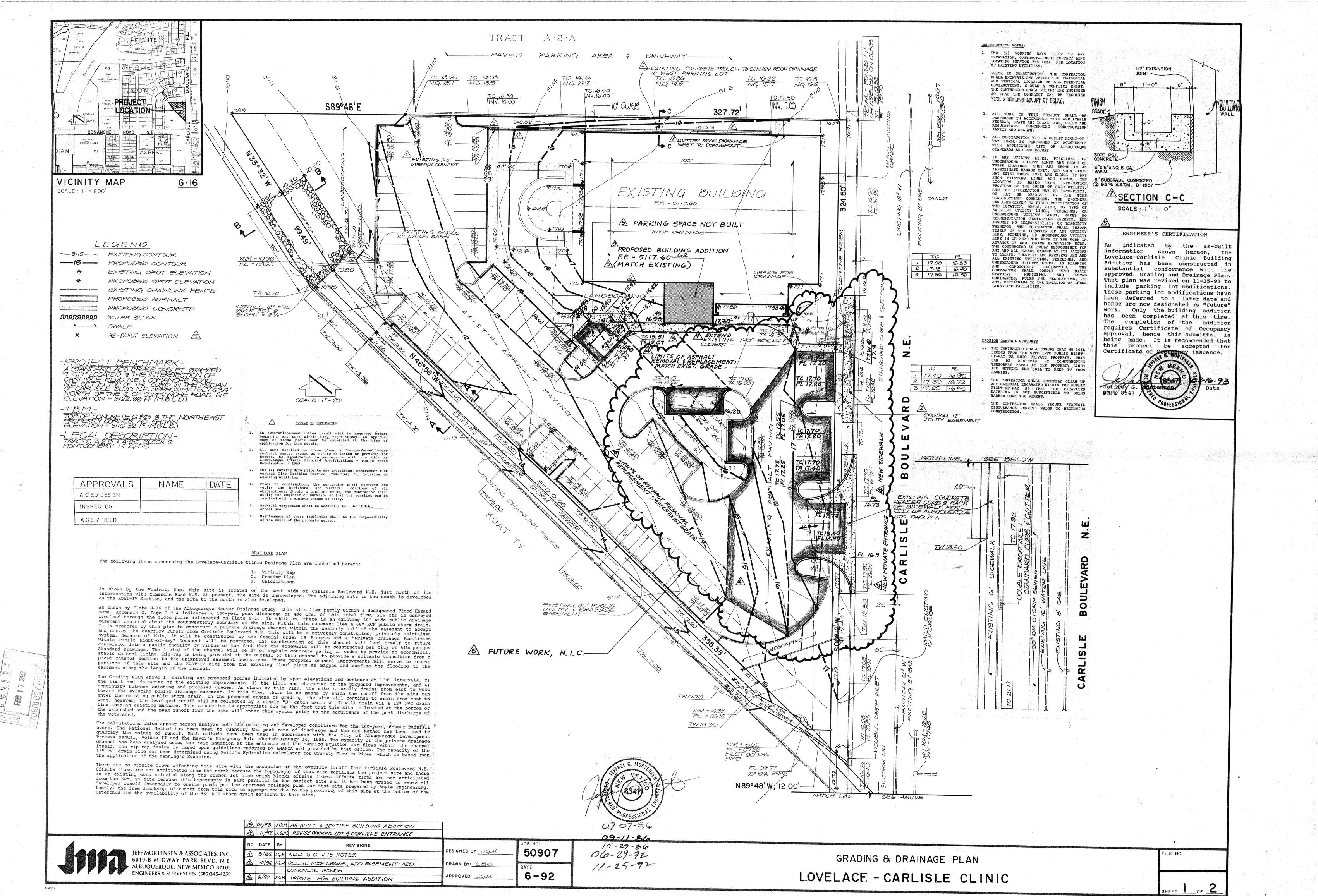
Bernie J. Montoya, CE Engineering Assistant

BJM/d1/WPHYD/7391

xc: Alan Martinez James T. Weby

File

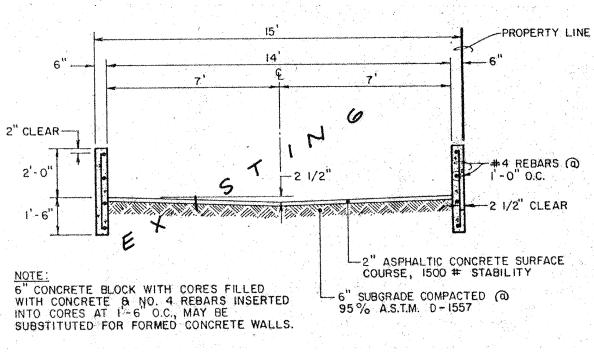
PROJECT TITLE: LOVELEW CARLISUS CINIC	ZONE ATLAS/DRNG. FILE #: 6/6/D83
DRB #: EPC #:	WORK ORDER #:
LEGAL DESCRIPTION: TRACT A-2-B	, MONTGOMENY HEIGHTS
CITY ADDRESS: 3901 CAR	LISTE NE
engineering firm: JEFF Moercuse of As	SOC. CONTACT: JEFF MORTENSEN
ADDRESS: 6010-B MIDWAY PACK BLYO) NC PHONE: 345-4250
OWNER: LOVELAGE The	CONTACT: JAMES T. WELBY
ADDRESS: 5400 G11886) SE	PHONE: 262-7157
ARCHITECT: GRECIORY T. HICKS & ASS	SOL CONTACT: RUSSELL GOLIGHTL
ADDRESS: 210 2 ND ST 8	W PHONE: 243-7492
SURVEYOR: JEFF MORTENSEN & ASSOC	CONTACT: JEFF MORTENSEN
ADDRESS: 4010-B MIDWAY PARK BLV	ONE PHONE: 345-4-250
CONTRACTOR: BRITTON	CONTACT: JIM ROUPAS
ADDRESS: EGGLWE	PHONE:
TYPE OF SUBMITTAL: DRAINAGE REPORT	CHECK TYPE OF APPROVAL SOUGHT: SKETCH PLAT APPROVAL
DRAINAGE PLAN	PRELIMINARY PLAT APPROVAL
CONCEPTUAL GRADING & DRAINAGE PLAN	s. DEV. PLAN FOR SUB'D. APPROVAL
GRADING PLAN	S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
EROSION CONTROL PLAN	SECTOR PLAN APPROVAL
ENGINEER'S CERTIFICATION	FINAL PLAT APPROVAL
OTHER	FOUNDATION PERMIT APPROVAL
	BUILDING PERMIT APPROVAL
PRE-DESIGN MEETING:	CERTIFICATE OF OCCUPANCY APPROVAL
YES	GRADING PERMIT APPROVAL
NO NO	PAVING PERMIT APPROVAL
COPY PROVIDED	S.A.D. DRAINAGE REPORT
	DRAINAGE REQUIREMENTS
	OTHER (SPECIFY)
	N -
DATE SUBMITTED: 02-17-93	



MOTICE TO CONTRACTOR

- 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.
- 2. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with the City of Albuquerque Interim Standard Specifications Public Works Constructed 1885
- 3. Two (2) working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of
- 4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer or surveyor so that the conflict can be resolved with a minimum amount of delay.
- 5. Backfill compaction shall be according to ARTERIAL
- 6. Maintenance of these facilities shall be the responsibility

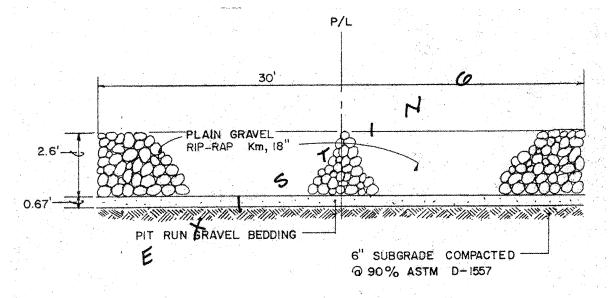
APPROVALS	NAME	DATE
A.C.E./ DESIGN		
INSPECTOR		
A.C.E./FIELD		



NOTE: THE CHANNEL WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STD, DWG. K 23 (TYPE A) AND SECTION 602 OF STANDARD SPECIFICATION.

SECTION A-A

SCALE I" = 4-0"



SECTION B-B V. SCALE: 1" = 4'-0" H. SCALE: 1" = 6'-0"

NOTE: ALL WORK WITHIN PUBLIC EASEMENT SHALL BE PER-FORMED UNDER SEPARATE PERMIT.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 21: EmB - Embudo gravelly fine sandy loam
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range Land: fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2
Open space: good condition)

Time of Concentration/Time to Peak

 $T_{\rm C} = 0.0078 \text{ L}^{0.77}/\text{S}^{0.385}$ (Kirpich Equation)

 $T_D = T_C = 10 \text{ min.}$

Point Rainfall

 $P_6 = 2.22 \text{ in. (DPM Plate 22.2 D-1)}$

Rational Method

Discharge: Q = CiA

where C varies $i = P_6$ (6.84) T_C -0.51 = 4.69 in/hr $P_6 = 2.22$ in (DPM Plate 22.2D-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 = 59,217 sf = 1.36 Ac
Roof area = 11,090 sf (0.19)
Paved area = 28,300 sf (0.48)
Landscaped area = 19,827 sf (0.33)

C = 0.71 (Weighted average per Emergency Rule, 1/14/86)

Q₁₀₀ = CiA = 0.71(4.69)(1.36) = 4.5 cfs
% impervious = 67 %
Composite CN = 85 (DPM Plate 22.2 C-3)
DRO = 1.0 in (DPM Plate 22.2 C-4)
V₁₀₀ = 3630 (DRO) A = 4940 cf

Developed Condition

Atotal = 59,217 sf = 1.36 Ac
Roof area = 11,634 sf (0.20)
Paved area = 28,195 sf (0.47)
Landscaped area = 19,388 sf (0.33)

C = 0.71 (Weighted average per Emergency Rule, 1/14/86)

Q100 = CiA = 0.71(4.69)(1.36) = 4.5 cfs
% impervious = 67 %
Composite CN = 85 (DPM Plate 22.2 C-3)
DRO = 1.0 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO) A = 4940 cf

(A) Comparison

 $\Delta Q_{100} = 4.5 - 4.5 = 0$ cfs (no change) $\Delta V_{100} = 4940 - 4940 = 0$ cf (no change)

Channel Analysis (Manning Equation)

Design Q = 216 cfs (AMDS AP 2005)

 $Q = (1.49/n) AR^{2/3}s^{1/2}$

Where n = 0.017

s = 0.0165

w = 14'
M = 0 (vertical sidewall)

then d = 1.30'V = 11.9 fps

Rip-Rap Design (AMAFCA)

Q/wh = 216/(14)(1.3) = 11.9 $Y_t/h \sim 0$ ($Y_t = 0$) From Table 5-7, use Type H rip-rap From Table 5-1, $K_m = 18$ " Total thickness = $1.75 K_m = 2.6$ ' From Table 5-4, bedding thickness = 8"

Entrance Conditions (Weir Analysis)

Q = 3.0 LH^{3/2} Q = 216 cfs H = 17.6 - 16.7 = 0.9' L = Q/(3H^{3/2}) = 85'

50907

6-92



07-07-86
09-11-86
06-29-92

The Lovelace/Carlisle Clinic Grading and Drainage Plan has been revised to relocate and reconstruct the entrance from the site onto Carlisle N.E. Additional parking has also been provided. The proposed paving improvements will not alter the drainage concept nor the drainage pattern of the site. It is important to note that the waterblock provided by the new entrance specifies a minimum elevation of 5117.73 on the north side and an elevation of 5117.90 on the south. An existing drainage facility is located to the south of this entrance with a maximum water surface elevation of 5117.6 as determined by the previous plan calculations and analyses. By comparison of these elevations, it is concluded that the new waterblock elevation is sufficient to prevent offsite street flows from entering the site. Lastly, the revised entrance construction will not adversely impact or interfere with the existing drainage improvements previously constructed.

DRAINAGE PLAN

Revised calculations appear below for both the existing and developed conditions. These calculations have been performed consistent with the previous calculations prepared for this site. As shown by these calculations, the proposed improvements will have a negligible impact on the hydrology of this site.

A Existing Condition

Atotal = 59,217 sf = 1.36 Ac
Roof area = 11,634 sf (0.20)
Paved area = 28,195 sf (0.47)
Landscaped area = 19,388 sf (0.33)
C = 0.71 (Weighted average per Emergency Rule, 1/14/86)
Q100 = CiA = 0.71(4.69)(1.36) = 4.5 cfs
% impervious = 67 %
Composite CN = 85 (DPM Plate 22.2 C-3)
DRO = 1.0 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO) A = 4940 cf

A Developed Condition

Atotal = 59,217 sf = 1.36 Ac
Roof area = 11,634 sf (0.20)
Paved area = 28,504 sf (0.48)
Landscaped area = 19,082 sf (0.32)
C = 0.72 (Weighted average per Emergency Rule, 1/14/86)
Q100 = CiA = 0.72(4.69)(1.36) = 4.6 cfs
% impervious = 68 %
Composite CN = 87 (DPM Plate 22.2 C-3)
DRO = 1.1 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO) A = 5270 cf

A Comparison

 $\Delta Q_{100} = 4.6 - 4.5 = 0.1 \text{ cfs (increase)}$ $\Delta V_{100} = 5270 - 4940 = 330 \text{ cf (increase)}$

JEFF MORTENSEN & ASSOCIATES, INC. 6010-B MIDWAY PARK BLVD. N.E. ALBUQUERQUE, NEW MEXICO 87109 ENGINEERS & SURVEYORS (505)345-4250

NO. DATE BY REVISIONS

1 9/86 J.G.M. ADD S.O. # 19 NOTE

2 06/92 J.G.M. REVISE CALCS. FOR BUILDING ADDITION

11/92 J.G.M. REVISE CALCS; ADD TEXT

DESIGNED BY: U.G.M.

DRAWN BY: L.B.D.

APPROVED: U.G.M.

11-25-92 GRADING & DRAINAGE PLAN

LOVELACE CARLISLE CLINIC

FILE

2 2