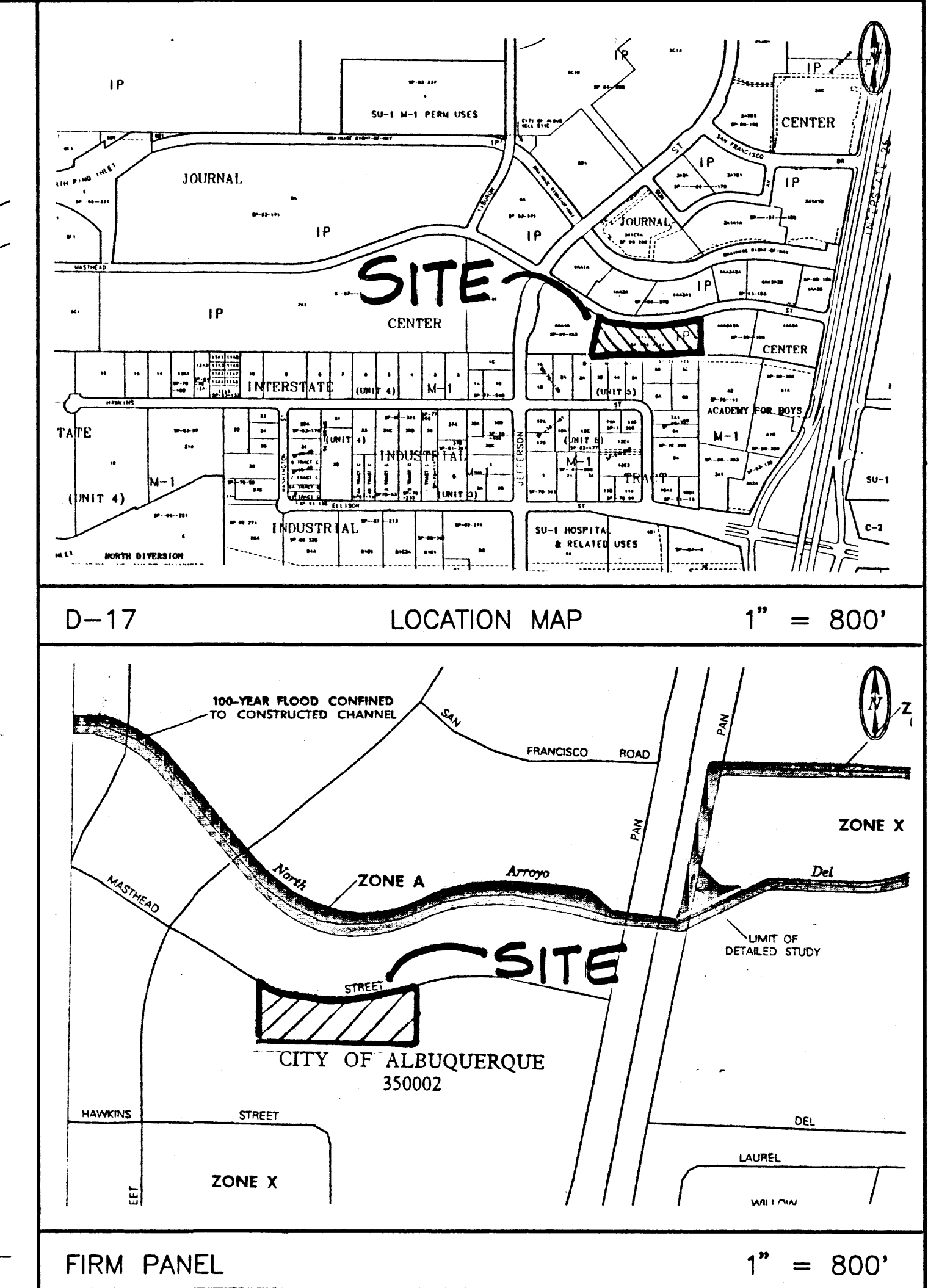
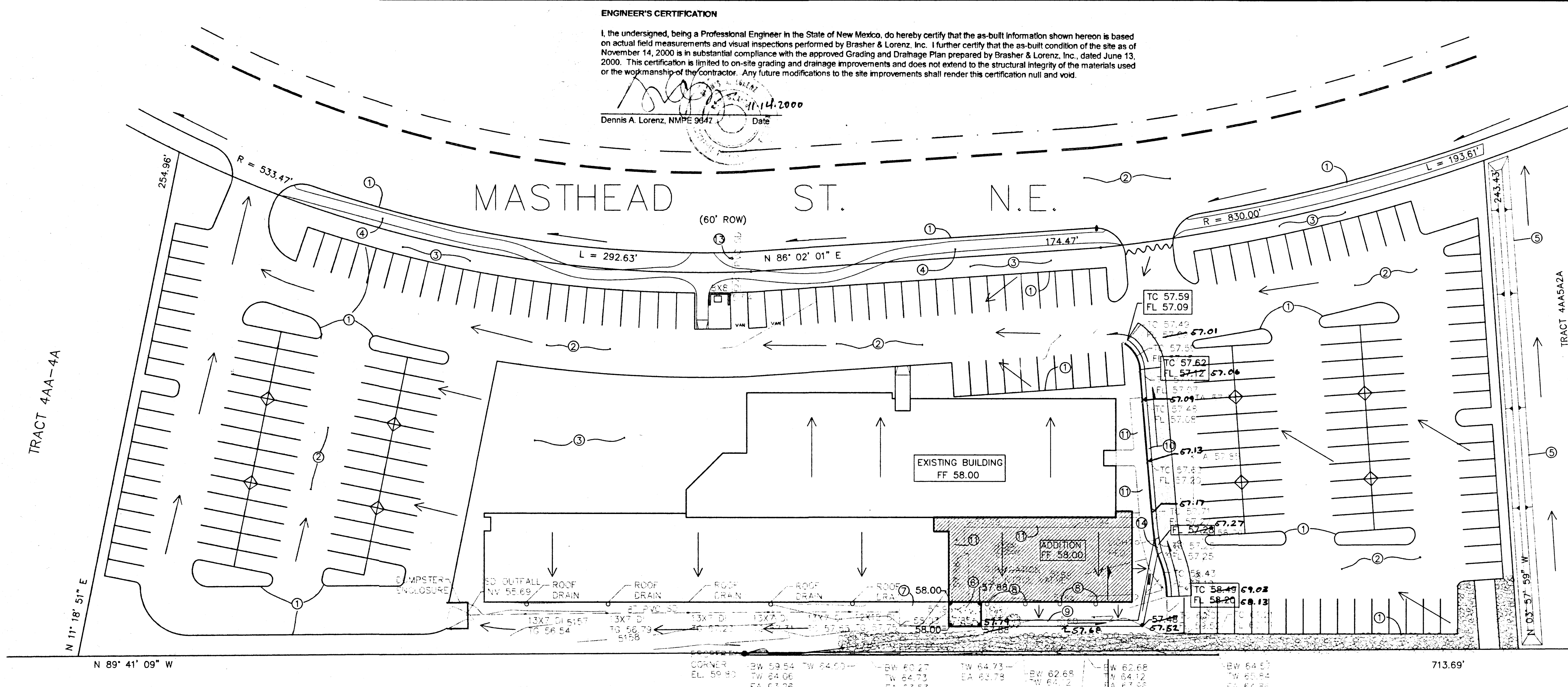


ENGINEER'S CERTIFICATION

I, the undersigned, being a Professional Engineer in the State of New Mexico, do hereby certify that the as-built information shown hereon is based on actual field measurements and visual inspections performed by Brasher & Lorenz, Inc. I further certify that the as-built condition of the site as of November 14, 2000 is in substantial compliance with the approved Grading and Drainage Plan prepared by Brasher & Lorenz, Inc., dated June 13, 2000. This certification is limited to on-site grading and drainage improvements and does not extend to the structural integrity of the materials used or the workmanship of the contractor. Any future modifications to the site improvements shall render this certification null and void.

Dennis A. Lorenz, NMPE 9947 Date 11/14/2000



GRADING AND DRAINAGE PLAN

PURPOSE AND SCOPE

Pursuant to the established Drainage Ordinance for the city of Albuquerque and the Development process Manual, this Grading and Drainage plan outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of a building addition to the existing ITT Educational Services Building located at 5100 Masthead Street NE. Proposed site improvements include paving, landscaping, utility, grading, and drainage improvements.

EXISTING CONDITIONS

The project site is approximately 3.30 acres in size and is located 5100 Masthead Street NE, east of Jefferson Street. The project site is particularly described as Tract 44A-5A-1, Journal Center Office / Industrial Park. The site is bounded by Masthead Street on the north, undeveloped IP property on the east, and developed IP properties on the west and south. Site topography slopes from the east to west at approximately 3%. Existing site improvements include curbs, gutters, paving, landscaping, utility and drainage for the ITT Educational Services Building. All on-site runoff drains northwest through the parking lot to Masthead Street.

Off-site runoff from the east is directed north to Masthead by an existing erosion control berm located along the east property line. Properties located south and west for the site drain away from the property. An off-site ponding area located near the southeast corner of the site prevents storm runoff from entering the property.

DRAINAGE MASTERPLANS

The original DPM for this site was prepared by Bohannon Houston & Associates. The DPM was prepared for the original development site for ITT. Downstream drainage improvements provided by the Journal Center Office Industrial Park allowed the site to free discharge runoff into Masthead Street. An updated Grading and Drainage Plan was prepared by Thomas T. Mann for a 6600 sf building addition and expansion of the east parking lot.

PROPOSED CONDITION

As shown by the Plan, the project consists of a 3800 sf building addition to the existing ITT Educational Services Building. The Plan shows the contours and elevations require to properly grade and construct the required paving and drainage improvements. The directions of drainage flows are given by flow arrows and the project hydrology is tabulated for both existing and proposed conditions.

All drainage flows will be managed on-site and discharge to Masthead Street through the western most driveway per the approved masterplans. Per the project hydrology, the developed peak discharge for the project is expected to increase from 13.8 cfs to 14.0 cfs.

EROSION CONTROL

Temporary erosion control will be required during the construction phase to protect downstream property and improvements from sediment and uncontrolled runoff. This plan recommends the placement of silt fencing along the east construction boundary to mitigate sediment deposition into the adjoining parking lots and public streets. It is the contractor's responsibility to properly maintain these facilities during construction phase of the project.

CALCULATIONS

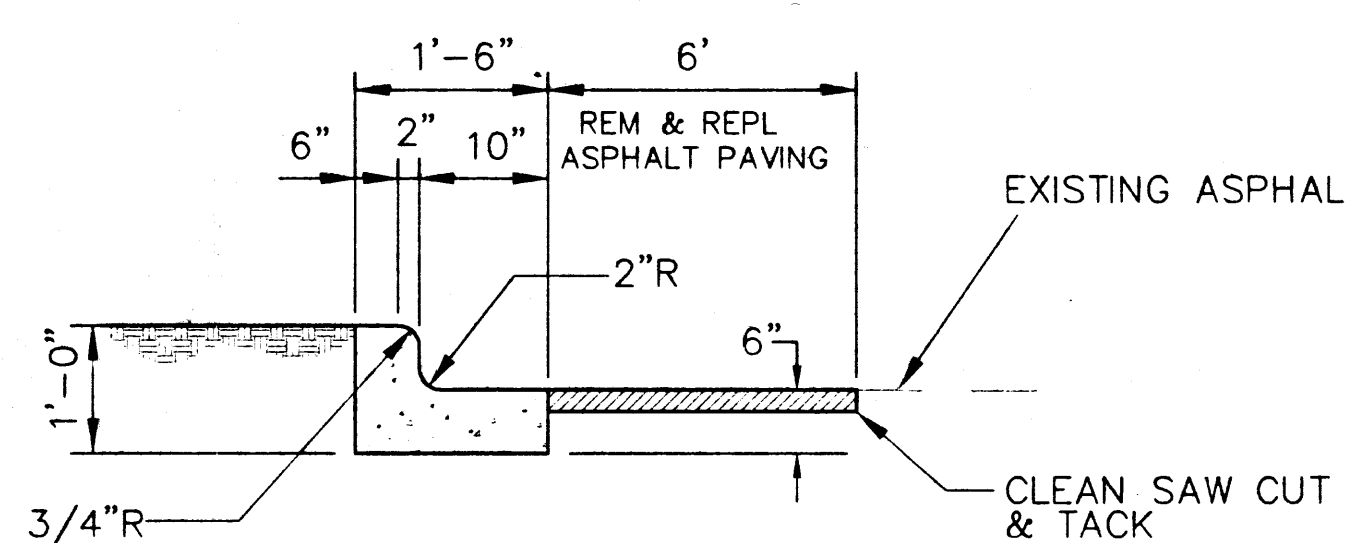
Supplement calculations are provided separately which define the 100-year/6 hour design storm falling with the project area under existing and proposed condition. Hydrology is per "section 22.2, Part a, DPM, vol 2" updated July 1997.

INTERSTATE INDUSTRIAL TRACT UNIT 5

HYDROLOGY							
Precipitation Zone 2	Area(ac)	Aa(ac)	Ab(ac)	Ac(ac)	Ad(ac)	E	Q100(cfs)/VOL(af)
Existing							
SITE	3.30	0.00	0.58	0.20	2.52	1.82	13.8
Proposed							
SITE	3.30	0.00	0.51	0.20	2.59	1.85	14.0

DRAINAGE PLAN NOTES

- BLI recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.
- This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not recommended.
- Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement.
- This Plan is prepared to establish on-site drainage and grading criteria only. BLI assumes no responsibility for subsurface analysis, foundation/structural design, or utility design.
- Local codes may require all footings to be placed in natural undisturbed soil. If the Contractor plans to place footings on engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes BLI to prepare the Certification, we must be notified PRIOR to placement of the fill.
- BLI recommends that the Owner obtain the services of a Geotechnical Engineer to test and inspect all earthwork aspects of the project.
- The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information shown hereon does not constitute a boundary survey. A boundary survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction.

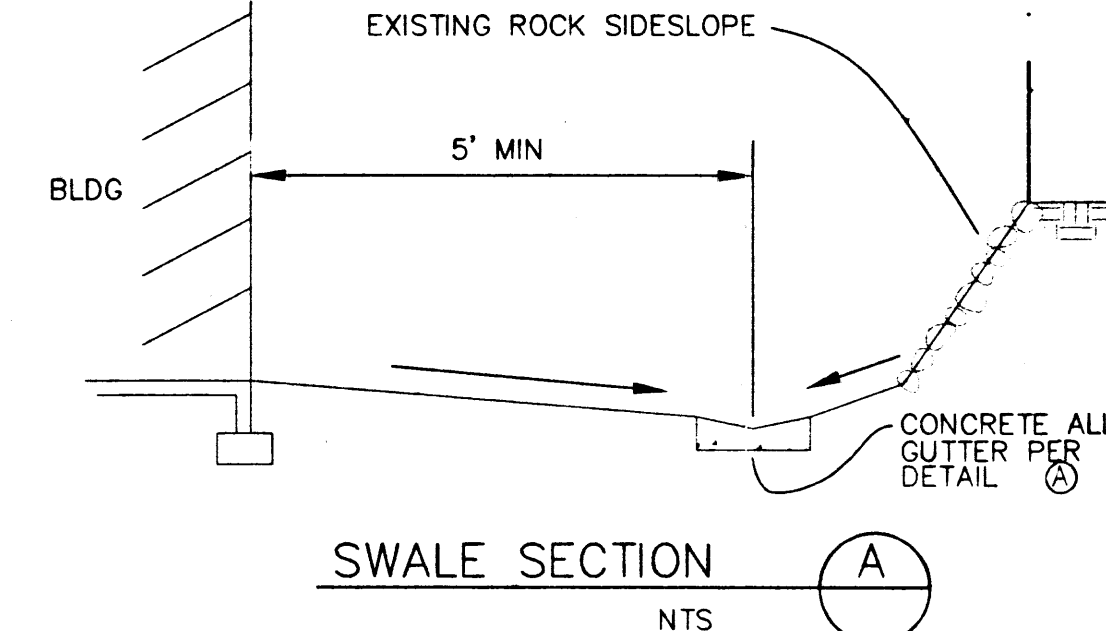


CONCRETE ALLEY GUTTER DETAIL A

KEYED NOTES

- EXISTING CURB
- EXISTING ASPHALT PAVING
- EXISTING LANDSCAPING
- EXISTING SIDEWALK
- EXISTING EROSION CONTROL BERM.
- REMOVE & DISPOSE EXISTING CONCRETE PATIO REPLACE IN KIND TO ELEVATIONS SHOWN. SEE ARCH DRAWINGS FOR DETAILS.
- EXISTING CONCRETE PATIO TO REMAIN
- NEW DOWNSPOUT
- CONSTRUCT CONCRETE ALLEY GUTTER PER DETAIL A
- REMOVE AND DISPOSE EXISTING CONCRETE HEADER CURB. REPLACE WITH 6" CONCRETE CURB AND GUTTER PER DETAIL B TO ELEVATIONS SHOWN.
- REMOVE AND DISPOSE EXISTING CONCRETE SIDEWALK
- REMOVE AND REPLACE ASPHALT PAVING TO LIMITS AND ELEVATIONS SHOWN.
- EXISTING INLET & 4" PVC CURB DRAIN TO REMAIN.
- PROVIDE 24" CURB BREAK FOR ALLEY GUTTER

CONCRETE ALLEY GUTTER DETAIL A



SWALE SECTION A

LEGEND

- 6.001 EXISTING CONTOUR ELEVATION
- 02.5 X EXISTING SPOT ELEVATION
- 01 PROPOSED CONTOUR ELEVATION
- ... PROPERTY LINE
- 01.5 X PROPOSED SPOT ELEVATION
- ← DIRECTION OF FLOW
- DRAINAGE SWALE
- DRAINAGE BASIN DIVIDE
- TA 57.95 X EXISTING SPOT ELEVATION

PROPERTY ADDRESS

5100 MASTHEAD ST. N.E.

LEGAL DESCRIPTION

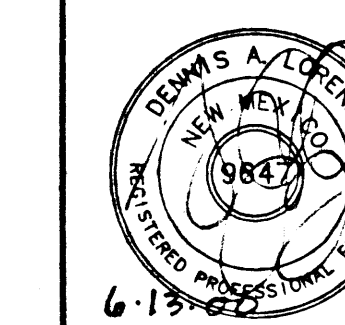
TRACT 44A-5A-1
JOURNAL CENTER
OFFICE INDUSTRIAL PARK

PROJECT BENCHMARK

NMSHTD BRASS CAP 1-25-14
ELEVATION = 5196.73
TBM: EXISTING FINISH
FLOOR ITT BLDG.
ELEVATION = 5158.00
SURVEY

Topographic and Field Measurement by
Brasher & Lorenz, Inc.
Dated May 2000

I.T.T. EDUCATIONAL SERVICES BUILDING EXPANSION



BRASHER & LORENZ, INC.
Consulting Engineers
2201 San Pedro NE Building 1 Suite 220
Albuquerque, New Mexico 87110
Ph: 505-886-6088 Fax: 505-886-6188

DRAWN BY: M.D.B.II
CHECKED BY: D.A.L.
FILE: 00571GD.DWG
DATE: MAY, 2000
SHEET 1 OF 1

DRAINAGE PLAN

The following items concerning the ITT Grading and Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the south side of Masthead Street between Jefferson and the west frontage road for I-25. The site has been developed with a building, parking and landscaping. The site slopes from east to west. The site is lower than the land to the south and to the east, and higher than the land to the west. It is parallel to Masthead Street to the north. The land to the south is generally graded away from the project site. As a part of the mass grading for the Journal Center an earth berm was constructed along the east property line to direct flows north away from the project site. Off site flows from Martinez Trailers does enter the site at the southeast corner. Those flows will be conveyed through the site in a controlled manner. The site does not lie in a designated flood hazard zone.

The existing development on the site lies on the western 78 percent of the site. A grading and drainage plan was prepared for the development in 1989 by Bohannon Huston Inc. This Grading and Drainage Plan shows 1) the existing and proposed grades indicated by spot elevations and contours at 1'-0" intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of the existing improvements and 4) the limit and character of the proposed improvements. The proposed project will add to the existing building, parking and landscaping. Flows will be conveyed through the site and exist at the west most driveway into Masthead Street. The project will function as shown in the previously approved plan.

The calculations, which appear below, analyze both the existing and proposed conditions for the 100-year, 6-hour rainfall event. The analysis is in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by the calculations, the runoff will increase, but it is within the guidelines of the free discharge established in the master drainage plan for the Journal Center.

CALCULATIONS

Area = 3.30 acres
Precipitation Zone = 2

Existing Conditions

Land Treatment

A 0
B 1.71
C 0
D 1.59

$E = (0.78 \times 1.71 + 2.12 \times 1.59) / 3.3 = 1.43$ inches
 $V = 1.43 \times 3.3 / 12 = 0.39$ acft
 $Q = 2.28 \times 1.71 + 4.70 \times 1.59 = 11.4$ cfs

Developed Conditions

Land Treatment

A 0
B 0.78
C 0
D 2.52

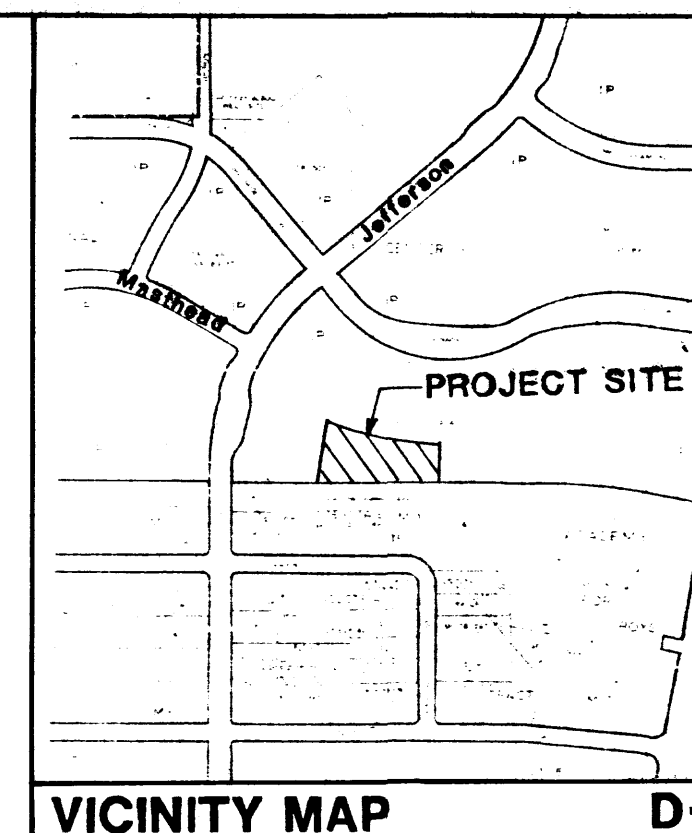
$E = (7.78 \times 0.78 + 2.12 \times 2.52) = 1.80$ inches
 $V = 1.80 \times 3.3 / 12 = 0.50$ acft
 $Q = 2.28 \times 0.78 + 4.70 \times 2.52 = 13.6$ cfs

LEGAL DESCRIPTION

Tract 4AAA-5A-1 Journal Center

BENCHMARK

NMSHTD Brass Cap I-25-14 located at the entrance to the NMSHTD District 3 Headquarters.
Elevation = 5196.73

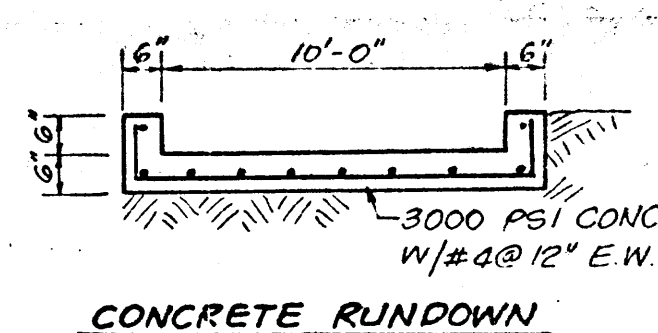
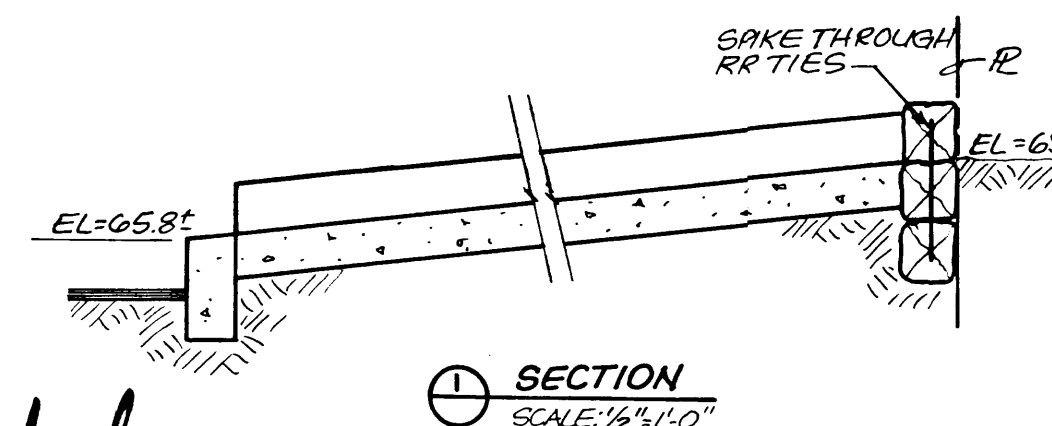
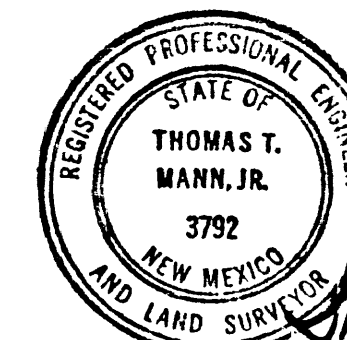


VICINITY MAP D-17

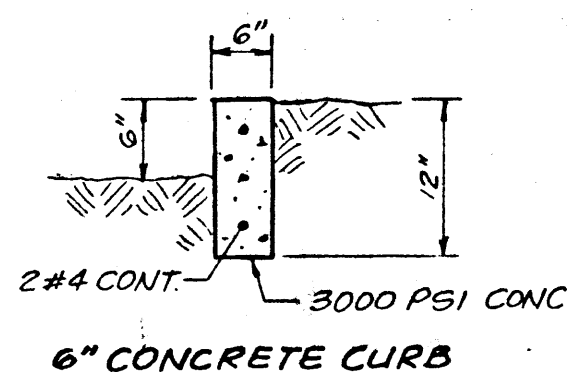
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- SWALE

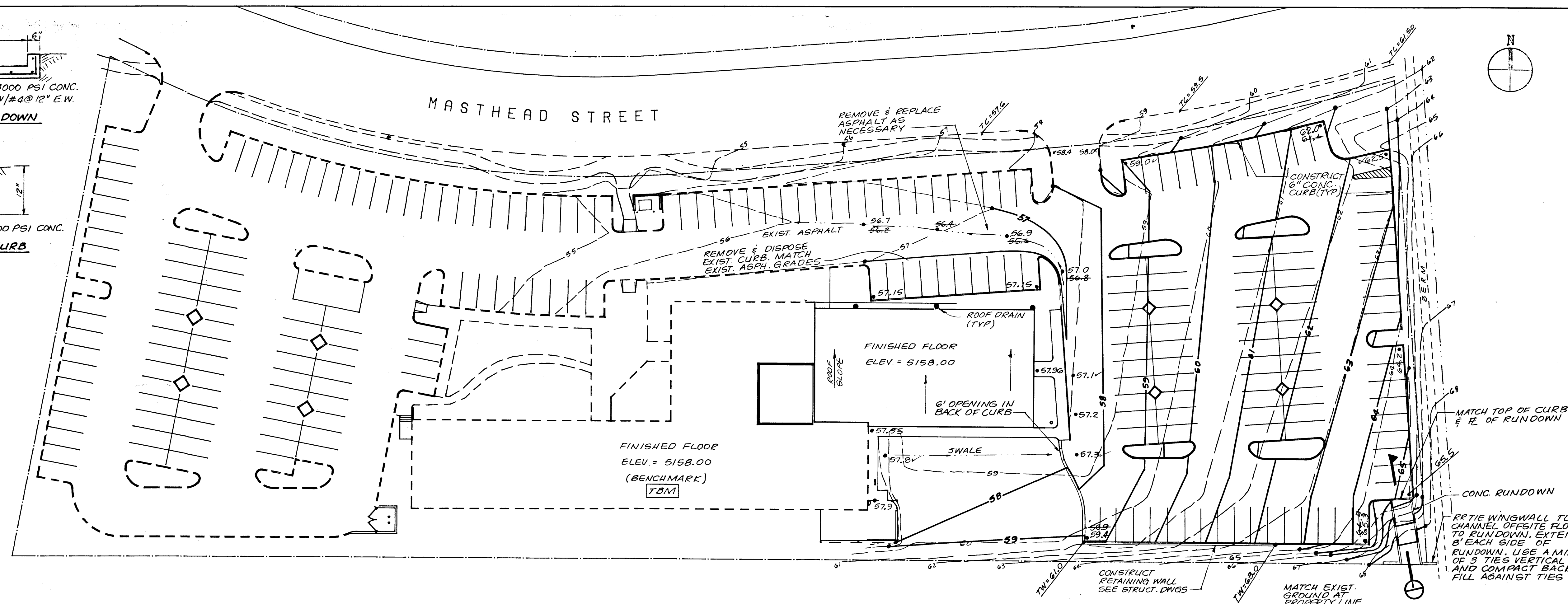
THIS PROJECT WAS CONSTRUCTED IN CLOSE COMPLIANCE WITH THE APPROVED DRAWING DATED 8-2-94.



CONCRETE RUNDOWN



6" CONCRETE CURB



Revisions:

Number:	Date:

Date:

Project Number: 94-01

Project Name:

ITT Educational Services Building Expansion

Sheet Title:

Sheet Number of

1"=30'

