HYDROLOGY

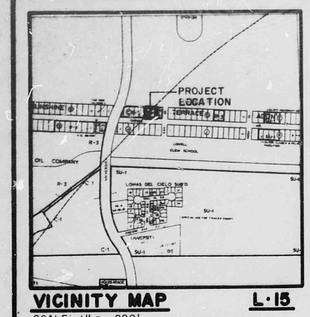
L15/D2A

ONE PLAN

1 PLAN FOR

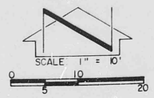
CHRISTMAN 4 PLEX

L15-D2A



VICINITY MAP **L·15**

SCALE 1" = 800'



DRAINAGE CERTIFICATION

The plan contained hereon shows (1) design grades indicated by spot elevations and contours, (2) as-built spot elevations at key locations, and (3) changes to the approved plan.

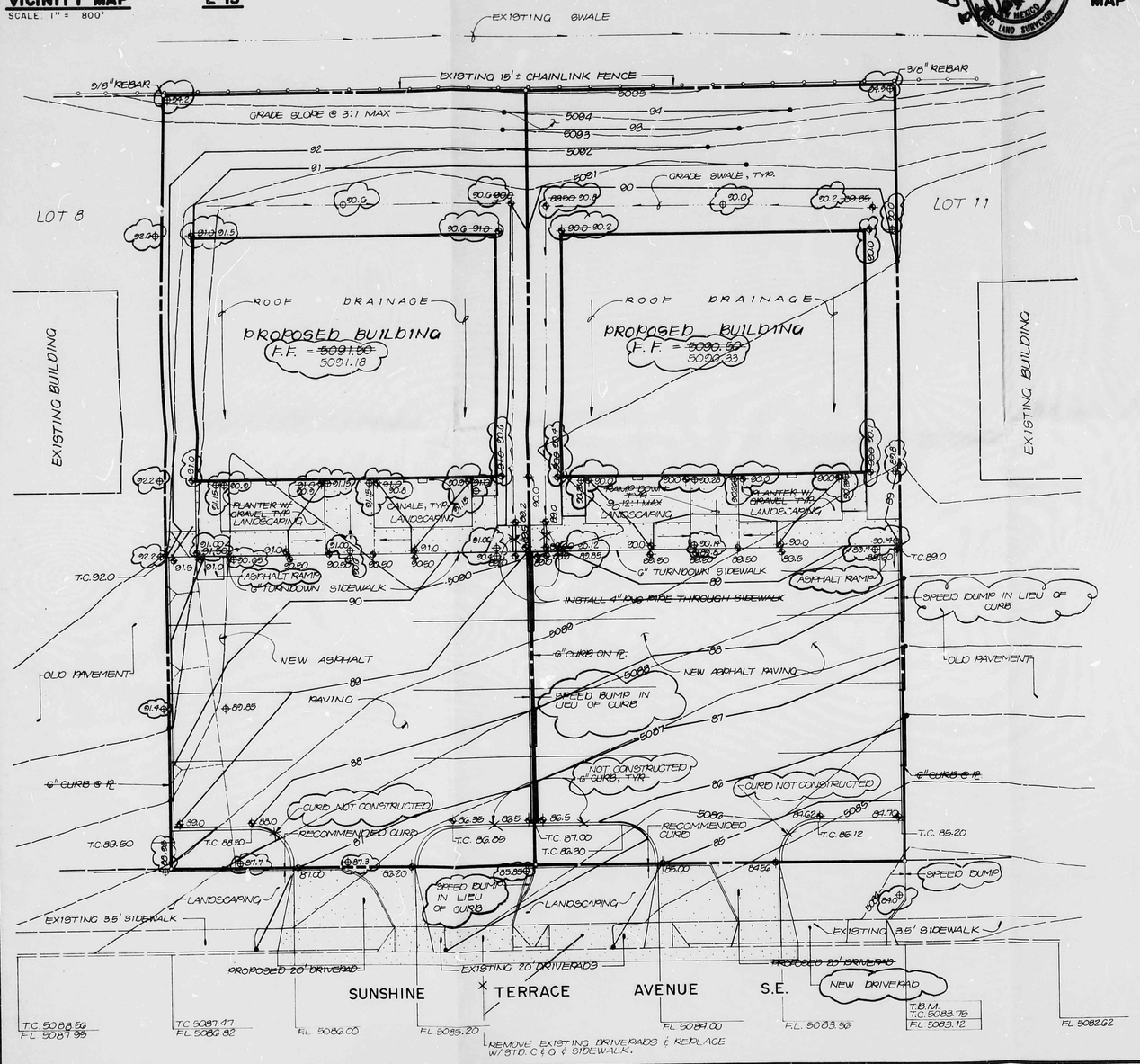
The as-built conditions of the project are in substantial compliance with the approved drainage plan. This has been determined by field visits and survey information. The building finish floor elevations are approximately 2 to 3 inches lower than designed, however this does not present a problem. The survey information is the basis for the as-built spot elevations shown on this plan. Furthermore, the as-built conditions are compatible with the approved drainage plan, adjacent property and the street grades.

Asphalt speed-bump like curb was constructed in lieu of concrete curb to control runoff, but accomodate vehicular traffic. Because of this, cross-lot drainage has been avoided. Also, the roofs drain to the front, i.e. the south, as designed, therefore, the only runoff experienced by the backyards is generated by that rainfall which falls on the backyard area. Runoff may leave portions of the paved parking area, cross the landscaped area adjacent to the street and finally cross the sidewalk to enter the street. It is because of this that the addition of an asphalt curb/speed bump is recommended to assure compliance with City of Albuquerque criteria.

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO THOMAS TRUMBLE JR. NEW MEXICO LAND SURVEYOR

FLOOD HAZARD MAP **AMDS PLATE L·15**

SCALE 1" = 400'



·LEGEND·

⊕	EXISTING SPOT ELEVATION
⊕	PROPOSED SPOT ELEVATION
5184	EXISTING CONTOUR
95	PROPOSED CONTOUR
	SWALE
T.C. 91.61	EXISTING TOP OF CURB
F.L. 91.15	EXISTING FLOW LINE
	CONCRETE
	BASIN BOUNDARY
△	AS-BUILT DATA

PROJECT BENCHMARK:

A square chiseled on top of curb at ENE curb return at the intersection of Gibson Boulevard S.E. and Mulberry Street S.E.
Elevation: 5039.81 feet (MSLD)

TBM:

Top of curb elevation at projection of SE property corner as shown on Grading Plan.
Elevation: 5083.75 feet (MSLD)

LEGAL DESCRIPTION:

Lots 9 and 10, Block C, Sunshine Terrace Addition

STREET ADDRESS:

1617 Sunshine Terrace S.E. (Lot 9)
1621 Sunshine Terrace S.E. (Lot 10)

CONSTRUCTION NOTES:

1 TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.

2 PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

3 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.

DRAINAGE PLAN

The following items concerning the Christman Four-Plexes Drainage Plan are contained hereon:

1. Vicinity Map
2. Flood Hazard Map
3. Grading Plan
4. Calculations

The proposed improvements, as shown by the Vicinity Map, are located along the north side of Sunshine Terrace S.E., just west of Ash Street S.E. The site is more particularly described as Lots 9 and 10 of the Sunshine Terrace Addition. At present, the site is undeveloped. The neighboring lots to the east and west are currently developed with existing four-plexes. The site to the north is the University of New Mexico Tennis Courts, which intercepts all offsite flows generated to the south.

Review of Plate L-15 of the Albuquerque Master Drainage Study indicates that downstream flooding does not exist. A field visit has revealed that a double "C" catch basin is located at the SSW curb return at the intersection of Sunshine Terrace Avenue and Ash Street. Communication with Mr. Fred Aguirre, Civil Engineer/Hydrology Section, has determined that this new construction was completed in 1981. The catch basin accepts runoff which collects at the Sunshine Terrace/Ash Street intersection and conveys it south via 24" pipe to an arroyo. This arroyo flows west to the South Diversion Channel. The storm drainage system described above, along with the precedent established by Charles M. Easterling for Hydrology Case No. L15-D2, permits the free discharge of runoff from these lots.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'-0" intervals, 2) continuity between existing and proposed elevations, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements include the construction of two four-plexes (one per lot), along with adjacent paved parking and landscaping. At present, runoff flows from north to south and discharges onto Sunshine Terrace S.E. From this point the runoff flows east to the existing double "C" catch basin located at the SSW curb return at the intersection of Sunshine Terrace S.E. and Ash Street S.E. This pattern of runoff will not be altered by development.

The calculations which appear below analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume 2. The calculations also demonstrate that a minor increase in peak runoff is anticipated due to the development of this site.

RECEIVED OCT 24 1983 ENGINEERING

CALCULATIONS:

1. From SCS Bernalillo County Soil Survey, Plate 31:
   Cu Cut and Fill Land
   Hydrologic Soil Group A

2. Existing Condition
   A_{total} = 15,000 sf = 0.34 Ac±
   A_{imp} = 0 sf
   % = impervious = 0%
   'C' = 0.16 (DPM Plate 22.2C-1)

3. Developed Condition
   A_{total} = 15,000 sf = 0.34 Ac± (0.17Ac/Lot)
   A_{imp} = 10,256 sf
   % = impervious = 10,256/15,000 = 68%
   'C' factor = 0.54 (DPM Plate 22.2C-1)

Rational Method

1. Discharge: $Q = CIA$
   where C varies
   $i = P_6 (6.84) T_c^{-0.51} = 4.80$ in/hr
   P_6 = 2.27 in (DPM Plate 22.2D-1)
   T_c = 10 min (minimum)
   A = area = 0.34 Ac

2. Volume: $V = CP_6A(1/12)$
   where C varies
   P_6 = 2.27 in (DPM Plate 22.2D-1)
   A = 15,000 sf

Existing Condition

$Q_{100} = CIA = 0.16\ (4.80)\ (0.34) = 0.3$ cfs (0.15 cfs/Lot)
$V_{100} = C(P_6/12)A = 0.16\ (2.27/12)\ 15{,}000 = 454$ cf (227 cf/Lot)

Developed Condition

$Q_{100} = CIA = 0.54\ (4.80)\ 0.34 = 0.9$ cfs (0.45 cfs/Lot)
$V_{100} = C(P_6/12)A = 0.54\ (2.27/12)\ 15{,}000 = 1532$ cf (766 cf/Lot)

Comparison

$\Delta Q_{100} = 0.3 - 0.9 = 0.6$ cfs (increase) (0.3 cfs/Lot)
$\Delta V_{100} = 454 - 1532 = 1078$ cf (increase) (539 cf/Lot)

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO THOMAS TRUMBLE JR. 5702 NEW MEXICO LAND SURVEYOR 6/1/83

NO.	DATE	BY	REVISIONS
1	10-20-83	JGM	AS-BUILT

BOHANNAN-HUSTON INC. ALBUQUERQUE - NEW MEXICO - DALLAS ENGINEERS

DESIGNED BY J.G.M.
DRAWN BY J.M.C.
APPROVED T.T.M.

JOB NO 30581
DATE 5·83

AS BUILT
GRADING & DRAINAGE PLAN
CHRISTMAN FOUR-PLEX

L15/D2a

FILE NO

SHEET 1 OF 1