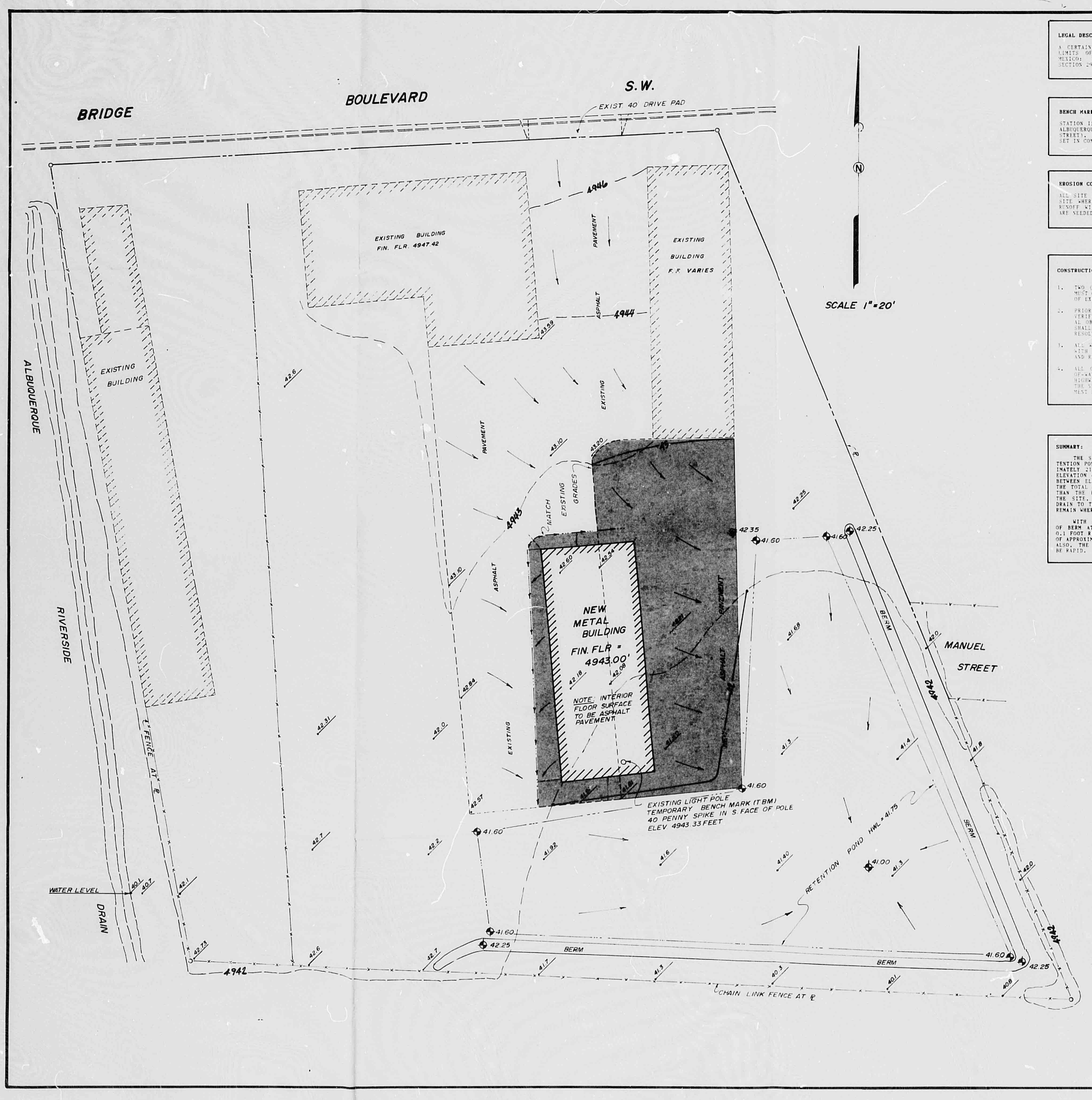
PUBLIC WORKS/HYDROLOGY

L14/D21



LEGAL DESCRIPTION:

A CERTAIN TRACT OR PARCEL OF LAND SITUATED WITHIN THE CITY LIMITS OF THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, BEING AND COMPRISING TRACT 19A, PARCEL MAP NO. 41, SECTION 24, T10N, R1E, NMPM.

BENCH MARK:

STATION 13 R.B. AW3 AS DR.J. LOCATED 1.1 MILES S.W. OF DOWNTOWN ALBUQUERQUE ON THE WEST SIDE OF RAMPLAR STREET (NOW NAMED 4TH STREET). STATION IS A STANDARD CORPS OF ENGINEERS METAL TARGET SET IN CONCRETE SIDEWALK. ELEVATION 4944.41 FEET.

EROSION CONTROL:

ALL SITE DRAINAGE IS TO BE DIRECTED TO THE S.E. CORNER OF THE SITE WHERE IT WILL BE ALLOWED TO INFILTRATE. SINCE NO SITE RUNOFF WILL BE LEAVING THE SITE, NO EROSION CONTROL MEASURES ARE NEEDED.

CONSTRUCTION NOTES:

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

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL UNDERGROUND UTILITIES & CONFLICT ISSUES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS WITH THE DESIGN AND BE REVISED WITH A MINIMUM AMOUNT OF DELAY.

3. ALL WORK ON THE PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS GOVERNING CONSTRUCTION WITH OSHA STANDARDS.

4. ALL CONSTRUCTION WITHIN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STATE HIGHWAY DEPARTMENT STANDARDS. CONTACT THE STATE HIGHWAY DEPARTMENT DISTRICT OFFICE, 1001 TAOS FRONTAGE ROAD, N.W.

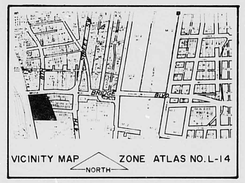
SUMMARY:

THE S.E. CORNER OF THE SITE WILL SERVE AS A SHALLOW RETENTION POND. THE TOTAL AREA INSIDE THE BROKEN LINE IS APPROXIMATELY 21,250 SQUARE FEET. THE VOLUME OF THE BOTTOM (BELOW ELEVATION 41.6) IS 21,250(41.6-41.0)/3 = 4,250 CF. THE VOLUME BETWEEN ELEVATION 41.6 AND 41.75 = 0.15 X 21,250 = 3,188 CF. THE TOTAL VOLUME IS 7,438 CF. ALTHOUGH THIS IS SLIGHTLY LESS THAN THE REQUIRED 8,000 CF, THERE IS MORE THAN ENOUGH SPACE ON THE SITE, PARTICULARLY THE WESTERN PORTION, WHICH NOT NORMALLY DRAIN TO THIS POND. THE AREA IN THE PLAT THAT THE RUNOFF WILL REMAIN WHERE IT FALLS UNTIL IT INFILTRATES.

WITH THE WATER SURFACE ELEVATION AT 41.75, AND THE TOP OF BERM AT 42.25, 0.5 FEET OF FREEBOARD IS AVAILABLE. EACH 0.1 FOOT RISE IN WATER LEVEL IS EQUAL TO AN INCREASE IN VOLUME OF APPROXIMATELY 2,000 CF, SO THERE IS MORE THAN ENOUGH CAPACITY. ALSO, THE POND BOTTOM IS SO LARGE THAT INFILTRATION SHOULD BE RAPID.

LEGEND

EXISTING	NEW	DESCRIPTION
		CONTOUR
		SPOT ELEVATION
		PROP LINE
		FLOW DIRECTION
		FENCE



DRAINAGE CALCULATIONS

I. **REFERENCES:**

a. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.

b. FLOOD'81 MAP, PANEL 3A OF 5, FEDERAL EMERGENCY MANAGEMENT AGENCY, OCTOBER 1, 1981.

II. **ON-SITE RUNOFF CHARACTERISTICS:**

a. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C" VALUE	AREA("C")
STREETS, DRIVES, WALKS	21,940	0.95	20,848
ROOFS	19,429	0.90	17,487
LAWN & LANDSCAPING (UNDEVELOPED)	44,742	0.40	17,897
TOTAL AREA	86,110	0.40	35,933

PERCENT IMPERVIOUS = 37,848/86,110 = 44.0%

WEIGHTED "C" VALUE = 35,933/86,110 = 0.4173

b. DEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C" VALUE	AREA("C")
STREETS, DRIVES, WALKS	21,940	0.95	20,843
ROOFS	19,429	0.90	17,486
LAWN & LANDSCAPING (UNDEVELOPED)	45,241	0.40	18,096
TOTAL AREA	86,110		56,425

PERCENT IMPERVIOUS = 38,929/86,110 = 45.2%

WEIGHTED "C" VALUE = 56,425/86,110 = 0.6549

c. RAINFALL, $I_{100/60}$, $I_{10/60}$, $I_{1/60}$, $I_{6/60}$, PLATE 22.2 D-1:
$I_{6/60}$ = 0.25 INCHES

d. TIME OF CONCENTRATION: USE 10 MINUTES.

e. RAINFALL INTENSITIES: FOR USE WITH RATIONAL METHOD:
$I_{100/60}$ (AREA, $I_{10/60}$, $I_{1/60}$, $I_{6/60}$)
$I_{100/60}$ = 4.0 INCHES/HR

f. HYDROLOGIC SOIL GROUP - FOR USE WITH SCS METHOD: FROM SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO, MAP NO. THE HYDROLOGIC SOIL GROUP DETERMINED FOR SOIL #2, ADOBE LOAM, IS GROUP "B".

III. **ON-SITE PEAK DISCHARGE:**

a. EXISTING CONDITIONS: (BY RATIONAL EQUATION)
Q_{100} = 0.673 X 4.0 X 3.21 = 8.65 CFS
Q_{10} = 0.673 X 3.21 = 6.04 CFS

NOTE: BOTH DEVELOPED AND UNDEVELOPED "C" FACTORS ARE SO SMALL THE SAME THAT THAT THE ABOVE VALUES FOR PEAK DISCHARGE ARE VALID FOR BOTH DEVELOPED AND UNDEVELOPED.

IV. **ON-SITE VOLUME:**

USE THE SCS METHOD. FROM PLATE 22.2 D-2 DETERMINE CN. THE SITE IS, EXCEPT FOR THE BUILDINGS, NO DIFFERENT FROM OTHER VALLEY LAND WHICH IS PROBABLY COMPARABLE TO PASTURE OR RANGE LAND, FAIR CONDITION, SOIL GROUP "B". CN = 70 FROM PLATE 22.2. THE PERCENT IMPERVIOUS IS ABOUT 40 (SEE ABOVE). AFTER DEVELOPED, THE COMPOSITE CN IS 82 AND THE DIRECT RUNOFF IS 1.25 INCHES.
V_{100} = (1.25 X 1.2)/12 = .0625 CF
V_{10} = 0.667 X 7497 = 5188 CF

DRAINAGE COMMENTS:

1. THE SITE DOES NOT SEE WITHIN, ADJACENT TO, OR UPSTREAM OF A FLOOD HAZARD AREA. THE PROPOSED BUILDING ON THE SITE IS, HOWEVER, WITHIN THE 500-YEAR FLOOD HAZARD AREA.

2. THE PROPOSED BUILDING REPLACES ONE OF COMPARABLE SIZE THAT WAS DESTROYED BY FIRE. THE PROPOSED BUILDING IS TO BE CONSTRUCTED ON AN AREA PRESENTLY NEARLY COMPLETELY COVERED WITH ASPHALT PAVEMENT. A VERY MINIMAL INCREASE IN RUNOFF WILL RESULT FROM THE CONSTRUCTION OF THIS BUILDING.

3. THE FEASIBILITY OF DISCHARGING SITE RUNOFF INTO THE ALBUQUERQUE RIVERSIDE DRAIN WAS DISCUSSED WITH THE EXECUTIVE ENGINEER, DRAINAGE. AT THE PRESENT TIME DISCHARGE INTO THE DRAIN IS NOT PERMITTED DUE TO INADEQUATE DOWNSTREAM CAPACITY.

4. THERE IS NO OFF-SITE FLOW ASSOCIATED WITH THIS SITE. THE ONLY SIGNIFICANT FLOW ON THE PROPERTY IS THE RUNOFF FROM THE 25 FEET OUTSIDE OF THE 4TH BOUNDARY LOCATED AT THE ALBUQUERQUE RIVERSIDE DRAIN. ALL ON-SITE FLOW CAN BE RETAINED ON SITE BY CONSTRUCTING A SMALL BERM ALONG THE NORTH FENCE.

RECEIVED
JUN 25 1986
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER
JAMES D. LOVE
NEW MEXICO
JUNE 25, 1986

GRADING & DRAINAGE PLAN
A REBUILD OF FIRE LOSS WAREHOUSE FOR MR. RAY LOPEZ / CASHWAY LUMBER CO.
520 BRIDGE STREET, S.W.

R# 27 DATE 3-29-02 OP ESP

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS1A-1977)

DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/12/2002

PLAN SHOT TWICE ONCE ON LIGHT ONCE ON DARK

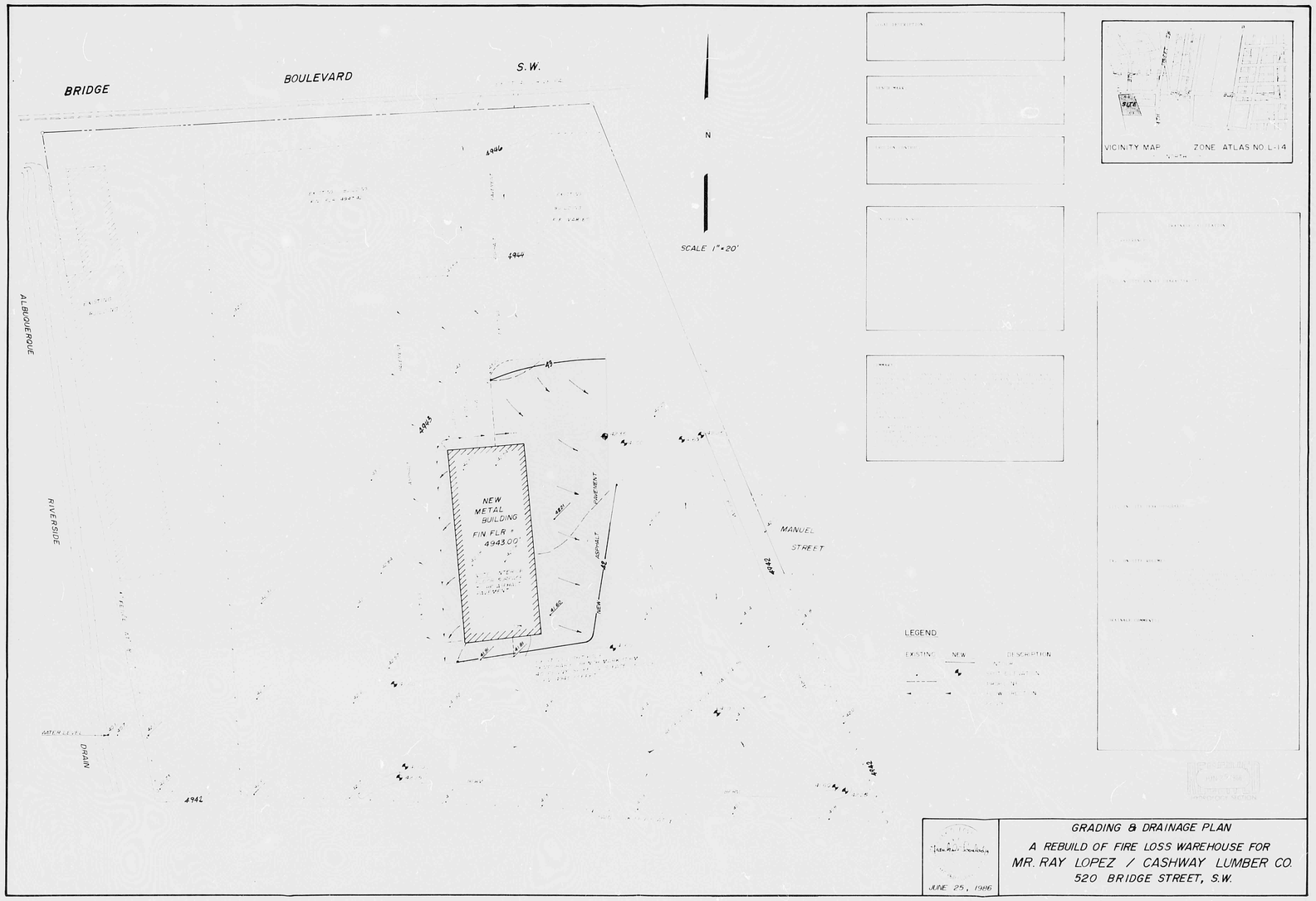
CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

PLANS/PLATS ON FILE

FILE DESC: L14/D21

PLANS/PLATS 1

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F



JUNE 25, 1996

GRADING & DRAINAGE PLAN

A REBUILD OF FIRE LOSS WAREHOUSE FOR
MR. RAY LOPEZ / CASHWAY LUMBER CO.
520 BRIDGE STREET, S.W.

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST
POSSIBLE REPRODUCTION DUE
TO THE POOR QUALITY OF THE
ORIGINAL DOCUMENT.

FR 27 DATE 3 29 96 OP

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the **Public Works Department** and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MIL-P-19717)

DIRECTOR

NOTARY PUBLIC

COMMISSION EXPIRES

E 30 D 24 C 20 B 16 A 12

CITY OF ALBUQERQUE C D F