HYDROLOGY

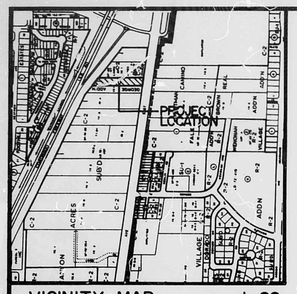
L22/D26

WAFFLE HOUSE

L22/D26

WAFFLE HOUSE

2 PLANS



VICINITY MAP L-22

SCALE : 1" = 800'

SCALE: 1" = 20'

LEGEND

- EXISTING SPOT ELEVATION
- 5660 EXISTING CONTOUR
- MANHOLE
- POWER OR LIGHT POLE
- EXISTING TREE OR SHRUB
- PROPERTY LINE
- CENTERLINE

PROJECT BENCHMARK:

A.C.S. BRASS TABLET, STAMPED "2-L22 1975 ACS," CEMENTED IN DRILL HOLE ON TOP OF CURB IN THE NOSE OF THE WEST CENTER MEDIAN IN EAST CENTRAL AVE. AT INTERSECTION WITH TRAMWAY RD. N.E.
ELEVATION: 5659.96 (M.S.L.D.)

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 LOCATION 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

DRAINAGE PLAN

The following items concerning the Waffle House/Deluxe Motel Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Details 4. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the north side of Central Avenue N.E. between Juan Tabo Boulevard N.E. and Tramway Boulevard N.E. At present, the site is undeveloped. The site is bounded on both the east and west sides by existing development, on the north by Interstate 40 and on the south by Central Avenue S.E.

As shown by Plate L22 of the Albuquerque Master Drainage Study, this site does not lie within a designated Flood Hazard Zone. Plate L22 does identify some areas of flooding downstream from the site, however, previous conversations with Mr. Fred Aguirre, Hydrology Section, concerning this area revealed that much of this flooding has been relieved by the Fair Grounds Relief System improvements further west along Central Avenue. It is based upon this knowledge and the analysis of the increase of runoff from the site that the free discharge of runoff has been permitted in the development of this site. The increase of runoff from this site is approximately 3.2 cfs which will have a negligible impact upon the water surface elevation in Central Avenue; Central Avenue has a slope of approximately 3% and a width of 86-feet face-to-face.

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 grades, 3) the limit and character of the existing improvements, and 4) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements include the construction of a Waffle House Restaurant and a Deluxe Motel. These two structures will be complemented by adjacent asphalt paving and landscaping. The existing drainage pattern on this site is one in which runoff flows from northeast to southwest and ultimately discharges to Central Avenue N.E. This basic pattern of runoff will be maintained by this plan with the exception that the runoff generated by this parcel will enter Central Avenue at the southwest corner of this parcel rather than discharging onto the Motel 6 parcel property to reaching the street.

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 in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will increase the peak discharge of runoff from the site in a minor amount which will have a negligible effect on downstream conditions. The outlet from the site has been analyzed using the Weir Equation for the inlet to the drainage rundown and the Manning Equation for flow within the channel. Lastly, offsite flows do not enter the site from the McDonald's property to the east. Some sheet flow may be generated within the fill slope and bike path within the NMSHD right-of-way to the north. This flow is expected to be less than 1 cfs and will be accepted and conveyed through the site.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 32:
TgB Tijeras gravelly fine sandy loam
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84)\, T_c^{-0.51} = 5.28$ in/hr
$P_6 = 2.5$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A\ (1/12)$
where C varies
$P_6 = 2.5$ in (DPM Plate 22.2D-1)
A area, sf

Existing Condition

$A_{total} = 46{,}980$ sf $= 1.08$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C = 0.34$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.34\ (5.28)(1.08) = 1.9$ cfs
$V_{100} = CP_6A = 0.34\ (2.5/12)(46{,}980) = 3330$ cf

Developed Condition

$A_{total} = 46{,}980$ sf $= 1.08$ Ac
$A_{IMP} = 44{,}350$ sf; % impervious = 94%
$C = 0.90$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.90\ (5.28)(1.08) = 5.1$ cfs
$V_{100} = CP_6A = 0.90\ (2.5/12)(46{,}980) = 8810$ cf

Comparison

$\Delta Q_{100} = 1.9 - 5.1 = 3.2$ cfs (increase)
$\Delta V_{100} = 3330 - 8810 = 5480$ cf (increase)

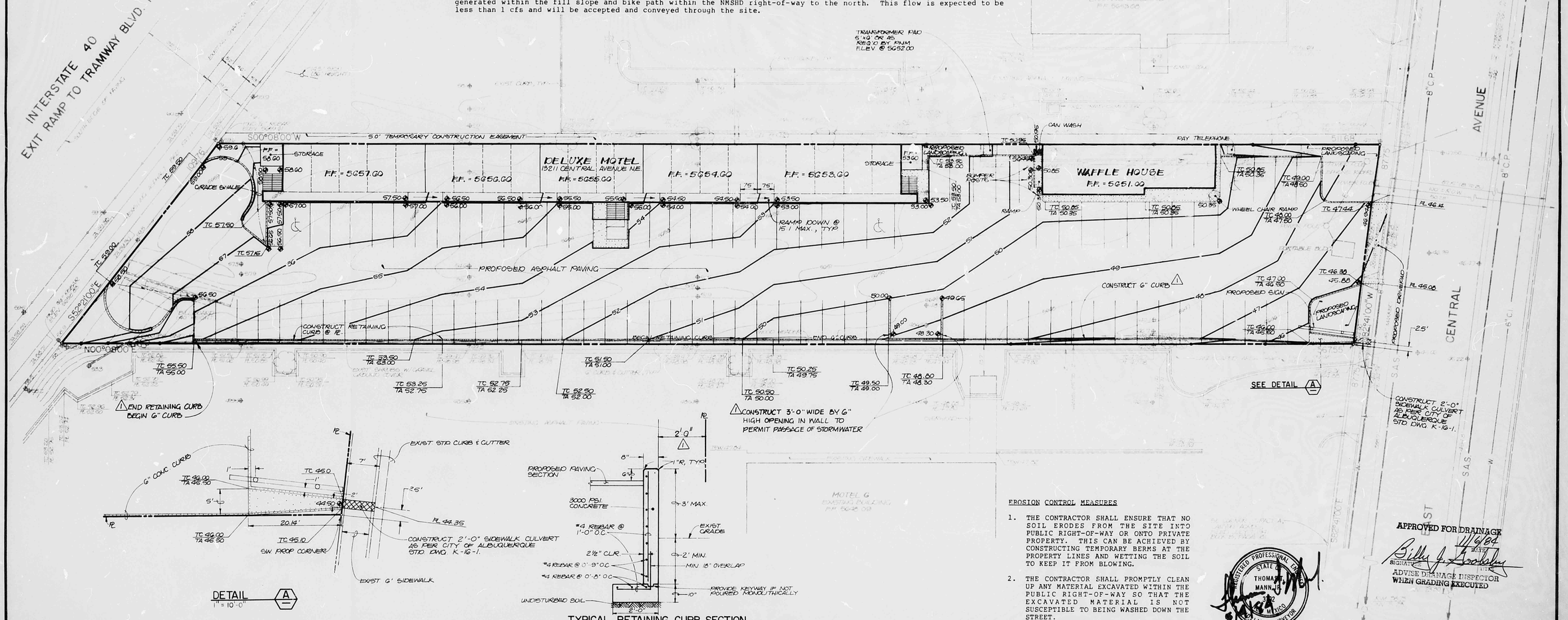
Outlet Sizing

1. Weir Analysis

Let Q = 5.1 cfs
H = 0.5 cfs
C = 3.33
$Q = CLH^{3/2}$; $L = Q/CH^{3/2}$
L = 4.33; Let L = 5' @ intake

2. Open Channel Analysis (Manning Equation)

Let Q = 5.1 cfs (design)
w = 2'
d = 0.6'
s = 0.02 ft/ft
n = 0.015
m = 0 (sidewall slope)
Q = f(w,d,s,n,m,) = 8.7 cfs (capacity)
2'- 0" sidewalk culvert will be adequate



DETAIL A
1" = 10'-0"

TYPICAL RETAINING CURB SECTION
SCALE 1" = 2'-0"

EROSION CONTROL MEASURES

1. 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.
2. 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.

REGISTERED PROFESSIONAL ENGINEER — STATE OF NEW MEXICO — THOMAS J. MANN — 3982 — PROFESSIONAL LAND SURVEYOR

APPROVED FOR DRAINAGE
11/6/84
DATE
SIGNATURE
ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

RECEIVED
OCT 03 1984
HYDROLOGY SECTION

TRUJILLO, MANN & ASSOCIATES
811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS
1	9/84	JGM	REVISE TO LOCATE WEST CURB 2' EAST OF WEST ℄

DESIGNED BY J.G.M.
DRAWN BY L.B.D.
APPROVED T.T.M.

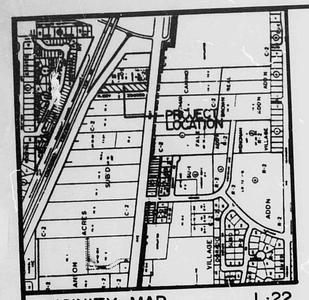
JOB NO 40501
DATE 5-84

WAFFLE HOUSE APPROVALS:
DATE
DATE
DATE
DATE

GRADING & DRAINAGE PLAN
WAFFLE HOUSE, INC.
13207 CENTRAL AVENUE N.E.

FILE NO.
SHEET 3 OF 4

L22/D26



VICINITY MAP

SCALE : 1" = 800'

L-22

ZONING CLASSIFICATION:

C-2 Community Commercial Zone

MINIMUM SETBACKS*:

5 feet (Front and Corner Side Yard)
11 feet (At junction of a Driveway and a Public Sidewalk)
0 feet (Side and Rear Yard)

*Obtained from City of Albuquerque Comprehensive City Zoning Code," June, 1980.

WAFFLE HOUSE BUILDING DATA

Size: 22'x78' (1716 sq. ft.)
Seats: 41
Type: Right Hand
Exhaust: Roof

SCALE 1"=20'

DESCRIPTIONS

ENTIRE TRACT

A certain tract of land located within the Corporate limits of the City of Albuquerque and comprising a portion of the Land of D. A. Austin, as shown on the Plat of Canyon Acres, filed in the Office of the County Clerk of Bernalillo County on July 7, 1941, Book B, Page 181, and being more particularly described as follows:

Beginning at the southwest corner of the parcel herein described whence the southeast corner of Tract A of said Plat of Canyon Acres bears N 82°41'00 W a distance of 87.75 feet; thence N 00°08'00" E a distance of 567.55 feet to a point along the south right-of-way line of Interstate Highway Number 40; thence S 52°21'00" E a distance of 109.76 feet along the south right-of-way line of Interstate Highway Number 40; thence S 00°08'00" W a distance of 511.68 feet to a point on the north right-of-way line of East Central Avenue; thence N 82°41'00" W a distance of 87.75 feet along the north right-of-way line of East Central Avenue to the point of beginning and containing 1.0785 acres (46,979 square feet) more or less.

WAFFLE HOUSE PARCEL

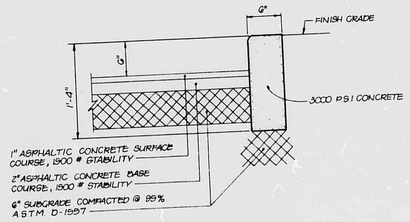
A certain tract of land located within the Corporate limits of the City of Albuquerque and comprising a portion of the tract described above as the "ENTIRE TRACT" and being more particularly described as follows:

Beginning at the southeast corner of the parcel herein described being common with the southeast corner of the "ENTIRE TRACT", thence N 82°41'00" W a distance of 87.75 feet along the north right-of-way line of East Central Avenue; thence N 00°08'00" E a distance of 190.14 feet; thence S 89°52'00" E a distance 87.06 feet; thence S 00°08'00" W a distance of 201.11 feet to the point of beginning and containing 0.3910 acres more or less.

LEASE PARCEL:

A certain tract of land located within the Corporate limits of the City of Albuquerque and comprising the remaining portion of the tract described above as the "ENTIRE TRACT" and being more particularly described as follows:

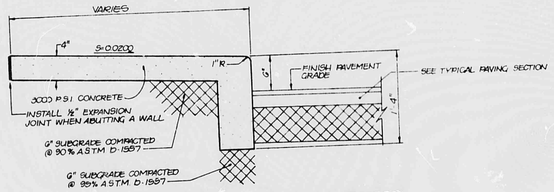
Beginning at the northeast corner of the parcel herein described being common with the northeast corner of the "ENTIRE TRACT", thence S 00°08'00" W a distance of 310.57 feet to the northeast corner of the Waffle House Parcel; thence N 89°52'00" W a distance of 87.06 feet to the northwest corner of the Waffle House Parcel; thence N 00°08'00" E a distance of 377.41 feet; thence S 52°21'00" E a distance of 109.76 feet to the point of beginning and containing 0.6875 acres more or less.



TYPICAL PAVING & CURB SECTION

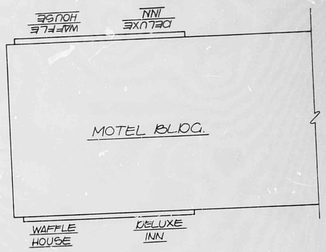
SCALE 1"=1'0"

For Info Only

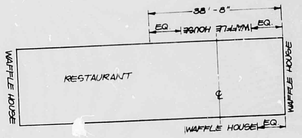


TYPICAL TURNDOWN SIDEWALK SECTION

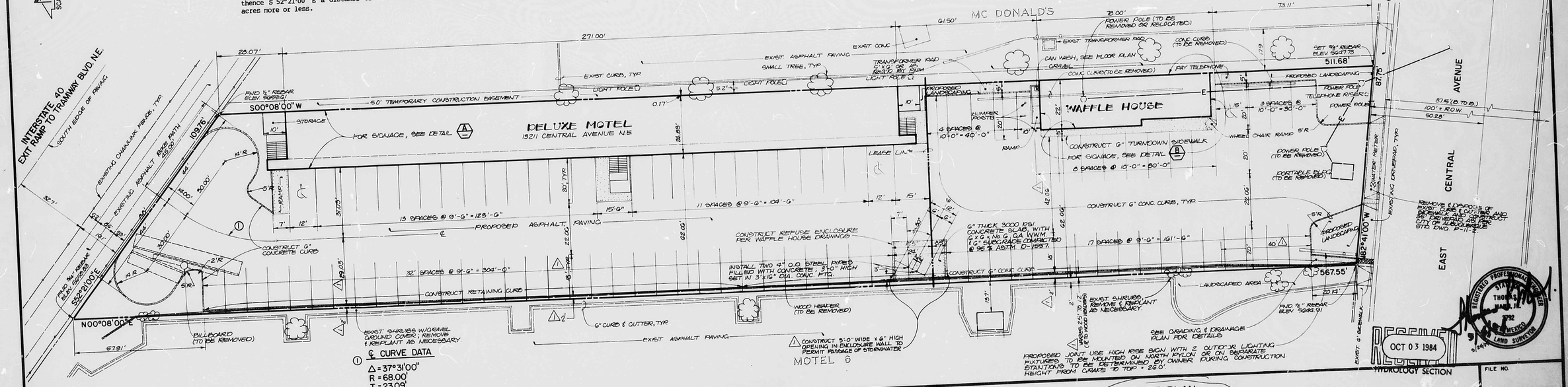
SCALE 1"=1'0"



DETAIL A
NTS



DETAIL B
1" = 20'



SITE PLAN
WAFFLE HOUSE, INC.
13207 CENTRAL AVENUE N.E.

NO.	DATE	BY	REVISIONS
1	9/84	JGM	LOCATE WEST CURB 2' EAST OF WEST ℄

DESIGNED BY: J.G.M.
DRAWN BY: L.B.D.
APPROVED: T.T.M.

JOB NO. 40501
DATE 4-84

WAFFLE HOUSE APPROVALS: DATE DATE DATE DATE

FILE NO.

SHEET 1 OF 4

L 22 / D 26

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ENGINEERS