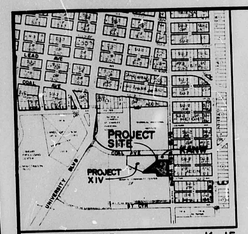
HYDROLOGY K15/D36 2 PLANS

K15/D36

2 Plans

CITY OF ALBUQUERQUE



VICINITY MAP K-15

SCALE : 1" = 800'

PROJECT BENCHMARK

A SQUARE "□" CHISELED ON TOP OF A CONCRETE CURB AT THE SW RETURN LOCATED AT THE INTERSECTION OF VALE BOULEVARD, S.E AND ST. CYR S.E.
ELEVATION = 5183.022 FEET (M.S.L.D.)

TBM

TOP OF CURB ELEVATION LOCATED NEAR THE SOUTHWEST CORNER OF THE PROPOSED PARKING LOT ADDITION AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 5157.20 FEET (M.S.L.D.)

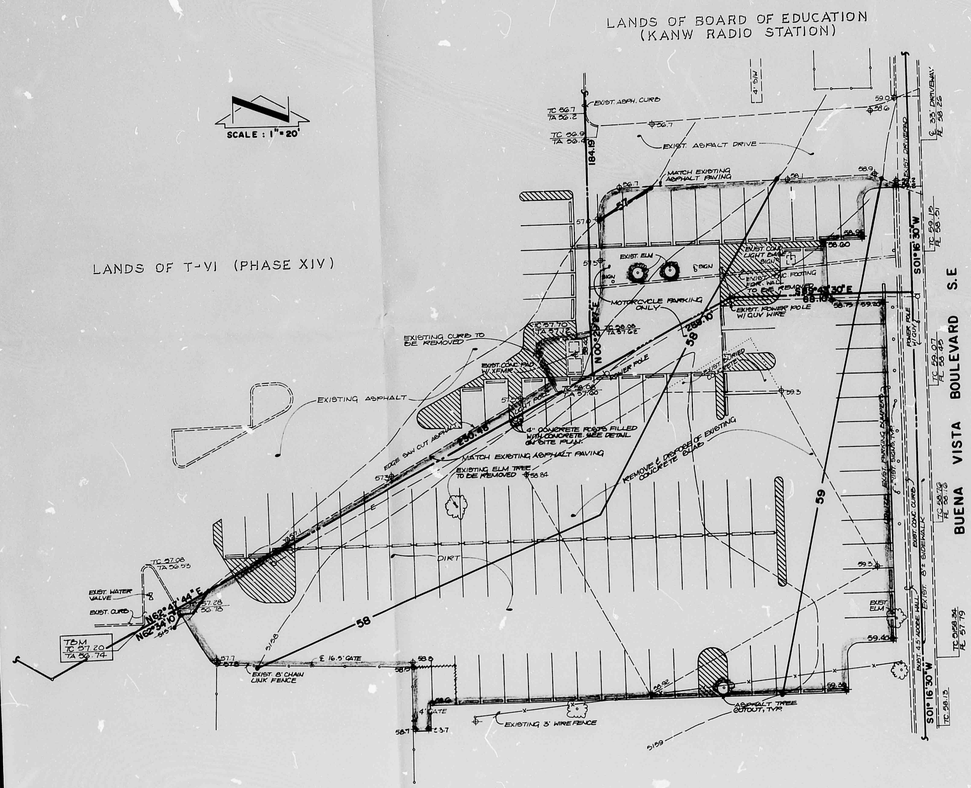
LEGAL DESCRIPTION

LANDS OF T-VI & LANDS OF BOARD OF EDUCATION

LEGEND

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5G — PROPOSED CONTOUR
- 55.5G — EXISTING CONTOUR
- SWALE
- PROPERTY LINE
- CONCRETE
- PROPOSED ASPHALT
- PROPOSED FENCE
- x—x EXISTING FENCE
- T.C. 0200 TOP OF CURB
- FL 0165 FLOW LINE
- LEASE LINE

SCALE : 1" = 20'



DRAINAGE PLAN

The following items concerning the T-VI Parking Lot Addition are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the west side of Buena Vista Drive S.E. just south of the intersection with Coal Avenue S.E. At present, the site is unpaved parking. Much of the surrounding area is currently developed making this an infill site.

As shown by Plate K-15 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. At present runoff generated from this site flows northwest onto an existing asphalt parking lot (T-VI Phase XIV) and then to Coal Avenue S.E. At this point, the runoff flows west in Coal Avenue S.E. where it is intercepted by Storm Drain System 213. This statement is based upon the review of Analysis Point 3704 which shows that there is no flow within the street at the intersection of Coal Avenue S.E. and University Boulevard S.E. This point is immediately downstream from the site and, therefore, demonstrates downstream capacity.

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, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of paving the site. Runoff generated by this site will flow northwest in the form of sheetflow onto the existing parking area of T-VI Phase XIV. From this point, the runoff flows to Coal Avenue S.E. where is is intercepted by Storm Drain System 213. No offsite flows enter from the east due to the presence of Buena Vista Boulevard S.E. a fully developed public street. No offsite flows enter from the north or west because those areas drain northwest away from the proposed improvements. Offsite flows from the south are anticipated and quantified in the calculations. These flows will be accepted and routed through the site.

The Calculations which appear hereon 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 II. As shown by these calculations, the proposed improvements will increase the peak discharge to Coal Avenue S.E. by approximately 2.4 cfs. Because of the apparent downstream capacity, the classification of this site as an infill site, and the precedent established by T-VI Phase XIV, the free discharge of runoff from this site is appropriate.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:
Cu - Cut and fill land
Hydrologic Soil Group A

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6(6.84)\,T_c^{-0.51} = 4.65$ in./hr
$P_6 = 2.2$ in (DPM Plate 22.2 D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.2$ in (DPM Plate 22.2 D-1)
A = area, acres

Existing Condition

$A_{total} = 32,160$ sf = 0.74 Ac
$A_{imp} = 9,025$ sf; % impervious = %
$C_{APP} = 0.30$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.30(4.65)(0.74) = 1.0$ cfs
$V_{100} = CP_6A = 0.30(2.2/12)(32,160) = 1,770$ cf

Developed Condition

$A_{total} = 32,160$ sf = 0.74 Ac
$A_{imp} = 32,091$ sf; % impervious = 100%
$C_{APP} = 1.00$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 1.00(4.65)(0.74) = 3.4$ cfs
$V_{100} = CP_6A = 1.00(2.2/12)(32,160) = 5,895$ cf

Comparison

$\Delta Q_{100} = 3.4 - 1.0 = 2.4$ cfs (increase)
$\Delta V_{100} = 5,895 - 1,770 = 4,125$ cf (increase)

Offsite Flow

$A_{total} = 12,000$ sf = 0.28 Ac
$A_{imp} = 0$ sf; % impervious = 0%
$C_{APP} = 0.16$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.16(4.65)(0.28) = 0.2$ cfs

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.
5. BEARINGS AND DISTANCES SHOWN HEREON TAKEN FROM RECORDS PROVIDED BY A.M.S. & T-VI.

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.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

RECEIVED
DEC 02 1985
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR

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

BOHNINGHAUSEN INC.
811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS

DESIGNED BY R.H.D.
DRAWN BY S.G.H.
APPROVED J.G.M.
JOB NO. 51381
DATE 11·85

GRADING AND DRAINAGE PLAN
T-VI PARKING LOT ADDITION

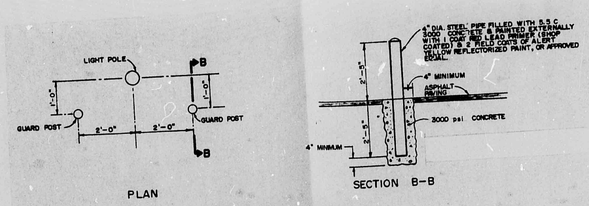
FILE NO.
SHEET 2 OF 2

CITY OF ALBUQUERQUE

PROJECT BENCHMARK

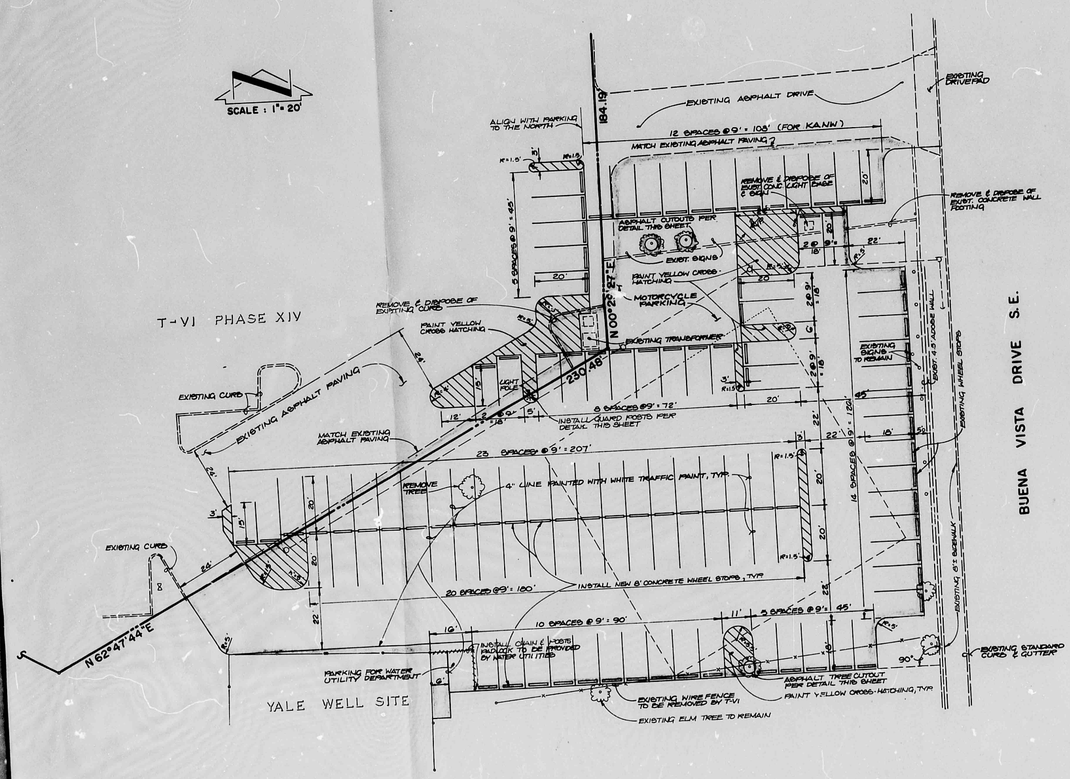
A SQUARE, □, CHISELED ON TOP OF A CONCRETE CURB AT THE SBW RETURN LOCATED AT THE INTERSECTION OF YALE BOULEVARD, S.E. AND ST. CYR, S.E.
ELEVATION = 5153.022 FEET (M.S.L.D.)

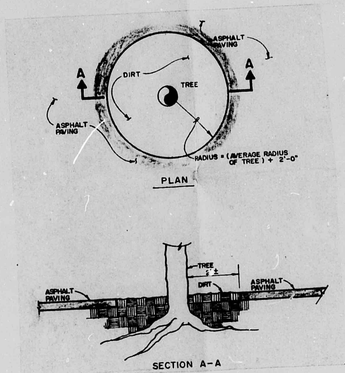
VICINITY MAP K-15
SCALE: 1" = 800'



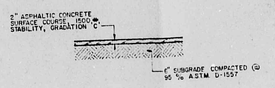
GUARD POST DETAIL
NO SCALE

SCALE : 1" = 20'





ASPHALT TREE CUTOUT
NO SCALE



ASPHALT PAVEMENT SECTION
SCALE: 1" = 2'-0"

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RECEIVED DEC 02 1985 HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER THOMAS J. SPIRA NEW MEXICO AND LAND SURVEYOR

811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110 ENGINEERS	NO.	DATE	BY	REVISIONS	DESIGNED BY R.H.D. DRAWN BY S.G.H. APPROVED J.G.M.	JOB NO. 51381 DATE 11·85

SITE PLAN
T-VI PARKING LOT ADDITION

FILE NO.
SHEET 1 OF 2

CITY OF ALBUQUERQUE