

CALCULATIONS

I. DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY, OF THE DPM, REVISED JANUARY 1993.
DISCHARGE RATE: $Q = Q_p \times A \dots$ "PEAK DISCHARGE RATES FOR SMALL WATERSHEDS"
VOLUMETRIC DISCHARGE: $VOL. = E_{WEIGHTED} \times A$

SOIL TYPE, 'B' - AGUA SOIL SERIES, A LOAM
 $P_{100} = 2.35"$, ZONE 2 $TC = 10$ MIN.
DESIGN STORM: 100YR.-6HR., 10YR.-6HR. $I = 10$ YEAR VALUES

II. EXISTING CONDITIONS

LOT AREA = 0.23 ACRES, where
 $E_{WEIGHTED} = 1.26$ IN. [0.63 IN.]
PEAK DISCHARGE, $Q_{100} = 0.77$ CFS [0.43], where
EXCESS PRECIP._c = 1.13 IN. [0.52],
EXCESS PRECIP._o = 2.12 IN. [1.34]
PEAK DISCHARGE_c = 3.14 CFS/ACRE [1.71]
PEAK DISCHARGE_o = 4.7 CFS/ACRE [3.14]

VOLUME₁₀₀ = 1052 C.F. [526]

III. DEVELOPED CONDITIONS

DET. LAND TREATMENTS/ PEAK DISCHARGE/WEIGHTED EXCESS PRECIP

LAND TREATMENT	PEAK DISCHARGE, CFS/ACRE	'E'
L.S., 0.04AC. B	2.28[0.95]	0.78[0.28]
ROOF, PAVM T, 0.19AC D	4.70[3.14]	2.12[1.34]
0.23AC.		

$E_{WEIGHTED} = 1.89$ IN. [1.16]
 $Q_{100} = 0.98$ CFS $Q_{10} = 0.65$ CFS
VOL.₁₀₀ = 1578 C.F. VOL.₁₀ = 968 C.F.

APPROXIMATE PARKING LOT PONDING VOLUME:
2/3 OF VOLUME OF SITE TO REAR = $1578 \times .67 = 1057$ C.F.
SQUARE FOOTAGE OF REAR PKG. AREA, $60' \times 70' = 4200$ S.F.
THEREFORE $1057/4200 \times 12$ inches/ft. = 3 inches average depth needed

DETERMINE PROPOSED VOLUME WITHIN REAR LANDSCAPING AREAS:
WHERE LANDSCAPE AREAS WILL BE DEPRESSED 1 FOOT
& SQUARE FOOTAGE = 280 S.F.
THEREFORE VOLUME WITHIN LANDSCAPING = 240 C.F. (CONVEYED TO BY CURB CUTS)
THEREFORE VOLUME WITHIN PKG. LOT IS $1057 - 280 = 777$ C.F. @ A DEPTH OF 2.2 INCHES ($777/4200 \times 12$ INCHES)

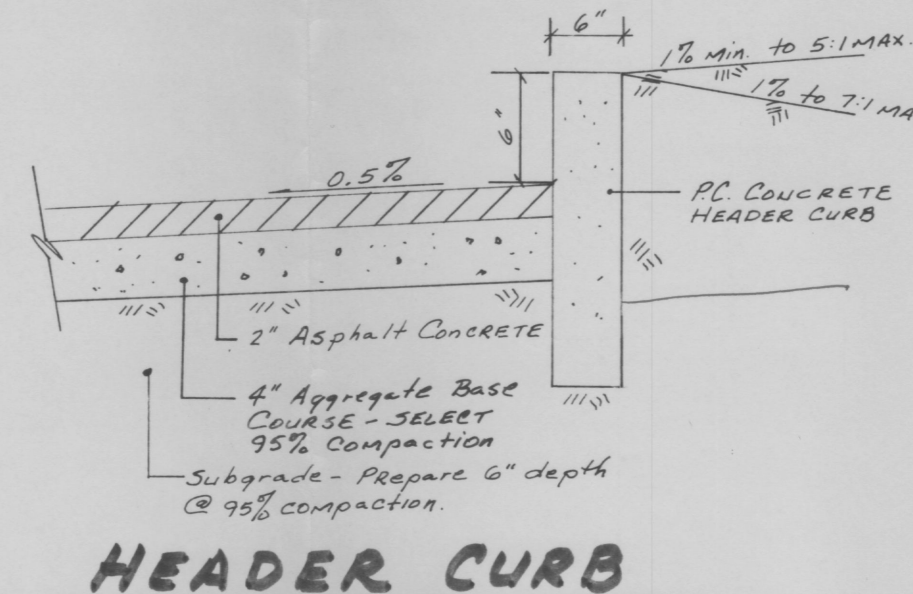
$$\frac{99}{171} (1578) = 914 \text{ cf}$$



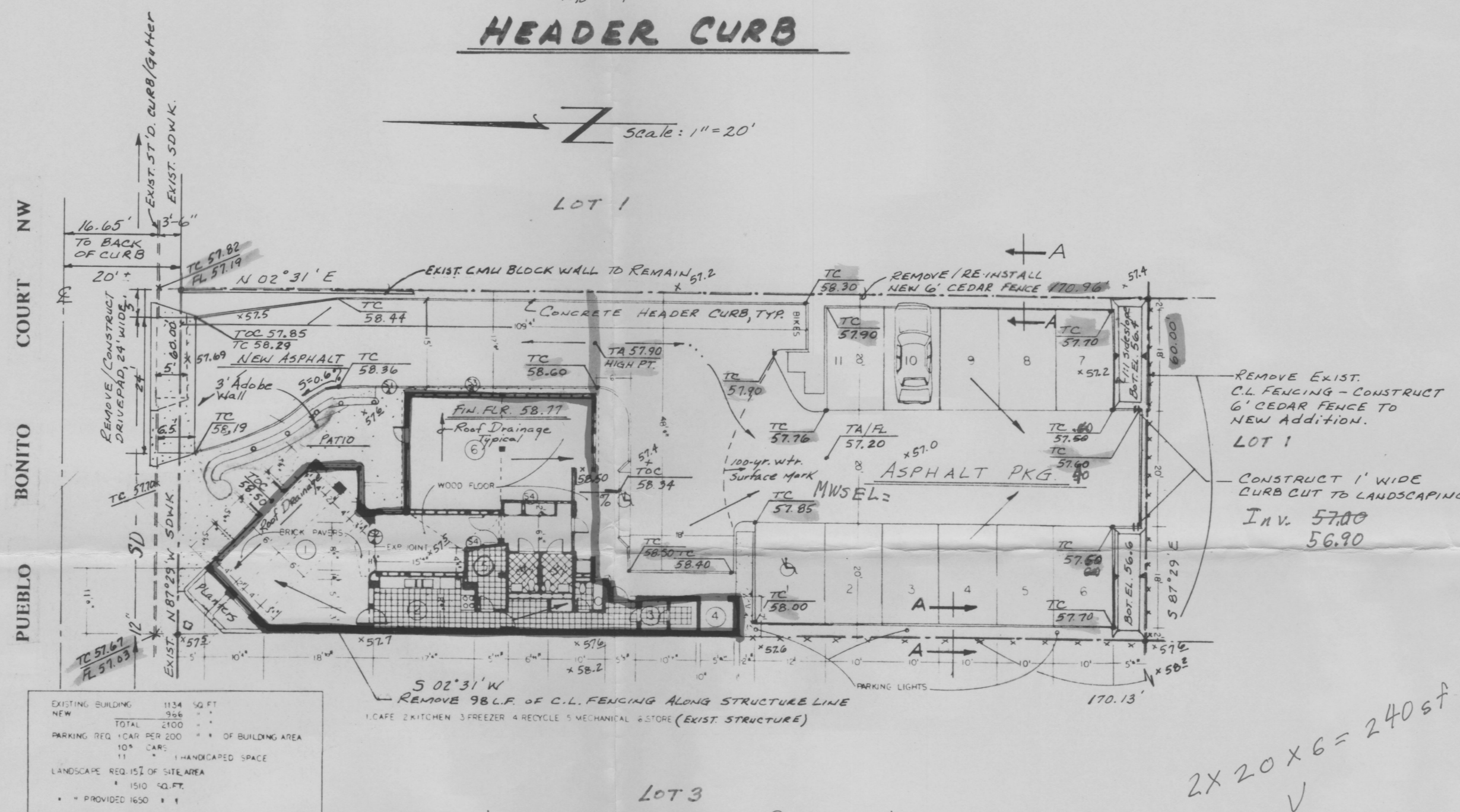
FEMA MAP- PANEL #2B 1"=500'

CONSTRUCTION NOTES

- TEMPORARY EROSION CONTROL: CONTRACTOR SHALL ENSURE THAT NO SEDIMENTS ENTER THE CITY RIGHT-OF-WAY DURING CONSTRUCTION OPERATIONS.
- CONTRACTOR SHALL BE REQUIRED TO OBTAIN A DRIVEWAY PERMIT FROM THE CITY OF ALBUQUERQUE PRIOR TO CONSTRUCTION. THE 24' DRIVEPAD SHOWN SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD DRAWING P-2425. MINIMAL CURB AND GUTTER REMOVAL AND REPLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD DRAWING P-2415.



HEADER CURB



Lot 3
Show Basin Boundary

PROJECT INFORMATION

LEGAL DESCRIPTION: Lot 2, Plat of Pueblo Bonito Addition, filed June 2, 1941, Book D, page 73.
PROJECT BENCHMARK: Top of curb at the projection of the N.W. Property Corner, msl elevation = 4957.67 feet as tied from ACS Brass Cap at the N.E. corner of Mountain & Rio Grande Blvd.
PROPERTY ADDRESS: 2404 Pueblo Bonito Court, NW
TOPOGRAPHIC SURVEY: Topographic Survey performed by Philip W. Turner, P.S., on 12/5/93.

I, Philip W. Clark, a Professional Engineer licensed in accordance with the laws of the State of New Mexico, do hereby certify that I have visited the site shown hereon and that the contours shown represent the existing ground conditions, and further certify no changes in elevations, or disturbance of the existing ground has occurred since the elevations were determined.

Philip W. Clark 12/10/93
PHILIP W. CLARK, N.M.P.E. #10265

LEGEND

EXISTING SPOT ELEVATION $\times 57.2$

NEW SPOT ELEVATION

NEW CONCRETE

TOP OF CURB TC

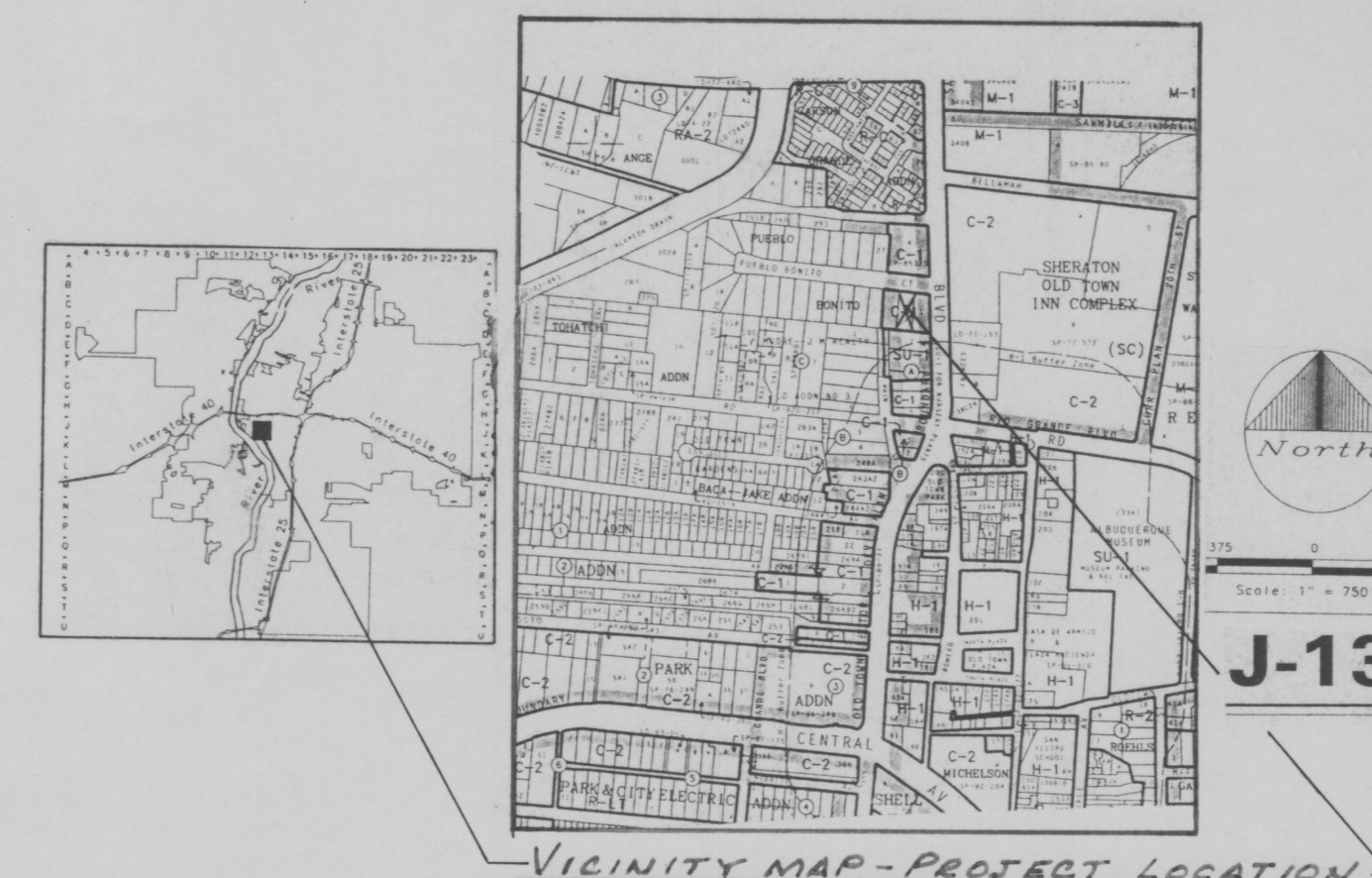
TOP OF CONCRETE TOC

FLOWLINE FL

TOP OF ASPHALT TA

SWALE

DRAINAGE FLOW DIRECTION



GRADING AND DRAINAGE PLAN

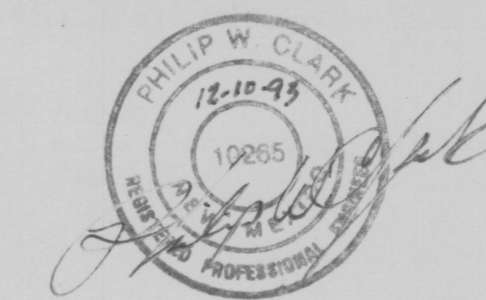
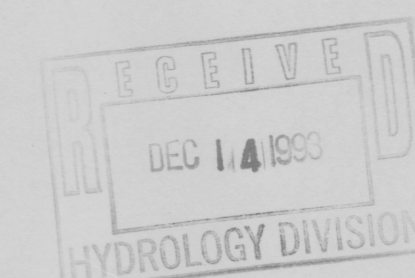
THE PROPOSED CAFE-STORE IS A RENOVATION OF AN EXISTING STRUCTURE LOCATED IN THE OLD TOWN AREA OF ALBUQUERQUE, NEW MEXICO, APPROXIMATELY 1.5 MILES NORTHWEST OF THE DOWNTOWN CORE. THE PROJECT IS AN INFILL SITE WITHIN THE ESTABLISHED URBAN AREA AS IDENTIFIED BY THE BERNALILLO COMPREHENSIVE PLAN. THE GRADING AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE CITY OF ALBUQUERQUE DRAINAGE ORDINANCE AND FLOOD HAZARD ORDINANCE NO. 88-46. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PROPOSED PLAN SHOWS:

- EXISTING AND NEW SPOT ELEVATIONS RELATIVE TO C.O.A. SURVEY MONUMENTATION.
- PROPOSED IMPROVEMENTS: RENOVATED AND EXPANDED STRUCTURE, PAVED PATIO & ASPHALT PAVING, WOODEN PERIMETER FENCING, LANDSCAPING, AND GRADING.
- CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
- QUANTIFICATION OF EXISTING AND DEVELOPED SITE DRAINAGE RUN-OFF.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS. THE FRONT OR NORTH HALF OF THE SITE WILL DISCHARGE TO PUEBLO BONITO THROUGH THE EXPANDED DRIVEWAY. AN EXISTING STORM SEWER IS LOCATED IN PUEBLO BONITO. THE SOUTH HALF OF THE SITE DRAINAGE WILL BE ALLOWED TO POND IN THE PROPOSED LANDSCAPING, AND PAVED PARKING AREA. THE CONCEPT PER PRE-DESIGN MEETINGS IS TO SPREAD THE PONDED PORTION IN THE PARKING LOT AS MUCH AS POSSIBLE TO ALLOW FOR AMPLE EVAPORATION.

THE PLAN DETERMINES THE RUNOFF RESULTING FROM THE 100 YEAR/6 HOUR DURATION AND 10 YEAR/6 HOUR STORMS FOR BOTH THE EXISTING AND DEVELOPED CONDITIONS. PRESENTLY, THE SITE IS BOUNDED ON THE EAST, SOUTH, AND NORTH BY DEVELOPED LOTS OR THE IMPROVED STREET, PUEBLO BONITO STREET. AN UNDEVELOPED LOT OF SIMILAR DIMENSIONS LIES ADJACENT TO THE WEST. THE SITE IS ESSENTIALLY FLAT WITH A DECREASE IN ELEVATION TO THE SOUTH BY APPROXIMATELY 0.5 FEET. ESSENTIALLY, NO OFF-SITE FLOWS ENTER THE PROJECT. THE SITE IS NOT ENCUMBERED BY A DESIGNATED FLOODPLAIN, SEE MAP THIS SHEET.

THE FOLLOWING HYDROLOGICAL PROCEDURES AND CALCULATIONS ARE IN ACCORDANCE WITH SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, REVISED JANUARY 1993, FOR THE CITY OF ALBUQUERQUE, NEW MEXICO.



Clark Consulting Engineers			
19 Ryan Road, Edgewood, New Mexico 87015 (505) 281-7419			
DATE	REVISION	2404 PUEBLO BONITO COURT, NW	
		GRADING & DRAINAGE PLAN/ REPORT	
DESIGNED BY: <i>PC</i>	DRAWN BY: <i>CLC</i>	JOB No:	SHEET No:
CHECKED BY: <i>PC</i>	DATE: 12/10/93	FILE No:	1

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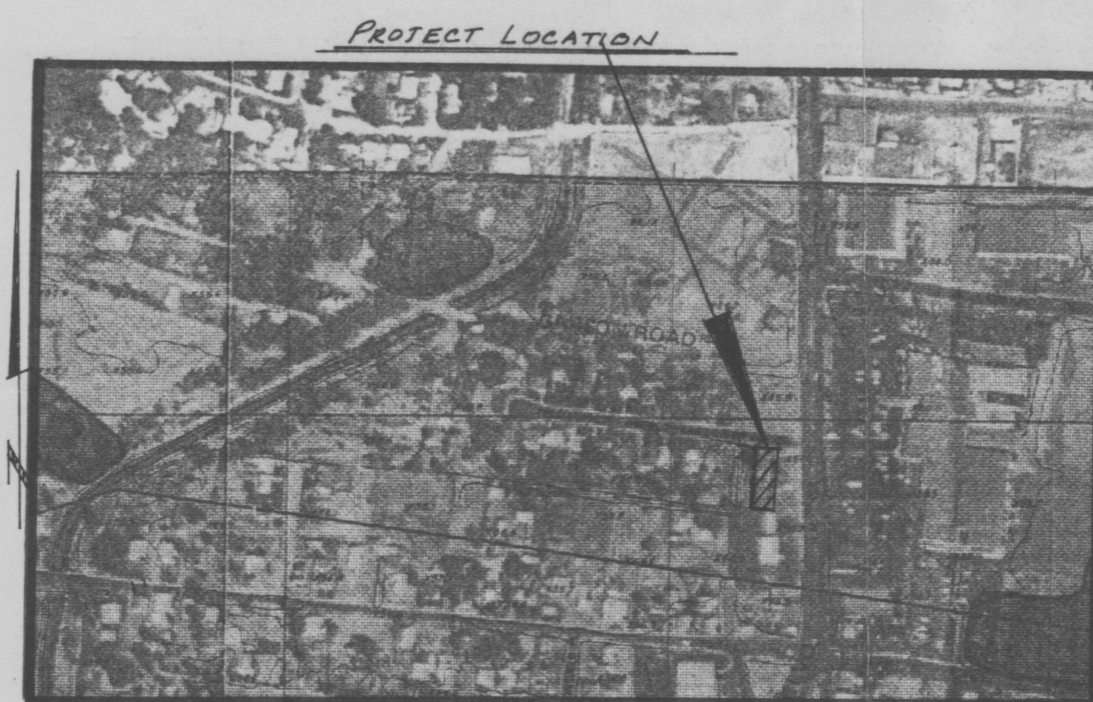
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DETERMINE REQ. VOLUME (10-DAY) IN PARKING LOT

$P_{10-day} = 3.95"$ AREA_{ROOF/PAV.} = $105' \times 56' \div 43560 = 0.14$ AC ≈ 5880 sq

$VOL_{10-day} = VOL_{360} + \frac{5880 \times (3.95 - 2.35)}{12} = 1057 + 784 = 1841$ C.F., REQUIRED ✓

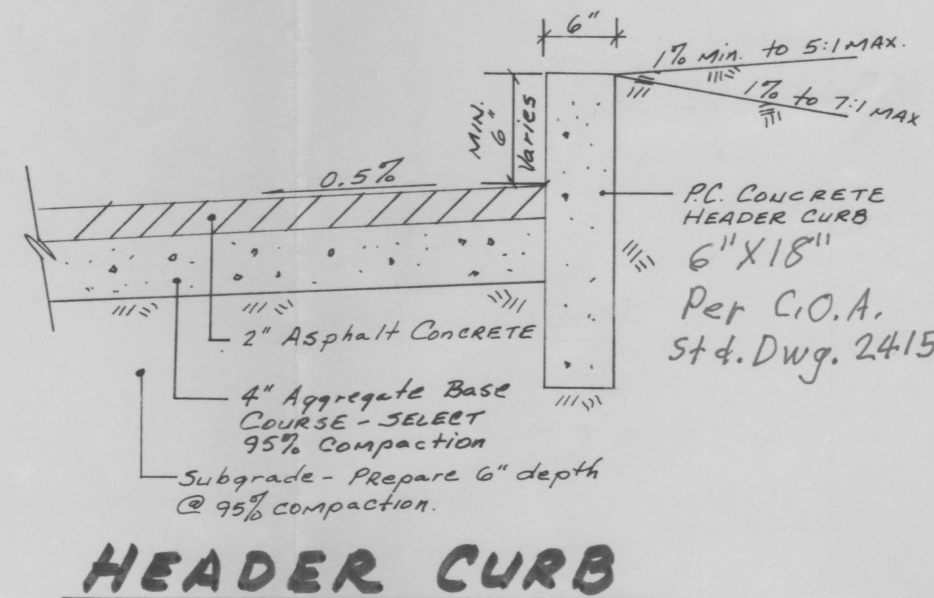
$VOL_{provided} = 40.6$ S.F. (X-section @ South end of PKG. LOT) *
 88 FT. $\div 2$ (wedge shape)
 $= 1766$ C.F. ≈ 1841 , OK



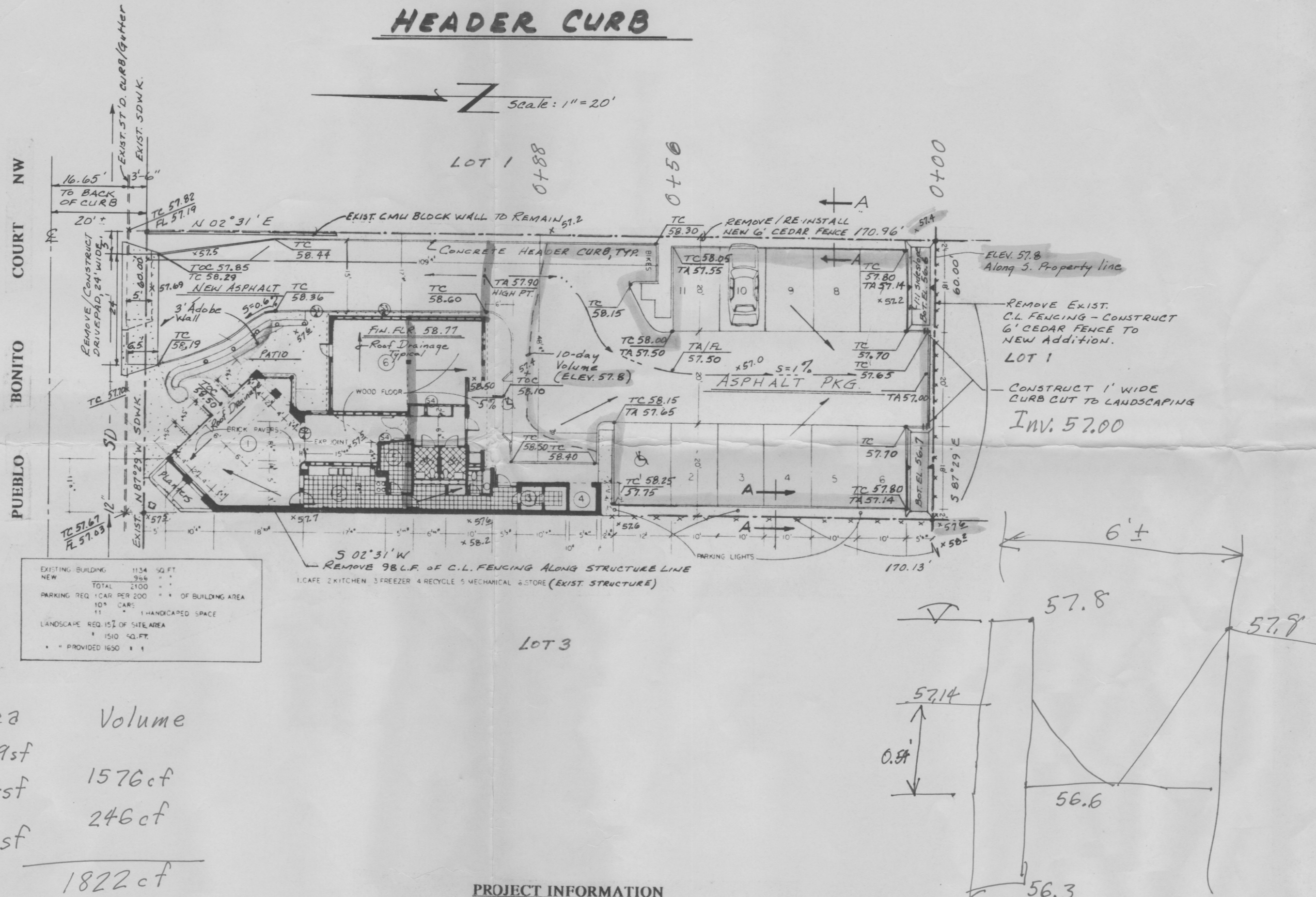
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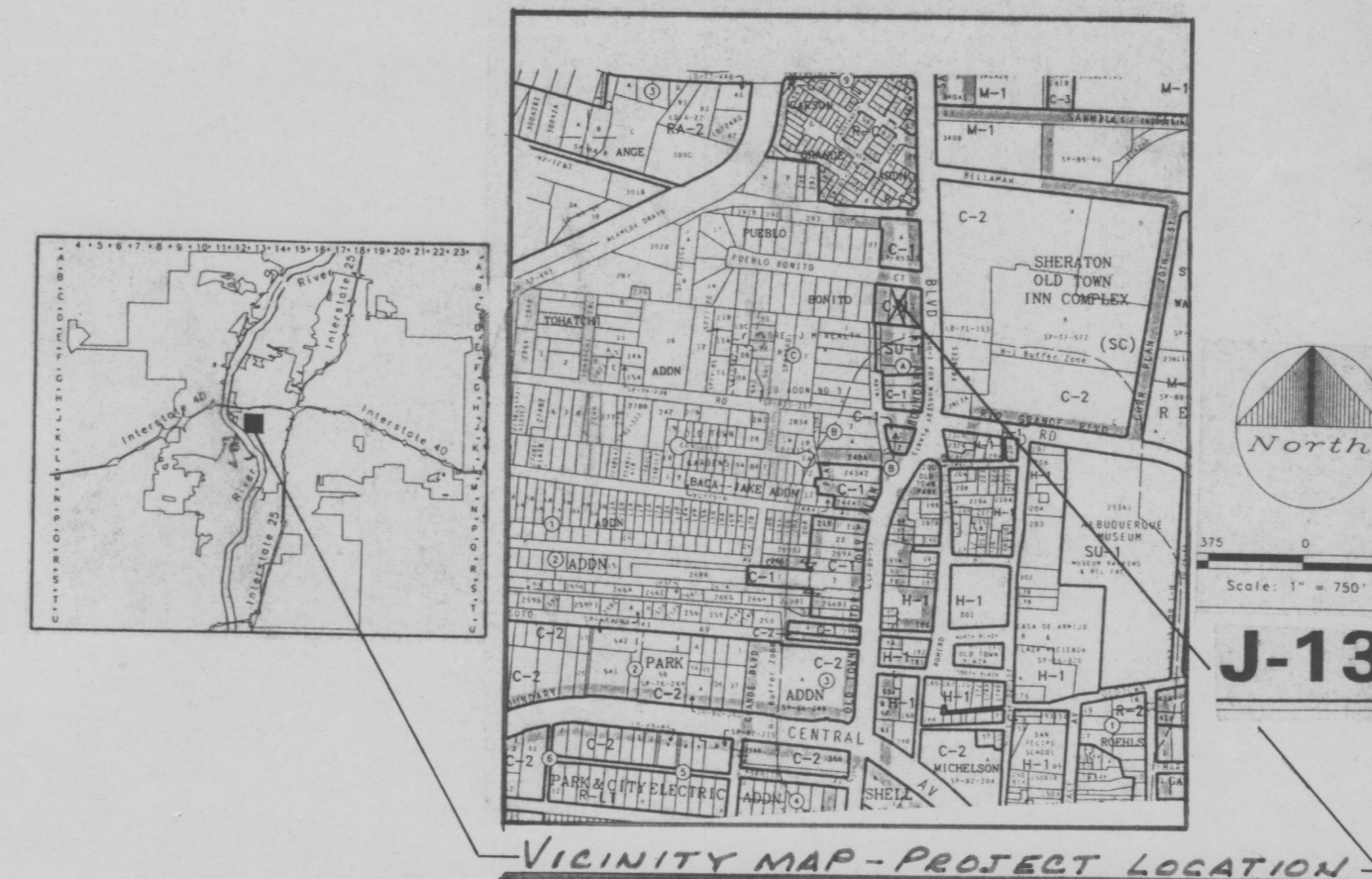
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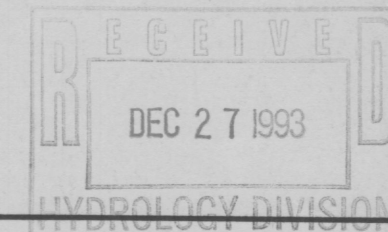
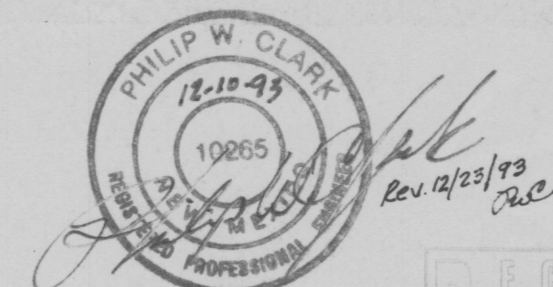
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Clark Consulting Engineers 19 Ryan Road, Edgewood, New Mexico 87015 (505) 261-7419			
DATE	REVISION	2404 PUEBLO BONITO COURT, NW	
12/21/93	Added Notes		
		GRADING & DRAINAGE PLAN/REPORT	
DESIGNED BY: <i>alc</i>	DRAWN BY: <i>alc</i>	JOB No:	SHEET No.
CHECKED BY: <i>alc</i>	DATE: 12/10/93	FILE No:	1