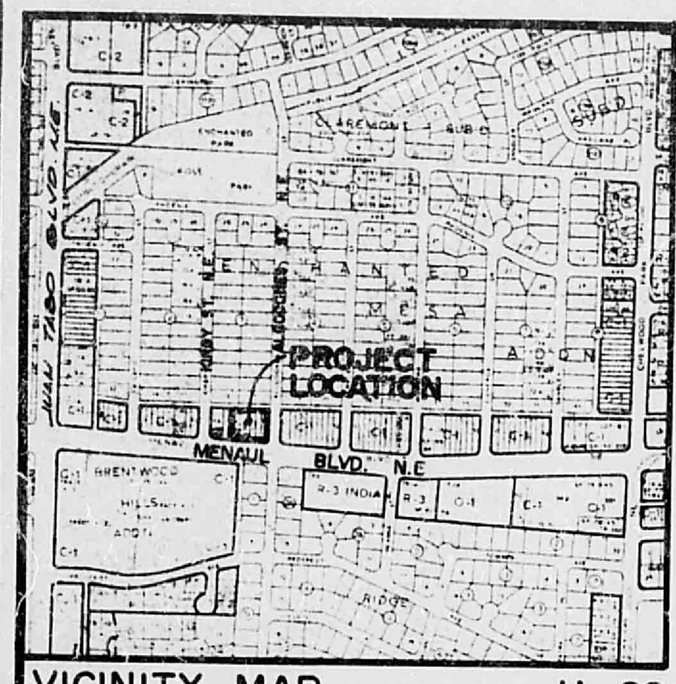


VICINITY MAP H-22

SCALE: 1" = 800'

PROJECT BENCHMARK

STATION MARK IS A STANDARD ACS BRASS TABLET STAMPED "2-H21-A" SET FLUSH WITH THE CURB. STATION IS LOCATED IN THE NOSE OF THE ISLAND 60' SOUTH OF THE ℄ OF MENAUL BLVD. AT THE INTERSECTION OF MENAUL BLVD. & JUAN TABO BLVD.
ELEVATION = 5603.08 FEET (M.S.L.D.)

TBM

A SCRIBE MARK ON TOP OF CURB LOCATED APPROXIMATELY 50' WEST OF THE SOUTH-WEST PROPERTY CORNER AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 5631.61 FEET (M.S.L.D.)

LEGAL DESCRIPTION

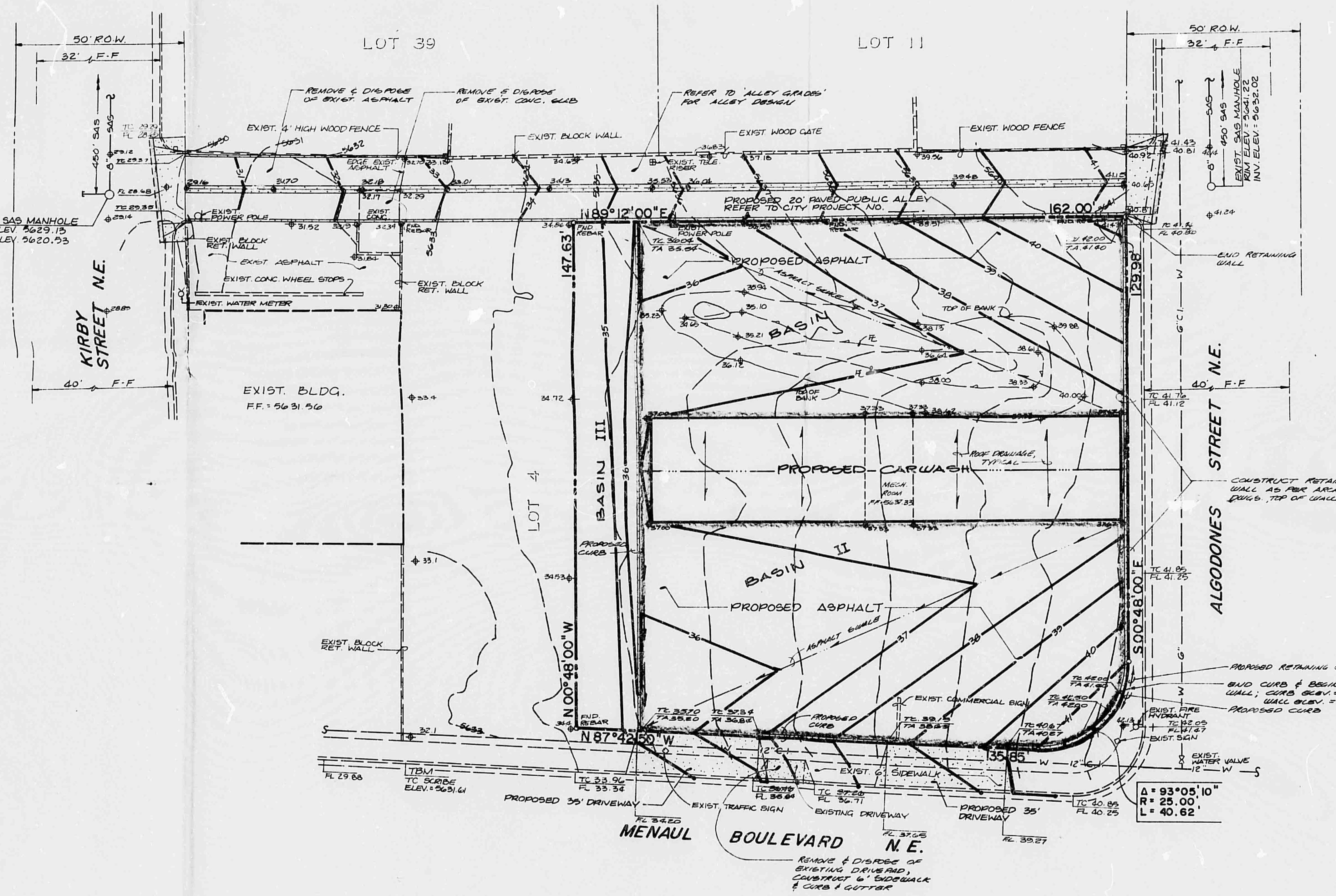
LOTS 5A, 8, 9 AND 10; BLOCK 3; ENCHANTED MESA ADDITION

LEGEND

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5636 — EXISTING CONTOUR
- 36 — PROPOSED CONTOUR
- EXISTING BLOCK WALL
- EXISTING WOOD FENCE
- EXISTING FLOW LINE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- DRAINAGE BASIN BOUNDARY
- PROPOSED SWALE

SCALE: 1" = 20'

ENCHANTED MESA ADDITION
BLOCK 3
5-27-1953, D1-94



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. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

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.

DRAINAGE PLAN

The following items concerning the Menaul Carwash Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located east of Juan Tabo Boulevard N.E. on the northwest corner of Algodones Street N.E. and Menaul Boulevard N.E. At present, the site is undeveloped. Much of the surrounding area is currently developed, thereby making this an infill site. The proposed improvements consist of a building and paving.

As shown by Plate H-22 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. A public storm drain facility exists at the intersection of Menaul and Kirby Street N.E. The runoff from this site drains to this public facility and hence it serves as the outfall for this site. Furthermore, the site does not appear to contribute runoff to an existing flood hazard area. Due to the fact that this is an infill site, that this site does not contribute runoff to an existing flooding problem, the negligible increase in peak runoff and the proximity of the site to the public storm drain facility, the free discharge of runoff from this site is appropriate.

The Grading Plan shows 1) existing contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, and 4) the limit and character of all proposed improvements. As shown by this plan, the proposed improvements consist of paving and the construction of a carwash facility. Flows generally flow from east to west. Presently runoff from the site discharges along the west side of the site into the adjacent Lot 4 where eventually the flows discharge into both the adjacent alley on the north and Menaul Boulevard N.E. on the south. Offsite flows from the east are contained in Algodones Street N.E. and no offsite flows are anticipated from the north, south or east. Hence, offsite flows are not a concern.

As shown by this plan, the site will be divided into three basins. Runoff from Basin I (1.4 cfs) will be directed to the northwest corner of the proposed improvements and discharge into the adjacent alley. Runoff from Basin II (1.5 cfs) will be directed to the southwest corner of the proposed improvements and discharge into Menaul Boulevard N.E. via the proposed drivepad. Runoff from the undeveloped Basin III (0.1 cfs) will continue to discharge along the west side of the site into the adjacent Lot 4 at a rate which is significantly lower than in the existing condition. All flows will eventually make their way into the existing drainage facility on Menaul Boulevard N.E.

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 to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will result in a net increase in peak runoff by 1.6 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 32: EtC - Embudo Tijeras Complex
Hydrologic Soil Group: B
Existing Pervious CN = 79 (DPM Plate 22.2 C-2 Pasture or Range Land: poor condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2) Open spaces: good condition)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.48$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CiA$

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 5.24$ in/hr
$P_6 = 2.48$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

SCS Method

Volume: V = 3630(DRO) A

Where DRO = Direct runoff in inches
A = area, acres

Existing Condition

A_{total} = 28,700 sf = 0.66 Ac
Undeveloped Area = 28,700 sf (1.0)
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.40(5.24)0.66 = 1.4 cfs
A_{imp} = -0- sf; % impervious = -0- %
Composite CN = 79 (DPM Plate 22.2 C-3)
DRO = 0.82 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO)A = 1.965 cf

Developed Condition

1. Basin I
A_{total} = 12,680 sf = 0.29 Ac
Roof area = 4,140 sf (0.33)
Paved area = 8,540 sf (0.67)
C = 0.93 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.93(5.24)0.29 = 1.4 cfs
A_{imp} = 12,680 sf; % impervious = 100 %
Composite CN = 98 (DPM Plate 22.2 C-3)
DRO = 2.25 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO) A = 2,370 cf

2. Basin II
A_{total} = 13,360 sf = 0.31 Ac
Roof area = 4,140 sf (0.31)
Paved area = 9,220 sf (0.69)
C = 0.93 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.93(5.24)0.31 = 1.5 cfs
A_{imp} = 13,360 sf; % impervious = 100 %
Composite CN = 98 (DPM Plate 22.2 C-3)
DRO = 2.25 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO) A = 2,530 cf

3. Basin III
A_{total} = 2,660 sf = 0.06 Ac
Undeveloped area = 2,660 sf (1.0)
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = 0.40(5.24)0.06 = 0.1 cfs
A_{imp} = -0- sf; % impervious = 0 %
Composite CN = 79 (DPM Plate 22.2 C-3)
DRO = 0.82 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO) A = 180 cf

4. Basin I + Basin II + Basin III

Total $Q_{100} = Q_{Basin\ I} + Q_{Basin\ II} + Q_{Basin\ III}$ = 1.4 + 1.5 + 0.1 = 3.0 cfs

Total $V_{100} = V_{Basin\ I} + V_{Basin\ II} + V_{Basin\ III}$ = 2370 + 2530 + 180 = 5080 cf

Comparison

ΔQ_{100} = 3.0 - 1.4 = 1.6 cfs (increase)
ΔV_{100} = 5080 - 1965 = 3115 cf (increase)

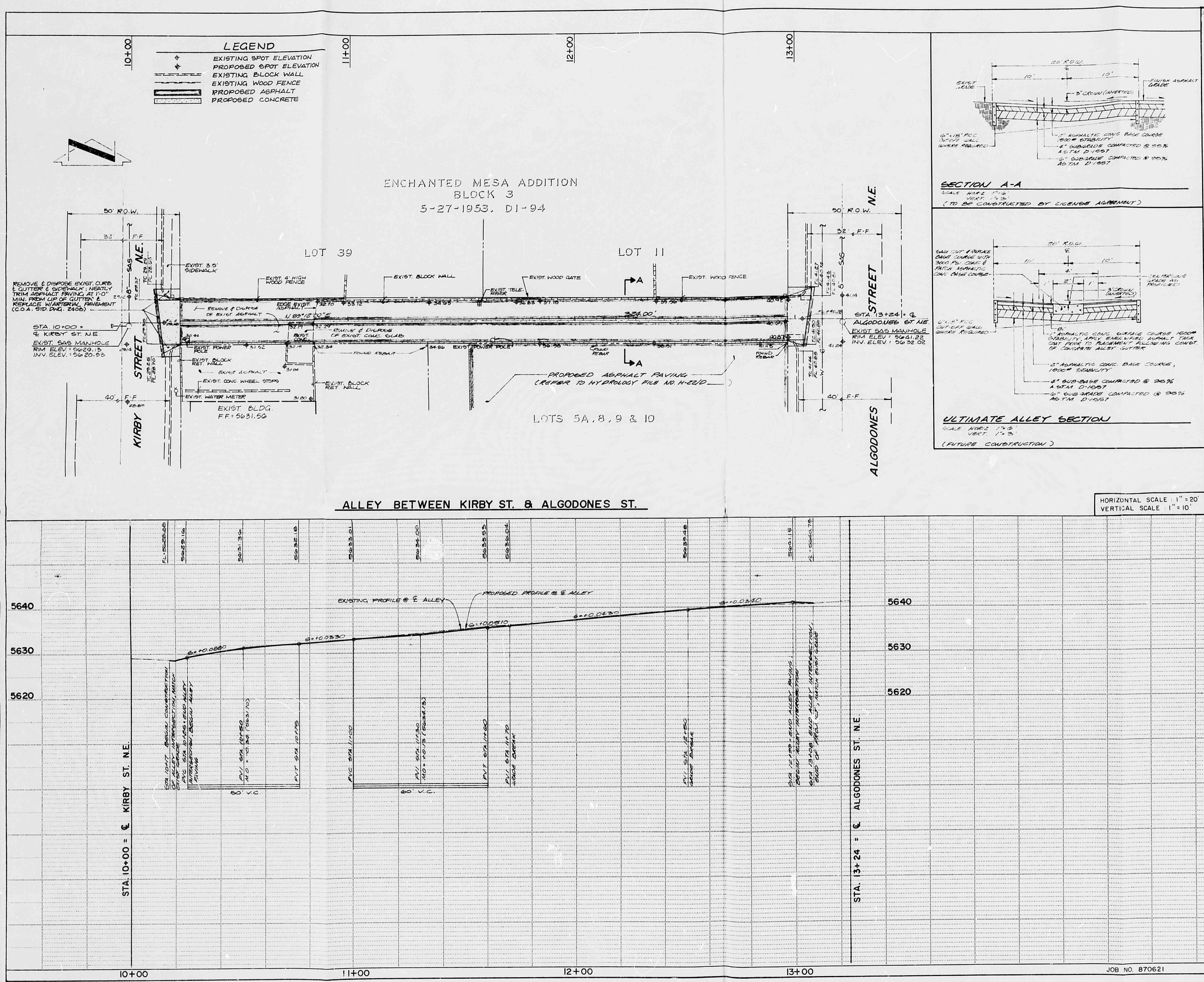
JEFFREY G. MORTENSEN · NEW MEXICO · 8547 · REGISTERED PROFESSIONAL ENGINEER

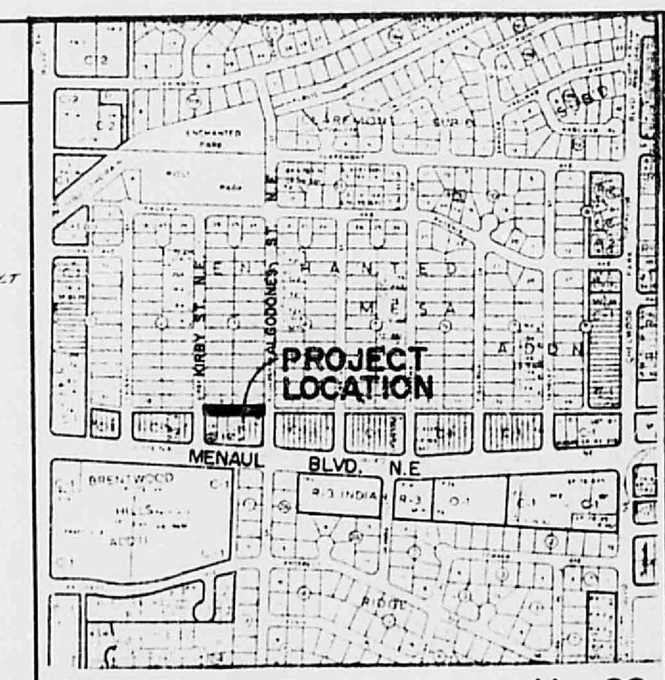
RECEIVED JUN 17 1987 HYDROLOGY SECTION

811 DALLAS N.E. - ALBUQUERQUE - NEW MEXICO - 87110 ENGINEERS	DESIGNED BY: P.M.L.	JOB NO. 870621
NO. / DATE / BY / REVISIONS	DRAWN BY: S.G.H.	DATE 5-87
	APPROVED: J.G.M.	

GRADING AND DRAINAGE PLAN
MENAUL CARWASH

FILE NO.
SHEET 1 OF 1





VICINITY MAP H-22

SCALE : 1" = 800'

GENERAL NOTES:

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS - PUBLIC WORKS CONSTRUCTION - 1986.
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
5. 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.
6. THE CONTRACTOR MUST SUBMIT A CONSTRUCTION SIGNING AND BARRICADING PLAN TO TRAFFIC ENGINEERING TO RECEIVE A BARRICADING PERMIT PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL ADJUST TO GRADE ALL WATER METERS, VALVE BOXES AND MANHOLES ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS.
8. CONTRACTOR SHALL PAVE AROUND ALL EXISTING TELEPHONE AND POWER POLES. ONE-HALF INCH EXPANSION JOINTS SHALL BE PROVIDED WHERE PAVING IS CONCRETE.
9. WHERE WATER METER BOXES ARE ENCOUNTERED WITHIN THE PROPOSED PAVING, THE METER BOX SHALL BE ADJUSTED TO GRADE AND THE COVER REPLACED WITH THE HEAVYWEIGHT COVER AND LID AS PER STANDARD DRAWING W-19.
10. WHERE ALLEY ABUTS EXISTING WALLS, CURBS AND PAVING, A 6" X 18" PCC CUT-OFF WALL WILL NOT BE REQUIRED. A CUT-OFF WALL WILL BE REQUIRED OTHERWISE.
11. BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
12. TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE CITY ENGINEER.
13. IF CURB IS DEPRESSED FOR A DRIVEPAD OR A HANDICAP RAMP, THE DRIVEPAD OR RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
14. SUBGRADE PREPARATION IS INCIDENTAL TO "GRADING", THEREFORE NO SEPARATE PAYMENT WILL BE MADE. THIS IS IN ACCORDANCE WITH SECTION 301 OF THE STANDARD SPECIFICATIONS.

AS BUILT INFORMATION

BENCH MARKS

STATION MARK IS A STANDARD A.G.C. BRASS TABLET STAMPED "2-H21-A", SET FLUSH WITH THE CURB. STATION IS LOCATED IN THE ...

SURVEY INFORMATION

FIELD NOTES		
NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY G. MORTENSEN — NEW MEXICO — 8547 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN: DESIGNED BY P.M.L. — DRAWN BY S.G.H. — CHECKED BY J.G.M.

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: ALLEY GRADES
BETWEEN KIRBY ST. N.E. & ALGODONES ST. N.E.

RECEIVED JUN 17 1987 HYDROLOGY SECTION

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chairman			Liquid Waste		
Design			Traffic		
Hydrology			Water		
Parks & Rec.					

DRAWING NO.	MAP NO. H-22	SHEET 1 OF 1

D 21 | C 20 | B 15 | A 12

CITY OF ALBUQUERQUE C D