HYDROLOGY

L20/D35
3 PLANS

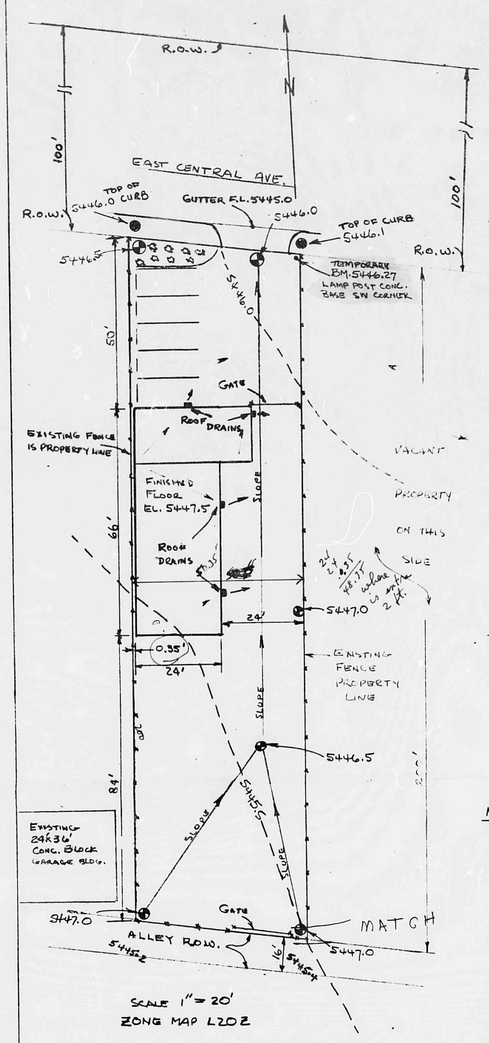
L20/D35

3 PLANS

DRAINAGE PLAN

LOT 3 BLOCK 5 SKYLINE HEIGHTS ADDITION
ALBUQUERQUE, NEW MEXICO

BENCHMARK STATION 5-L21 PUBLIC WORKS DEPT. CITY = 5466.535
TOTAL AREA: 10,070 SQ.FT. = 0.231 ACRES
TOTAL AREA ROOFED OR PAVED (EXISTING) = NONE
TOTAL AREA ROOFED OR PAVED (PROPOSED) = 10,070 SQ.FT. = 100%



SCALE 1" = 20'
ZONE MAP L20Z

--5445-- EXISTING GRADE
● FINISHED GRADES
● EXISTING SIDEWALK GRADE TOP OF CURB

HYDROLOGY

ZONE C PANEL 36 of 50

OFF-SITE FLOW — NONE FROM FLOOD INS. RATE MAP ???

ON-SITE FLOW

GROUND COVER INFORMATION

SOIL TYPE FROM BERNALILLO COUNTY SOIL SURVEY PLATE 32, TgB TIGERAS GRAVELLY, FINE SANDY LOAM, HYDROLOGIC SOIL GROUP B.

EXISTING CONDITION — CN = 98 → 100

AREA TOTAL = 10,070 SQ. FT.
CX = 0.46 (DPM PLATE 22.2 C-3)
D = 2.2" (DPM PLATE D-1)
DRO = 2.2" (DPM PLATE C-4)
$V_D = (0.46)\left(\frac{2.2}{12}\right)(10{,}070) = 705$ cu. ft. — EXISTING
V = DRO

which is the Q

DEVELOPED CONDITION

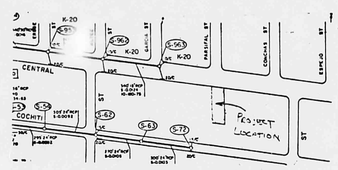
AREA TOTAL = 10,070 SQ. FT.
CX = 0.98 (DPM PLATE 22.2 C-6) CN = 98
DRO = 2.2"
$V_D = (0.98)\left(\frac{2.1}{12}\right)(10{,}070) = 1728$ cu. ft. — DEVELOPED
$\frac{2.2}{12}(10{,}070) = 1846$ cu. ft.

build = 1726
paving = 8314

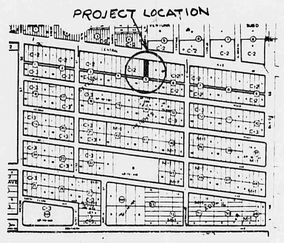
NOTES - REVISED
1. NO SEDIMENT-BEARING WATER SHALL BE ALLOWED TO LEAVE THE SITE DURING CONSTRUCTION.

NOTES

1. THE ALBUQUERQUE MASTER DRAINAGE STUDY SHOWS THIS AREA NOT IN A FLOOD PLAIN, IT IS IN ZONE C
2. NO DRAINAGE WILL BE ON ANY ADJOINING PROPERTY OWNERS
3. ALL DRAINAGE WILL BE TO EAST CENTRAL AVE.
4. BUILDIN WILL DRAIN ONTO SURFACED AREA IN FRONT OF BUILDING.



STORM SEWER PLAN



LOCATION L20Z
ALBUQUERQUE PLANNING

FLOOD MAP BY CITY OF ALBUQUERQUE
PANEL 36 OF 50

RECEIVED
DEC 01 1986
HYDROLOGY SECTION

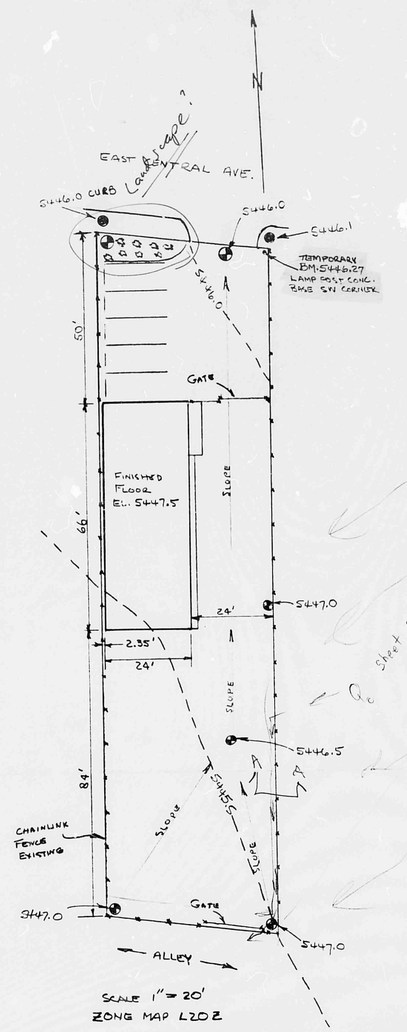
ANTHONY J. OPSTEDAL
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE # 3079 NEW MEXICO
11-14-86

DRAINAGE PLAN FOR GARAGE BLDG LOT 3 BLOCK 5 SKYLINE HTS. ADD.	
SCALE: 1" = 20'	DRAWN BY AJO
DATE 11-14-86	
OWNER: ANTHONY J. OPSTEDAL	
ADDRESS: 1832 CHRISTINE ST. N.E. ABQ	
299-5577	

DRAINAGE PLAN

LOT 3 BLOCK 5 SKYLINE HEIGHTS ADDITION
ALBUQUERQUE, NEW MEXICO

BENCHMARK STATION 5-L21 PUBLIC WORKS DEPT. CITY
TOTAL AREA: 10,070 SQ. FT. = 0.231 ACRES
TOTAL AREA ROOFED OR PAVED (EXISTING) = NONE
TOTAL AREA ROOFED OR PAVED (PROPOSED) = 10,070 SQ. FT. = 100%



SCALE 1" = 20'
ZONE MAP L20Z

--5445--- EXISTING GRADE
● FINISHED GRADES
● EXISTING SIDEWALK GRADE

HYDROLOGY

ZONE C PANEL 36 of 50

OFF-SITE FLOW — NONE FROM FLOOD INS. RATE MAP

ON-SITE FLOW

GROUND COVER INFORMATION

SOIL TYPE FROM BERNALILLO COUNTY SOIL SURVEY PLATE 32, TgB TIGERAS GRAVELLY, FINE SANDY LOAM, HYDROLOGIC SOIL GROUP B.

RATIONAL METHOD $Q = CIA$ WHERE C VARIES

$i = P_6(6.84)T_c^{-0.51} = 2.2(6.84)T_c^{-0.51} = \cancel{4.65}$ 5.07 in/hr.

$A = 50.35 \times 200 = 10{,}070$ sq. ft. $= 0.231$ ACRES

$P_6 = 2.2''$ (DPM PLATE 22.2 D-1)

$T_c = 10$ MIN. (MINIMUM)

VOLUME $V = CP_6A(1/12)$ WHERE C VARIES — not per DPM E.R.

$P_6 = 2.2''$ (DPM PLATE 22.2 D-1)

$A = 10{,}070$ sq. ft.

EXISTING CONDITION

$A_{TOTAL} = 10{,}070$ sq. ft.

$C = 0.34$ (DPM PLATE 22.2 C-1)

$Q_{100} = CIA = (0.34)(4.65)(0.231) = 0.365$ cfs

$V_{100} = CP_6A(1/12) = (0.34)(\frac{2.2}{12})(10{,}070) = 628$ c.f

roof = .034 ac
drive = .185 ac
land = .0035 ac

DEVELOPED CONDITION

$A_{TOTAL} = 10{,}070$ sq. ft. $= 0.231$ Ac.

$A_{imp}(\%) = 100\%$

$C = 1.0$ (DPM PLATE 22.2 C-1)

$Q_{100} = CIA = (1.0)(4.65)(0.231) = 1.07$ cfs

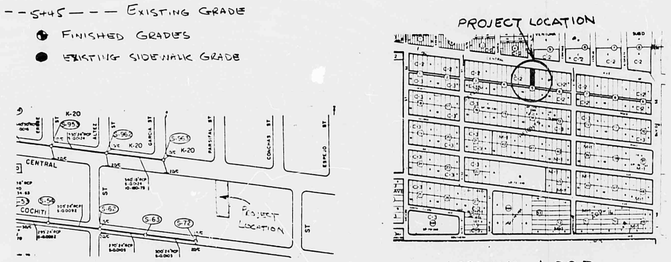
$V_{100} = CP_6A(1/12) = (1.0)(\frac{2.2}{12})(10{,}070) = 1846$ cf

weighted $C = .93$

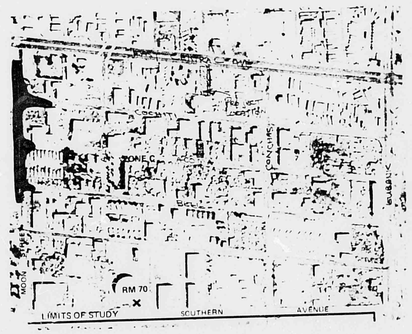
$V = \frac{DRO \cdot A}{12}$

NOTES

1. THE ALBUQUERQUE MASTER DRAINAGE STUDY SHOWS THIS AREA NOT IN A FLOOD PLAIN, IT IS IN ZONE C
2. NO DRAINAGE WILL BE ON ANY ADJOINING PROPERTY OWNERS
3. ALL DRAINAGE WILL BE TO EAST CENTRAL AVE.
4. BUILDIN WILL DRAIN ONTO SURFACED AREA IN FRONT OF BUILDING.



LOCATION L20Z
ALBUQUERQUE PLANNING



FLOOD MAP BY CITY OF ALBUQUERQUE
PANEL 36 OF 50

STORM SEWER PLAN

RECEIVED NOV 17 1986 HYDROLOGY SECTION

Anthony J. Opstedal
ANTHONY J. OPSTEDAL
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE # 3079 NEW MEXICO
11-14-86

ANTHONY J. OPSTEDAL 11-14-86 NEW MEXICO PROFESSIONAL ENGINEER

DRAINAGE PLAN FOR GARAGE BLDG LOT 3 BLOCK 5 S. HTS. ADD.		
SCALE: 1" = 20' DATE 11-14-86	ADDRESS 10008 CENTRAL AV. S.E.	DRAWN BY AJO
OWNER: ANTHONY J. OPSTEDAL		
ADDRESS: 1832 CHRISTINE ST. N.E. ABQ		
299-5577		

DRAINAGE PLAN

LOT 3 BLOCK 5 SKYLINE HEIGHTS ADDITION
ALBUQUERQUE, NEW MEXICO

BENCHMARK STATION 5-L21 PUBLIC WORKS DEPT. CITY = 5466.535
TOTAL AREA: 10,070 SQ.FT. = 0.231 ACRES
TOTAL AREA ROOFED OR PAVED (EXISTING) = NONE
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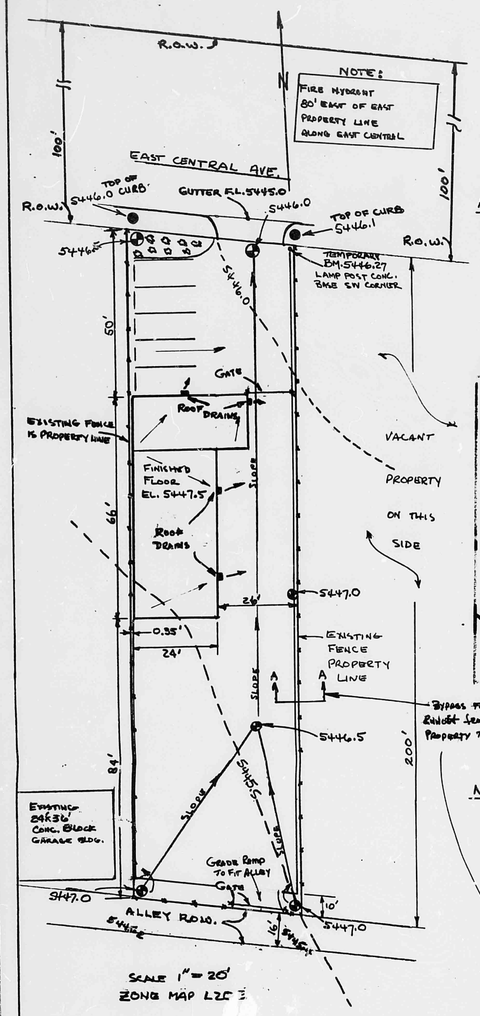
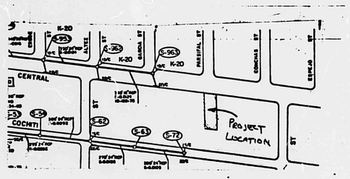


SCALE 1" = 20'
ZONE MAP L25

- - 5445 - - - EXISTING GRADE
● FINISHED GRADES
● EXISTING SIDEWALK GRADE TOP OF CURB



STORM SEWER PLAN

HYDROLOGY

ZONE C PANEL 36 of 50

~~OFF-SITE FLOW NONE FROM FLOOD INS. RATE MAP~~

ON-SITE FLOW

GROUND COVER INFORMATION

SOIL TYPE FROM BERNILLO COUNTY SOIL SURVEY PLATE 32, TgB TIGERAS GRAVELLY, FINE SANDY LOAM, HYDROLOGIC SOIL GROUP B.

EXISTING CONDITION
AREA TOTAL = 10,070 SQ. FT.
CN = 0.40 (DPM PLATE 22.2 C-3)
P = 2.1" (DPM PLATE D-1)
Q = 2.1" (DPM PLATE C-4)
$V_e = (0.40)\left(\frac{2.1}{12}\right)(10,070) = 705$ cu. ft. ← EXISTING

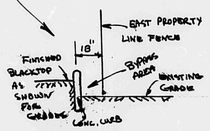
DEVELOPED CONDITION
AREA TOTAL = 10,070 SQ. FT.
CN = 0.98 (DPM PLATE 22.2 C-2)
Q = 2.1"
$V_D = (0.98)\left(\frac{2.1}{12}\right)(10,070) = 1728$ cu. ft. ← DEVELOPED

DELETED

NOTES - REVISED
1. NO SEDIMENT-BEARING WATER SHALL BE ALLOWED TO DISCHARGE THE SITE DURING CONSTRUCTION.

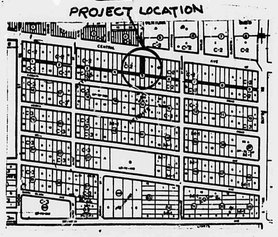
SEE NEW CALCULATIONS ON THIS SHEET

NOTES
1. THE ALBUQUERQUE MASTER DRAINAGE STUDY SHOWS THIS AREA NOT IN A FLOOD PLAIN, IT IS IN ZONE C
2. NO DRAINAGE WILL BE ON ANY ADJOINING PROPERTY OWNERS
3. ALL DRAINAGE WILL BE TO EAST CENTRAL AVE.
4. BUILDIN WILL DRAIN ONTO SURFACED AREA IN FRONT OF BUILDING.

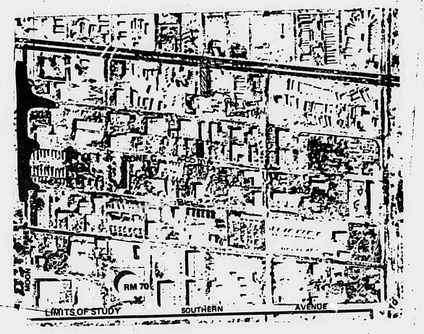


SEC. A-A

PROJECT LOCATION



LOCATION L20Z
ALBUQUERQUE PLANNING

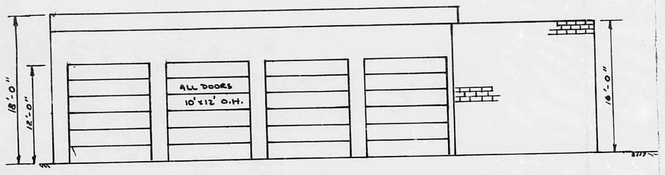


FLOOD MAP BY CITY OF ALBUQUERQUE
PANEL 36 OF 50

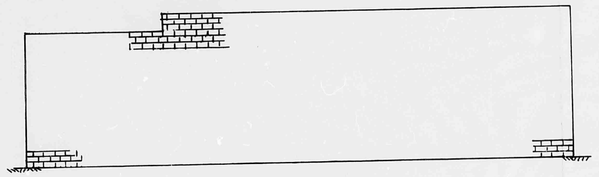
Revised by:
ANTHONY J. OPSTEDAL
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE # 3079 NEW MEXICO
11-28-86
Anthony J. Opstedal

Anthony J. Opstedal
ANTHONY J. OPSTEDAL
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE # 3079 NEW MEXICO
11-14-86

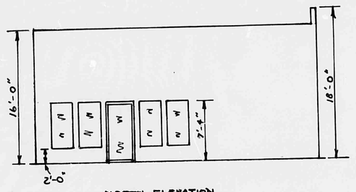
DRAINAGE PLAN FOR GARAGE BLDG LOT 3 BLOCK 5 SKYLINE HTS. ADD.		
SCALE: 1" = 20'	ADDRESS: 10008 CENTRAL AVE SE	DRAWN BY AJO
DATE 11-14-86		
OWNER: ANTHONY J. OPSTEDAL		
ADDRESS: 1832 CHRISTINE ST. N.E. ABQ		
299-5577		



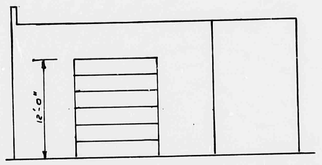
EAST ELEVATION
SCALE 1/8" = 1'-0"



WEST ELEVATION
SCALE 1/8" = 1'-0"



NORTH ELEVATION
SCALE 1/8" = 1'-0"



SOUTH ELEVATION
SCALE 1/8" = 1'-0"

PROJECT : AUTOMOTIVE REPAIR BUILDING
10008 CENTRAL AVE. S.E.
ALBUQUERQUE, NEW MEXICO

OWNER : ANTHONY J. OPSTEDAL
1832 CHRISTINE ST. N.E.
ALBUQUERQUE, NEW MEXICO 87112
299-5577

NOTES:
1. Seismic zone 2
2. Type of construction VN
3. Area 1757 sq. ft.
4. Occupancy group B [Div. 1]
5. Soil bearing capacity 2000 psf
6. Concrete 3000 psi
7. Lumber strength f1250
8. Wind design load; Roof 40 psf; Floor 75 psf[1000 psf concentrated]
9. Concrete block 8x8x16 standard
10. Mortar type M
11. Steel ASTM
12. Window glass thermopane
13. Door glass, Temperd & Thermopane

Contractors:
BUILDING-- Anthony J. Opstedal Construction & Engineering
Contractors License #017327 GB 98
City Business #03574
Engineers License #3079 New Mexico
The electrical, plumbing and heating will be by licensed subcontractors.

Misc. Notes;
1. Conc. Block to have vert. steel ½ round as shown for spacing not to exceed 4' o.c. and horz. reinforcing every 2'[three courses]. All re-steel to be lapped a min. of 40 dia. All vert. steel to be grouted solid. Also all lintels and bond beam to be grouted solid.

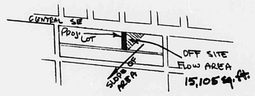
MATERIALS:
Trusses - preengineered by B&B Truss Co.
Ceiling Joist-- 2x10 #2 Or better.
Wall studs-- 2x4 & 2x6 construction grade
Sheetrock-- 5/8" on ceilings; 1/2" on walls.
Insulation-- Restrooms, office and customers areas only. ceiling R-19, walls fill conc. block with poured insulation.
Roof sheathing-- 3/4" CDX
Roofing-- 15# felt then 2-ply fiberglass sheets cold mop, no gravel to be applied.
Canlies & collection boxes to be galv.

GENERAL INFORMATION
P_6 = 6 HOUR RAINFALL = 2.4"
T_c = TIME OF CONCENTRATION = (10 MIN) MINIMUM
I = RAIN FALL INTENSITY
(2.16 x 2.4) = 5.18
A = 10070 sq. ft. = 0.23 ACRES

UNDEVELOPED CONDITION
C = RUNOFF COEFFICIENT = 0.40
CN = CURVE NUMBER 69
DRO = FROM PLATE C-4 = 0.4
Q = CIA = (0.4)(5.18)(.23) = 0.48 cfs ← $Q_{UNDEVELOPED}$
V = SCS METHOD = $\frac{DRO}{12}$ A = $\frac{(0.4)}{12}$(10070) = 336 cf. ← $V_{UNDEVELOPED}$

DEVELOPED CONDITION
C = 0.94
CN = 98
DRO = 2.2
Q = CIA = (.94)(5.18)(.23) = 1.12 cfs ← $Q_{DEVELOPED}$
V = $\frac{DRO}{12}$ A = 1846 cf. ← $V_{DEVELOPED}$

NOTE: ALL FLOWS TO CENTRAL AVE



LOCATION MAP OF OFFSITE FLOWS

OFFSITE FLOW CALCULATIONS
C = RUNOFF COEFFICIENT = 0.40
CN = CURVE NUMBER = 69
DRO = FROM PLATE C-4 = 0.4
A = 15,105 sq. ft. = .35 ACRE
Q = CIA
(0.40)(5.18)(.35) = .73 cfs ← $Q_{OFF\ SITE}$
V = SCS METHOD = $\frac{DRO}{12}$ A = $\frac{0.4}{12}$(15,105) = 504 cf ← $V_{OFF\ SITE}$

NOTE:
1. SEE SECTION A-A TO CARRY OFF SITE FLOWS TO ALLEY AND DOWN NORMAL FLOW ROUTE.
2. THE ABOVE AREA WAS DETERMINED BY RANDOM ELEVATIONS TAKEN 12-24-86 AND IS BASED ON NATURAL SLOPE OF AREA.

HYDROLOGY REVISED
12/25/86 OGO #3079

RECEIVED
DEC 29 1986
HYDROLOGY SECTION

L20-D28

AUTOMOTIVE REPAIR BUILDING 10008 CENTRAL AVE S.E.		
SCALE: AS SHOWN		DRAWN BY AJO
DATE 12-10-86		
		DWG. NO. 10008AJO 1/2