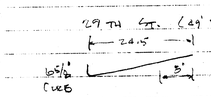
5-27-93

MEADOW OAKS - DRAINAGE PLAN



6.2" DEPTH = 16.5' SPREAD (ONE 2' LANE OPEN)

STREET SLOPE = 0.6% Q @ 6.2" DEPTH = 13.0 cfs

RESTRICT OUTFLOWS FROM LOT 1 BLOCK 1 TO 6.1cfs

SOIL GROUP D

MEADOW GOOD CONDITION CN = 78 PRESENT
COMM. BUSINESS CN = 95 FUTURE

6" 100YR RAINFALL 5.9" USE 6.0"

RUNOFF 5.58 PRESENT
5.41 FUTURE
.183 DIFFERENCE

5.5 X 43560 X .183" ÷12 = 3630 CF STORAGE

100 X 352 @ 1' DEEP

USE WEIR OR PIPE TO CONTROL OUTFLOW

$Q = CLH^{3/2}$ C = 3.0

H = 1 Q = 2.3 cfs
H = 1.5 Q = 4.1 cfs
H = 2 Q = 6.4 cfs

12" RCP WITH CONTROL 2.2' HW @ 6.0 cfs.

ON LOT 1 BLOCK 1

PROVIDE 3630 CU. FT. OF STORAGE WITH A 12" RCP DISCHARGE PIPE OR A 9" WIDE BROAD CRESTED WEIR TO CONTROL OUTFLOW. MAXIMUM DEPTH OF PONDING TO BE 24" OR SUBMIT ALTERNATE STORM WATER DETENTION PLAN TO REDUCE Q100 FLOWS TO 6.0 cfs.

Scale 1" = 100'

GENERAL NOTES:

1. Pad Site elevations are at ground level. The top of foundation is 18" to 24" above the ground elevation shown.
2. Pad Site elevations are 42" above the top of the street curbs at the center of the lot.
3. The rear of all lots slope at 2 inches in 10 feet minimum.
4. The top of rear foundation walls for view out basements are 2.5 to 3.5 feet below the pad site elevation.

BENCH MARKS:

BM# 1
City of Wichita Bench Mark Disc, 5.5' E. and 37' N. of N1/4 Corner Sec. 1-27-1E
Elev. 172.38

BM# 2
NW Corner Concrete Gutter on Beacon Hill Road Median at 29th Street North
Elev. 162.99

(City of Wichita Datum)

Minimum Building Elevations		
Lot No.	Block No.	Minimum Low Opening
70-71	2	173.0
72-73	2	172.0
74-75	2	171.0
76-77	2	170.0
78-81	2	169.0
82-83	2	168.0
86-87	2	168.0
88-91	2	167.0
Lot No.	Block No.	Minimum Low Floor
92-95	2	163.6
97-102	2	163.6
111-114	2	163.6
1	4	163.6

(Elevations are to City of Wichita Datum)

APPROVED
DRAINAGE PLAN

LOT GRADING PLAN
MEADOW OAKS ADDITION
TO WICHITA, SEDGWICK COUNTY, KANSAS

DATE: 7-19-93

Scale 1" = 100'

GENERAL NOTES:

1. Drainage from the adjacent property to the East must be diverted South at the East property line of Meadow Oaks.
2. The design of "V" Swales are base on a slope of .004, 10:1 slopes and an "N" value of .030.
3. Runoff calculations are based on a 15 min. minimum time of concentration, a "C" value of 0.5 for residential and 0.8 for commercial. The corresponding "I" values are 3.63, 4.56 7.37 for 2, 5 and 100 year storms.

LINE NO. 1

Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	4.4	15"	-	4.1	MH at Point No. 2
2-3	4.4	15"	-	11.5	End Section w/ Rip-Rap @ Pt. 3

LINE NO. 1

Location	Q	Surface Drainage	Depth	Width	Comments
1-2	4.1	"V" Swale	0.5	12'	100 Yr. Storm
2-2	11.5	"V" Swale	0.82	16.5'	100 Yr. Storm

LINE NO. 2

Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	3.8	15"	-	3.6	End Section w/ Rip-Rap @ Pt. 2

LINE NO. 2

Location	Q	Surface Drainage	Depth	Width	Comments
1-2	3.6	"V" Swale	0.5	10'	100 Yr. Storm

LINE NO. 3

Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	7.4	18"	-	-	Q_{100} in Pipe
2-3	11.9	24"	-	-	
3A-3B	3.5	15"	-	-	
3B-3	6.5	18"	-	6.0	Bypass overflows down rear lot line @ 3B
3-4	32.7	36"	-	-	Q_{100} in Pipe
4-5	32.7	36"	-	-	End Section w/ Rip-Rap @ Pt. 5

LINE NO. 4

Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	12.4	24"	-	7.7	Drop Inlet @ Pt. 1
2A-2	2.1	15"	-	-	
2-3	16.6	24"	-		
3A-3	2.0	15"	-		
3B-3	5.7	18"	-	5.4	Drop Inlets @ Pt. 3B
3-4	28.8	36"	-	-	
4A-4	3.8	15"	-	-	
4B-4	4.0	15"	-	-	
4-5	38.8	42"	-	32.2	End Section w/ Rip-Rap @ Pt. 5

LINE NO. 4

Location	Q	Surface Drainage	Depth	Width	Comments
1-2	7.7	"V" Swale	0.7	14'	100 Yr. Bypass
3B-3	5.4	"V" Swale	0.6	12'	100 Yr. Bypass
4-5	32.2	"V" Swale	1.20	24.2'	100 Yr. Bypass

LINE NO. 5

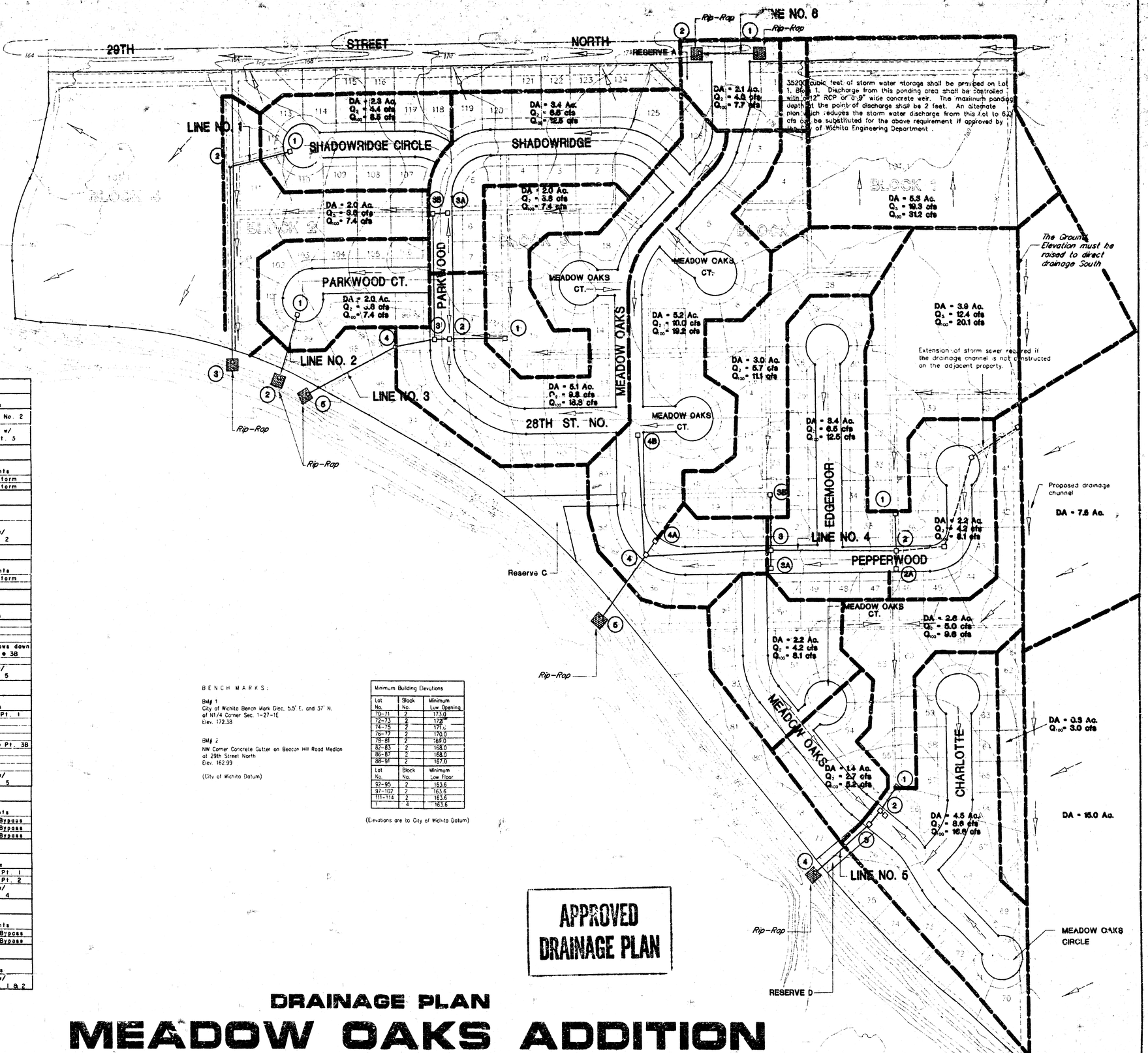
Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	5.0	18"	-	4.6	Drop Inlet @ Pt. 1
2-3	13.2	24"	-	-	Dbl. Inlet @ Pt. 2
3-4	16.3	30"	-	15.1	End Section w/ Rip-Rap @ Pt. 4

LINE NO. 5

Location	Q	Surface Drainage	Depth	Width	Comments
1-2	4.6	"V" Swale	0.6	12'	100 Yr. Bypass
3-4	15.1	"V" Swale	0.9	18'	100 Yr. Bypass

LINE NO. 6

Location	Q	Pipe	2YR. Bypass	100YR. Bypass	Comments
1-2	10.0	24"	-	3.7	End Section w/ Rip-Rap @ Pt. 1 & 2



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DRAINAGE PLAN
MEADOW OAKS ADDITION
TO WICHITA, SEDGWICK COUNTY, KANSAS

DATE: 6-1-93