

**DRAINAGE ANALYSIS SUMMARY
OAK RIDGE SECOND ADDITION**

Area ID**	Area ac	Accum. Area ac	C2	C100	Tc2 min	Tc100 min	I2 in/hr	I100 in/hr	Q2 cfs	Q100 cfs	Inlet Size ft	Pipe Size in	Min Slope %	COMMENTS
A	1.8		0.44	0.61	27	20	2.84	6.53	2.25	7.17	10	15	1.00%	100 yr design, sump
B	1.0		0.44	0.61	22	17	3.17	7.00	1.39	4.27	5			100 yr design, sump
A + B		2.8	0.44	0.61	23	17	3.73	7.00	4.60	11.96		18	1.40%	100 yr design
C	2.1		0.44	0.61	20	15	3.33	7.37	3.08	9.44	5	15	0.30%	2 yr design, bypass
D	1.2		0.44	0.61	20	15	3.33	7.37	1.76	5.39	5			2 yr design, bypass
A + B + C + D		6.1	0.44	0.61	23	17	3.73	7.00	10.01	26.05		24	1.00%	2 yr design (Area C + D = 8cfs) + 100yr design (Area A + B = 12cfs) = 20cfs
E	4.2		0.44	0.61	27	18	2.84	6.84	5.25	17.52	15			100 yr design, accept bypass from Area C and D (Q=35cfs), sump
F	3.9		0.44	0.61	27	18	2.84	6.84	4.87	16.27	15			100 yr design, sump
A + B + C + D + E + F		14.2	0.44	0.61	27	20	2.84	6.53	17.74	56.56		36	1.00%	
G	2.6		0.44	0.61	22	16	3.17	7.18	3.63	11.39	10	18	1.00%	100 yr design, sump
H	3.1		0.44	0.61	22	16	3.17	7.18	4.32	13.58	10			100 yr design, sump
G + H		5.7	0.44	0.61	27	20	2.84	6.53	7.12	22.70		24	1.00%	
I	0.4		0.44	0.61	15	15	3.83	7.37	0.67	1.80		18	1.00%	100 yr design, min. Cross Road Pipe Diam. = 18"
J	22.2		0.44	0.61	55	42	1.81	4.54	17.68	61.48				
A - I (undeveloped)		42.5	0.20	0.41	75	55	1.43	3.92	12.16	68.31				Undeveloped Conditions
A - I (developed)		42.5	0.44	0.61	55	42	1.81	4.54	33.85	117.70		36	1.00%	100 yr design store difference between developed and undeveloped conditions
K	3.0		0.44	0.61	27	20	2.84	6.53	3.75	11.95				

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Revised 4/3/97

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Mid-Kansas Engineering Consultants, Inc.

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OAK RIDGE SECOND ADDITION**

Area ID**	Area ac	Accum. Area ac	C2	C100	Tc2 min	Tc100 min	I2 in/hr	I100 in/hr	Q2 cfs	Q100 cfs	Inlet Size ft	Pipe Size in	Min Slope %	COMMENTS
L	2.4		0.44	0.61	27	20	2.84	6.53	3.00	9.56				
M	3.7		0.44	0.61	27	20	2.84	6.53	4.62	14.74				
K + L + M		9.1	0.44	0.61	27	20	2.84	6.53	11.37	36.25	Ditch Inlet	36	0.50%	100 yr design, regrade ditch along 29th Street, west of Tyler Proposed Ditch along 29th - side slope 3:1, slope = 0.3%, Depth = 1.5
N1	3.1		0.44	0.61	20	15	3.33	7.37	4.54	13.94				
N2	1.9		0.44	0.61	15	15	4.56	7.37	3.81	8.54				
O	5.0		0.25	0.45	20	15	3.33	7.37	4.16	16.58				
N1 + N2 + O (developed)		10.0	0.35	0.53	20	15	3.33	7.37	11.49	39.05		36	0.30%	100 yr design, developed condition, pipe across Tyler carries less than undeveloped condition, coordinated construction w/ county CJP Proj.
K + L + M + N + O (undeveloped)		19.1	0.20	0.41	45	35	2.08	5.00	7.95	39.16				undeveloped condition, must not exceed this flow

Note:
All Drainage Areas assumed Type B Soil Conditions
with 1/4 acre lots

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**DRAINAGE ANALYSIS SUMMARY
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Area ID**	Area ac	Accum. Area ac	C2	C100	Tc2 min	Tc100 min	I2 in/hr	I100 in/hr	Q2 cfs	Q100 cfs	Inlet Size ft	Pipe Size in	Min Slope %	COMMENTS
A	1.8		0.44	0.61	27	20	2.84	6.53	2.25	7.17	10	15	1.00%	100 yr design, sump
B	1.0		0.44	0.61	22	17	3.17	7.00	1.39	4.27	5			100 yr design, sump
A + B		2.8	0.44	0.61	23	17	3.73	7.00	4.60	11.96		18	1.40%	100 yr design
C	2.1		0.44	0.61	20	15	3.33	7.37	3.08	9.44	5	15	0.30%	2 yr design, bypass
D	1.2		0.44	0.61	20	15	3.33	7.37	1.76	5.39	5			2 yr design, bypass
A + B + C + D		6.1	0.44	0.61	23	17	3.73	7.00	10.01	26.05		24	1.00%	2 yr design (Area C + D = 8cfs) + 100yr design (Area A + B = 12cfs) = 20cfs
E	4.2		0.44	0.61	27	18	2.84	6.84	5.25	17.52	15			100 yr design, accept bypass from Area C and D (Q=35cfs), sump
F	3.9		0.44	0.61	27	18	2.84	6.84	4.87	16.27	15			100 yr design, sump
A + B + C + D + E + F		14.2	0.44	0.61	27	20	2.84	6.53	17.74	56.56		36	1.00%	
G	2.6		0.44	0.61	22	16	3.17	7.18	3.63	11.39	10	18	1.00%	100 yr design, sump
H	3.1		0.44	0.61	22	16	3.17	7.18	4.32	13.58	10			100 yr design, sump
G + H		5.7	0.44	0.61	27	20	2.84	6.53	7.12	22.70		24	1.00%	
I	0.4		0.44	0.61	15	15	3.83	7.37	0.67	1.80		18	1.00%	100 yr design, min. Cross Road Pipe Diam. = 18"
J	22.2		0.44	0.61	55	42	1.81	4.54	17.68	61.48				
A - I (undeveloped)		42.5	0.20	0.41	75	55	1.43	3.92	12.16	68.31				Undeveloped Conditions
A - I (developed)		42.5	0.44	0.61	55	42	1.81	4.54	33.85	117.70		36	1.00%	100 yr design store difference between developed and undeveloped conditions
K	3.0		0.44	0.61	27	20	2.84	6.53	3.75	11.95				

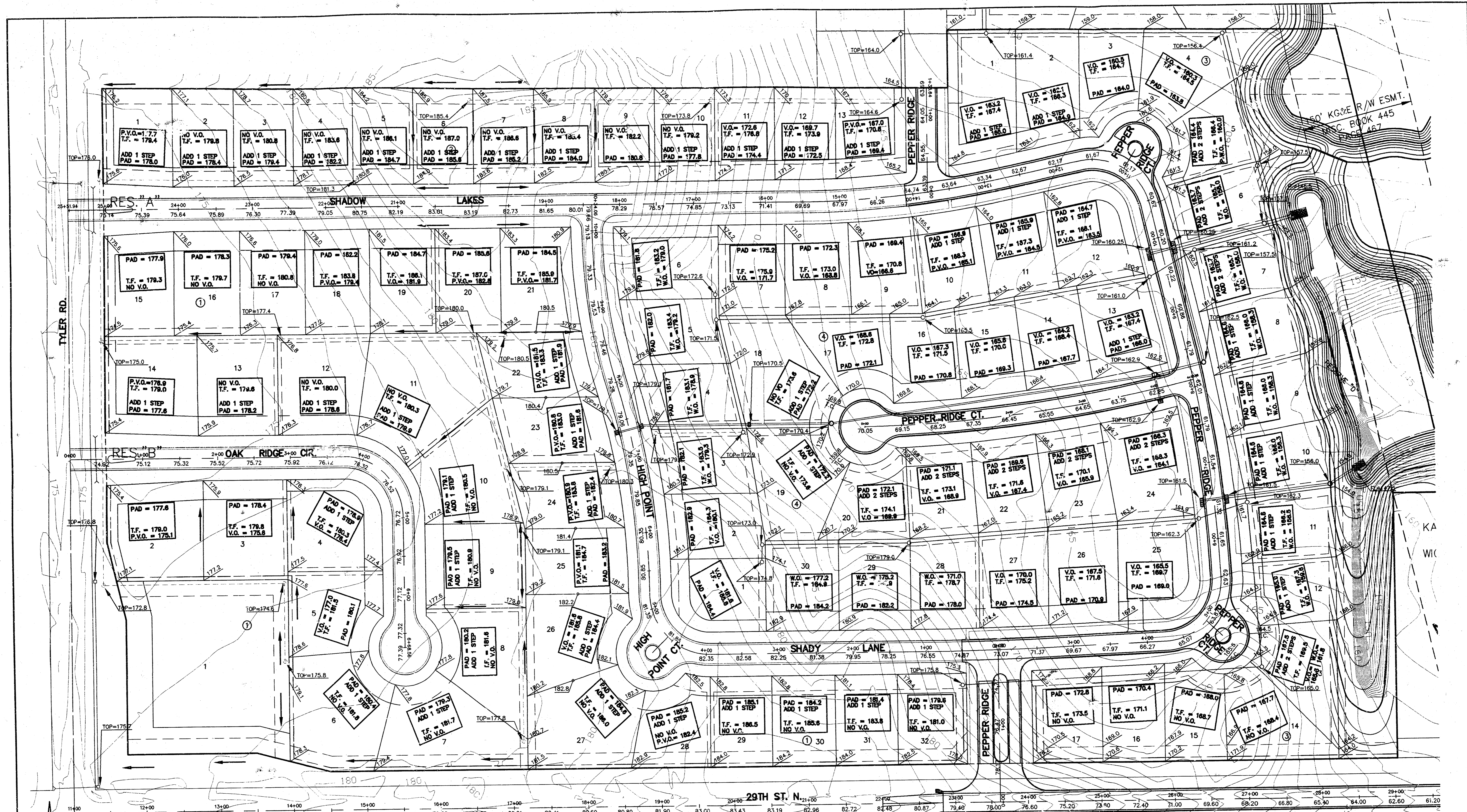
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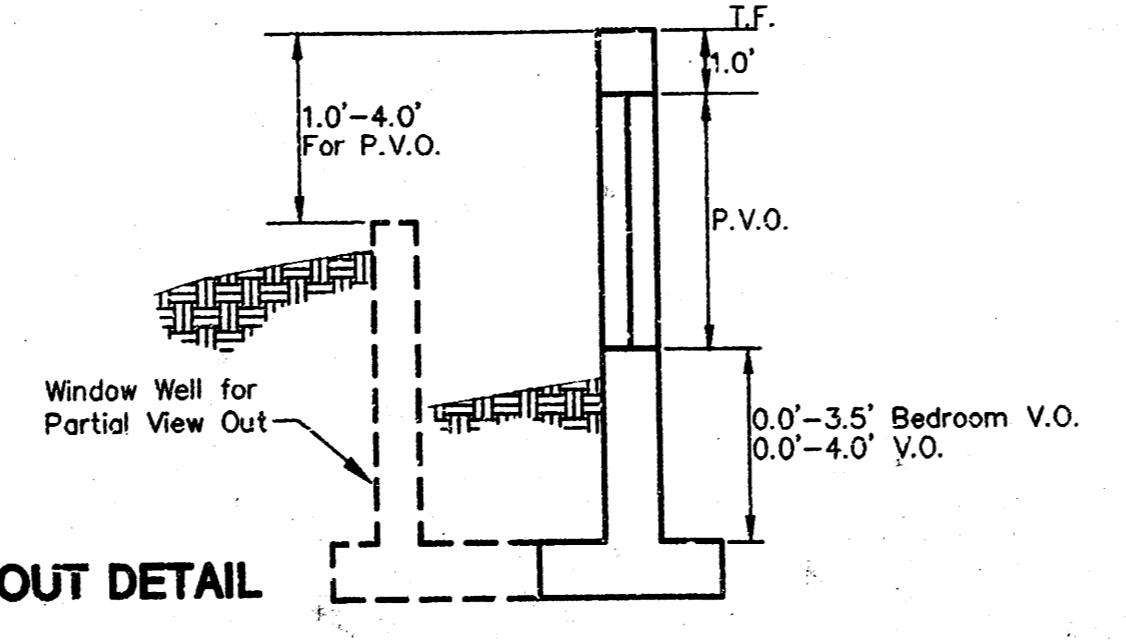
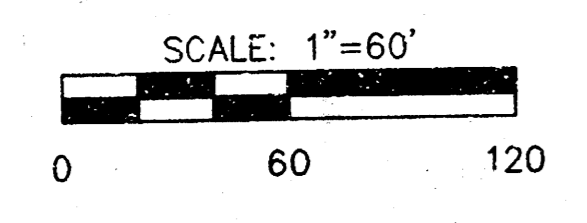
**DRAINAGE ANALYSIS SUMMARY
OAK RIDGE SECOND ADDITION**

Area ID**	Area ac	Accum. Area ac	C2	C100	Tc2 min	Tc100 min	I2 in/hr	I100 in/hr	Q2 cfs	Q100 cfs	Inlet Size ft	Pipe Size in	Min Slope %	COMMENTS
L	2.4		0.44	0.61	27	20	2.84	6.53	3.00	9.56				
K + L		5.4	0.44	0.61	27	20	2.84	6.53	6.75	21.51	Ditch Inlet	24	0.50%	100 yr design, regrade ditch along 29th Street, west of Tyler
M	6.8		0.44	0.61	32	25	2.57	5.90	7.69	24.47				
N	1.9		0.44	0.61	20	15	3.33	7.37	2.78	8.54				
O	5.0		0.25	0.45	15	15	4.56	7.37	5.70	16.58				
M + N + O (undeveloped)		13.7	0.20	0.41	60	45	1.69	4.38	4.63	24.60				undeveloped condition
M + N + O (developed)		13.7	0.37	0.55	30	23	2.67	6.13	13.56	46.32		42	0.50%	100 yr design, developed condition allow developed condition to cross road

Note:
All Drainage Areas assumed Type B Soil Conditions
with 1/4 acre lots

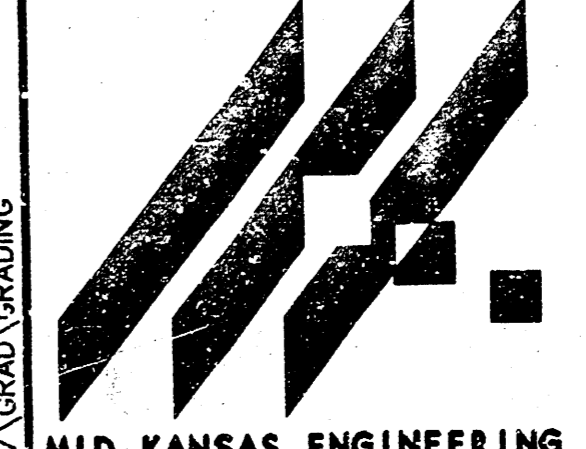


NOTE: LOTS 4-14, BLOCK 3 MIN. PAD EL. = 158.0



LEGEND

- W.O. = WALK OUT
- V.O. = VIEW OUT
- P.V.O. = PARTIAL VIEW OUT
- NO V.O. = NO VIEW OUT



OAK RIDGE SECOND
PROJECT NAME

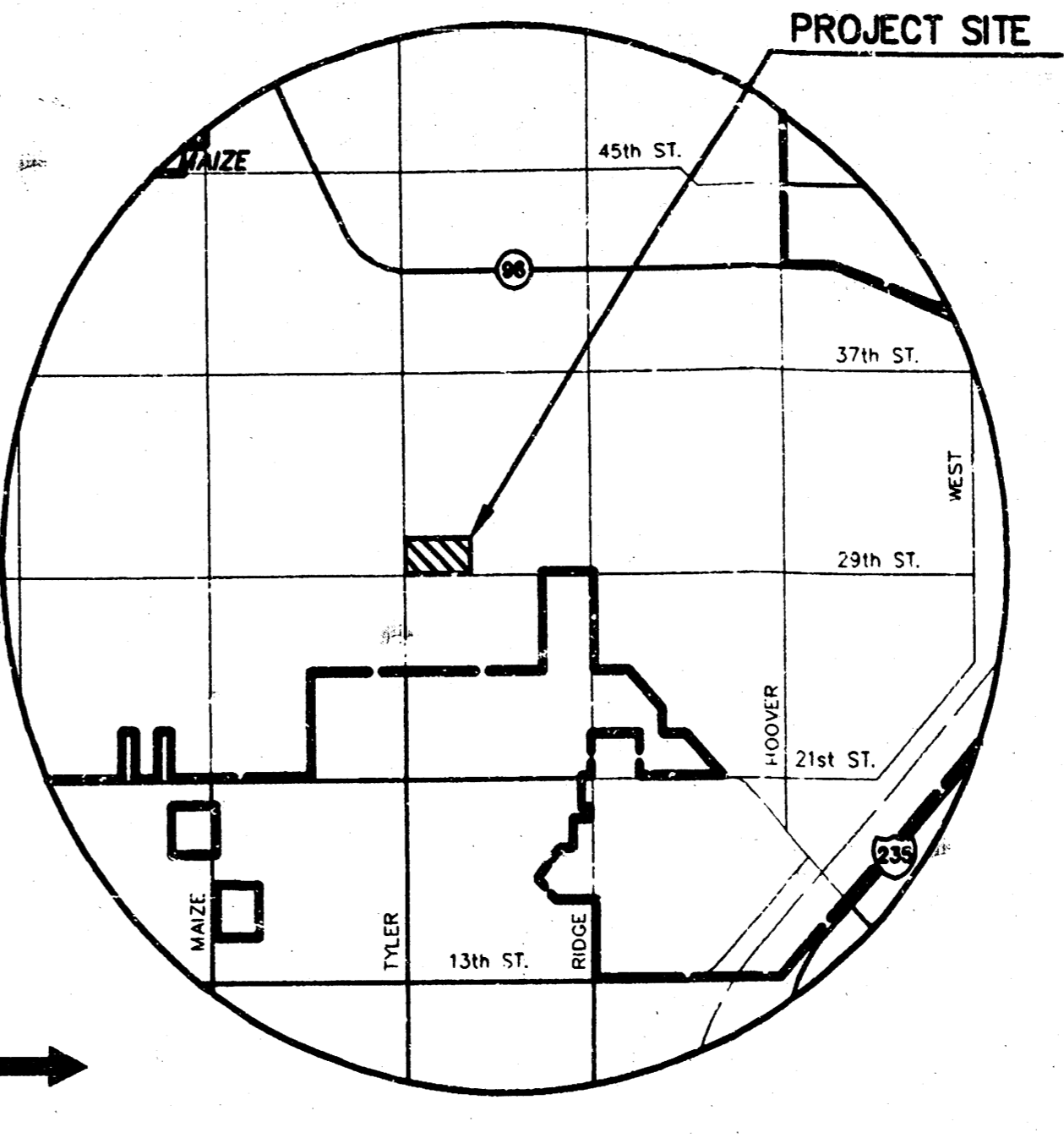
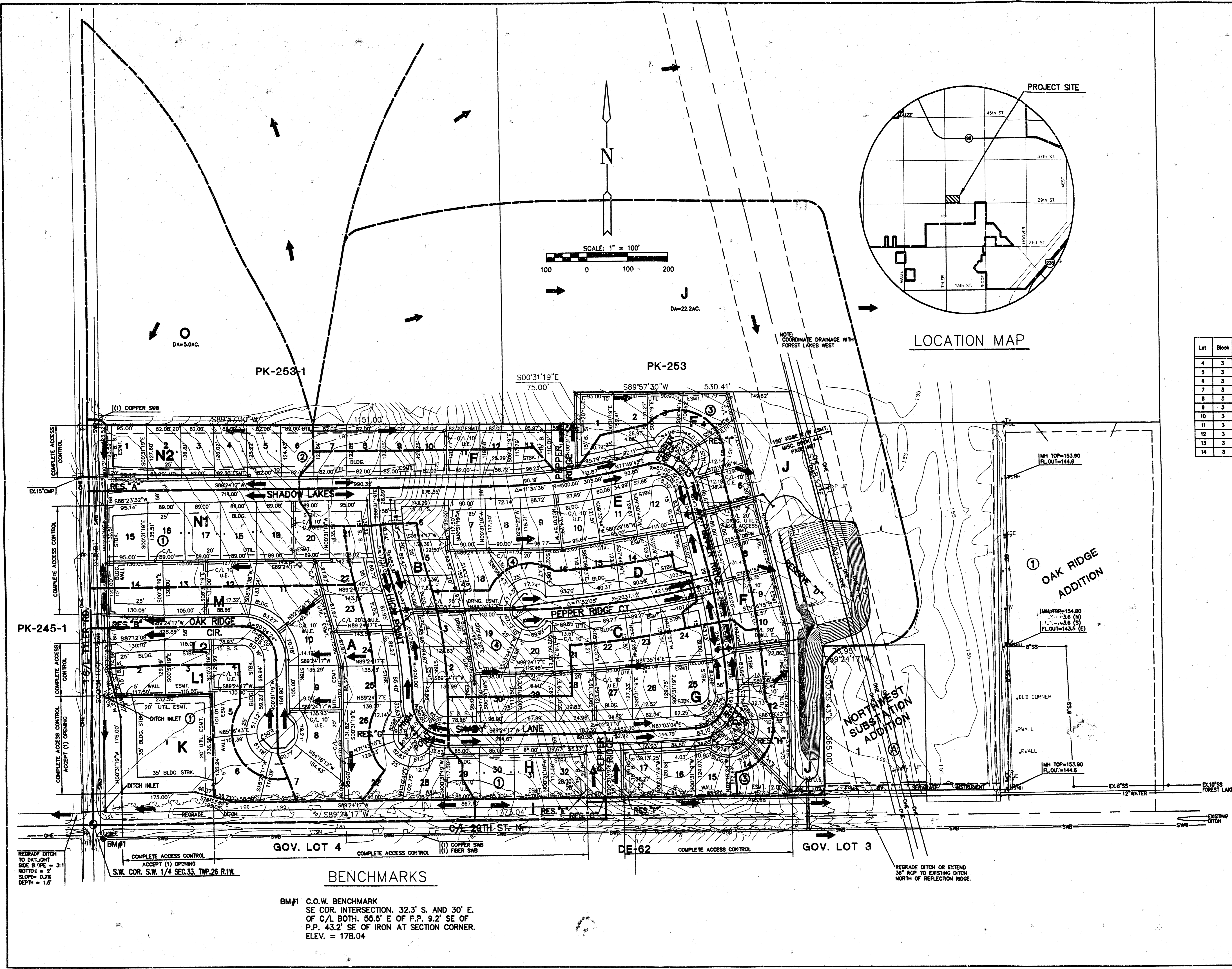
GRADING PLAN
SHEET TITLE

JTC DESIGN BY. GJR/DAC DRAWN BY. JTC CHECKED BY.

DECEMBER 1997 DATE GRADING JOB NO. 1 / 1 SHEET OF 208

REVISED: SEPTEMBER 1998

I. CIVIL 96157A(GRAD) GRADING.DWG Wed Apr 31 10:14:27 1998



Lot	Block	Min. Pad Elev. (City Datum)	Min. Pad Elev. (USGS Datum)
4	3	158.4	1345.8
5	3	158.3	1346.7
6	3	158.2	1345.6
7	3	158.3	1346.7
8	3	158.5	1346.9
9	3	158.9	1346.3
10	3	159.0	1346.4
11	3	160.4	1347.8
12	3	162.0	1349.4
13	3	163.9	1351.3
14	3	164.1	1351.5

REVISED: 4/3/97
OAK RIDGE 2ND. ADDITION
 PROJECT NAME
DRAINAGE & UTILITY PLAN
 DESIGN TITLE
 GJA / BDM
 DESIGN / DRAWN BY
 GJA / MAR, 1997
 CHECKED BY / DATE
 6167CNPT / 1 / 1
 JOB NO. / SHEET/OF

MID-KANSAS ENGINEERING CONSULTANTS, INC.
 411 N WEBB ROAD
 WICHITA, KS. 67206
 316-684-9600

BENCHMARKS
 BM#1 C.O.W. BENCHMARK
 SE COR. INTERSECTION, 32.3' S. AND 30' E.
 OF C/L BOTH, 55.5' E OF P.P., 9.2' SE OF
 P.P., 43.2' SE OF IRON AT SECTION CORNER.
 ELEV. = 178.04

REGRADE DITCH TO DAYLIGHT
 SIZE 2' TOP x 3'-1"
 BOTTOM x 2'
 SLOPE = 0.2%
 DEPTH = 1.5'

REGRADE DITCH OR EXTEND
 36" TOP TO EXISTING DITCH
 NORTH OF REFLECTION RIDGE.