Bridgefield Addition

By BLG Date 3-19-97 Page 1 of 11 BAUGHMAN COMPANY, P.A.

Inflow from off-site 36" RCP assume HW control w/ depth = 4.5'

$Q = CA\sqrt{2gH}$

$Q = (.5)\left[\frac{(3)^2\pi}{4}\right]\sqrt{2g(4.5-1.5)}$

$Q = 50$ cfs

sum of Flows from SWS Systems

SYSTEM #	Q_p
1	4.3
2	20.5
3	36.8
4	14.0
	75 cfs

SHEET FLOW From Basin #8
Q = 33

Total on-site Flow = 108

Total D.A. Flow = 158 cfs

CHANNEL SECTION # 1 Top Width = 47.6'

CHANNEL SECTION # 2 Top width = 43.6'

CHANNEL SECTION # 3 Top Width = 46'

System Report

Pipe	Upstream Node	Inlet Area (acres)	Weighted Roughness Coefficient	Total CA (acres)	Downstream Node	Section Size	Constructed Slope (ft/ft)	Length (ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Discharge (cfs)
P1-1	I1-1	0.80	0.72	0.58	Outlet	18 inch	0.021260	127.00	53.70	51.00	4.28
	N/A	N/A	N/A	0.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

System Report

Pipe	Upstream Node	Inlet Area (acres)	Weighted Roughness Coefficient	Total CA (acres)	Downstream Node	Section Size	Constructed Slope (ft/ft)	Length (ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Discharge (cfs)
P2-1	I2-1	1.10	0.72	0.79	I2-2	18 inch	0.009804	51.00	51.00	50.50	5.88
P2-2	I2-2	1.90	0.72	2.16	I2-3	18 inch	0.005338	281.00	50.00	48.50	15.94
P2-3	I2-3	0.90	0.72	2.81	Outlet	24 inch	0.019802	202.00	48.00	44.00	20.45
	N/A	N/A	N/A	2.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A

System Report

Pipe	Upstream Node	Inlet Area (acres)	Weighted Roughness Coefficient	Total CA (acres)	Downstream Node	Section Size	Constructed Slope (ft/ft)	Length (ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Discharge (cfs)
P3-1	I3-1	0.70	0.00	0.00	I3-2	18 inch	0.011429	36.00	50.90	50.50	2.00
P3-2	I3-2	5.10	0.00	0.00	I3-3	18 inch	0.001553	322.00	50.00	49.50	5.00
P3-3	I3-3	2.20	0.72	1.58	I3-4	24 inch	0.014286	35.00	49.00	48.50	32.70
P3-4	I3-4	1.20	0.72	2.45	Outlet	24 inch	0.030864	162.00	48.00	43.00	36.79
	N/A	N/A	N/A	2.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A

System Report

Pipe	Upstream Node	Inlet Area (acres)	Weighted Roughness Coefficient	Total CA (acres)	Downstream Node	Section Size	Constructed Slope (ft/ft)	Length (ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Discharge (cfs)
P4-6	I4-5	0.90	0.72	0.65	I4-6	18 inch	0.005556	36.00	43.00	42.80	2.50
P4-7	I4-6	0.50	0.72	1.01	I4-4	18 inch	0.003106	161.00	42.60	42.10	3.84
P4-1	I4-1	1.30	0.72	0.94	I4-2	18 inch	0.002976	168.00	43.40	42.90	3.61
P4-2	I4-2	1.20	0.72	1.80	I4-3	18 inch	0.002778	36.00	42.70	42.60	6.68
P4-3	I4-3	0.60	0.72	2.23	I4-4	24 inch	0.001987	151.00	42.40	42.10	8.24
P4-4	I4-4	1.00	0.72	3.96	J4-1	24 inch	0.001863	161.00	41.90	41.60	14.22
P4-5	J4-1	N/A	N/A	3.96	Outlet	24 inch	0.002083	192.00	41.40	41.00	13.98
	N/A	N/A	N/A	3.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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CURRENT DATE: 03-19-1997                              FILE DATE: 03-19-1997
CURRENT TIME: 14:35:18                                FILE NAME: BRIDGE
-------------------------------------------------------------------------------
--------------------------  FHWA CULVERT ANALYSIS   ---------------------------
--------------------------   HY-8, VERSION 4.1     ---------------------------
+-----------------------------------------------------------------------------+
| C |          SITE DATA          |          CULVERT SHAPE, MATERIAL, INLET   |
| U +-----------------------------+-------------------------------------------|
| L |  INLET   OUTLET   CULVERT   | BARRELS                                    |
| V |  ELEV.    ELEV.   LENGTH    | SHAPE          SPAN   RISE  MANNING  INLET |
|   |  (FT)     (FT)     (FT)     | MATERIAL       (FT)   (FT)    n      TYPE  |
| 1 |  39.94    38.06     97.01   | 3 RCP          3.00   3.00   .012 CONVENTIONAL|
| 2 |                             |                                            |
| 3 |                             |                                            |
| 4 |                             |                                            |
| 5 |                             |                                            |
| 6 |                             |                                            |
+-----------------------------------------------------------------------------+

-------------------------------------------------------------------------------
SUMMARY OF CULVERT FLOWS (CFS)          FILE: BRIDGE          DATE: 03-19-1997

 ELEV (FT)   TOTAL       1      2      3      4      5      6  ROADWAY ITR
   41.00        0        0      0      0      0      0      0       0   1
   41.25       20       20      0      0      0      0      0       0   1
   41.55       40       40      0      0      0      0      0       0   1
   42.02       60       60      0      0      0      0      0       0   1
   42.42       80       80      0      0      0      0      0       0   1
   42.81      100      100      0      0      0      0      0       0   1
   43.22      120      120      0      0      0      0      0       0   1
   43.67      140      140      0      0      0      0      0       0   1
   44.18      160      160      0      0      0      0      0       0   1
   44.57      180      173      0      0      0      0      0       5   9
   44.68      200      177      0      0      0      0      0      22   4
   44.50      171      171      0      0      0      0      0 OVERTOPPING
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 SUMMARY OF ITERATIVE SOLUTION ERRORS   FILE: BRIDGE          DATE: 03-19-1997

      HEAD          HEAD           TOTAL         FLOW         % FLOW
    ELEV(FT)      ERROR(FT)      FLOW(CFS)    ERROR(CFS)      ERROR
     41.00          0.00             0            0           0.00
     41.25          0.00            20            0           0.00
     41.55          0.00            40            0           0.00
     42.02          0.00            60            0           0.00
     42.42          0.00            80            0           0.00
     42.81          0.00           100            0           0.00
     43.22          0.00           120            0           0.00
     43.67          0.00           140            0           0.00
     44.18          0.00           160            0           0.00
     44.57         -0.01           180            1           0.78
     44.68         -0.00           200            1           0.74
-------------------------------------------------------------------------------
 <1> TOLERANCE (FT) = 0.010                      <2> TOLERANCE (%) = 1.000
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CURRENT DATE: 03-19-1997                              FILE DATE: 03-19-1997
CURRENT TIME: 14:35:18                                FILE NAME: BRIDGE
-------------------------------------------------------------------------------
      PERFORMANCE CURVE FOR CULVERT # 1 - 3 ( 3 BY 3 ) RCP
-------------------------------------------------------------------------------
DIS-    HEAD-  INLET   OUTLET        [redacted]
CHARGE  WATER CONTROL CONTROL FLOW  NORMAL CRITICAL   OUTLET    TAILWATER
FLOW    ELEV.  DEPTH   DEPTH  TYPE   DEPTH  DEPTH   VEL. DEPTH  VEL. DEPTH
(cfs)   (ft)   (ft)    (ft)   <F4>   (ft)   (ft)   (fps) (ft)  (fps)  (ft)
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ--
   0    41.00   0.00    1.06  0-NF   0.00   0.00   0.00  0.00   0.00  2.94
  20    41.25   1.02    1.31  3-M1t  0.50   0.80   0.95  2.94   0.00  2.94
  40    41.55   1.61    1.61  1-S2n  0.72   1.16  10.05  0.72   0.00  2.94
  60    42.02   2.07    2.07  1-S2n  0.91   1.43  10.52  0.95   0.00  2.94
  80    42.42   2.48    2.48  1-S2n  1.05   1.66  11.24  1.11   0.00  2.94
 100    42.81   2.87    2.87  1-S2n  1.19   1.87  11.84  1.26   0.00  2.94
 120    43.22   3.27    3.27  5-S2n  1.31   2.06  12.29  1.41   0.00  2.94
 140    43.67   3.72    3.72  5-S2n  1.43   2.22  12.72  1.55   0.00  2.94
 160    44.18   4.24    4.24  5-S2n  1.55   2.37  13.10  1.68   0.00  2.94
 173    44.56   4.62    4.62  5-S2n  1.63   2.45  13.35  1.77   0.00  2.94
 177    44.67   4.73    4.73  5-S2n  1.65   2.47  13.43  1.79   0.00  2.94
-------------------------------------------------------------------------------
      El. inlet face invert        39.94 ft  El. outlet invert    38.06 ft
      El. inlet throat invert       0.00 ft  El. inlet crest       0.00 ft
-------------------------------------------------------------------------------

***** SITE DATA ***** EMBANKMENT TOE ***************
     UPSTREAM STATION (FT)                     0.00
     UPSTREAM ELEVATION (FT)                  40.00
     UPSTREAM EMBANKMENT SLOPE (X:1)           1.00
     DOWMSTREAM STATION (FT)                 103.00
     DOWNSTREAM ELEVATION (FT)                38.00
     DOWNSTREAM EMBANKMENT SLOPE (X:1)         1.00

***** CULVERT DATA SUMMARY ************************
     BARREL SHAPE          CIRCULAR
     BARREL DIAMETER         3.00 FT
     BARREL MATERIAL       CONCRETE
     BARREL MANNING'S N    0.012
     INLET TYPE            CONVENTIONAL
     INLET EDGE AND WALL   SQUARE EDGE WITH HEADWALL
     INLET DEPRESSION      NONE

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CURRENT DATE: 03-19-1997                              FILE DATE: 03-19-1997
CURRENT TIME: 14:35:18                                FILE NAME: BRIDGE
-------------------------------------------------------------------------------
-------------------------        TAILWATER        -----------------------------
-------------------------------------------------------------------------------
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           CONSTANT WATER SURFACE ELEVATION
                      41.00

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-----------------------   ROADWAY OVERTOPPING DATA   --------------------------
-------------------------------------------------------------------------------

      WEIR COEFFICIENT                              2.86
      EMBANKMENT TOP WIDTH (FT)                    46.00
      CREST LENGTH (FT)                           130.00
      OVERTOPPING CREST ELEVATION (FT)             44.50
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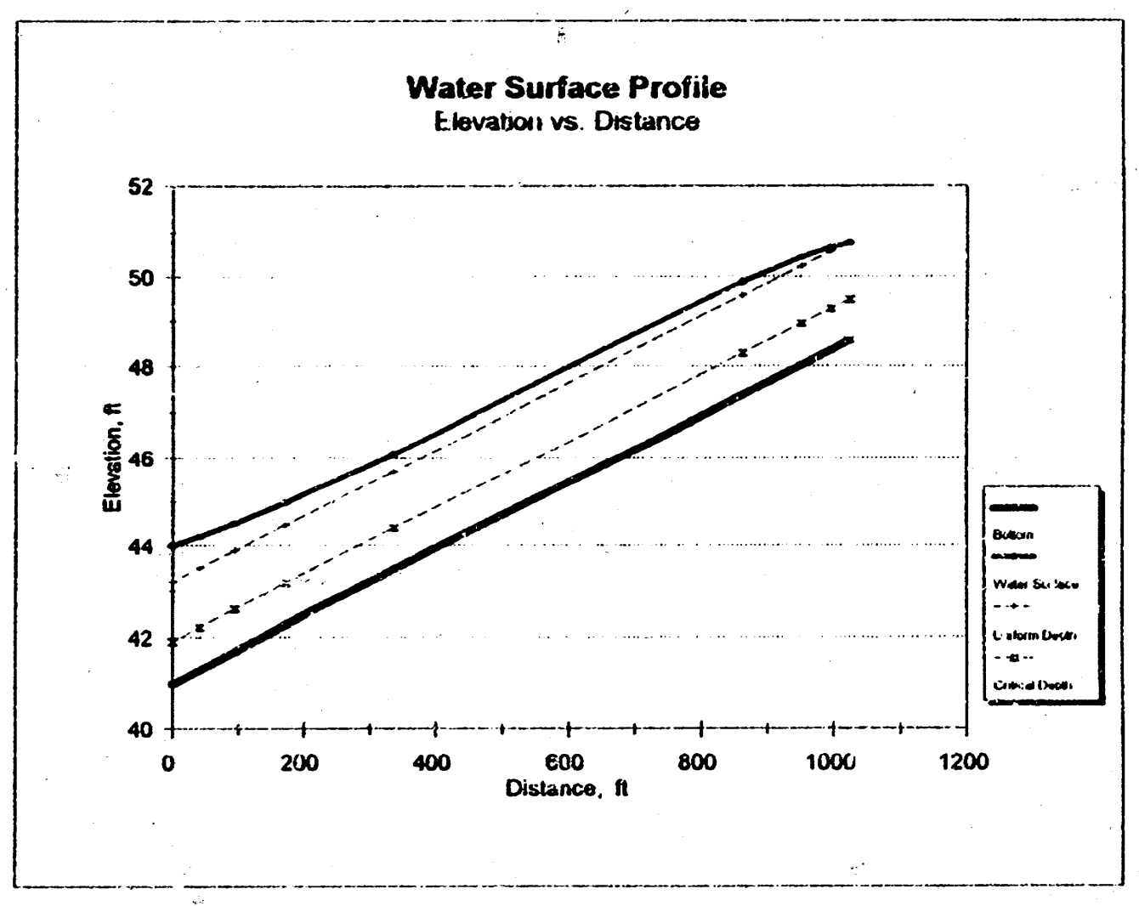
Channel Properties								Classifications	
Bottom Width ft	Bottom Slope ft/ft	Left Side Slop H:1	Right Side Slop H:1	Manning's n	Discharge cfs	Critical Depth ft	Uniform Depth ft	Channel	Profile
30	0.0074	4	4	0.1	160	0.91	2.20	mild	M1

Staring Point				
Station ft	Bottom Elevation ft	Flow Depth ft	Depth Step ft	Directiona Depth Ste ft
0	41	3	0.1	-0.10

Depth ft	Area ft^2	Velocity ft/s	Specific Energy ft	Wetted Perimeter ft	Hydraulic Radius ft	Ave. Friction Slope ft/ft	Delta X ft	X ft	Bottom Elevation ft	Water Surface Elevation ft
3.00	102.00	1.57	3.04	54.74	1.863	----------	----------	0.00	41.00	44.00
2.90	98.60	1.62	2.94	53.91	1.829	0.0051	41.74	41.74	41.31	44.21
2.80	95.20	1.68	2.84	53.09	1.793	0.0056	53.07	94.81	41.70	44.50
2.70	91.80	1.74	2.75	52.26	1.756	0.0061	77.25	172.06	42.27	44.97
2.60	88.40	1.81	2.65	51.44	1.719	0.0068	163.93	335.99	43.49	46.09
2.50	85.00	1.88	2.56	50.62	1.679	0.0076	526.51	862.51	47.38	49.88
2.40	81.60	1.96	2.46	49.79	1.639	0.0085	88.33	950.84	48.04	50.44
2.30	78.20	2.05	2.37	48.97	1.597	0.0095	44.42	995.26	48.36	50.66
2.20	74.80	2.14	2.27	48.14	1.554	0.0108	27.82	1023.09	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.49	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77
2.20	74.73	2.14	2.27	48.12	1.553	0.0115	0.00	1023.58	48.57	50.77



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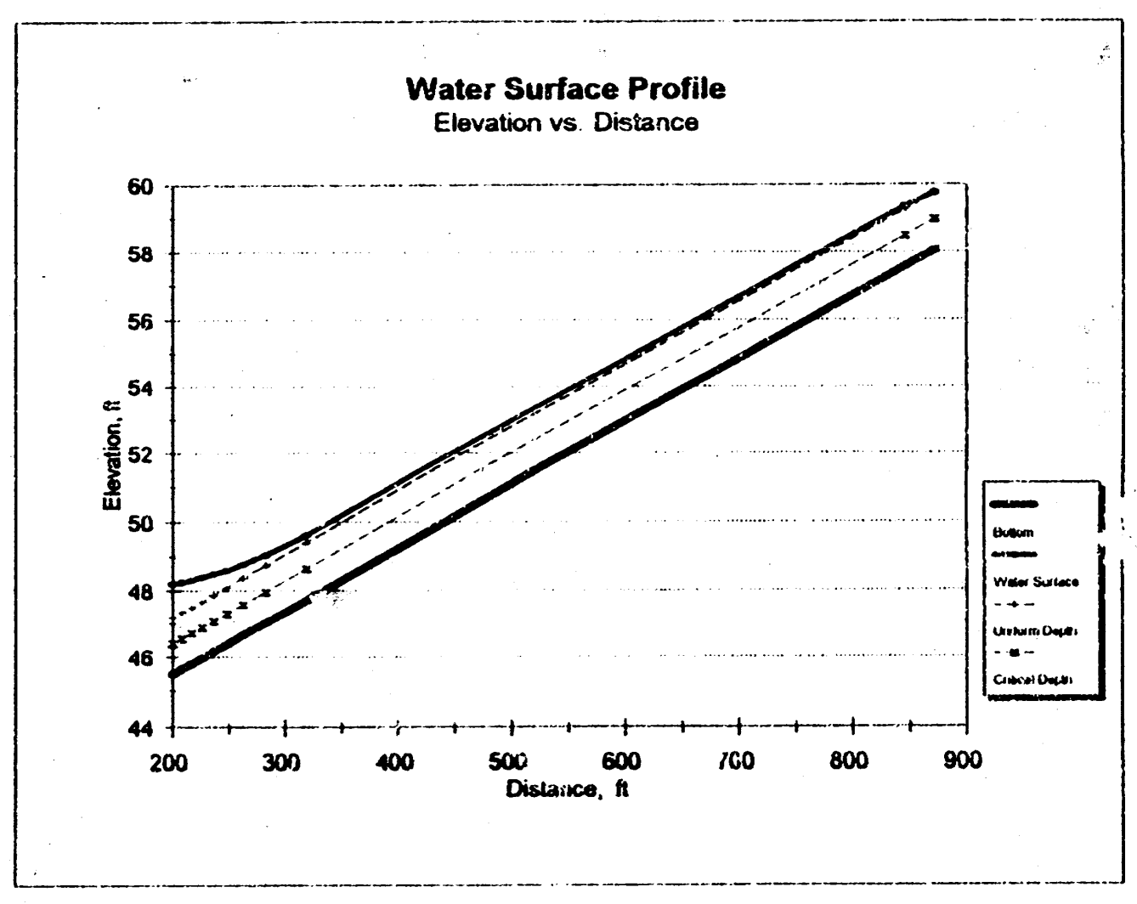
Channel Properties								Classifications	
Bottom Width ft	Bottom Slope ft/ft	Left Side Slop H:1	Right Side Slop H:1	Manning's n	Discharge cfs	Critical Depth ft	Uniform Depth ft	Channel	Profile
30	0.0187	4	4	0.1	160	0.91	1.69	mild	M1

Staring Point				
Station ft	Bottom Elevation ft	Flow Depth ft	Depth Step ft	Directiona Depth Ste ft
200	45.5	2.7	0.1	-0.10

Depth ft	Area ft^2	Velocity ft/s	Specific Energy ft	Wetted Perimeter ft	Hydraulic Radius ft	Ave. Friction Slope ft/ft	Delta X ft	X ft	Bottom Elevation ft	Water Surface Elevation ft
2.70	91.80	1.74	2.75	52.26	1.756	----------	----------	200.00	45.50	48.20
2.60	88.40	1.81	2.65	51.44	1.719	0.0038	8.10	208.10	45.65	48.25
2.50	85.00	1.88	2.56	50.62	1.679	0.0076	8.62	216.72	45.81	48.31
2.40	81.60	1.96	2.46	49.70	1.639	0.0085	9.33	226.05	45.99	48.39
2.30	78.20	2.05	2.37	48.97	1.597	0.0095	10.33	236.38	46.18	48.48
2.20	74.80	2.14	2.27	48.14	1.554	0.0108	11.86	248.24	46.40	48.60
2.10	71.40	2.24	2.18	47.32	1.509	0.0123	14.45	262.69	46.67	48.77
2.00	68.00	2.35	2.09	46.49	1.463	0.0140	19.76	282.45	47.04	49.04
1.90	64.60	2.48	2.00	45.67	1.415	0.0162	36.44	318.69	47.72	49.62
1.80	61.20	2.61	1.91	44.84	1.365	0.0189	527.14	846.03	57.58	59.38
1.70	57.80	2.77	1.82	44.02	1.313	0.0222	25.11	871.14	58.05	59.75
1.69	57.57	2.78	1.81	43.96	1.310	0.0241	1.07	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76
1.69	57.57	2.78	1.81	43.96	1.310	0.0243	0.00	872.21	58.07	59.76



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Channel Properties								Classifications	
Bottom Width ft	Bottom Slope ft/ft	Left Side Slop H:1	Right Side Slop H:1	Manning's n	Discharge cfs	Critical Depth ft	Uniform Depth ft	Channel	Profile
30	0.0103	4	4	0.1	160	0.91	2.00	mild	M2

Staring Point				
Station ft	Bottom Elevation ft	Flow Depth ft	Depth Step ft	Directiona Depth Ste ft
430	49.8	1.85	0.1	0.10

Depth ft	Area ft^2	Velocity ft/s	Specific Energy ft	Wetted Perimeter ft	Hydraulic Radius ft	Ave. Friction Slope ft/ft	Delta X ft	X ft	Bottom Elevation ft	Water Surface Elevation ft
1.85	62.90	2.54	1.95	45.26	1.390	----------	----------	430.00	49.80	51.65
1.95	66.30	2.41	2.04	46.08	1.439	0.0175	12.55	442.55	49.93	[illegible]
2.00	68.12	2.35	2.09	46.52	1.464	0.0155	9.32	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
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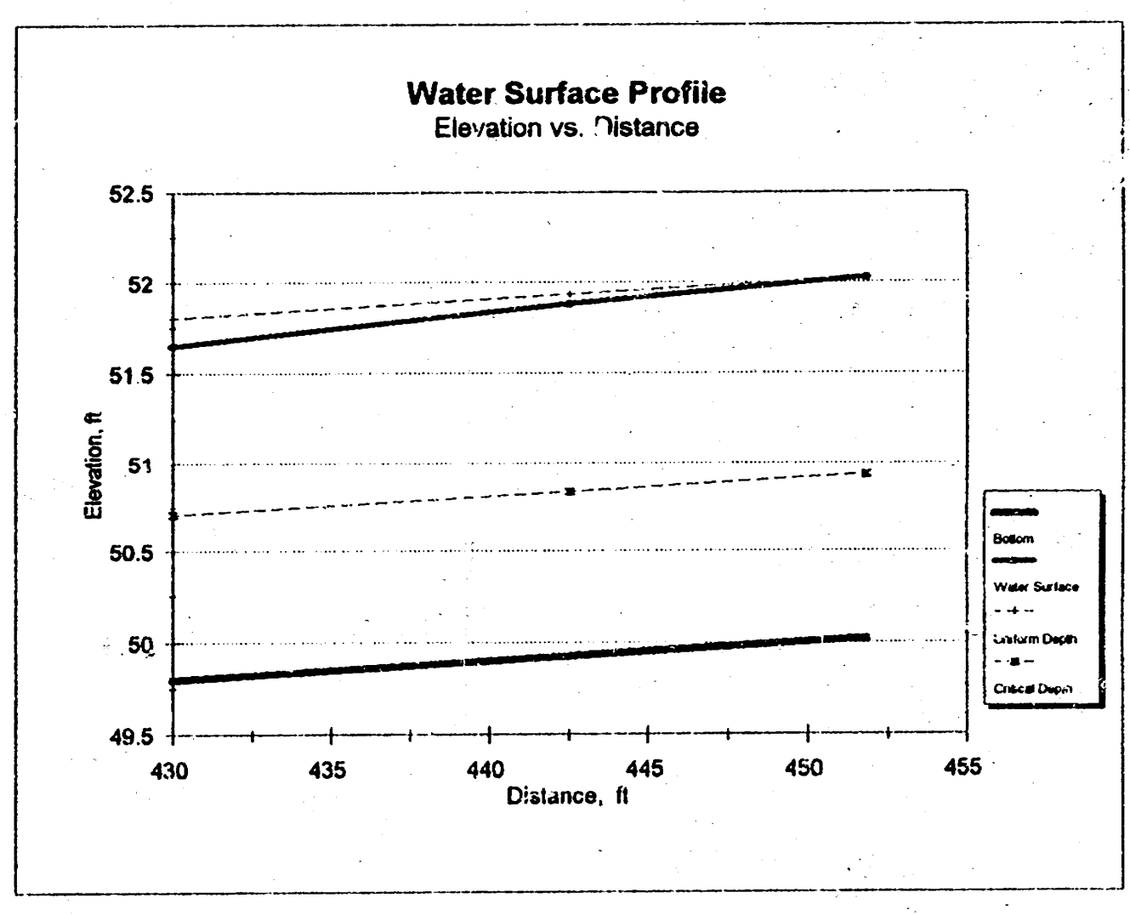
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03
2.00	68.12	2.35	2.09	46.52	1.464	0.0149	0.00	451.86	50.03	52.03

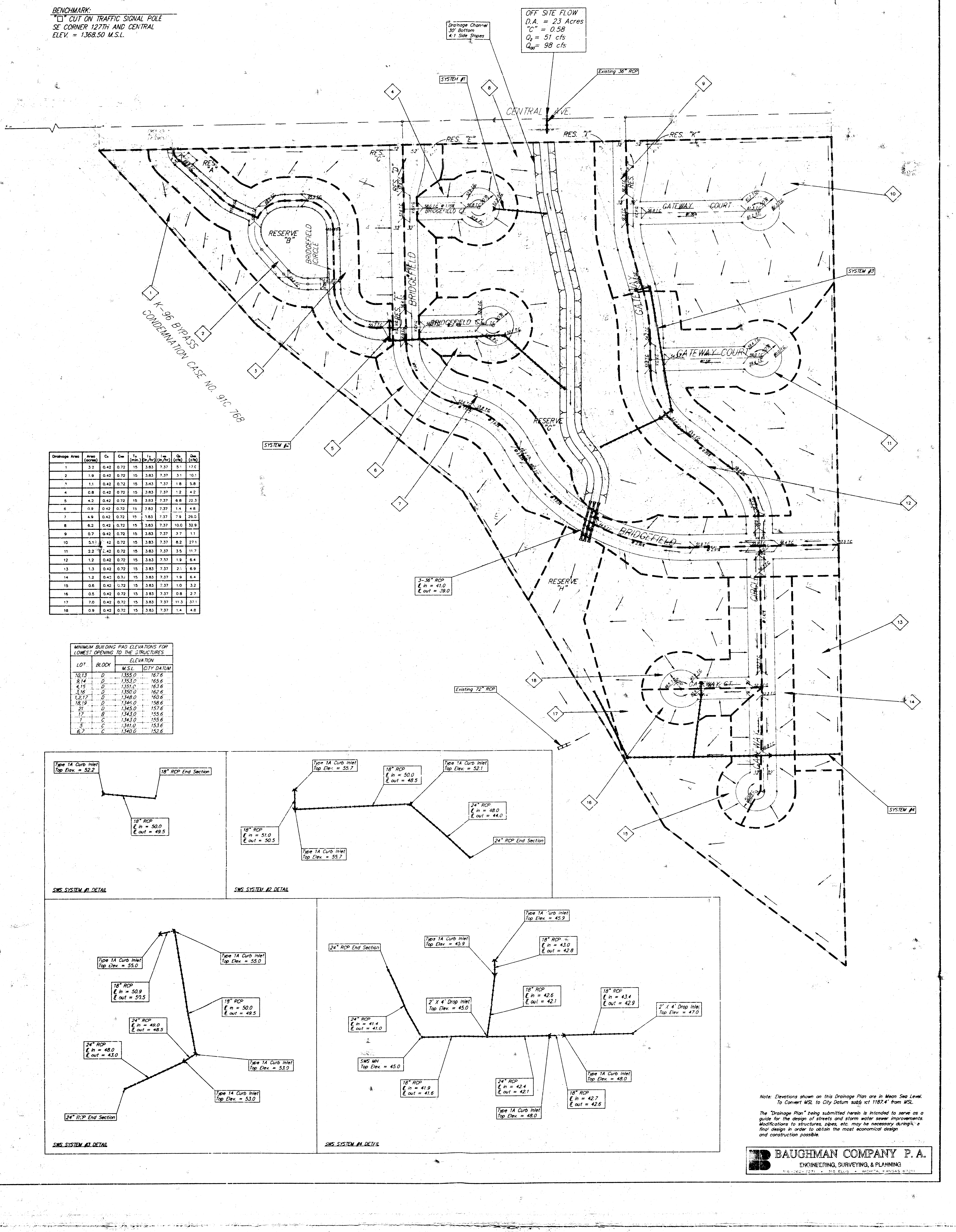


11

DRAINAGE PLAN
BRIDGEFIELD ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS

OWNER:
SCOTT DEVELOPERS, LLC
ATTN: DON & PAT SCOTT
21 SCOTTSDALE
WICHITA, KS 67230

BENCHMARK:
"□" CUT ON TRAFFIC SIGNAL POLE
SE CORNER 127TH AND CENTRAL
ELEV. = 1368.50 M.S.L.


0
100
200
OFF SITE FLOW
D.A. = 23 Acres
"C" = 0.58
Q_2 = 51 cfs
Q_{100} = 98 cfs
Drainage Channel
30' Bottom
4:1 Side Slopes
Existing 36" RCP
SYSTEM #1
SYSTEM #2
SYSTEM #3
SYSTEM #4
CENTRAL AVE.
RES. "A"
RESERVE "B"
RES. "C"
RES. "D"
RES. "E"
RESERVE "G"
RESERVE "H"
RES. "I"
RES. "J"
RES. "K"
BRIDGEFIELD CIRCLE
BRIDGEFIELD
BRIDGEFIELD CT.
GATEWAY COURT
GATEWAY
GATEWAY CT.
K-96 BYPASS
CONDEMNATION CASE NO. 91C 768
3-36" RCP
℄ in = 41.0
℄ out = 39.0
Existing 72" RCP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Type 1A Curb Inlet
Top Elev. = 52.2
18" RCP End Section
18" RCP
℄ in = 50.0
℄ out = 49.5
SWS SYSTEM #1 DETAIL
Type 1A Curb Inlet
Top Elev. = 55.7
18" RCP
℄ in = 50.0
℄ out = 48.5
Type 1A Curb Inlet
Top Elev. = 52.1
24" RCP
℄ in = 48.0
℄ out = 44.0
24" RCP End Section
18" RCP
℄ in = 51.0
℄ out = 50.5
Type 1A Curb Inlet
Top Elev. = 55.7
SWS SYSTEM #2 DETAIL
Type 1A Curb Inlet
Top Elev. = 55.0
Type 1A Curb Inlet
Top Elev. = 55.0
18" RCP
℄ in = 50.9
℄ out = 50.5
18" RCP
℄ in = 50.0
℄ out = 49.5
24" RCP
℄ in = 49.0
℄ out = 48.5
24" RCP
℄ in = 48.0
℄ out = 43.0
Type 1A Curb Inlet
Top Elev. = 53.0
Type 1A Curb Inlet
Top Elev. = 53.0
24" RCP End Section
SWS SYSTEM #3 DETAIL
Type 1A Curb Inlet
Top Elev. = 45.9
Type 1A Curb Inlet
Top Elev. = 45.9
18" RCP
℄ in = 43.0
℄ out = 42.8
24" RCP End Section
2' X 4' Drop Inlet
Top Elev. = 45.0
18" RCP
℄ in = 42.6
℄ out = 42.1
18" RCP
℄ in = 43.4
℄ out = 42.9
2' X 4' Drop Inlet
Top Elev. = 47.0
24" RCP
℄ in = 41.4
℄ out = 41.0
SWS MH
Top Elev. = 45.0
18" RCP
℄ in = 41.9
℄ out = 41.6
24" RCP
℄ in = 42.4
℄ out = 42.1
Type 1A Curb Inlet
Top Elev. = 48.0
Type 1A Curb Inlet
Top Elev. = 48.0
18" RCP
℄ in = 42.7
℄ out = 42.6
SWS SYSTEM #4 DETAIL

Drainage Area	Area (acres)	C_2	C_{100}	T_c (min.)	I_2 (in/hr)	I_{100} (in/hr)	Q_2 (cfs)	Q_{100} (cfs)
1	3.2	0.42	0.72	15	3.83	7.37	5.1	17.0
2	1.9	0.42	0.72	15	3.83	7.37	3.1	10.1
3	1.1	0.42	0.72	15	3.83	7.37	1.8	5.8
4	0.8	0.42	0.72	15	3.83	7.37	1.2	4.2
5	4.2	0.42	0.72	15	3.83	7.37	6.8	22.3
6	0.9	0.42	0.72	15	3.83	7.37	1.4	4.8
7	4.9	0.42	0.72	15	3.83	7.37	7.9	26.0
8	6.2	0.42	0.72	15	3.83	7.37	10.0	32.9
9	0.7	0.42	0.72	15	3.83	7.37	3.7	1.1
10	5.1	0.42	0.72	15	3.83	7.37	8.2	27.1
11	2.2	0.42	0.72	15	3.83	7.37	3.5	11.7
12	1.2	0.42	0.72	15	3.83	7.37	1.9	6.4
13	1.3	0.42	0.72	15	3.83	7.37	2.1	6.9
14	1.2	0.42	0.72	15	3.83	7.37	1.9	6.4
15	0.6	0.42	0.72	15	3.83	7.37	1.0	3.2
16	0.5	0.42	0.72	15	3.83	7.37	0.8	2.7
17	7.0	0.42	0.72	15	3.83	7.37	11.3	37.1
18	0.9	0.42	0.72	15	3.83	7.37	1.4	4.8

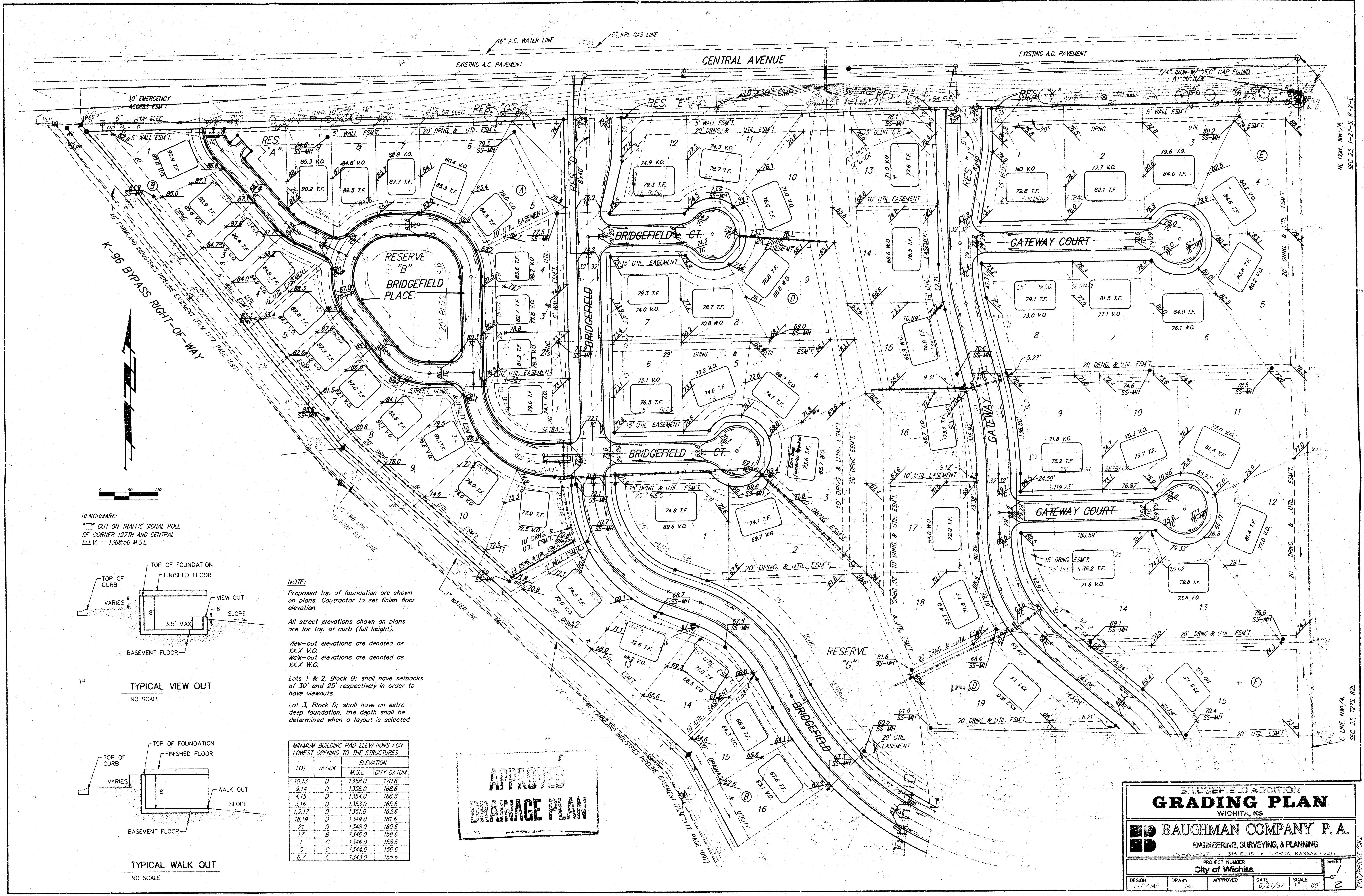
MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT	BLOCK	ELEVATION	
		M.S.L.	CITY DATUM
10,13	D	1355.0	167.6
9,14	D	1353.0	165.6
4,15	D	1351.0	163.6
3,16	D	1350.0	162.6
1,2,17	D	1348.0	160.6
18,19	D	1346.0	158.6
21	D	1345.0	157.6
17	B	1343.0	155.6
1	C	1343.0	155.6
5	C	1341.0	153.6
6,7	C	1340.0	152.6

Note: Elevations shown on this Drainage Plan are in Mean Sea Level.
To Convert MSL to City Datum subtract 1187.4' from MSL.

The "Drainage Plan" being submitted herein is intended to serve as a guide for the design of streets and storm water sewer improvements. Modifications to structures, pipes, etc. may be necessary during the final design in order to obtain the most economical design and construction possible.

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211


CENTRAL AVENUE
EXISTING A.C. PAVEMENT
16" A.C. WATER LINE
6" KPL GAS LINE
10' EMERGENCY ACCESS ESM'T
RES. "A"
RES. "C"
RES. "D"
RES. "E"
RES. "F"
RES. "K"
RESERVE "B"
BRIDGEFIELD PLACE
BRIDGEFIELD CT.
BRIDGEFIELD
GATEWAY COURT
GATEWAY
RESERVE "G"
K-96 BYPASS RIGHT-OF-WAY
40' FARMLAND INDUSTRIES PIPELINE EASEMENT (FILM 1177, PAGE 1097)
3" WATER LINE
5' WALL ESM'T
20' DRNG. & UTIL. ESM'T
10' UTIL. EASEMENT
15' UTIL. EASEMENT
SS-MH
3/4" IRON W/ "PEC" CAP FOUND AT 50' R/W
NE COR. NW 1/4, SEC. 23, T-27-S, R-2-E
E. LINE, NW 1/4, SEC. 23, T27S, R2E
0
60
120
TOP OF FOUNDATION
FINISHED FLOOR
TOP OF CURB
VARIES
8'
3.5' MAX
VIEW OUT
6"
SLOPE
BASEMENT FLOOR
WALK OUT
ENG/BRIDGE/GR2

BENCHMARK:
"□" CUT ON TRAFFIC SIGNAL POLE
SE CORNER 127TH AND CENTRAL
ELEV. = 1368.50 M.S.L.

TYPICAL VIEW OUT
NO SCALE

TYPICAL WALK OUT
NO SCALE

NOTE:

Proposed top of foundation are shown on plans. Contractor to set finish floor elevation.

All street elevations shown on plans are for top of curb (full height).

View-out elevations are denoted as
XX.X V.O.
Walk-out elevations are denoted as
XX.X W.O.

Lots 1 & 2, Block B; shall have setbacks of 30' and 25' respectively in order to have viewouts.

Lot 3, Block D; shall have an extra deep foundation, the depth shall be determined when a layout is selected.

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT	BLOCK	ELEVATION	
		M.S.L.	CITY DATUM
10,13	D	1358.0	170.6
9,14	D	1356.0	168.6
4,15	D	1354.0	166.6
3,16	D	1353.0	165.6
1,2,17	D	1351.0	163.6
18,19	D	1349.0	161.6
21	D	1348.0	160.6
17	B	1346.0	158.6
1	C	1346.0	158.6
5	C	1344.0	156.6
6,7	C	1343.0	155.6

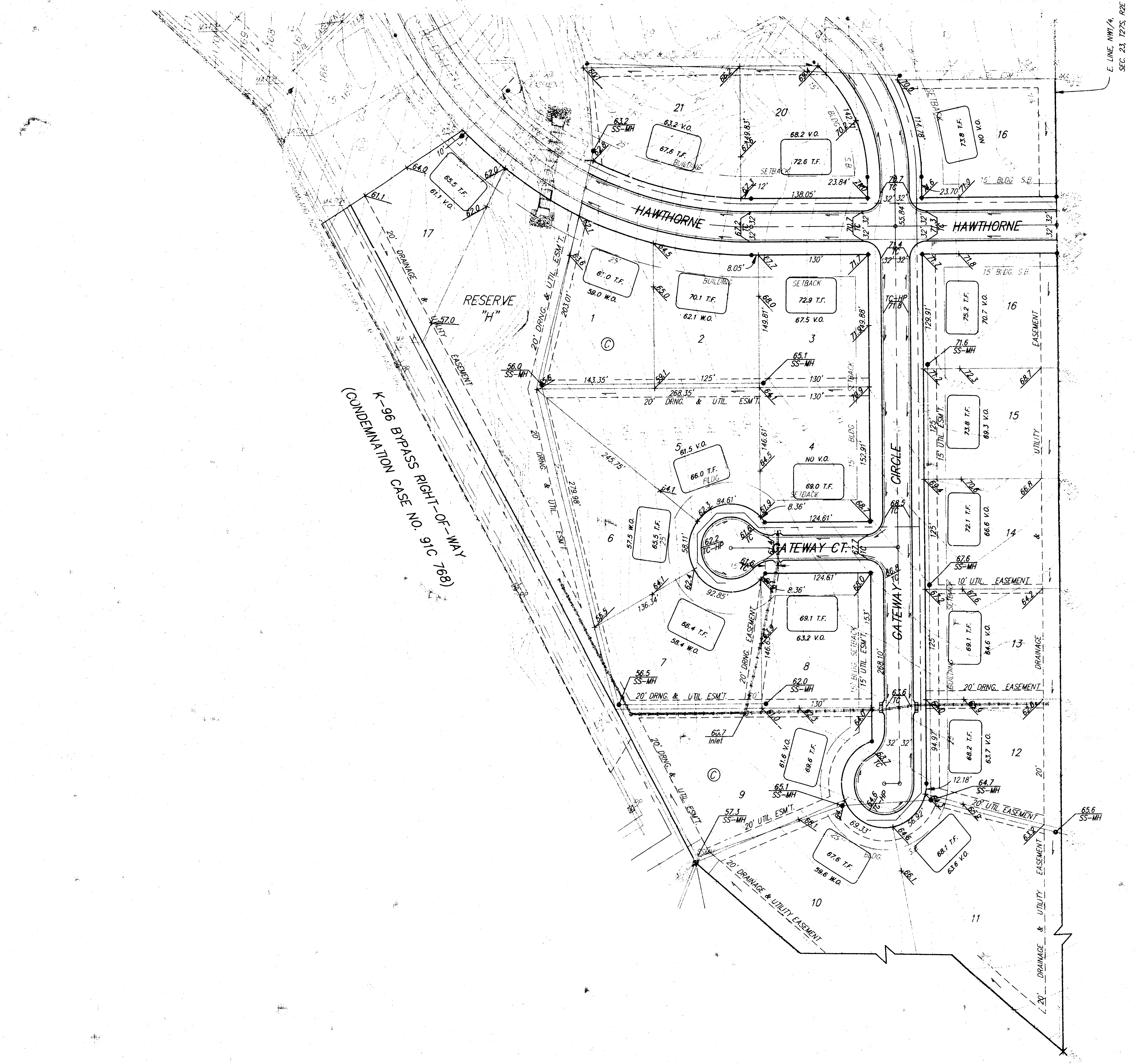
APPROVED
DRAINAGE PLAN

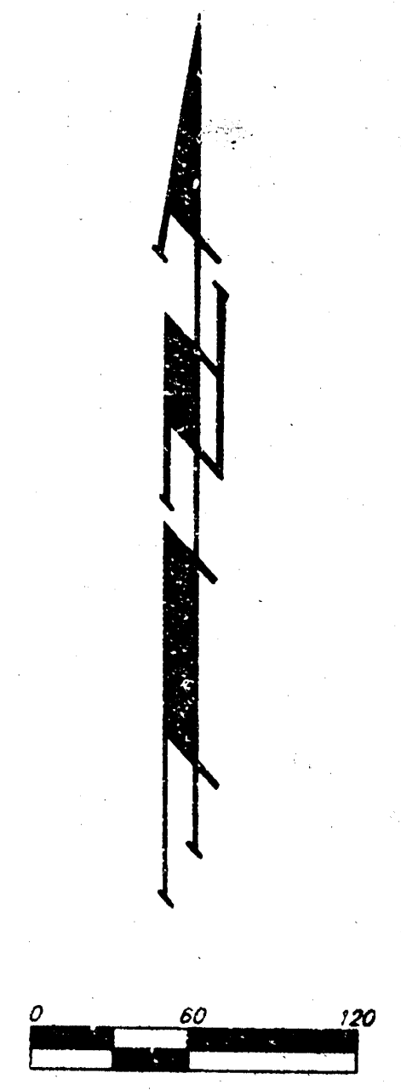
BRIDGEFIELD ADDITION
GRADING PLAN
WICHITA, KS

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

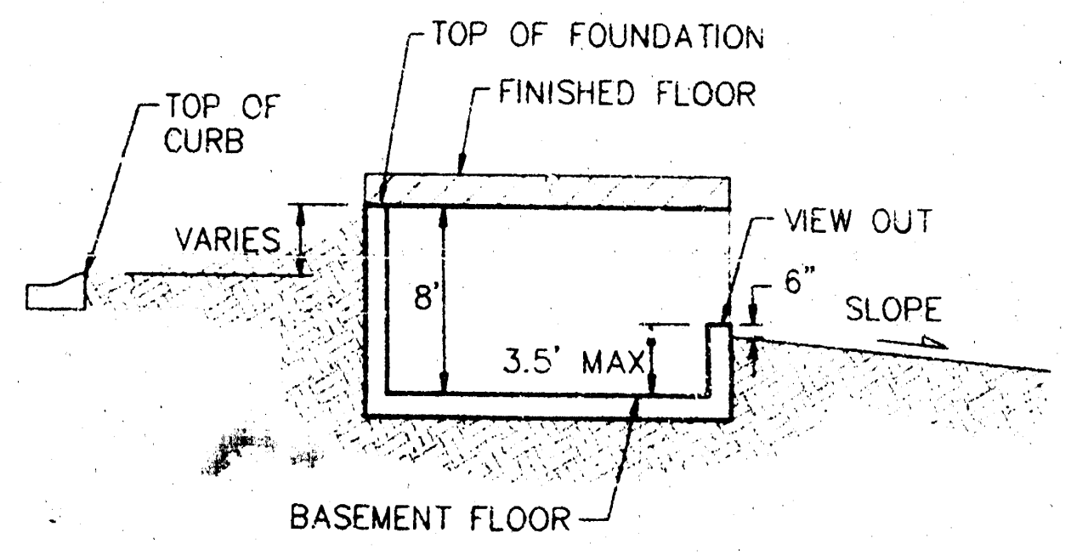
PROJECT NUMBER
City of Wichita

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BLP/JAB	JAB		6/21/97	1" = 60'	1 OF 2

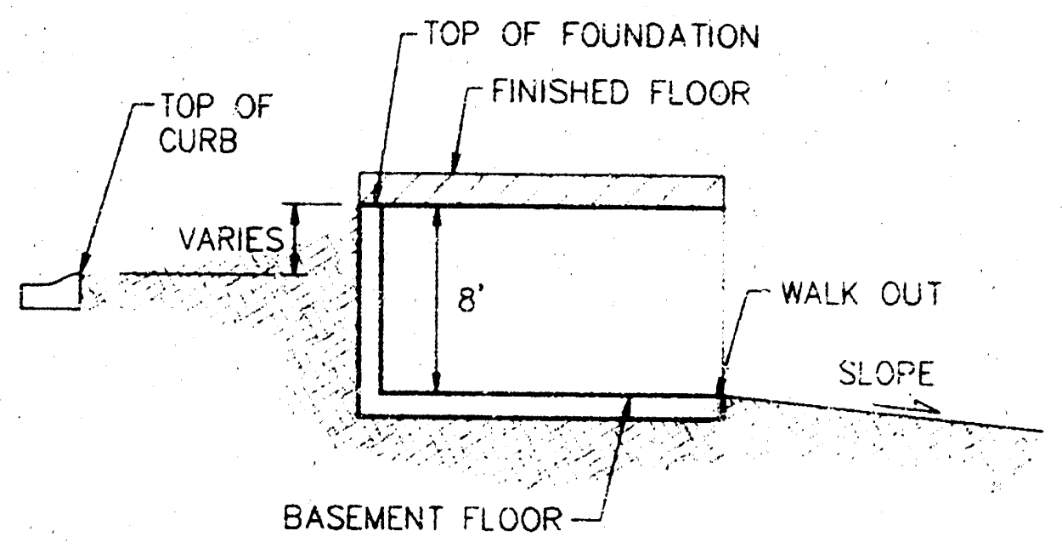

E. LINE, NW1/4, SEC. 23, T27S, R2E
HAWTHORNE
HAWTHORNE
GATEWAY CIRCLE
GATEWAY CT.
RESERVE "H"
K-96 BYPASS RIGHT-OF-WAY
(CONDEMNATION CASE NO. 91C 768)
20' DRAINAGE & UTILITY EASEMENT
20' DRNG. & UTIL ESM'T
15' UTIL ESM'T
10' UTIL EASEMENT
20' UTIL. ESM'T
20' UTIL EASEMENT
20' DRNG. EASEMENT
DRAINAGE & UTILITY EASEMENT
UTILITY EASEMENT
15' BLDG. S.B.
SETBACK
21
20
16
17
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
63.2 V.O.
67.6 T.F.
68.2 V.O.
72.6 T.F.
73.8 T.F.
NO V.O.
63.5 T.F.
61.1 V.O.
67.0 T.F.
59.0 W.O.
70.1 T.F.
62.1 W.O.
72.9 T.F.
67.5 V.O.
75.2 T.F.
70.7 V.O.
73.8 T.F.
69.3 V.O.
61.5 V.O.
66.0 T.F.
NO V.O.
69.0 T.F.
72.1 T.F.
66.6 V.O.
57.5 W.O.
65.5 T.F.
66.4 T.F.
58.4 W.O.
69.1 T.F.
63.2 V.O.
69.1 T.F.
64.6 V.O.
61.6 V.O.
69.6 T.F.
68.2 T.F.
63.7 V.O.
67.6 T.F.
59.6 W.O.
68.1 T.F.
63.6 V.O.
63.2 SS-MH
56.0 SS-MH
65.1 SS-MH
71.6 SS-MH
67.6 SS-MH
56.5 SS-MH
62.0 SS-MH
60.7 Inlet
65.1 SS-MH
57.3 SS-MH
64.7 SS-MH
65.6 SS-MH
62.2 TC-HP
71.8 TC-HP



BENCHMARK:
"□" CUT ON TRAFFIC SIGNAL POLE
SE CORNER 127TH AND CENTRAL
ELEV. = 1368.50 M.S.L.


TOP OF CURB
TOP OF FOUNDATION
FINISHED FLOOR
VARIES
8'
3.5' MAX
VIEW OUT
6"
SLOPE
BASEMENT FLOOR

TYPICAL VIEW OUT
NO SCALE


TOP OF CURB
TOP OF FOUNDATION
FINISHED FLOOR
VARIES
8'
WALK OUT
SLOPE
BASEMENT FLOOR

TYPICAL WALK OUT
NO SCALE

NOTE:

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21	D	1348.0	160.6
17	B	1346.0	158.6
1	C	1346.0	158.6
5	C	1344.0	156.6
6,7	C	1343.0	155.6

BRIDGEFIELD
GRADING PLAN
WICHITA, KS

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER					SHEET
					2 OF 2
DESIGN BLP/JAB	DRAWN JAB	APPROVED	DATE 5/9/97	SCALE 1" = 60'	

ENG/BRIDGE/GR3