

**PROFESSIONAL
ENGINEERING CONSULTANTS, PA**

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LETTER OF TRANSMITTAL

DATE Nov. 9, 1988	JOB NO. 36-87162-1-2051
ATTENTION Ms. Vicky Huang, P.E.	
RE: Barrington Corner	

TO Mr. Michael E. Lindebak, P.E.
City Engineer
455 North Main
Wichita, KS

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

Shop drawings Prints Plans Samples Specifications

Copy of letter Change order _____

COPIES	DATE	NO.	DESCRIPTION
2	11.9.88		Revised Drainage Plan
2			Calculations for Storm Water Sewer

THESE ARE TRANSMITTED as checked below:

- For approval Approved as submitted Resubmit _____ copies for approval
- For your use Approved as noted Submit _____ copies for distribution
- As requested Returned for corrections Return _____ corrected prints
- For review and comment _____
- FOR BIDS DUE _____ 19 _____ PRINTS RETURNED AFTER LOAN TO US

REMARKS These revisions are based on your conversation
with Dick Linn of our office on 11.8.88.

It is proposed that the storm water sewer
be constructed when Lot 3 develops. Costs
would be assessed to Barrington Corner

COPY TO File

SIGNED: Charles Brown



Date 11.9.88 Page 1 of 6

Project Barrington Corner

Item Revised Drainage Plan

I HYDROLOGY Use Rational Method
 $Q = CIA$

Determine "C"

Node	Soil Type	Hyd. Group	Land Use	C_s	C_{100}
106	Sa; Fa	B	65% Commerc. 35% Single F.	$.65 \times .69 = 0.449$ $.35 \times .46 = 0.161$ <u>0.61</u>	$.65 \times .80 = 0.52$ $.35 \times .61 = 0.214$ <u>0.73</u>
105	Sa, Fa	B	Same as 106	0.61	0.73
104	Sa; Fa	B	70% Commerc. 30% Sing Fam	$.70 \times .69 = 0.483$ $.30 \times .46 = 0.138$ <u>0.62</u>	$.70 \times .80 = 0.56$ $.30 \times .61 = 0.183$ <u>0.74</u>
103	Sa; Fa	B	60% Commerc. 40% Sing Fam	$.60 \times .69 = 0.414$ $.40 \times .46 = 0.184$ <u>0.60</u>	$.60 \times .80 = 0.48$ $.40 \times .61 = 0.24$ <u>0.72</u>
102	Sa; Fa	B	50% Commerc. 15% Sing Fam 35%	$.50 \times .69 = 0.345$ $.15 \times .46 = 0.069$ $.35 \times .46 = 0.161$ <u>0.54</u>	$.50 \times .80 = 0.40$ $.15 \times .61 = 0.091$ $.35 \times .61 = 0.214$ <u>0.67</u>
101	(Manhole)				
100	(Headwall)				



Date 11.9.88 Page 2 of 6

Project Barrington Corner

Item Revised Drainage Plan

Determine "I"

<u>Node</u>	<u>t_c</u>	<u>I_s</u>	<u>I_{100}</u>
106-102 inclusive	15	4.56	7.37
101	(Manhole)		
100	(Headwall)		

Determine "A"

<u>Node</u>	<u>Pbn. Units</u>	<u>Area SF</u>	<u>Area Ac.</u>
106	545	87,200	2.00
105	530	84,800	1.95
104	540	86,400	1.98
103	544	87,040	2.00
102	560	89,600	2.06
101	(Manhole)		
100	(Headwall)		



Date 11-9-88 Page 3 of 6

Project Barrington Corner

Item Revised Drainage Plan.

Determine "Q₅"

<u>Node</u>	<u>C₅</u>	<u>I₅</u>	<u>A</u>	<u>Q₅</u>
106	0.61	4.56	2.00	5.6
105	0.61	4.56	1.95	5.4
104	0.62	4.56	1.98	5.6
103	0.60	4.56	2.00	5.5
102	0.54	4.56	2.06	5.1
101	(Manhole)			<u>Σ = 27.2</u>
100	(Headwall)			

Determine "Q₁₀₀"

<u>Node</u>	<u>C₁₀₀</u>	<u>I₁₀₀</u>	<u>A</u>	<u>Q₁₀₀</u>
106	0.73	7.37	2.00	10.8
105	0.73	7.37	1.95	10.5
104	0.74	7.37	1.98	10.8
103	0.72	7.37	2.00	10.6
102	0.67	7.37	2.06	<u>10.2</u>
101	(Manhole)			<u>Σ = 52.9</u>
100	(Headwall)			

100 j, 142.0000 100 4 7 6

110 t, barrington corner addition

120 t, revised drainage plan

130 t, storm water sewer system 100 analysis

140 t, sub-basin "D"

150 i, 106 0.61 2.00 0.00 0.00 5.60 15.00 147.60

160 i, 105 0.61 1.95 0.00 0.00 5.40 15.00 146.70

170 i, 104 0.62 1.98 0.00 0.00 5.60 15.00 145.30

180 i, 103 0.60 2.00 0.00 0.00 5.50 15.00 144.80

190 i, 102 0.54 2.06 0.00 0.00 5.10 15.00 143.90

200 m, 101 143.80

210 m, 100 142.80

220 p, 106 105 280.00 18 0.013 0.00 0.00

230 p, 105 104 300.00 24 0.013 0.00 0.00

240 p, 104 103 270.00 30 0.013 0.00 0.00

250 p, 103 102 280.00 30 0.013 90.00 0.00

260 p, 102 101 190.00 36 0.013 45.00 0.00

270 p, 101 100 50.00 36 0.013 0.00 0.00

280 e

Input File: barrrev

5/6

barrington corner addition
revised drainage plan
storm water sewer system 1000 analysis
sub-basin "D"

Storm Frequency = 5-Year

* * * HYDROLOGY * * *

*****														*****							
Tributary Area														Hydrology Summation				Conduit Data			
*****														*****				*****			
Node to	C	Area	Slope	Length	TC(θ)	I(θ)	Q(θ)	TC	I	Q	Sum Q	Size	Velocity	Length	TT	TT+TC					
Node		(Ac)	(%)	(Ft)	(Min)	(In/Hr)	(CFS)	(Min)	(In/Hr)	(CFS)	(CFS)		(Ft/Sec)	(Ft)	(Min)	(Min)					
*****														*****				*****			
106	105	0.61	2.00	0.00	0.0	15.00	5.22	5.60	15.00	5.22	5.60	5.60	18"	3.17	280.00	1.47	16.47				
105	104	0.61	1.95	0.00	0.0	15.00	5.22	5.40	16.47	5.03	5.21	10.81	24"	3.44	300.00	1.45	17.93				
104	103	0.62	1.90	0.00	0.0	15.00	5.22	5.60	17.93	4.87	5.22	16.03	30"	3.27	270.00	1.39	19.30				
103	102	0.60	2.00	0.00	0.0	15.00	5.22	5.50	19.30	4.73	4.98	21.01	30"	4.28	280.00	1.09	20.39				
102	101	0.54	2.05	0.00	0.0	15.00	5.22	5.10	20.39	4.63	4.52	25.54	36"	3.61	180.00	0.83	21.22				
101	100	0.00	0.00	0.00	0.0	0.00	0.00	0.00	21.22	4.56	0.00	25.54	36"	3.51	50.00	0.20	21.46				
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