PROFESSIONAL ENGINEERING CONSULTANTS, PA
1440 E. English
WICHITA, KANSAS 67211

(316) 262-2691

LETTER OF TRANSMITTAL

DATE	JOB NO.
December 16, 1988	30-87248-2208
ATTENTION: Ms. Vicky Huang, P.E.	
RE: Summerfield III	

TO Mr. Michael E. Lindebak, P.E.
City Engineer
455 North Main
Wichita, KS 67202

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
1	12.14.88		SWS Calculations
1	12.14.88		SWS Cost Estimate
1	12.16.88		Revised Drainage Plan

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 As requested, we have prepared necessary calculations for a storm water sewer adjacent to the "LC" parcel in Summerfield III Addition. The cost estimate was prepared assuming the discharge at the Cowskin Creek, approximately 1200' east of Maize Road.

Necessary petitions can be prepared based on the enclosed estimate.

COPY TO Thurman Smith
File thru RWL

SIGNED: Charles J Brown

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1440 EAST ENGLISH
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Date 12.14.88 Page 1 of 5

Project Summerfield III Commercial

Item SWS Sizing for Petition

I HYDROLOGY

Use Rational Method $Q = CIA$

Determine "C"

Node	Soil Type	Hyd. Group	Land Use	C_{100}	C_5
1304	V_b	B	Neighborhood Business	0.80	0.69
1303	V_b	B	"	0.80	0.69
1302	V_b	B	"	0.80	0.69
1301	V_b	B	50% " 50% Multi Fam	0.78	0.66
1300	— End Section				

Determine "I"

Assume t_c = 15 minutes all nodes

$\therefore$ $I_{100} = 7.37$ $I_5 = 4.56$

Determine "A"

Node	Plan. Units	Area SF	Area Ac.
1304	11.04	110,400	2.53
1303	10.33	103,300	2.37
1302	20.06	200,600	4.61
1301	26.27	262,700	6.03
1300	- End Section		

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Date 12.14.88 Page 2 of 5

Project Summerfield III Commercial

Item SWS sizing

Determine "Q_{100}"

Node	C_{100}	I_{100}	A	Q_{100}
1304	0.80	7.37	2.53	14.9
1303	0.80	7.37	2.37	14.0
1302	0.80	7.37	4.61	27.2
1301	0.78	7.37	6.03	34.7
1300	End Section			

Determine "Q_5"

Node	C_5	I_5	A	Q_5
1304	0.69	4.56	2.53	8.0
1303	0.69	4.56	2.37	7.5
1302	0.69	4.56	4.61	14.5
1301	0.66	4.56	6.03	18.1
1300	End Sec.			

```
100 j,  132.6000 1300    3    5    4
110 t,summerfield III addition
120 t,commercial tract
130 t,storm water sewer system 1300 analysis
140 i, 1304     0.69     2.53     0.00     0.00     3.00    15.00   135.00
150 i, 1303     0.69     2.37     0.00     0.00     7.50    15.00   137.00
160 i, 1302     0.69     4.61     0.00     0.00    14.50    15.00   135.00
170 i, 1301     0.66     3.31     0.00     0.00    18.10    15.00   134.50
180 m, 1300   132.60
190 p, 1304 1303   150.00   18 0.013   0.00   0.00
200 p, 1303 1302   370.00   30 0.013   0.00   0.00
210 p, 1302 1301   170.00   36 0.013   0.00   0.00
220 p, 1301 1300  1200.00   48 0.013   0.00   0.00
230 e
```

Date: 12-16-1988
Time: 09:31:50

Input File: sumcom

summerfield III addition
commercial tract
storm water sewer system 1300 analysis

Storm Frequency = 5-Year

* * * HYDROLOGY * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
1304	1303	0.69	2.53	0.00	0.0	15.00	5.22	8.00	15.00	5.22	8.00	8.00	18"	4.53	150.00	0.55	15.55
1303	1302	0.69	2.37	0.00	0.0	15.00	5.22	7.50	15.55	5.14	7.89	15.39	30"	3.14	370.00	1.97	17.52
1302	1301	0.69	4.61	0.00	0.0	15.00	5.22	14.50	17.52	4.91	13.65	29.04	36"	4.11	170.00	0.69	18.21
1301	1300	0.66	3.31	0.00	0.0	15.00	5.22	10.10	18.21	4.84	16.78	45.83	48"	3.65	1200.00	5.48	23.69

Date: 12-16-1988
Time: 09:31:50

Input File: sumcom

summerfield III addition
commercial tract
storm water/sewer system 1300 analysis

Storm Frequency = 5-Year

* * * HYDRAULICS * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
1304	0.00530	0.8700	0.0000	0.0000	0.0000	0.0000	0.0000	0.8700	136.8567	138.0000	1.14
1303	0.00141	0.5213	0.0000	0.0331	0.0000	0.0000	0.1395	0.6940	135.3867	137.0000	1.61
1302	0.00190	0.3223	0.0000	0.0109	0.0000	0.0000	0.3774	0.7107	134.7018	135.8000	1.10
1301	0.00102	1.2213	0.0000	0.0111	0.0000	0.0030	0.1597	1.3911	133.9911	134.5000	0.51
1300	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	132.6000	132.6000	0.00

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Date 12.14.88 Page 1 of 1

Project Summerfield ~~III~~ Commercial

Item Cost Est. - SWS

Item	Description	Quantity	Unit	Unit Price	Amount
1.	48" RCP	1200	LF	$ 50.00	$ 60,000
2.	36" RCP	170	LF	40.00	6,800
3.	30" RCP	370	LF	35.00	12,950
4.	18" RCP	150	LF	20.00	3,000
5.	Inlets	4	Ea	3000	12,000
6.*	Boring @ Maize Rd.	100	LF	200.00	20,000
7.	Erosion Control	50	S.Y	40.00	2,000
8.	Seeding, Fert., Mulch	1	Ac.	1200.00	1,200
9.	R.O.W Clearing & Restoration along Maple	1	L.S.	15000.00	15,000
				SUBTOTAL	$ 132,950
				20%	26,590
				TOTAL	$ 159,540
				USE	$ 160,000

* Boring not required if SWS is constructed as a part of street improvements.