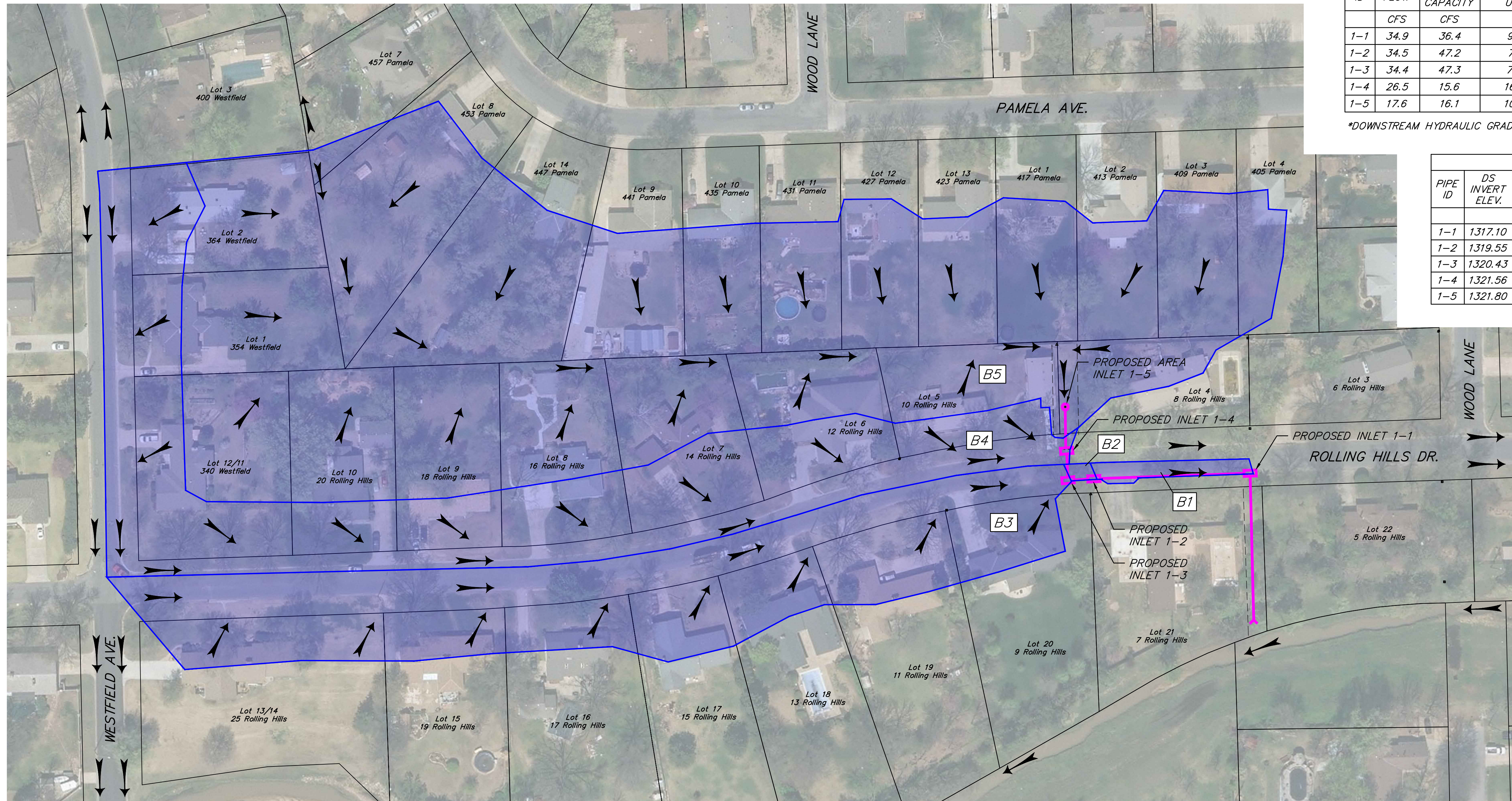


TIME OF CONCENTRATION														
DRAINAGE AREA		SHEET FLOW				SHALLOW CONCENTRATED FLOW				OPEN CHANNEL FLOW				TIME OF CONCENTRATION
ID	AREA	MANNING'S n	FLOW LENGTH	SLOPE	TIME	FLOW COVER	SLOPE	FLOW LENGTH	TIME	MANNING'S n	SLOPE	FLOW LENGTH	TIME	TIME
	ACRES		FEET	FT/FT	MINUTES		FT/FT	FEET	MINUTES		FT/FT	FEET	MINUTES	MINUTES
B1	0.06	0.011	12	0.005	0.4	-	0.000	0	0.0	0.016	0.005	150	2.7	15.0
B2	0.01	0.011	12	0.005	0.4	-	0.000	0	0.0	0.016	0.005	10	0.2	15.0
B3	1.86	0.240	50	0.010	10.6	-	0.000	0	0.0	0.016	0.005	880	5.6	16.2
B4	2.47	0.240	75	0.010	14.6	-	0.000	0	0.0	0.016	0.005	1330	8.5	23.1
B5	6.26	0.240	100	0.010	18.4	UNPAVED (PER TR-55)	0.005	300	4.3	0.050	0.005	675	13.4	36.1

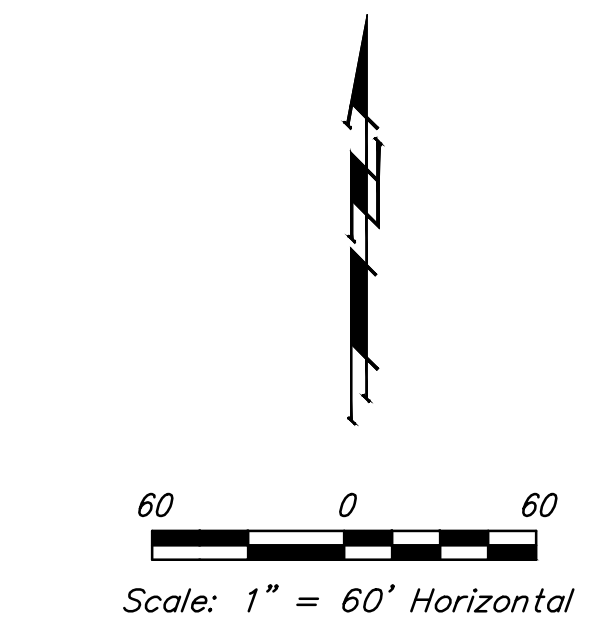
SUMMARY OF CONDUIT FLOW PARAMETERS								
5-YR STORM EVENT (20% RECURRENCE INTERVAL)								
PIPE ID	ACTUAL FLOW	FULL FLOW CAPACITY	PERCENT OF CAPACITY USED	VELOCITY	DOWNSTREAM EGL	UPSTREAM EGL	DOWNSTREAM HGL	UPSTREAM HGL
	CFS	CFS		FPS				
1-1	14.8	36.4	40.7	3.1	1319.3	1319.5	1319.2 *	1319.3
1-2	14.6	47.2	30.9	5.9	1321.2	1322.1	1320.7	1321.5
1-3	14.6	47.3	30.9	4.8	1322.6	1322.3	1322.1	1321.7
1-4	11.1	15.6	71.2	4.3	1323.4	1323.6	1323.2	1323.2
1-5	7.3	16.1	45.5	3.8	1324.0	1323.5	1323.6	1323.0

100-YR STORM EVENT (1% RECURRENCE INTERVAL)								
PIPE ID	ACTUAL FLOW	FULL FLOW CAPACITY	PERCENT OF CAPACITY USED	VELOCITY	DOWNSTREAM EGL	UPSTREAM EGL	DOWNSTREAM HGL	UPSTREAM HGL
	CFS	CFS		FPS				
1-1	34.9	36.4	95.9	5.6	1320.1	1320.6	1319.6 *	1319.9
1-2	34.5	47.2	73.1	7.3	1322.3	1323.3	1321.5	1322.2
1-3	34.4	47.3	72.7	6.1	1324.2	1323.6	1323.3	1322.5
1-4	26.5	15.6	163.5	8.4	1324.7	1325.9	1323.6	1324.0
1-5	17.6	16.1	109.7	5.6	1326.4	1326.6	1325.9	1326.1

\*DOWNSTREAM HYDRAULIC GRADE LINE WAS CALCULATED AS (dc+D/2)



SUMMARY OF PHYSICAL PIPE CHARACTERISTICS								
PIPE ID	DS INVERT ELEV.	US INVERT ELEV.	LENGTH	SLOPE	JUNC. LOSS COEFFICIENT "K"	PIPE DIAMETER	PIPE MATERIAL	MANNING'S "n"
			FT	%		IN		
1-1	1317.10	1317.51	137.8	0.30	1.50	36	RCP	0.013
1-2	1319.55	1320.33	155.5	0.50	0.50	36	RCP	0.013
1-3	1320.43	1320.56	25.8	0.50	1.50	36	RCP	0.013
1-4	1321.56	1321.70	29.3	0.50	0.50	24	RCP	0.013
1-5	1321.80	1322.02	43.7	0.50	1.00	24	RCP	0.013



- LEGEND:**
- DRAINAGE AREA BOUNDARY
  - PROPERTY BOUNDARY
  - B1 DRAINAGE AREA ID
  - FLOW ARROW
  - PROPOSED STORMWATER

SUMMARY OF PEAK WATERSHED RUNOFF RATES										
DRAINAGE AREA		5-YR STORM EVENT (20% RECURRENCE INTERVAL)			10-YR STORM EVENT (10% RECURRENCE INTERVAL)			100-YR STORM EVENT (1% RECURRENCE INTERVAL)		
ID	AREA	COMPOSITE RUNOFF COEFFICIENT	RAINFALL INTENSITY	PEAK RUNOFF	COMPOSITE RUNOFF COEFFICIENT	RAINFALL INTENSITY	PEAK RUNOFF	COMPOSITE RUNOFF COEFFICIENT	RAINFALL INTENSITY	PEAK RUNOFF
	ACRES		IN/HR	CFS		IN/HR	CFS		IN/HR	CFS
B1	0.06	0.88	4.18	0.2	0.90	4.81	0.3	0.93	6.83	0.4
B2	0.01	0.88	4.18	0.04	0.90	4.81	0.04	0.93	6.83	0.1
B3	1.86	0.46	4.02	3.5	0.53	4.63	4.6	0.65	6.58	8.0
B4	2.47	0.46	3.31	3.8	0.53	3.82	5.0	0.65	5.49	8.8
B5	6.26	0.46	2.54	7.3	0.53	2.95	9.8	0.65	4.33	17.6

- NOTES:**
- TIME OF CONCENTRATION
    - WICHITA/SEDGWICK CO STORMWATER MANUAL SECTION 4.4
    - SHEET FLOW MAX 100' LENGTH
    - 15.0 MINUTE MINIMUM TIME OF CONCENTRATION
  - RUNOFF COEFFICIENT
    - WICHITA/SEDGWICK CO STORMWATER MANUAL APPENDIX C - TABLE C-1
    - HYDRAULIC SOIL GROUP C APPLIED TO ALL DRAINAGE AREAS
  - RAINFALL INTENSITY
    - WICHITA/SEDGWICK CO STORMWATER MANUAL APPENDIX B - GENERAL RAINFALL INTENSITY EQUATION

**BAUGHMAN COMPANY**

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ROLLING HILLS ADDITION

**H&H SUMMARY**

STORM WATER SEWER IMPROVEMENTS

PROJECT NUMBER:  
23-08-E579

DESIGN: DRAWN:  
DATE: January 16, 2024

SHEET **16** OF **16**

File: E:\Projects\Wichita Rolling Hills Dr Stormwater (23-08-E579)\Engineering\SW\SWIS\SWIS.dwg