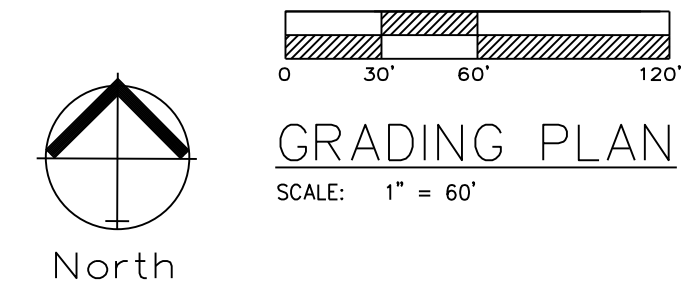
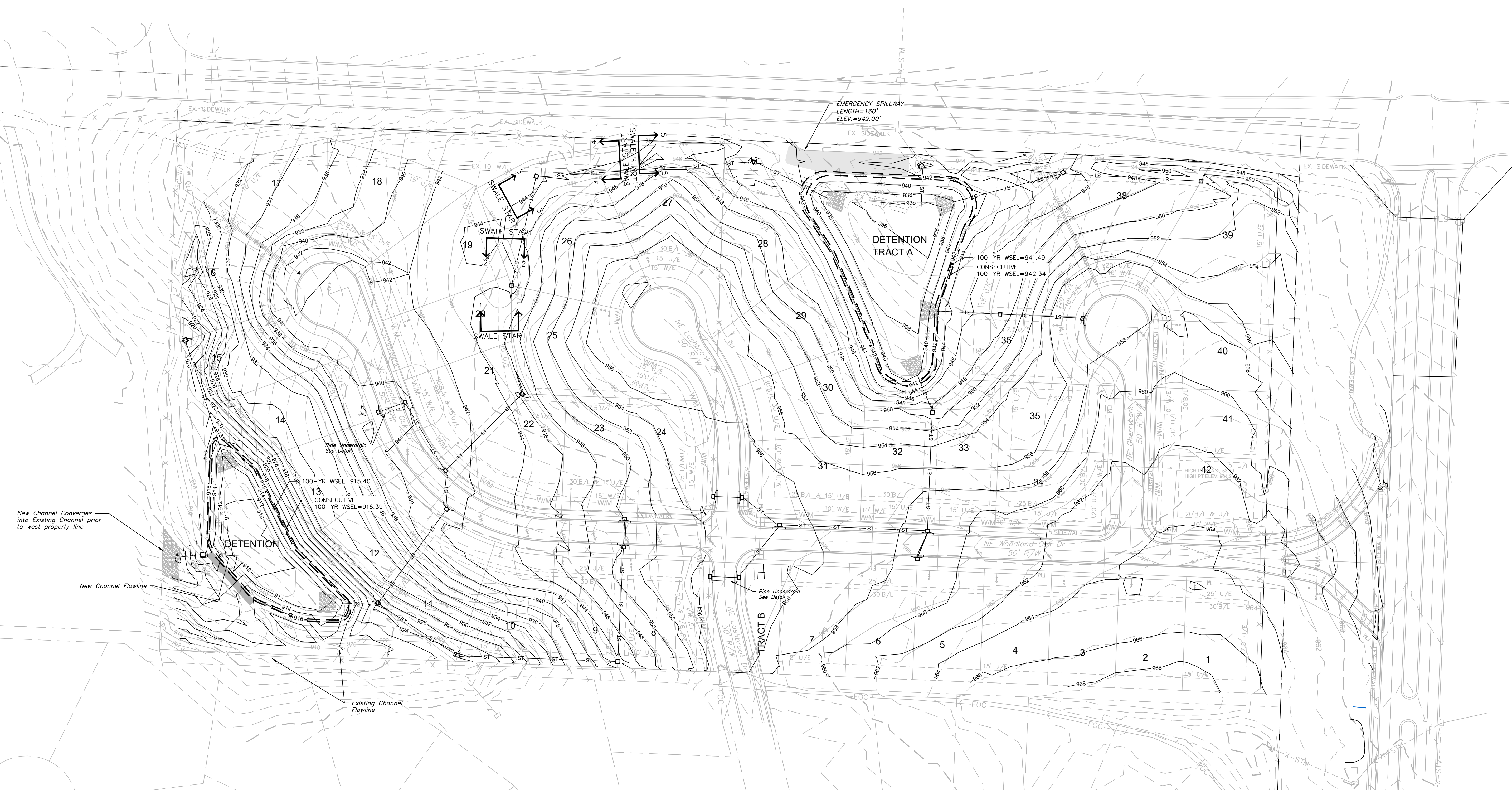


100 YEAR OVERFLOW SWALE SECTIONS										
Section	100 Yr. Runoff (c.f.s.)	Bed Slope (%)	Base Width (ft)	Side Slope (1:V)	100 Yr WSE (ft)	Sectional Area	Velocity 100Yr. (f.p.s.)	Hydraulic Radius (ft)	Shear Stress (p.s.f.)	
1-1	1.42	2.32	5	6	0.14	0.82	1.73	0.12	0.18	
2-2	1.42	2.19	5	6	0.14	0.82	1.73	0.12	0.17	
3-3	0.96	2.00	5	6	0.12	0.69	1.39	0.11	0.13	
4-4	2.87	2.00	5	6	0.22	1.39	2.06	0.18	0.23	
5-5	1.25	2.00	5	6	0.14	0.82	1.52	0.12	0.15	



NOTE: Swale sections extend the entire length between upstream and downstream structures with the exception of a transition at each structure.

NOTE: Swale should be lined with "Straw with Net" turf reinforcement (Curlex Blanket or Eqv.). Per Table 5607-1 in APWA Manual



New Channel Converges into Existing Channel prior to west property line

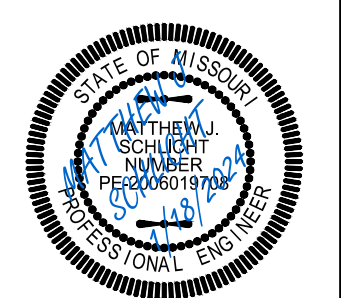
New Channel Flowline

Existing Channel Flowline

RECORD DRAWING
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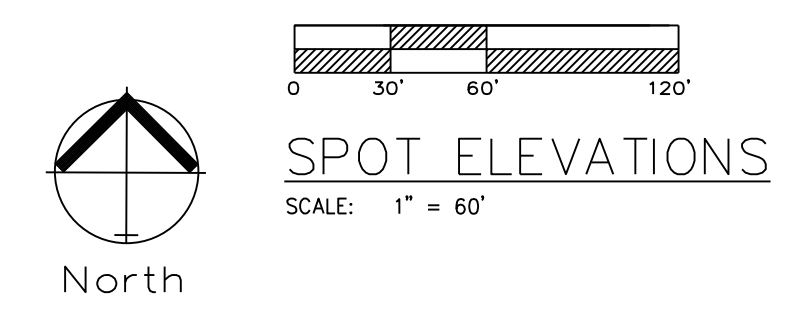
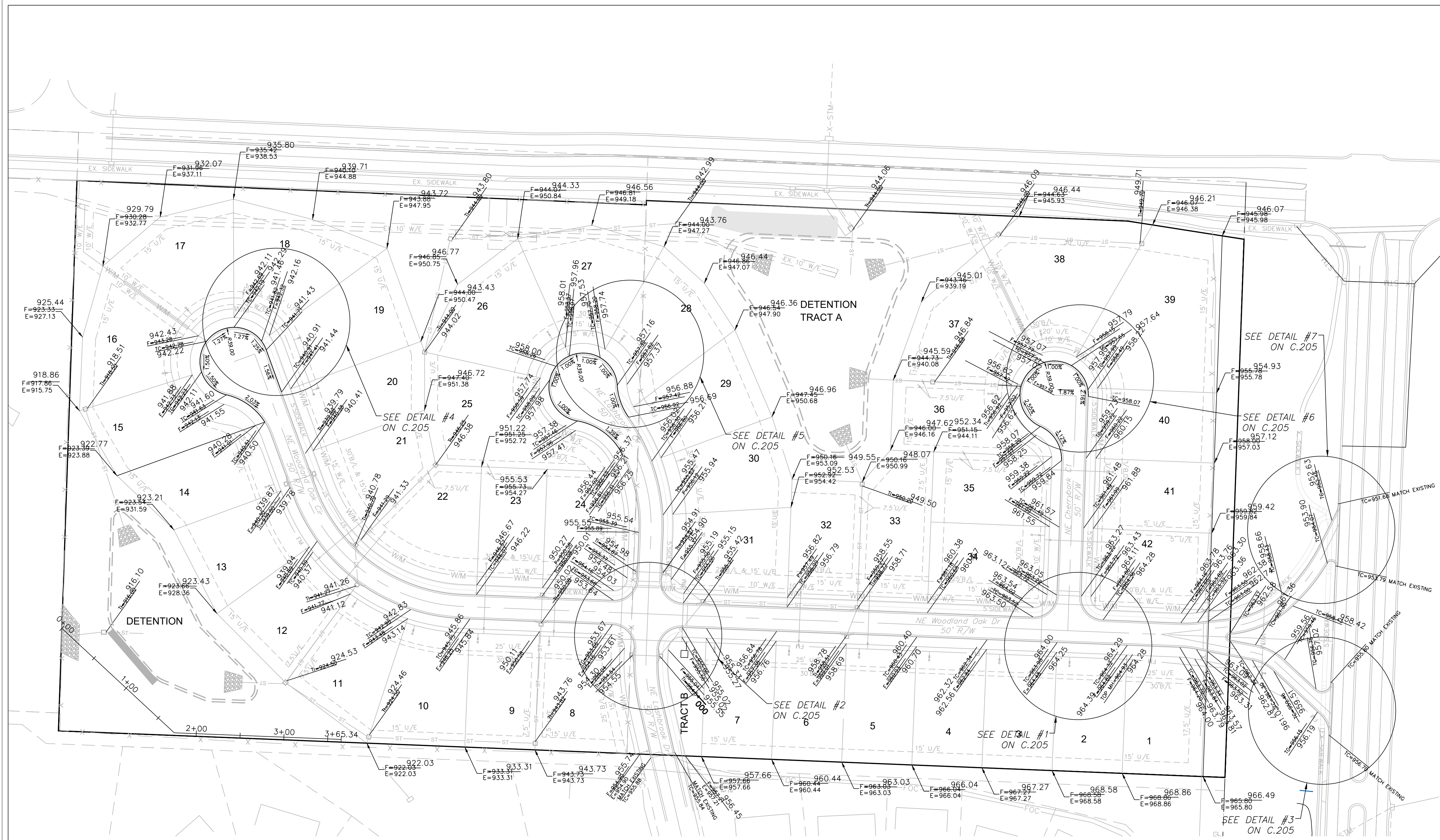
*100-00 100.10" "4-00% 1.15% slope", or "8-inch HDPE-PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

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Certified by: Matthew J. Schlicht
Title: Engineer
Firm: Engineering Solutions

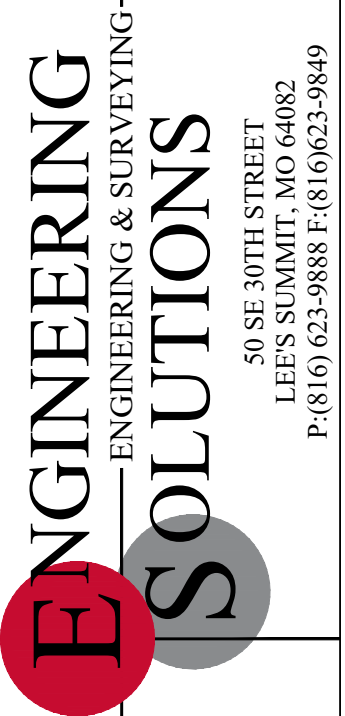


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KS PE 19071
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NE PE E-14335

REVISIONS
1/18/2024 As-Built



Lot Number	Basement Type	MBOE
1	Standard	
2	Standard	
3	Standard	
4	Standard	
5	Standard	
6	Standard	
7	Standard	
8	Walkout	945.58
9	Walkout	945.58
10	Walkout	925.86
11	Walkout	925.65
12	Walkout	925.65
13	Walkout	917.4
14	Walkout	917.4
15	Walkout	919.77
16	Daylight	919.77
17	Standard	
18	Standard	
19	Standard	945.15
20	Standard	945.14
21	Standard	947.42
22	Standard	947.42
23	Standard	
24	Standard	
25	Walkout	945.14
26	Walkout	945.15
27	Walkout	945.12
28	Walkout	943.49
29	Walkout	943.49
30	Daylight	943.49
31	Standard	
32	Walkout	943.49
33	Walkout	943.49
34	Daylight	947.17
35	Daylight	950.93
36	Walkout	943.49
37	Walkout	943.49
38	Daylight	947.17
39	Daylight	950.93
40	Daylight	
41	Daylight	
42	Standard	



Professional Registration
 Missouri
 Engineering 2005002186-D
 Surveying 2005008319-D
 Kansas
 Engineering E-1685
 Surveying LS-218
 Oklahoma
 Engineering S254
 Nebraska
 Engineering CA2821

Part of the Southeast 1
 Section 27, Township 48 North, Range 31 West
 Lee's Summit, Jackson County, Missouri

Project:
 WOODLAND OAKS
 LSHO
 Issue Date:
 January 18, 2024

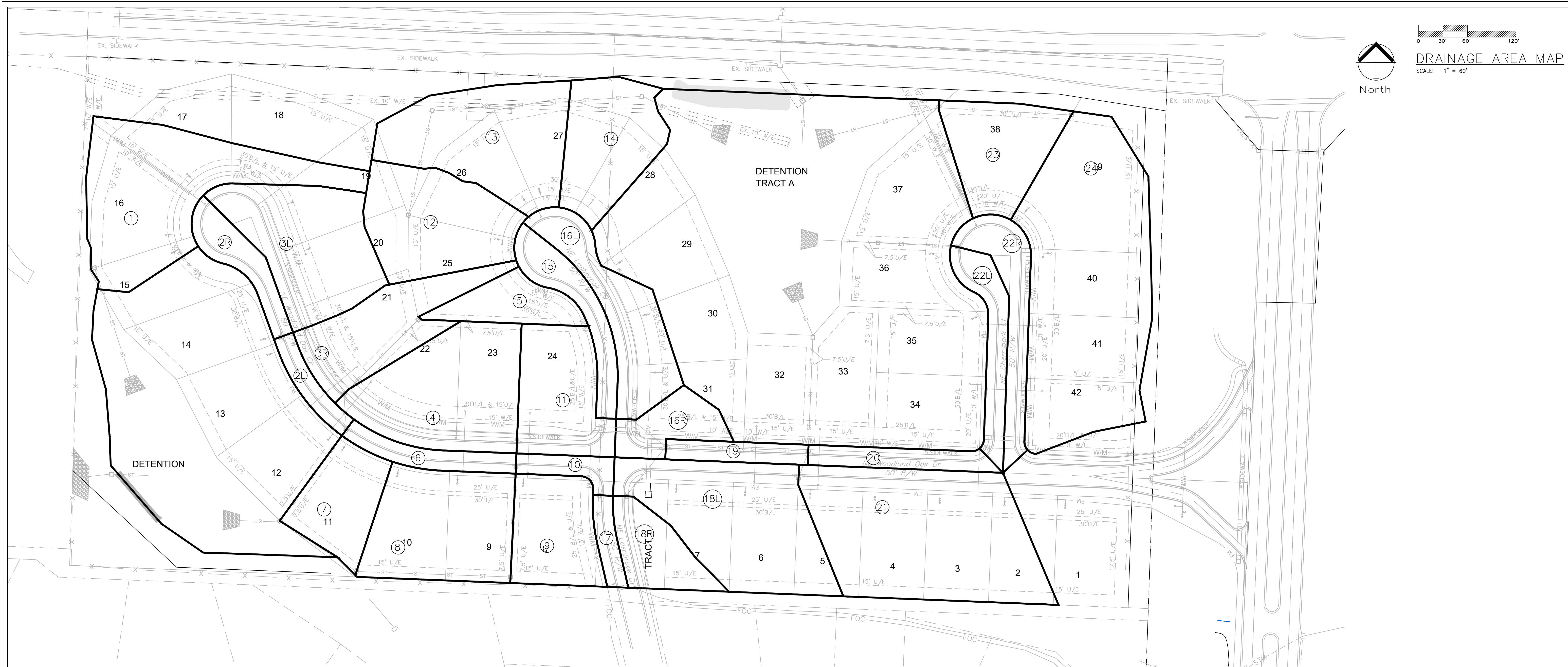
MASTER DRAINAGE PLAN SHEET 2 OF 3
 SPOT ELEVATIONS
 Construction Plans for:
 WOODLAND OAKS
 Lots 1 thru 42
 Lee's Summit, Jackson County, Missouri



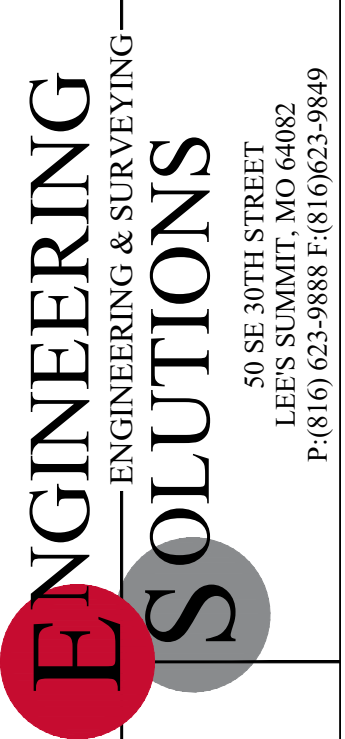
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 KS PE 19071
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 NE PE E-14335

REVISIONS
 1/18/2024 As-Built

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 Date: 1/18/2024
 Certified by: Matthew J. Schlicht
 Title: Engineer
 Firm: Engineering Solutions



DRAINAGE AREA MAP
SCALE: 1" = 60'



Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1685
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Part of the Southeast 1
Section 27, Township 48 North, Range 31 West
Lee's Summit, Jackson County, Missouri

Project: WOODLAND OAKS
LSMO
Issue Date: January 18, 2024

MASTER DRAINAGE PLAN SHEET 3 OF 3
DRAINAGE AREA MAP
Construction Plans for:
WOODLAND OAKS
Lots 1 thru 42
Lee's Summit, Jackson County, Missouri



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KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
1/18/2024 As-Built

C.202

APWA STORM DRAINAGE "TC" COMPUTATIONS FOR : WOODLAND OAKS (COLBERN & BLACKWELL)

AREA ID	TOTAL ACRES	WTRSHD LENGTH	UP ELEV	DN ELEV	SURFACE CODE	SURFACE TYPES				SLOPE %	SURFACE CODE	TC COMPUTATION				AREA ID										
						A	B	D	G			L	M	S	U		Z	Cal	Used	Cal	Cal					
PROP.						0.90	0.87	0.60	0.30	0.90	0.66	0.51	0.3													
1	0.77	495.00	944.00	918.00	S	0.51	100.0	944.0	940.60	3.4	U	395.0	940.6	918.0	5.72	3.9	7.1	7.1	1.7	0.0	8.8	6.3	9.0	2.49	4.40	1
2L	0.09	175.50	942.00	939.80	S	0.51	11.5	942.0	941.75	2.2	P	164.0	941.8	939.8	1.19	2.2	2.8	5.0	1.2	0.0	6.2	7.0	9.8	0.34	0.60	2L
2R	0.14	196.00	941.90	939.80	S	0.51	11.5	941.9	941.65	2.2	P	184.5	941.7	939.8	1.00	2.0	2.8	5.0	1.5	0.0	6.5	6.9	9.7	0.50	0.87	2R
3L	0.48	250.00	945.00	939.80	S	0.51	100.0	945.0	941.00	4.0	P	150.0	941.0	939.8	0.80	1.8	6.7	6.7	1.4	0.0	8.1	6.5	9.2	1.58	2.79	3L
3R	0.51	279.00	951.00	939.80	S	0.51	100.0	951.0	943.00	8.0	P	179.0	943.0	939.8	1.79	2.7	5.3	5.3	1.1	0.0	6.4	6.9	9.8	1.82	3.20	3R
4	0.60	274.00	956.00	941.48	S	0.51	100.0	956.0	947.70	8.3	U	174.0	947.7	941.5	3.57	3.1	5.2	5.2	1.0	0.0	6.2	7.0	9.8	2.16	3.79	4
5	0.19	206.00	955.80	946.00	S	0.51	100.0	955.8	953.80	2.0	U	106.0	953.8	946.0	7.36	4.4	8.4	8.4	0.4	0.0	8.8	6.3	8.9	0.60	1.05	5
6	0.12	226.50	950.00	942.00	S	0.51	11.5	950.0	949.75	2.2	P	215.0	949.8	942.0	3.60	3.9	2.8	5.0	0.9	0.0	5.9	7.1	10.0	0.45	0.79	6
7	0.28	190.00	943.00	924.00	S	0.51	100.0	943.0	931.00	12.0	U	90.0	931.0	924.0	7.78	4.5	4.6	5.0	0.3	0.0	5.3	7.3	10.2	1.03	1.81	7
8	0.54	285.00	950.00	924.00	S	0.51	100.0	950.0	945.00	5.0	U	185.0	945.0	924.0	11.35	5.4	6.2	6.2	0.6	0.0	6.8	6.8	9.6	1.89	3.32	8
9	0.32	165.00	954.00	944.00	S	0.51	100.0	954.0	951.00	3.0	U	65.0	951.0	944.0	10.77	5.3	7.4	7.4	0.2	0.0	7.6	6.6	9.4	1.09	1.91	9
10	0.08	140.50	955.00	950.00	S	0.51	11.5	955.0	954.75	2.2	P	129.0	954.8	950.0	3.68	3.9	2.8	5.0	0.6	0.0	5.6	7.2	10.1	0.31	0.54	10
11	0.37	187.00	955.80	950.00	S	0.51	100.0	955.8	951.30	4.5	P	87.0	951.3	950.0	1.49	2.5	6.4	6.4	0.6	0.0	7.0	6.8	9.5	1.29	2.27	11
12	0.45	214.00	957.00	943.00	S	0.51	100.0	957.0	951.00	6.0	U	114.0	951.0	943.0	7.02	4.3	5.8	5.8	0.4	0.0	6.3	7.0	9.8	1.61	2.84	12
13	0.61	223.00	957.00	943.00	S	0.51	100.0	957.0	951.00	6.0	U	123.0	951.0	943.0	6.50	4.1	5.8	5.8	0.5	0.0	6.3	7.0	9.8	2.18	3.83	13
14	0.40	170.00	957.00	943.00	S	0.51	100.0	957.0	951.00	6.0	U	70.0	951.0	943.0	11.43	5.5	5.8	5.8	0.2	0.0	6.1	7.0	9.9	1.42	2.50	14
15	0.19	292.50	957.00	954.00	S	0.51	11.5	957.0	956.77	2.0	P	281.0	956.8	954.0	0.99	2.0	2.9	5.0	2.3	0.0	7.3	6.7	9.4	0.66	1.16	15
16L	0.37	292.50	957.00	954.00	S	0.51	11.5	957.0	956.77	2.0	P	281.0	956.8	954.0	0.99	2.0	2.9	5.0	2.3	0.0	7.3	6.7	9.4	1.27	2.24	16L
16R	0.17	140.00	957.00	954.00	S	0.51	100.0	957.0	954.60	2.4	P	40.0	954.6	954.0	1.50	2.5	7.9	7.9	0.3	0.0	8.2	6.5	9.1	0.56	0.99	16R
17	0.07	121.50	954.50	953.00	S	0.51	11.5	954.5	954.25	2.2	P	110.0	954.3	953.0	1.14	2.2	2.8	5.0	0.8	0.0	5.8	7.1	10.0	0.24	0.42	17
18L	0.21	172.00	960.40	953.00	S	0.51	100.0	960.4	956.40	4.0	U	72.0	956.4	953.0	4.72	3.5	6.7	6.7	0.3	0.0	7.0	6.8	9.5	0.72	1.27	18L
18R	0.70	383.00	965.25	953.00	S	0.51	100.0	965.3	960.00	5.3	P	283.0	960.0	953.0	2.47	3.2	6.1	6.1	1.5	0.0	7.6	6.6	9.3	2.36	4.16	18R
19	0.10	185.50	958.25	954.80	S	0.51	11.5	958.3	958.00	2.2	P	174.0	958.0	954.8	1.84	2.8	2.8	5.0	1.1	0.0	6.1	7.0	9.9	0.36	0.64	19
20	0.13	229.50	962.00	958.40	S	0.51	11.5	962.0	961.75	2.2	P	218.0	961.8	958.4	1.54	2.5	2.8	5.0	1.4	0.0	6.4	6.9	9.8	0.46	0.82	20
21	0.97	414.00	968.65	958.10	S	0.51	100.0	968.7	965.00	3.6	P	314.0	965.0	958.1	2.20	3.0	6.9	6.9	1.7	0.0	8.6	6.4	9.0	3.15	5.55	21
22L	0.19	286.50	962.00	956.90	S	0.51	11.5	962.0	961.75	2.2	P	275.0	961.8	956.9	1.76	2.7	2.8	5.0	1.7	0.0	6.7	6.9	9.7	0.65	1.15	22L
22R	0.25	371.50	962.00	956.90	S	0.51	11.5	962.0	961.75	2.2	P	360.0	961.8	956.9	1.35	2.4	2.8	5.0	2.5	0.0	7.5	6.6	9.4	0.83	1.47	22R
23	0.35	242.00	957.00	945.00	S	0.51	100.0	957.0	950.00	7.0	U	142.0	950.0	945.0	3.52	3.0	5.6	5.6	0.8	0.0	6.3	7.0	9.8	1.25	2.21	23
24	1.26	396.00	961.25	949.50	S	0.51	100.0	961.3	958.90	2.4	U	296.0	958.9	949.5	3.18	2.9	8.0	8.0	1.7	0.0	9.7	6.1	8.7	3.96	7.00	24

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