STORMWATER MANAGEMENT REPORT ADDENDUM – 03/04/16

Proposed Site Plan – 50 Duchaine Boulevard (Assessors Map 134, Lots 456, 457, 458, and 459) New Bedford, Massachusetts

Purpose

The purpose of this addendum is to provide revised Pipe Capacity Calculations as requested by the Nitsch Engineering in a peer review letter dated March 1, 2016. Also included herein are revised Existing Conditions Plan (Sheet 3 of 7) and revised Grading and Utility Plan (Sheet 5 of 7), which have been revised to provide structure labels consistent with the pipe capacity calculations. These calculations will replace those calculations found in Exhibit “O” of the previous report. All other previous drainage calculations and report appendices remain valid.

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PIPE CAPACITY CALCULATIONS

10 YEAR STORM EVENT

Pipe Description				Draiange Area (Acres)			Comp. C-Value	CA	Time of Concentration (min)			I (in./hr)	Qc=CIA (cfs)	
Length #	DA #	From	To	Total	Imperv. C=0.90	Pervious C=0.30			Inlet	Drain	Total			
DRAINAGE PIPES														
1		CB-2	DMH-1	0.487	0.477	0.010	0.89	0.432	0	0.07	0.07	4.3	1.86	
2		CB-1	FE-1	0.167	0.161	0.006	0.88	0.147	0	0.06	0.06	4.3	0.63	
3		CB-3	DMH-1	0.117	0.108	0.009	0.85	0.100	0	0.05	0.05	4.3	0.43	
4		CB-4	DMH-1	0.188	0.150	0.038	0.78	0.146	0	0.05	0.05	4.3	0.63	
5		DMH-1	DMH-2	0.305	0.258	0.047	0.81	0.246	0	1.04	1.04	4.3	1.06	
6		BASIN-3	DMH-2										0.00	(HYDROCAD)
7		DMH-2	DMH-2	0.305	0.258	0.047	0.81	0.246	10	0.40	10.40	4.3	1.06	
8		DMH-3	DMH-4	0.305	0.258	0.047	0.81	0.246	10	0.65	10.65	4.3	1.06	
9		CB-1	DMH-4	0.364	0.334	0.030	0.85	0.310	10	0.01	10.01	4.3	1.33	
10		DMH-4	FE-7	0.669	0.592	0.077	0.83	0.556	10	0.21	10.21	4.3	2.39	
11		CB-6	DMH-7	0.366	0.322	0.044	0.83	0.303	10	0.01	10.01	4.3	1.30	
12		CB-7	DMH-7	0.177	0.164	0.013	0.86	0.152	10	0.01	10.01	4.3	0.65	
13		BASIN-5	DMH-7										0.00	(HYDROCAD)
14		DMH-7	DMH-6	0.543	0.486	0.057	0.84	0.455	10	1.26	11.26	4.3	1.95	
15		DMH-6	DMH-5	0.543	0.486	0.057	0.84	0.455	10	0.45	10.45	4.3	1.95	
16		BASIN-4	DMH-5										3.21	(HYDROCAD)
17		DMH-5	FE-10	0.543	0.486	0.057	0.84	0.455	10	0.35	10.35	4.3	5.16	
21		DMH-11	DMH-12	0.111	0.111	0.000	0.90	0.100	10	0.37	10.37	4.3	0.43	
22		DMH-12	DMH-13	0.111	0.111	0.000	0.90	0.100	10	0.45	10.45	4.3	0.43	
23		DMH-13	DMH-14	0.111	0.111	0.000	0.90	0.100	10	0.66	10.66	4.3	0.43	
24		DMH-14	DMH-15	0.111	0.111	0.000	0.90	0.100	10	0.95	10.95	4.3	0.43	
25		DMH-15	FE-8	0.111	0.111	0.000	0.90	0.100	10	0.47	10.47	4.3	0.43	
26		TR. GR.-1	DMH-16	0.289	0.289	0.000	0.90	0.260	10	0.03	10.03	4.3	1.12	
27		DMH-16	DMH-17	0.289	0.289	0.000	0.90	0.260	10	0.01	10.01	4.3	1.12	
28		DMH-17	DMH-18	1.592	1.592	0.000	0.90	1.433	10	0.22	10.22	4.3	6.16	
29		DMH-18	DMH-19	1.592	1.592	0.000	0.90	1.433	10	0.24	10.24	4.3	6.16	
30		DMH-22	DMH-21	1.333	1.333	0.000	0.90	1.200	10	0.13	10.13	4.3	5.16	
31		DMH-21	DMH-20	1.791	1.791	0.000	0.90	1.612	10	0.48	10.48	4.3	6.93	
32		DMH-20	DMH-19	1.791	1.791	0.000	0.90	1.612	10	0.46	10.46	4.3	6.93	
33		DMH-19	FE-9	3.383	3.383	0.000	0.90	3.045	10	0.29	10.29	4.3	13.09	
34		DMH-23	DMH-24	0.280	0.280	0.000	0.90	0.252	10	0.25	10.25	4.3	1.08	
35		DMH-24	DMH-25	0.280	0.280	0.000	0.90	0.252	10	0.21	10.21	4.3	1.08	
36		TR. GR.-2	DMH-25	0.031	0.022	0.009	0.73	0.023	10	0.06	10.06	4.3	0.10	
37		DMH-25	FE-4	0.311	0.302	0.009	0.88	0.275	10	0.25	10.25	4.3	1.18	
38		TRENCH-1	DMH-1A	0.119	0.119	0.000	0.90	0.107	0	0.06	0.06	4.3	0.46	
39		TRENCH-2	DMH-1A	0.073	0.073	0.000	0.90	0.066	0	0.03	0.03	4.3	0.28	
40		TRENCH-3	DMH-2A	0.073	0.073	0.000	0.90	0.066	10	0.04	10.04	4.3	0.28	
41		DMH-2A	DMH-1A	0.073	0.073	0.000	0.90	0.066	0	0.17	0.17	4.3	0.28	
42		DMH-1A	PUMP-1	0.073	0.073	0.000	0.90	0.066	10	0.11	10.11	4.3	0.28	
43		TRENCH-4	DMH-3A	0.195	0.195	0.000	0.90	0.176	0	0.12	0.12	4.3	0.75	
44		TRENCH-5	DMH-3A	0.200	0.200	0.000	0.90	0.180	0	0.05	0.05	4.3	0.77	
45		DMH-3A	PUMP-2	0.395	0.395	0.000	0.90	0.356	0	0.05	0.05	4.3	1.53	

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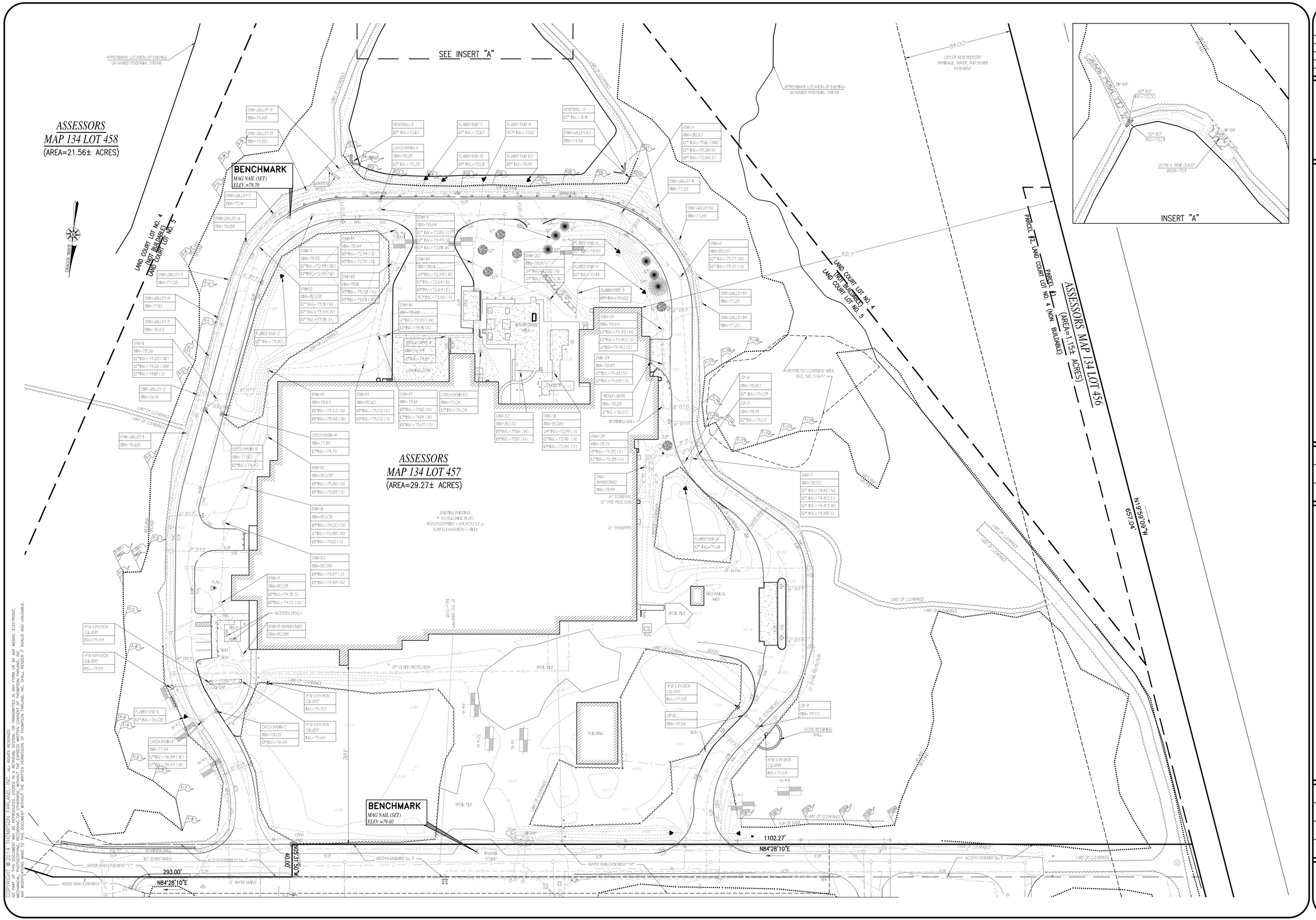
PIPE CAPACITY CALCULATIONS

10 YEAR STORM EVENT

Length #	Pipe Diameter (in)	Pipe Material (n-value)	Slope (ft./ft.)	Length (ft)	Full Flow			Current Flow				Pipe capacity
					Vf (ft/sec)	Qf (cfs)	Vc (ft/sec)	Qc (cfs)	Qc/Qf	d/D (in.)	Flow Depth in pipe (in)	Flow capacity check
DRAINAGE PIPES												
1	12	0.013	0.0059	17	3.48	2.74	3.84	1.86	0.68	0.6	7.2	**OK!**
2	12	0.013	0.0190	16	6.25	4.91	4.44	0.63	0.13	0.2	2.9	**OK!**
3	12	0.013	0.0300	14	7.86	6.17	4.55	0.43	0.07	0.2	2.1	**OK!**
4	12	0.013	0.0330	15	8.24	6.47	5.35	0.63	0.10	0.2	2.5	**OK!**
5	12	0.013	0.0046	190	3.08	2.42	3.04	1.06	0.44	0.5	5.4	**OK!**
6												
7	12	0.013	0.0044	72	3.01	2.36	2.99	1.06	0.45	0.5	5.5	**OK!**
8	12	0.013	0.0016	79	1.81	1.43	2.03	1.06	0.74	0.6	7.6	**OK!**
9	12	0.013	0.1170	7	15.52	12.19	10.46	1.33	0.11	0.2	2.7	**OK!**
10	12	0.013	0.0103	64	4.60	3.62	5.05	2.39	0.66	0.6	7.0	**OK!**
11	12	0.013	0.0900	7	13.61	10.69	9.50	1.30	0.12	0.2	2.8	**OK!**
12	12	0.013	0.1340	5	16.61	13.04	8.54	0.65	0.05	0.1	1.7	**OK!**
13												
14	12	0.013	0.0029	218	2.44	1.92	2.89	1.95	1.02	0.8	9.8	**OK!**
15	12	0.013	0.0057	103	3.42	2.69	3.82	1.95	0.73	0.6	7.5	**OK!**
16					0.00	0.00	0.00					
17	18	0.013	0.0085	120	5.48	9.68	5.71	5.16	0.53	0.5	9.2	**OK!**
21	18	0.013	0.0103	64	6.03	10.66	2.87	0.43	0.04	0.1	2.3	**OK!**
22	18	0.013	0.0103	77	6.03	10.66	2.87	0.43	0.04	0.1	2.3	**OK!**
23	18	0.013	0.0103	113	6.03	10.66	2.87	0.43	0.04	0.1	2.3	**OK!**
24	18	0.013	0.0103	163	6.03	10.66	2.87	0.43	0.04	0.1	2.3	**OK!**
25	18	0.013	0.0103	81	6.03	10.66	2.87	0.43	0.04	0.1	2.3	**OK!**
26	6	0.013	0.0410	11	5.79	1.14	6.80	1.12	0.98	0.8	4.7	**OK!**
27	12	0.013	0.0540	5	10.54	8.28	7.60	1.12	0.14	0.3	3.0	**OK!**
28	18	0.013	0.0103	85	6.03	10.66	6.41	6.16	0.58	0.5	9.7	**OK!**
29	18	0.013	0.0103	94	6.03	10.66	6.41	6.16	0.58	0.5	9.7	**OK!**
30	18	0.013	0.0055	38	4.41	7.79	4.83	5.16	0.66	0.6	10.6	**OK!**
31	24	0.013	0.0013	86	2.60	8.16	2.97	6.93	0.85	0.7	16.5	**OK!**
32	24	0.013	0.0021	101	3.30	10.37	3.62	6.93	0.67	0.6	14.2	**OK!**
33	30	0.013	0.0044	99	5.54	27.21	5.62	13.09	0.48	0.5	14.3	**OK!**
34	12	0.013	0.0047	47	3.11	2.44	3.08	1.08	0.44	0.5	5.4	**OK!**
35	12	0.013	0.0042	38	2.94	2.31	2.96	1.08	0.47	0.5	5.6	**OK!**
36	6	0.013	0.0688	16	7.50	1.47	4.25	0.10	0.07	0.2	1.0	**OK!**
37	12	0.013	0.0053	49	3.30	2.59	3.30	1.18	0.46	0.5	5.5	**OK!**
38	12	0.013	0.0180	14	6.09	4.78	3.94	0.46	0.10	0.2	2.5	**OK!**
39	12	0.013	0.0310	8	7.99	6.27	3.96	0.28	0.05	0.1	1.6	**OK!**
40	12	0.013	0.0163	8	5.79	4.55	3.22	0.28	0.06	0.2	1.9	**OK!**
41	12	0.013	0.0103	29	4.60	3.62	2.77	0.28	0.08	0.2	2.2	**OK!**
42	12	0.013	0.0105	19	4.65	3.65	2.79	0.28	0.08	0.2	2.2	**OK!**
43	12	0.013	0.0096	26	4.44	3.49	3.66	0.75	0.22	0.3	3.8	**OK!**
44	12	0.013	0.0192	13	6.29	4.94	4.74	0.77	0.16	0.3	3.2	**OK!**
45	12	0.013	0.0143	14	5.42	4.26	5.08	1.53	0.36	0.4	4.8	**OK!**



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REVISIONS

1	012716	PER REVIEW COMMENTS
2	022416	PER REVIEW COMMENTS
3	030416	PER REVIEW COMMENTS

COMMONWEALTH OF MASSACHUSETTS
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No. 47544
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DESIGNED BY: CAF

CHECKED BY: CAF

SITE PLAN

50 DUCHAINE BLVD

ASSESSORS MAP 134 LOTS 456, 457, 458, & 459
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

DECEMBER 11, 2015

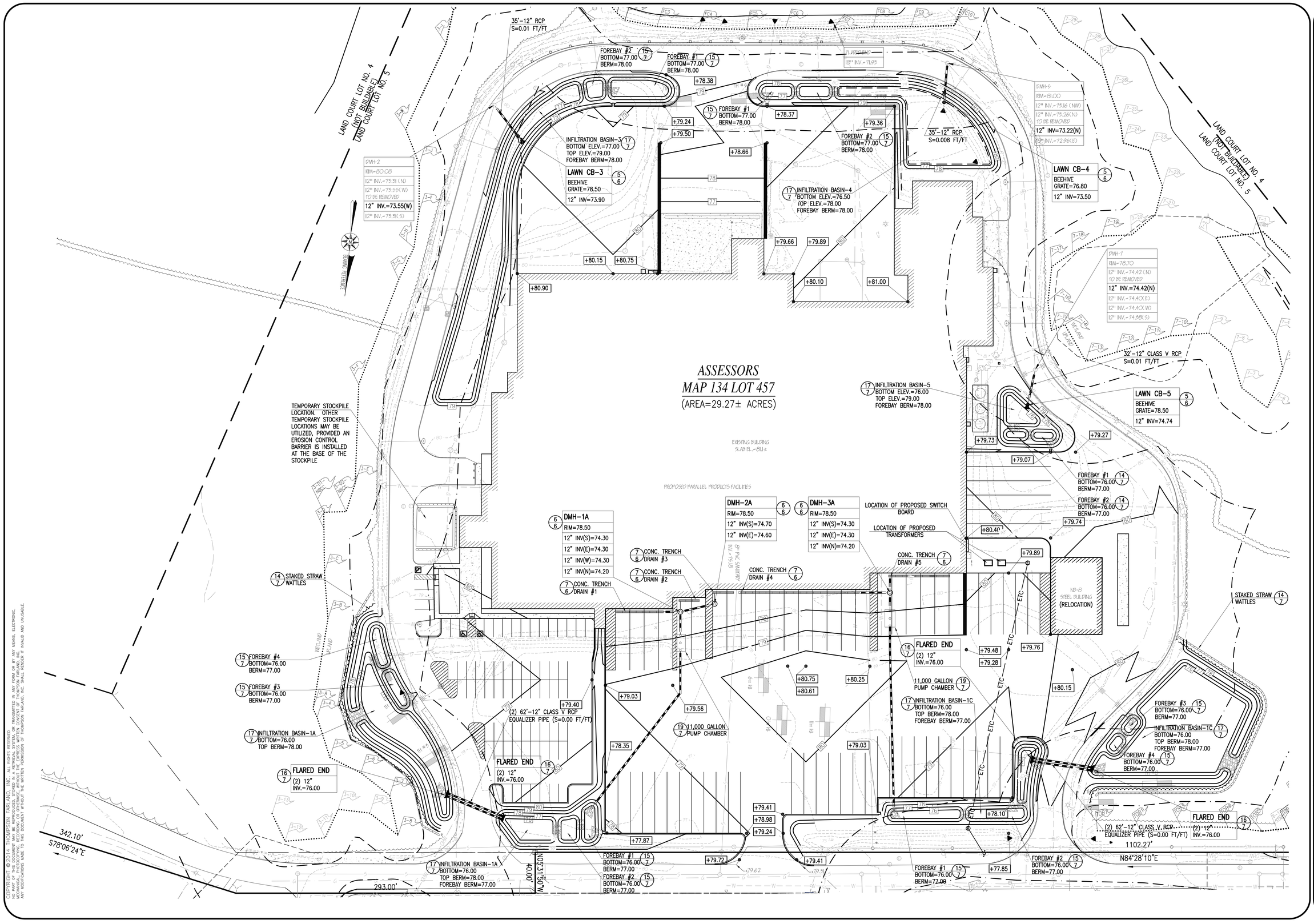
SCALE:1" = 50'

JOB NO. 15-500

LATEST REVISION:
FEBRUARY 24, 2016

EXISTING CONDITIONS

SHEET 3 OF 7



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DECEMBER 11, 2015

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LATEST REVISION: FEBRUARY 24, 2016

GRADING & UTILITY

SHEET 5 OF 7