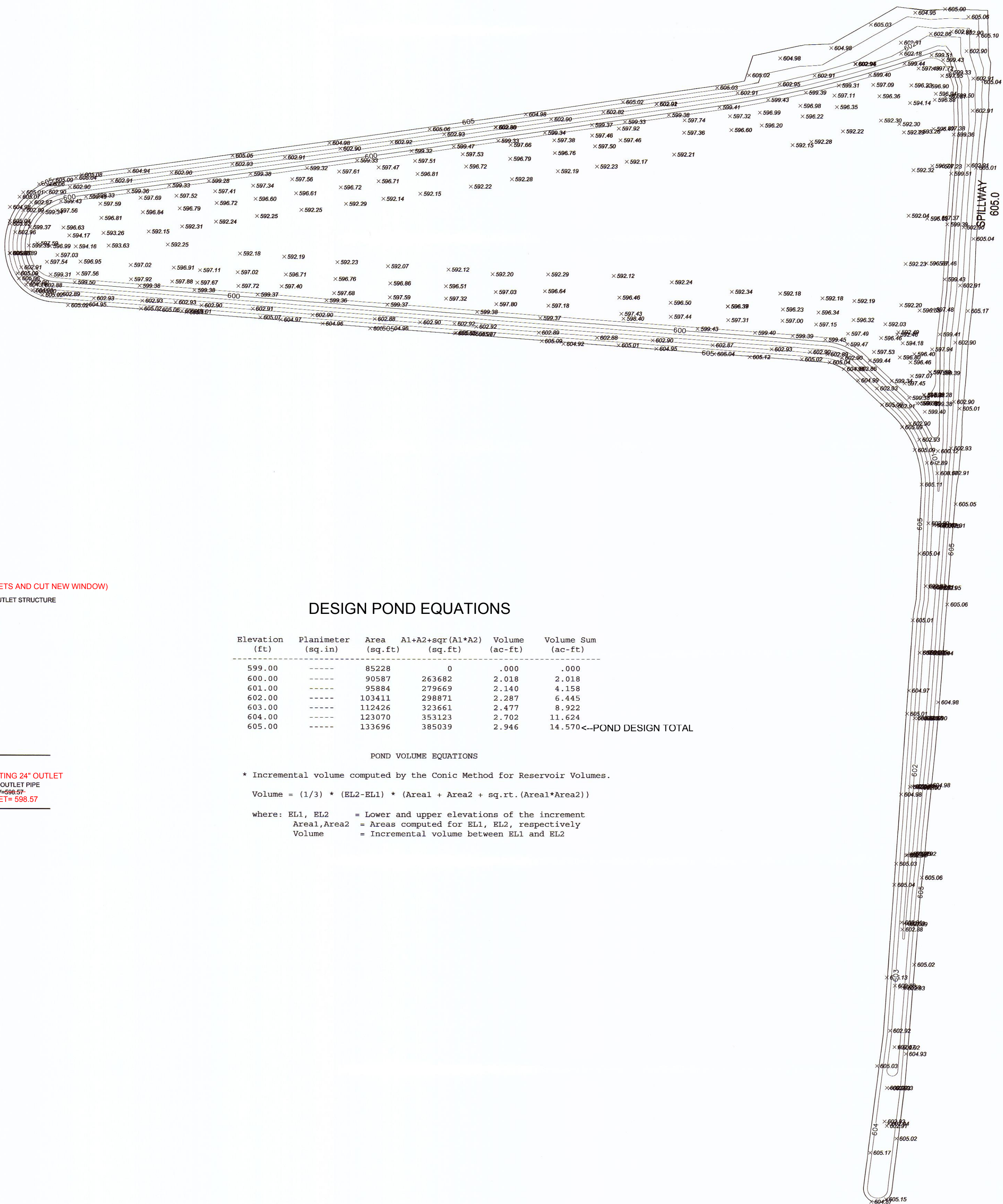
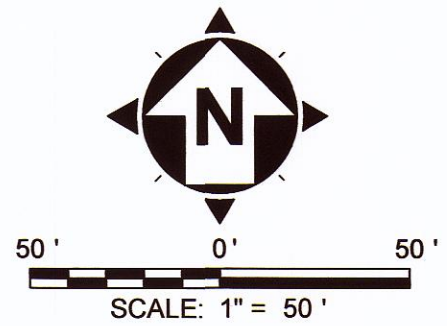
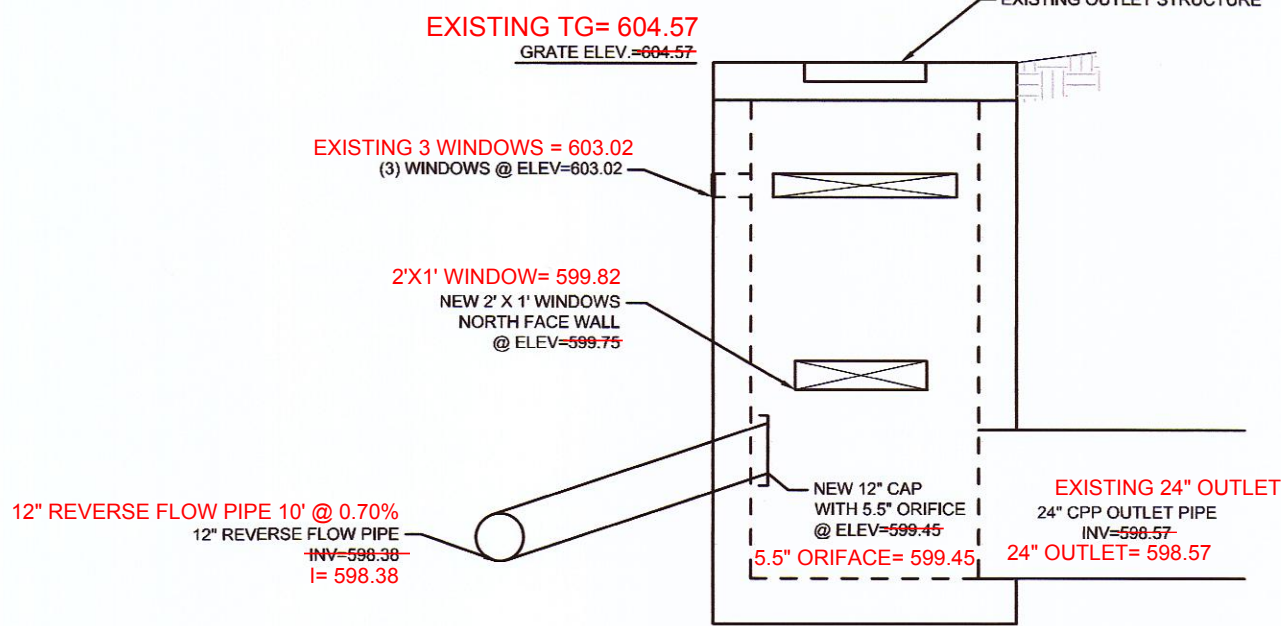


DETENTION BASIN AS-BUILT SURVEY
FOR:
FAIRFIELD LOGISTICS CENTER
7940 SEWARD ROAD
HAMILTON, OHIO



EXISTING OUTLET STRUCTURE (MODIFY EXISTING STRUCTURE BY USING EXISTING OUTLETS AND CUT NEW WINDOW)



DETENTION OUTFALL STRUCTURE
N.T.S.

DESIGN POND EQUATIONS

Elevation (ft.)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sq ² (A1-A2) (sq.ft)	Volume (ac-ft)	Volume Sum (ac-ft)
599.00	-----	85228	0	.000	.000
600.00	-----	90587	263682	2.018	2.018
601.00	-----	95884	279669	2.140	4.158
602.00	-----	103411	298871	2.287	6.445
603.00	-----	112426	323661	2.477	8.922
604.00	-----	123070	353123	2.702	11.624
605.00	-----	133696	385039	2.946	14.570<--POND DESIGN TOTAL

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$\text{Volume} = (1/3) * (\text{EL2}-\text{EL1}) * (\text{Areal} + \text{Area2} + \text{sq. rt.}(\text{Areal} * \text{Area2}))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Areal, Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

AS-BUILT DETENTION CALCULATIONS

Detention Basin Capacity Calculations

Elevation (ft.)	Pond Area (sf)	SQRT(Pond Area)	Height (ft)	(cf)	Total Volume (CF)	Total Volume (Acre-Ft)
599.00	85735	0.00	0.00	0.00	0.00	0.000
600.00	90291	87983.51	1.00	88003.17	88003.17	2.020
601.00	96708	93444.43	1.00	93481.14	181484.32	4.166
602.00	103973	100274.73	1.00	100318.58	281802.89	6.469
603.00	113067	108424.70	1.00	108468.23	390291.12	8.960
604.00	122478	117678.46	1.00	117741.15	508032.28	11.663
605.00	131363	126842.73	1.00	126894.58	634926.85	14.576
					634,926.85	14.58 <-- AS-BUILT TOTAL
					(CF)	(Acre-Ft)



CT CONSULTANTS, INC.

David Hulsmeyer
DAVID HULSMEYER, REGISTERED SURVEYOR
NO. 8548 IN THE STATE OF OHIO

1/21/2019
DATE