

Vineyard Pine Commercial
4502 Vineyard Pine Lane

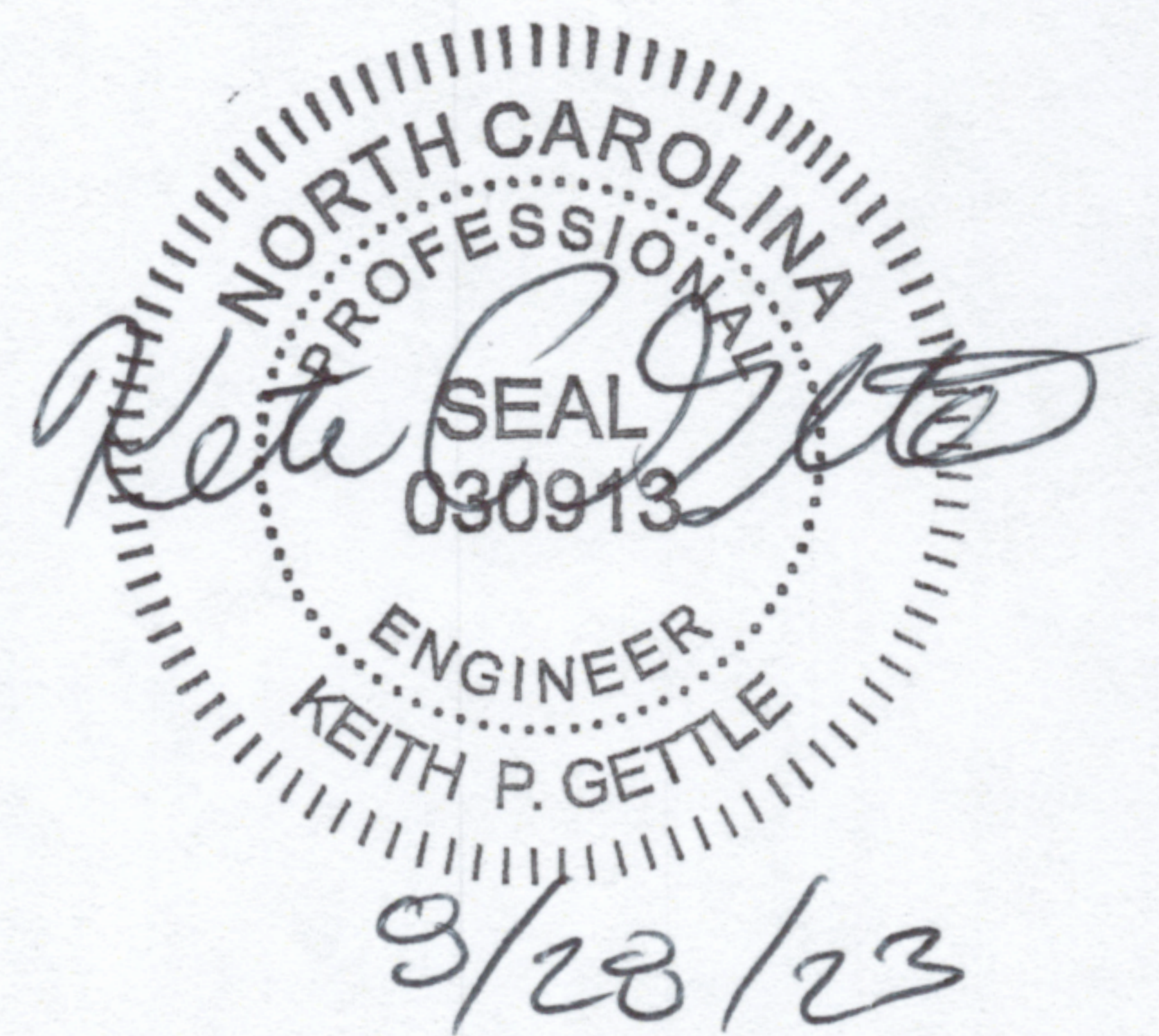
Rolesville, NC
Wake County

Pipe (Q10) HGL Calculations

August 28, 2023

Prepared for:

MRR Development, LLC
10121 Capital Blvd., Suite 105
Wake Forest, NC 27587



Vineyard Pine Commercial

Project Name: Vineyard Pine Commercial

Project Address: 4502 Vineyard Pine Lane
Rolesville, NC

Pins: 175843022

Latitude: N 35.906083
Longitude: W -79.688333

Zoning: OP- CZ

River Basin: Neuse

Watershed: Lower Neuse

HUC: 0302020107

Developer: MRR Development, LLC
10121 Capital Blvd., Suite 105
Wake Forest, NC 27587

Telephone: (330) 573-4030

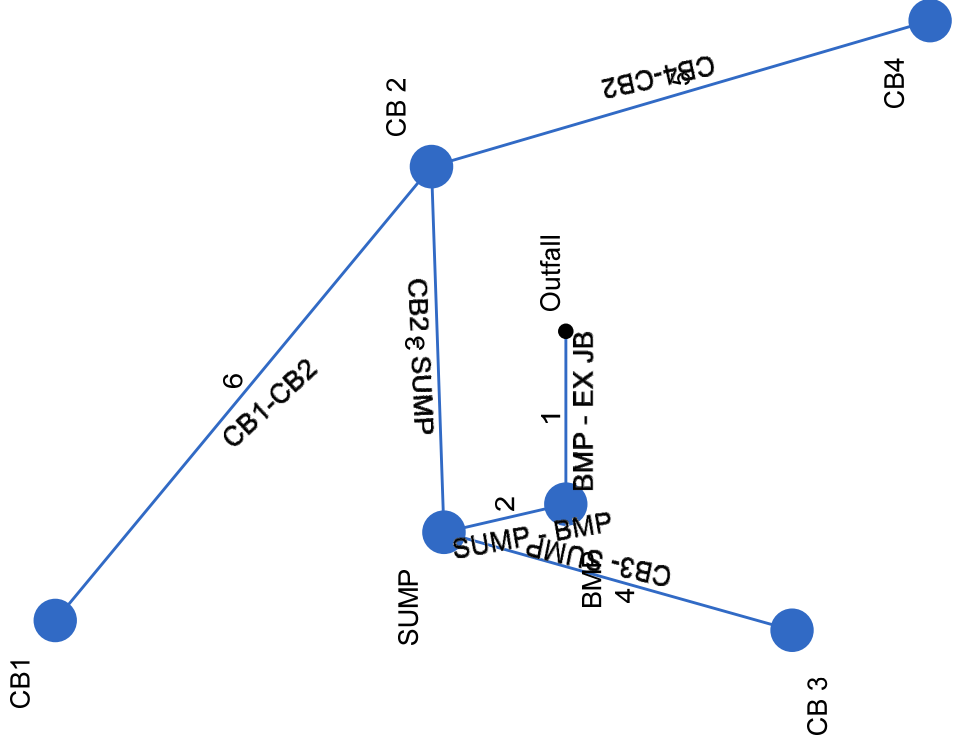
Email: Omar@Meinekenc.com

Pipe Summary:

The analysis uses a "C" value of 0.95 for the pavement. Time of concentration of 5 minutes is considered in the review and the drainage areas noted in the Hydrflow data and sheet EX3.

The pipes were reviewed using a Q10 flow and the HGL is within the pipe network system and are sized appropriately.

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data							Line ID	
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert EI Dn (ft)	Line Slope (%)	Invert EI Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)		Inlet/ Rim EI (ft)
1	End	17,000	180,000	MH	0.00	0.00	0.95	5.0	361.36	0.82	361.50	18	Cir	0.013	0.99	368.00	BMP - EX JB
2	1	15,987	80,028	MH	0.00	0.00	0.95	5.0	362.00	3.13	362.50	15	Cir	0.013	1.00	368.80	SUMP - BMP
3	2	36,000	97,405	Comb	0.00	0.07	0.95	5.0	362.65	0.97	363.00	15	Cir	0.013	1.50	368.82	CB2 - SUMP
4	2	46,000	-157.93	Comb	0.00	0.41	0.95	5.0	362.85	3.59	364.50	12	Cir	0.013	1.00	369.09	CB3- SUMP
5	3	66,000	80,000	Comb	0.00	0.24	0.95	5.0	363.34	0.85	363.90	12	Cir	0.013	1.00	367.00	CB4-CB2
6	3	66,000	-130,000	Comb	0.00	0.32	0.95	5.0	363.34	2.00	364.66	15	Cir	0.013	1.00	370.00	CB1-CB2

Project File: Storm Pipe HGL.stm

Number of lines: 6

Date: 8/26/2023

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	BMP - EX JB	9.39	18	Cir	17.000	361.36	361.50	0.824	362.86	362.99	0.44	363.43	End	Manhole
2	SUMP - BMP	9.40	15	Cir	15.987	362.00	362.50	3.128	363.43	363.74	0.91	364.66	1	Manhole
3	CB2 - SUMP	5.72	15	Cir	36.000	362.65	363.00	0.972	364.66*	364.94*	0.51	365.45	2	Combination
4	CB3- SUMP	3.78	12	Cir	46.000	362.85	364.50	3.587	364.66	365.33	n/a	365.33 j	2	Combination
5	CB4-CB2	2.21	12	Cir	66.000	363.34	363.90	0.848	365.45*	365.70*	0.12	365.83	3	Combination
6	CB1-CB2	2.95	15	Cir	66.000	363.34	364.66	2.000	365.45	365.55	0.16	365.70	3	Combination

Project File: Storm Pipe HGL.stm

Number of lines: 6

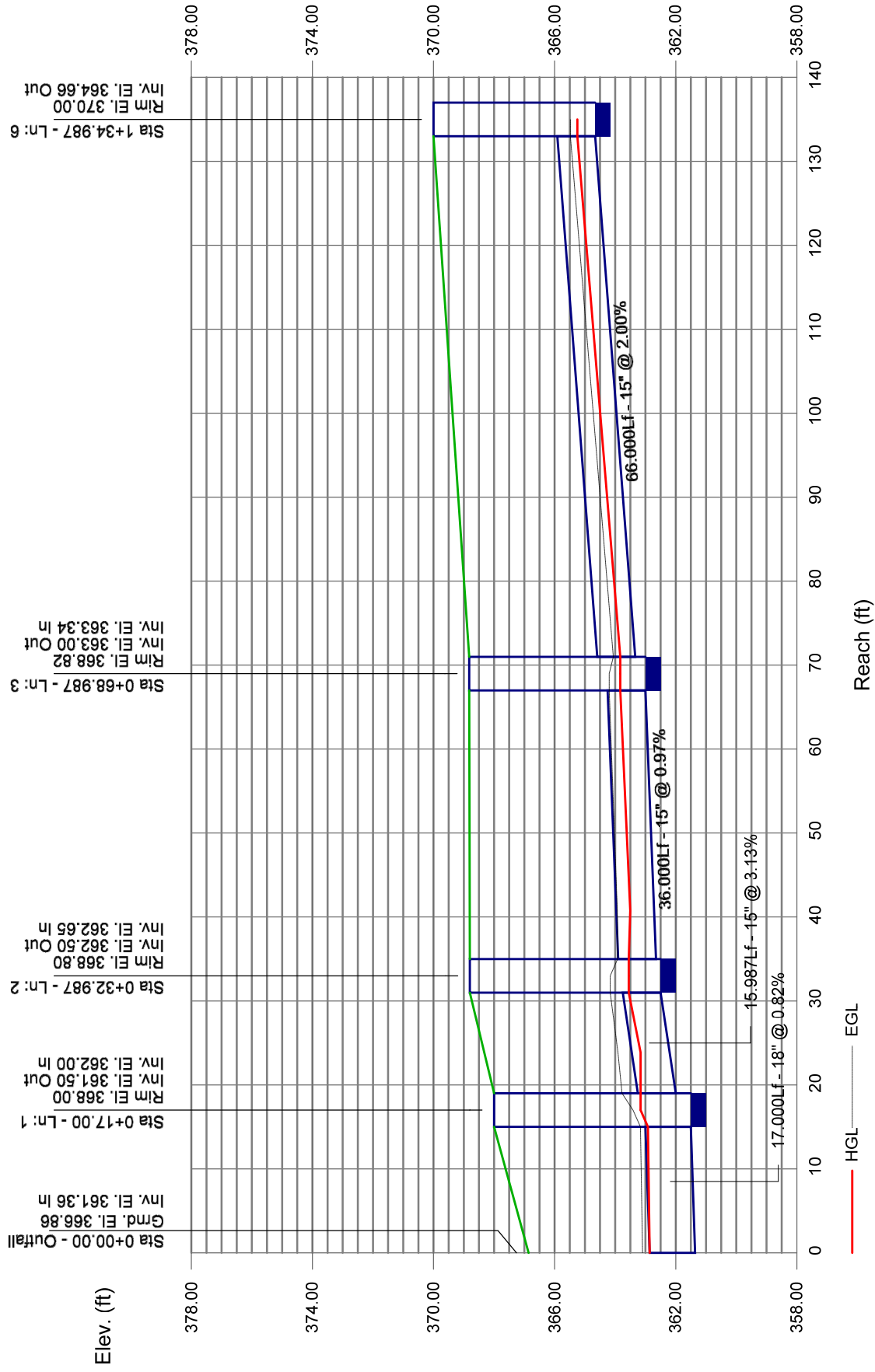
Run Date: 8/26/2023

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

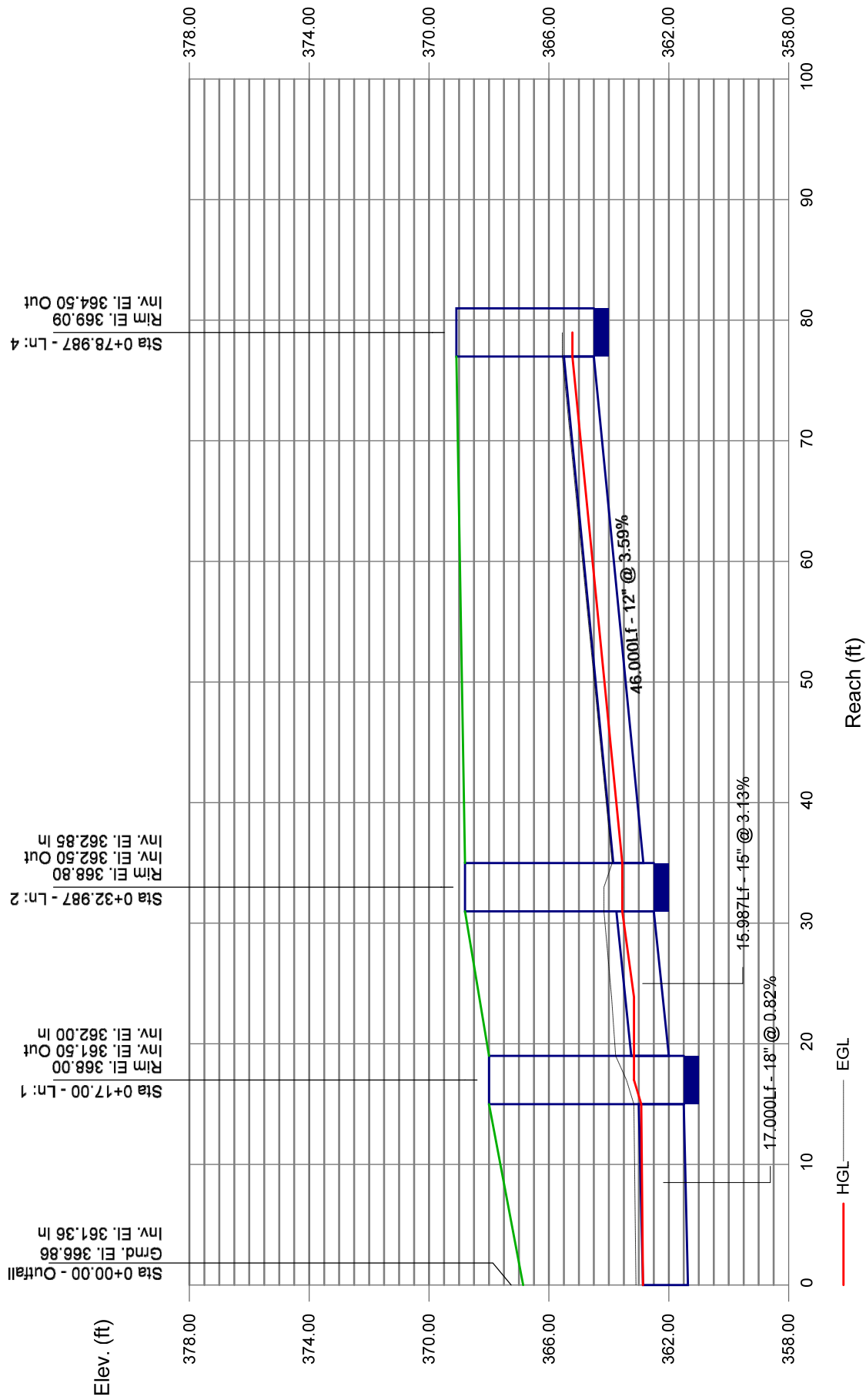
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter						Inlet		Bye Line No								
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)		Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)				
1	BMP	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Off
2	SUMP	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Off
3	CB 2	0.65	0.00	0.65	0.00	Comb	4.0	4.00	2.00	2.00	2.00	2.00	0.050	0.020	0.020	0.13	0.13	0.050	0.020	0.000	0.13	3.51	0.13	3.51	0.13	3.51	0.00	Off
4	CB 3	3.78	0.00	3.78	0.00	Comb	4.0	4.00	2.00	2.00	2.00	2.00	0.050	0.020	0.020	0.30	0.30	0.050	0.020	0.000	0.30	12.05	0.30	12.05	0.30	12.05	0.00	Off
5	CB 4	2.21	0.00	2.21	0.00	Comb	4.0	4.00	2.00	2.00	2.00	2.00	0.050	0.020	0.020	0.23	0.23	0.050	0.020	0.000	0.23	8.34	0.23	8.34	0.23	8.34	0.00	Off
6	CB 1	2.95	0.00	2.95	0.00	Comb	4.0	4.00	2.00	2.00	2.00	2.00	0.050	0.020	0.020	0.26	0.26	0.050	0.020	0.000	0.26	10.17	0.26	10.17	0.26	10.17	0.00	Off
Project File: Storm Pipe HGL.stm															Number of lines: 6										Run Date: 8/26/2023			
NOTES: Inlet N-Values = 157.18 / (inlet time + 19.60) ^ 0.87; Return period = 100 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.																												

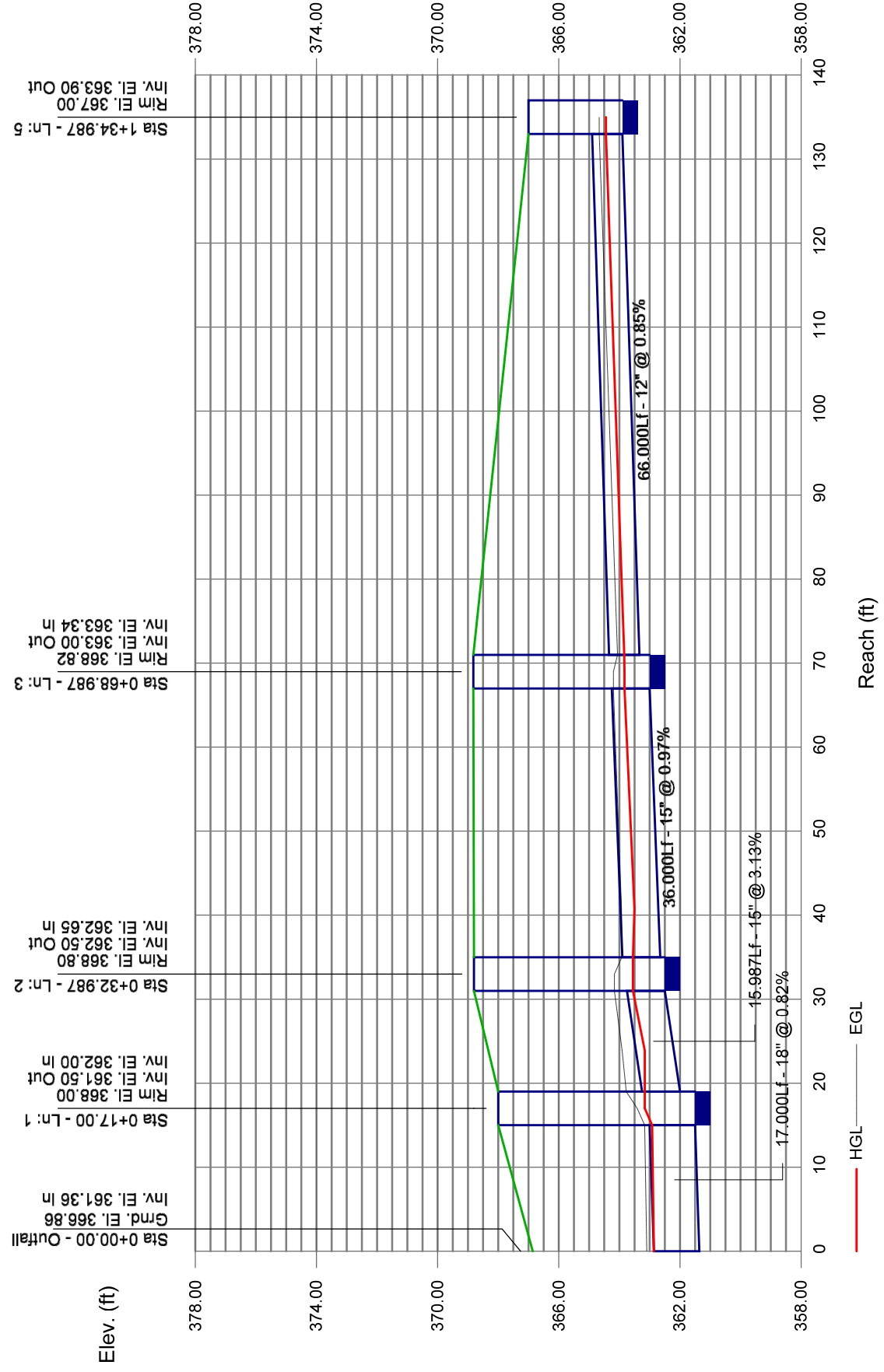
Storm Sewer Profile

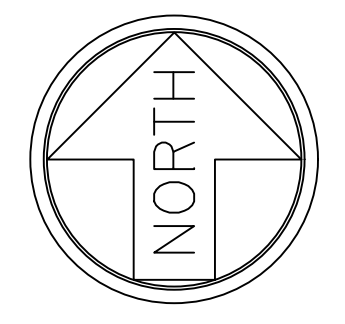
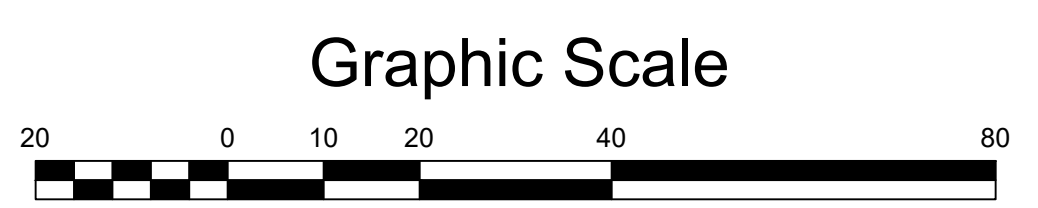
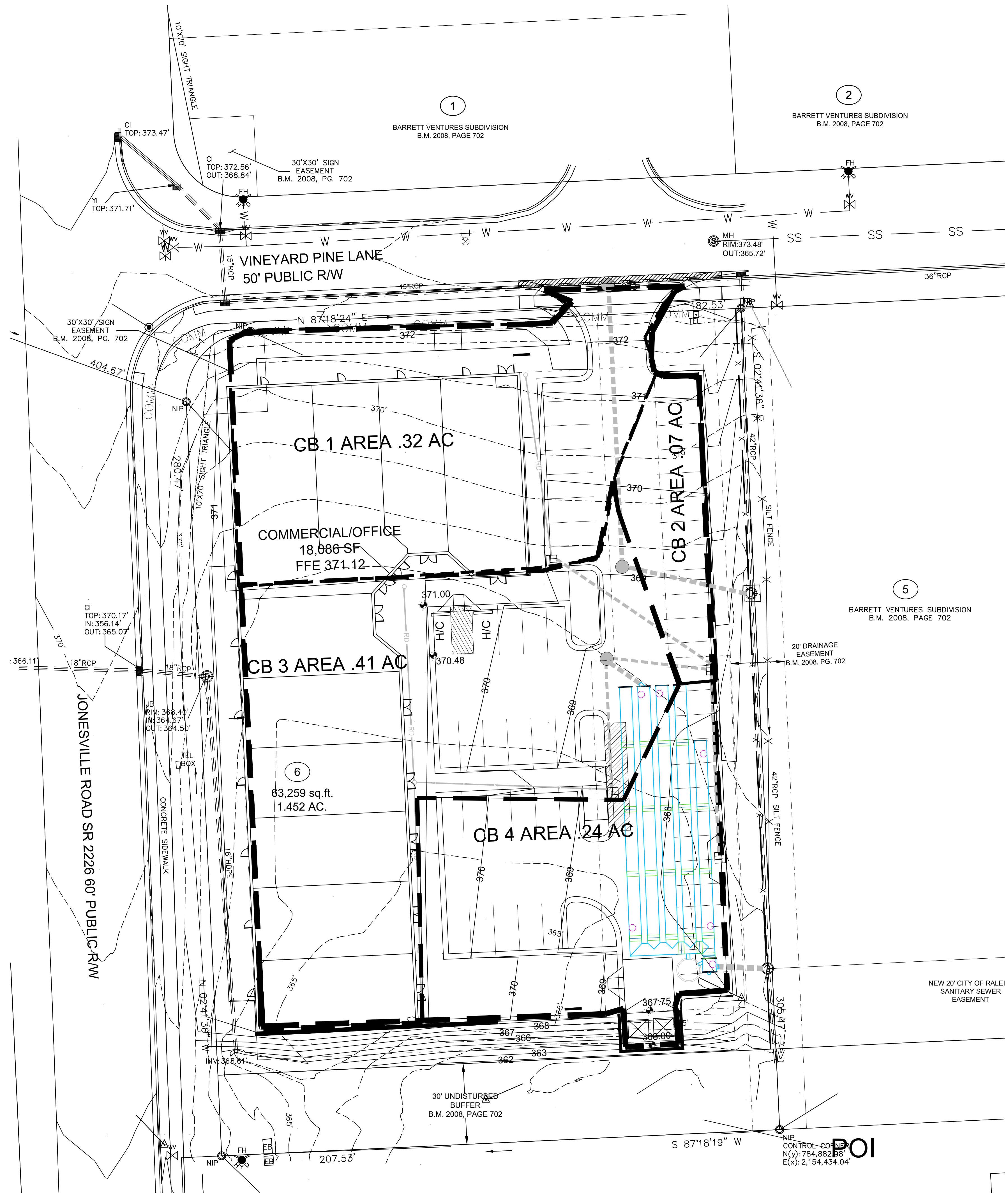


Storm Sewer Profile



Storm Sewer Profile





Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
 (919) 210-3934 Firm License P-2538

NO.	DATE	COMMENT	BY
1			
2			
3			
4			
5			
6			
8			
		REVISION DESCRIPTION	

PRELIMINARY
 DO NOT USE FOR
 CONSTRUCTION

Storm Pipe Drainage Map
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
EX3

DOI
 NIP CONTROL CORNER
 N(y): 784,882.88'
 E(x): 2,154,434.04'