

Environment One Corporation

Pressure Sewer Preliminary Cost and Design Analysis For HOLMES DRIVE REV 2.0 Bailey Road, Holden, MA

Prepared For:									
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Prepared By: Henry Albro									
March 3, 2021									

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HOLMES DRIVE REV 2.0 Bailey Road, Holden, MA

Prepared by : Henry Albro

On: March 3, 2021

Notes :

Single Pressure Main in roadway

<<<< E N D O F N O T E S >>>>

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PRELIMINARY PRESSURE SEWER - PIPE SIZING AND BRANCH ANALYSIS HOLMES DRIVE REV 2.0 Bailey Road, Holden, MA

March 3, 2021

Zone	Connects	Number	Accum	Gals/day	Max Flow	Max	Max Flow	Pipe Size	Max	Length of Main	Friction Loss	Friction	Accum Fric	Max Main	Minimum Pump	Static Head	Total
Number	to Zone	of Pumps	Pumps	per Pump	Per Pump	Sim Ops	(GPM)	(inches)	Velocity	this Zone	Factor	Loss This	Loss (feet)	Elevation	Elevation	(feet)	Dynamic
		in Zone	in Zone	_	(gpm)				(FPS)		(ft/100 ft)	Zone					Head (ft)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE Friction loss calculations were based on a Constant for inside roughness "C" of: 150										50							
1.00	1.00	7	7	200	11.00	3	33.00	2.00	3.57	300.00	2.52	7.56	7.56	785.00	775.00	10.00	17.56

Page 1 Note: This analysis is valid only with the use of progressive cavity type grinder pumps as manufactured by Environment One. S:\FRMA\EONE\PROJECTS AND PLAN REVIEWS\Massachusetts\Holden\Holmes Drive\REV 2.0\Holmes Drive Hydrualic Report REV 2.0.EOne Prepared By: Henry Albro

PRELIMINARY PRESSURE SEWER - ACCUMULATED RETENTION TIME(HR) HOLMES DRIVE REV 2.0 Bailey Road, Holden, MA

March 3, 2021

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE Gals per Day per Dwelling										200
1.00	1.00	7	2.00	15.40	300.00	46.21	1,400	30.30	0.79	0.79

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 Note: This analysis is valid only with the use of progressive cavity type grinder pumps as manufactured by Environment One

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Budgetary Low Pressure Sewer System Costs

HOLMES DRIVE REV 2.0 Bailey Road, Holden, MA

	Quantity	Description			Unit Cost	Installation	<u>Sub Total</u>
Valve	s 7	Corp Stop	\$130.00	0.00	\$910.00		
	1	Clean Out			\$3,500.00	0.00	\$3,500.00
							<u>\$4,410.00</u>
р	7	Let and (Decords			¢205.00	0.00	¢2 125 00
Pump	S /	Lateral (Bounda:	ry) Kits		\$305.00	0.00	\$2,135.00
	7	Lateral (Bounda	ry) Installation		\$500.00	0.00	\$3,500.00
	7	DH071-93 With	Bal-Last		\$5,281.00	0.00	\$36,967.00
							<u>\$42,602.00</u>
						1	
Pipin	g 300	2.00" Pipe	Estimate	\$45.00	0.00	\$51,660.00	
							<u>\$51,660.00</u>
Other	5%	Contractor Over	head		\$0.00	0.00	\$4,933.60
	10%	Contingencies			\$0.00	0.00	\$9,867.20
							<u>\$14,800.80</u>
	Number of Con	nections	<u>7</u>				
	Total Per Conn Grand Total Pa	ection r Connection	<u>\$14,096.00</u> \$16,210,40	Total (w/o other) Grand Total (includi	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	<u>\$98,672.00</u> \$113,472,80	
			<u>\$10,210.40</u>		ng ourci / 2223232.		<u>\$113,772.00</u>

Note: The System Costs above are based on piping sized for, and Grinder Pumps manufactured by Environment One Corporation.