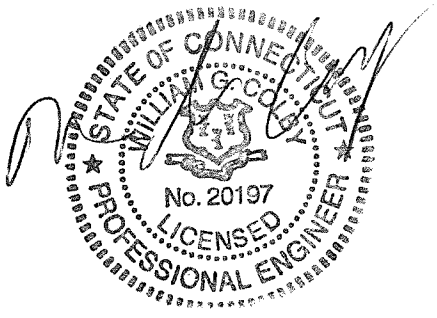
STORMWATER DRAINAGE CALCULATIONS
LOT 6 - RORABACK SUBDIVISION
MILTON ROAD
GOSHEN, CONNECTICUT

PIPE SIZING - LAKESIDE BASIN

VARIABLE	VALUE	UNITS	COMMENT
DRAINAGE AREA (A)	0.34	ACRES	See Plan
TIME OF CONCENTRATION (Tc)	5.00	MINUTES	Conservative
RATIONAL COEFFICIENT (C)	1.00		From Chow
INTENSITY 100 YEAR (I)	11.20	IN/HR	Goshen, CT
DESIGN FLOW (C x I x A) FROM LAKESIDE DRAINAGE AREA	3.81	CFS	
CONTRIBUTION FROM REAR BASIN	3.72	CFS	
TOTAL DESIGN FLOW	7.53	CFS	
CHECK CAPACITY OF 15" PIPE			
TOP OF FRAME ELEVATION	1162.25	FT	
OUTLET PIPE INVERT	1158.75	FT	
HEAD TO TOP OF FRAME Hf	2.88	FT	
HEAD TO TOP OF BERM Hb	3.63	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CROSS-SECTIONAL AREA (A)	1.23	FT^2	
CAPACITY @Hf Q=Cd x A x (2gh)^0.5	10.01	CFS	Okay
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	11.24	CFS	Okay
CHECK GRATED INLET			
OPEN GRATE AREA	1.33	FT^2	
HEAD TO TOP OF BERM Hb	0.75	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	5.55		Try Weir Inlet
WEIR COEFFICIENT	3.00		
LENGTH OF WEIR	14	FT	
HEAD TO TOP OF BERM Hb	0.50	FT	
CAPACITY @Hb Q=Cw x L x Hb	14.85		Use Weir Inlet



STORMWATER DRAINAGE CALCULATIONS
LOT 6 - RORABACK SUBDIVISION
MILTON ROAD
GOSHEN, CONNECTICUT

PIPE SIZING - REAR BASIN

VARIABLE	VALUE	UNITS	COMMENT
DRAINAGE AREA (A)	0.69	ACRES	See Plan
TIME OF CONCENTRATION (Tc)	5.00	MINUTES	Conservative
COMPOSITE RATIONAL COEFFICIENT (C)	0.48		See below
IMPERVIOUS AREA (C=1.0)	0.14	ACRES	
GRASS/LANSCAPED AREA (C=.35)	0.55	ACRES	
INTENSITY 100 YEAR (I)	11.20	IN/HR	Goshen, CT
DESIGN FLOW (C x I x A)	3.72	CFS	
CHECK CAPACITY OF 8" PIPE			
TOP OF FRAME ELEVATION	1188.25	FT	
OUTLET PIPE INVERT	1185.75	FT	
HEAD TO TOP OF FRAME Hf	2.17	FT	
HEAD TO TOP OF BERM Hb	2.92	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CROSS-SECTIONAL AREA (A)	0.35	FT^2	
CAPACITY @Hf Q=Cd x A x (2gh)^0.5	2.47	CFS	To small
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	2.87	CFS	To small
TRY 10" PIPE			
HEAD TO TOP OF FRAME Hf	2.08	FT	
HEAD TO TOP OF BERM Hb	2.83	FT	
CROSS-SECTIONAL AREA (A)	0.55	FT^2	
CAPACITY @Hf Q=Cd x A x (2gh)^0.5	3.79	CFS	
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	4.42	CFS	Use 10" pipe
CHECK GRATED INLET			
OPEN GRATE AREA	1.33	FT^2	
HEAD TO TOP OF BERM Hb	0.75	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	5.55	CFS	Okay

STORMWATER DRAINAGE CALCULATIONS
LOT 6 - RORABACK SUBDIVISION
MILTON ROAD
GOSHEN, CONNECTICUT

PIPE SIZING - UPPER BASIN

VARIABLE	VALUE	UNITS	COMMENT
DRAINAGE AREA (A)	2.77	ACRES	See Plan
TIME OF CONCENTRATION (Tc)	5.00	MINUTES	Conservative
RATIONAL COEFFICIENT (C)	0.30		From Chow
INTENSITY 100 YEAR (I)	11.20	IN/HR	Goshen, CT
DESIGN FLOW (C x I x A)	9.31	CFS	
CHECK CAPACITY OF 15" PIPE			
TOP OF FRAME ELEVATION	1214.00	FT	
OUTLET PIPE INVERT	1211.50	FT	
HEAD TO TOP OF FRAME Hf	1.88	FT	
HEAD TO TOP OF BERM Hb	2.88	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CROSS-SECTIONAL AREA (A)	1.23	FT^2	
CAPACITY @Hf Q=Cd x A x (2gh)^0.5	8.09	CFS	To small
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	10.01	CFS	To close
TRY 18" PIPE			
HEAD TO TOP OF FRAME Hf	1.75	FT	
HEAD TO TOP OF BERM Hb	2.75	FT	
CROSS-SECTIONAL AREA (A)	1.77	FT^2	
CAPACITY @Hf Q=Cd x A x (2gh)^0.5	11.25	CFS	
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	14.10	CFS	Use 18" pipe
CHECK GRATED INLET			
OPEN GRATE AREA	1.33	FT^2	
HEAD TO TOP OF BERM Hb	0.75	FT	
COEFFICIENT OF DISCHARGE (Cd)	0.60		Typical value
ACCELERATION OF GRAVITY (g)	32.20	FT/SEC^2	
CAPACITY @Hb Q=Cd x A x (2gh)^0.5	5.55	CFS	Try Weir Inlet
WEIR COEFFICIENT	3.00		
LENGTH OF WEIR	14	FT	
HEAD TO TOP OF BERM Hb	0.50	FT	
CAPACITY @Hb Q=Cw x L x Hb	14.85	CFS	Use Weir Inlet