

DETENTION VOLUME CALCULATIONS

RATIONAL FORMULA

PROJECT: Pineae Greenhouses
 PROJECT NO. _____ DATE: 15-Jan-19
 LOCATION: Unicorporated Weber County PREPARED BY Brian Campbell
 West Haven

INPUT DATA

	AREAS square feet	RUNOFF COEFF. ("C")	WEIGHTED C	CA	
PAVED	65,000	0.90			
ROOF	1,076,764	0.85			
LANDSCAPED	2,155,728	0.15			
TOTAL	3,297,492		0.39	1297109	
acres	75.70				
ALLOWABLE RELEASE RATE		0.2	cfs/acre		
STORM FREQUENCY		100	year		

ANALYSIS

STORM INTERVAL	PRECIP.	"CA"	ACCUM. FLOW	ALLOWABLE DISCHARGE	REQUIRED STORAGE
minutes	inches	square feet	cubic feet	cubic feet	cubic feet
15	1.07	1297109	115,659	13,626	102,033
30	1.44	1297109	155,653	27,252	128,401
60	1.79	1297109	193,485	54,504	138,981
120	1.96	1297109	211,861	109,008	102,853
180	2.01	1297109	217,266	163,512	53,754
360	2.21	1297109	238,884	327,024	-88,140
720	2.76	1297109	298,335	654,048	-355,713
1440	3.09	1297109	334,005	1,308,096	-974,091

REQUIRED STORAGE **138981 cubic feet**
MAXIMUM RELEASE RATE **15.14 cubic feet/second**

ORIFICE HEAD 3.00 feet
 ORIFICE COEFFICIENT 0.62

ORIFICE DIAMETER **17.97 inches**

