

# **P4** INFRASTRUCTURE

Love Your MS4 and Relish EPA Compliance Through Technology-Enabled Green Infrastructure

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## Source Load and Management Model





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## Source Load and Management Model





**Baseline** 

Pollutant

(lbs/cf)

Concentration

#### Source Load and Management Model



		Runoff	Percent Part	iculate Part	iculate	Percent		
WinSLAMM Outp	ut Summary	Volume	Runoff	Solids	Solids Pa	rticulate		
timoznimi output summary		(cu ft)	Volume Reduction	Conc. (mg/L)	Yield (lbs)	Solids Reduction		
Total of all Land Uses wit	thout Controls:	113630		106.4	754.8			
Outfall Total with Controls:		107304	5.57%	31.44	210.6	72.10%		
Annualized Total After Out	fall Controls:	110952			217.8			
Pollutant	Concentration -	Concentration	- Conc.	Polluta	nt Yield	Pollutant Yield	Pol. Y	eld Percent
	No Controls	With Controls	Units	No Cont	rols	With Controls	Units	Reduction
Particulate Solids	106.4	31.44	mg/L	754.8		210.6	lbs	72.10 %
ilterable Solids	64.24	64.24	mg/L	455.7		430.3	lbs	5.57 %
Fotal Solids	170.6	95.68	mg/L	1210		640.9	lbs	47.05 %
Particulate Phosphorus	0.3019	0.09285	mg/L	2.141		0.6220	lbs	70.95 %
Filterable Phosphorus	0.1219	0.1219	mg/L	0.8650		0.8163	lbs	5.63 %
	-100	-					110	
Permeable Pa	avement	UD@Bo	ttom	Subg	rade	Seepage =	2.5 ir	n/hr
Permeable Pa	avement	UD@Bo	ttom	Subg	rade	Seepage =	2.5 ir	n/hr
Permeable Pa	avement	UD@Bo Runoff Volume	Percent Par Runoff	Subg	rade	Seepage =	2.5 ir	n/hr
Permeable Pa	avement	UD@Bo Runoff Volume (cu ft)	ttom   Percent Par Runoff Volume	Subg	rade	Seepage =	2.5 ir	n/hr
Permeable Pa	avement	UD@Bo Runoff Volume (cu ft)	ttom   Percent Par Runoff Volume Reduction	Subg ticulate Par Solids Conc. (mg/L)	rade Solids Yield (lbs)	Seepage = Percent Particulate Solids Reduction	2.5 ir	n/hr
Permeable Pa WinSLAMM Outp	avement   out Summary	UD@Bo Runoff Volume (cu ft)	Percent Par Runoff Volume Reduction	Subg Solids Conc. (mg/L) 106.4	rade Solids Yield (lbs) 754.8	Seepage = Percent Particulate Solids Reduction	2.5 ir	n/hr
Permeable Pa WinSLAMM Outp	avement   out Summary	UD@Bo Runoff Volume (cu ft) 113630 27878	Percent Par Runoff Volume Reduction 75.47%	Subg solids Conc. (mg/L) 106.4 32.26	rade Solids Yield (lbs) 754.8 56.14	Seepage = Percent Particulate Solids Reduction 92.56%	2.5 ir	n/hr
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Dutfall Total with Contro Annualized Total After Ou	avement   out Summary thout Controls: ls: tfall Controls:	UD@Bo Runoff Volume (cu ft) 113630 27878 28825	Percent Par Runoff Volume Reduction 75.47%	Subg solids Conc. (mg/L) 106.4 32.26	rade Solids Yield (1bs) 754.8 56.14 58.05	Seepage = Percent Particulate Solids Reduction 92.56%	2.5 ir	n/hr
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Dutfall Total with Contro Annualized Total After Ou Pollutant	avement   out Summary thout Controls: ls: tfall Controls: Concentration -	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration	Percent Par Runoff Volume Reduction 75.47%	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur	rade Solids Yield (lbs) 754.8 56.14 58.05 tant Yield	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield	2.5 ir	<b>y</b> /hr
Permeable Pa WinSLAMM Outp Total of all Land Uses wit Outfall Total with Contro Annualized Total After Ou Pollutant	avement   out Summary thout Controls: ls: tfall Controls: Concentration - No Controls	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration With Controls	Percent Par Runoff Volume Reduction 75.47%	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur No Cor	rade Solids Yield (bs) 754.8 56.14 58.05 cant Yield	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls	2.5 ir	Yield Percent Reduction
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Outfall Total with Contro Annualized Total After Ou Pollutant Particulate Solids	avement   out Summary thout Controls: ls: tfall Controls: Concentration - No Controls 106.4	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration With Control: 32.26	Percent Par Runoff Volume Reduction 75.47%	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur No Cor 754.8	rade solids Solids Yield (lbs) 754.8 56.14 58.05 tant Yield ttrols	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls 56.14	Pol. Unit Ibs	Yield Percent Reductio 92.56 %
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Outfall Total with Contro Annualized Total After Ou Pollutant Particulate Solids Filterable Solids	avement   out Summary thout Controls: ls: tfall Controls: Concentration - No Controls 106,4 64,24	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration With Controls 32.26 65.07	Percent Par Runoff Volume Reduction 75.47% n - Conc. s Units mg/L mg/L	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur No Cor 754.8 455.7	rade Solids Solids Yield (lbs) 754.8 56.14 58.05 cant Yield atrols	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls 56.14 113.3	Pol. Unit lbs	Yield Percent Reductio 92.56 % 75.15 %
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Dutfall Total with Contro Annualized Total After Ou Pollutant Particulate Solids Filterable Solids Total Solids	thout Controls: 15: tfall Controls: Concentration - No Controls 106.4 64.24 170.6	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration With Controls 32.26 65.07 97.33	Percent Par Runoff Volume Reduction 75.47% n - Conc. s Units mg/L mg/L	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur No Con 754.8 455.7 1210	rade Solids Solids Yield (lbs) 754.8 56.14 58.05 cant Yield	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls 56.14 113.3 169.4	Pol. Unit Ibs Ibs Ibs	Yield Percent Reduction 92.56 % 75.15 % 86.01 %
Permeable Pa WinSLAMM Outp Total of all Land Uses wi Outfall Total with Contro Annualized Total After Ou Pollutant Particulate Solids Filterable Solids Fotal Solids Particulate Phosphorus	thout Controls: Is: tfall Controls: Concentration - No Controls 106.4 64.24 170.6 0.3019	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 Concentration With Controls 32.26 65.07 97.33 0.09589	Percent Par Runoff Volume Reduction 75.47% n - Conc. s Units mg/L mg/L mg/L	Subg solids Conc. (mg/L) 106.4 32.26 Pollut No Con 754.8 455.7 1210 2.141	rade Solids Solids Yield (lbs) 754.8 56.14 56.14 56.14 stant Yield throls	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls 56.14 113.3 169.4 0.1669	Pol. Unit Ibs Ibs Ibs Ibs	Yield Percent Reductio 92.56 % 75.15 % 86.01 % 92.21 %
Permeable Particulate Polyborus Fortal of all Land Uses wir Outfall Total with Contro Annualized Total After Our Pollutant Particulate Solids Filterable Solids Total Solids Particulate Phosphorus Filterable Phosphorus	avement   out Summary thout Controls: ls: tfall Controls: Concentration - No Controls 106.4 64.24 170.6 0.3019 0.1219	UD@Bo Runoff Volume (cu ft) 113630 27878 28825 2895 289	Percent Par Runoff Volume Reduction 75.47% n - Conc. s Units mg/L mg/L mg/L	Subg ticulate Par Solids Conc. (mg/L) 106.4 32.26 Pollur No Con 754.8 455.7 1210 2.141 0.8650	rticulate Solids Yield (lbs) 754.8 56.14 58.05 cant Yield throls	Seepage = Percent Particulate Solids Reduction 92.56% Pollutant Yield With Controls 56.14 113.3 169.4 0.1669 0.2185	Pol. Unit Ibs Ibs Ibs Ibs Ibs	Yield Percent Reductio 92.56 % 75.15 % 86.01 % 92.21 % 74.74 %











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# Revolutionizing the way we address civil infrastructure