Table 4.2
Stormwater Runoff and Discharge Scenarios for Non-Treatment Storm Events -- Trans-Lake Water Quality Study

Stormwater Alternative	Bridge Lane Alternative	Rainfall/Runoff Scenario	Total Flow *Volume* per Storm Event (ft^3)[1]	Dimensions of Oil Containment Lagoon per Pontoon Section (feet)				Volume-Based Dilution Ratio of Total Storm Flow into Lagoon[3]
				Length	Width	Draft (Depth)[2]	Volume (ft^3)	
I. Pontoons with Catch Basins	4	2-Year Return Period	2094.3	360	3.1	12	13,591	6
		10-Year Return Period	3281.1	360	3.1	12	13,591	4
		50-Year Return Period	3876.4	360	3.1	12	13,591	4
		100-Year Return Period	4803.5	360	3.1	12	13,591	3
	6	2-Year Return Period	3313.1	360	6.1	12	26,460	8
		10-Year Return Period	5190.6	360	6.1	12	26,460	5
		50-Year Return Period	6132.3	360	6.1	12	26,460	4
		100-Year Return Period	7598.9	360	6.1	12	26,460	3
	8	2-Year Return Period	3971.1	360	18.1	12	78,300	20
		10-Year Return Period	6221.6	360	18.1	12	78,300	13
		50-Year Return Period	7350.3	360	18.1	12	78,300	11
		100-Year Return Period	9108.2	360	18.1	12	78,300	9
II. Pontoons with Vault System	4	2-Year Return Period	2094.3	360	3.1	12	13,591	6
		10-Year Return Period	3281.1	360	3.1	12	13,591	4
		50-Year Return Period	3876.4	360	3.1	12	13,591	4
		100-Year Return Period	4803.5	360	3.1	12	13,591	3
	6	2-Year Return Period	3313.1	360	6.1	12	26,460	8
		10-Year Return Period	5190.6	360	6.1	12	26,460	5
		50-Year Return Period	6132.3	360	6.1	12	26,460	4
		100-Year Return Period	7598.9	360	6.1	12	26,460	3
	8	2-Year Return Period	3971.1	360	18.1	12	78,300	20
		10-Year Return Period	6221.6	360	18.1	12	78,300	13
		50-Year Return Period	7350.3	360	18.1	12	78,300	11
		100-Year Return Period	9108.2	360	18.1	12	78,300	9

Notes:

[1] Total flow volumes for each defined storm event were calculated using the SCS Method in Ecology's WWHM.

[2] These are the minimum lagoon draft (depth) and volumes (worst-case condition); based on information provided by WSDOT engineers, the bridge draft may vary between a minimum of 12 feet in the middle of the floating bridge to 22 feet at the ends of the bridge, with an average draft of 17 feet.

[3] Dilution values assume entire volume of stormwater discharge is retained and mixed into the containment lagoon volume.

Abbreviations:

ft^3 = cubic feet

SCS = Soil Conservation Service

Ecology = Washington State Department of Ecology

WWHM = Western Washington Hydraulic Manual

WSDOT = Washington State Department of Transportation