

OBC Fire Flow Calculation

Calculations based on Ontario Building Code
Division B A.3.2.5.7 Water Supply

Project Name: Peck's Marina
Date: Sept 2025
Data Input by: Jeff Homer
Review by: Kyle Nielssen

Fire Flow Calculation #: 1
Building Description: Boat Storage
Building Occupancy Group: Group F, Div 2 - Medium Hazard
Construction Type: Non-combustible
Area = 2,900 m²
Max Height = 9.2 m

Water Available for Fire Fighting Purposes $Q = K \cdot V \cdot S_{tot}$
Where

Q = Minimum Supply of Water in Litres
K = Water Supply Coefficient from Table 1 (below)
V = Total Building Volume in Cubic Metres
 S_{tot} = Total of Spatial Coefficients Values from Property Line Exposures on All Sides
 $S_{tot} = 1.0 + S_{side 1} + S_{side 2} + \dots + S_{side n}$, S_{tot} not to exceed 2.0
Refer to the Office of the Fire Marshal (OFM) Fire Protection Water Supply Guideline for Part 3

Table A: Ontario Building Code Determination of Required Fire Flow

Step	Task	Term	Options	Value Used	Units	Total Fire Flow (L/min)			
1	Determine Water Supply Coefficient K from Table 1	Type of Construction	Classification by Group or Division in Accordance with Table 3.1.2.1					17.0	
			A-2, B-1, B-2, B-3, C, D	A-4, F-3	A-1, A-3	E, F-2	F-1		
		Building is of non-combustible construction with fire separations and fire resistance ratings provided in accordance with Subsection 3.2.2. including loadbearing walls, columns, and arches	10	12	14	17	23		
		Building is of non-combustible construction or of heavy timber construction conforming to Article 3.1.4.6. Floor Assemblies are fire separations but no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire resistance rating	16	19	22	27	37		
		Building is of combustible construction with fire separations and fire-resistance rating provided in accordance with Subsection 3.2.2. Including loadbearing walls, columns, and arches. Non-combustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2.	18	22	25	31	41		
		Building is of combustible construction. Floor assemblies are fire separation but with no fire-resistance rating. Roof assemblies, loadbearing walls, columns and arches do not have a fire resistance rating.	23	28	32	39	53		
2	Determine V, the Volume of the Building	Total Volume of Building (Including Basement) measured to the underside of the roof	Boat Storage					25,200	m ³
			# Floors Incl. Basement	1					
3	Determine S _{tot} , the total Spatial Coefficient from Figure 1	Exposure Distance to Property Limit (Minimum of 1.0, Maximum of 2.0)	Gross Floor Area					1.0	
			2,900 m ²						
4	Calculate Q	Q = K · V · S _{tot}	Width =					428,400	L
			36.6 m						
5	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Length =					9,000	Required Fire Flow: 9,000 L/min
			79.3 m						
6	Summary	Total Required Fire Flow, rounded to nearest 1000 L/min, with max/min limits applied:	Avg Height =					150	30.0
			8.7 m						
7	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Total Volume =					150	30.0
			25,200 m ³						
8	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Side					150	30.0
			Distance						
9	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Coeff.					150	30.0
			>15m						
10	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Side 1					150	30.0
			>15m						
11	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Side 2					150	30.0
			>15m						
12	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Side 3					150	30.0
			>15m						
13	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Side 4					150	30.0
			10m						
14	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Q = KVS = 17.0 × 25200.0 × 1.0 =					428,400	L
15	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Minimum Supply of Water in L					428,400	
			9,000						
16	Determine Minimum Water Supply Flow Rate from Table 2	1,800 One Storey Building with Area less than 600 m ²	Total Required Fire Flow (above) in L/s					150	30.0
			Required Duration of Fire Flow (Min)						