

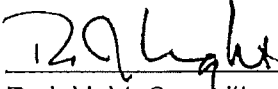
# BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing  
AIBC, APEGBC, BOABC, POABC

File No: 06-0108

INTERPRETATION

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Interpretation Date:	May 15, 2012
Building Code Edition:	BC Building Code 2006
Subject:	Sewer Pipe Under a Building
Keywords:	Encasement, Sewer Pipe
Building Code Reference(s):	7.2.5.10.(1) ; 7.3.3.9.(1) ; 7.3.5.3.(1)
<b>Question:</b>	<ol style="list-style-type: none"><li>1. Can a plastic sewer pipe permitted by Sentence 7.2.5.10.(1) be poured in place through a foundation wall and is there any additional protection required for the pipe?</li><li>2. Can a plastic sewer pipe permitted by Sentence 7.2.5.10.(1) be installed under a foundation wall and would there be any special precautions required for protection of the pipe?</li></ol>
<b>Interpretation:</b>	<ol style="list-style-type: none"><li>1. YES - ( See Page 3 - Drawing A ) <p>Sentence 7.3.3.9.(1) requires the design and installation of every piping system to include means to accommodate its expansion and contraction caused by temperature changes, movement of the soil, building shrinkage or structural settlement. The simplest way to achieve this necessary protection is to install approved flexible couplings on the sewer pipe adjacent to both sides of the poured in place foundation wall penetration. With the sewer pipe being secured at the wall penetration as permitted in Sentence 7.3.5.3.(1) it is subject to damage from deflection caused by varying soil movement and expansion and contraction of the piping under the floor slab. Due to the sewer pipe being supported throughout the entire circumference of the penetration a sewer pipe can handle the loading imposed on it.</p><p>A preferred method of passing through a foundation wall would be to install a pipe sleeve through the wall that is large enough to provide a clear air space around the perimeter of the plastic sewer pipe. A pipe wrap should be installed at both sides of the wall to ensure that the air space around the pipe is maintained throughout the entire penetration. With these provisions in place the sewer pipe would not be affected by the loads from the foundation and the pipe itself could handle the expansion and contraction and the soil movement therefore the installation of the flexible couplings would not be necessary.</p></li></ol>  _____ R. J. Light, Committee Chair
<small>The views expressed are the consensus of the joint committee with members representing AIBC, APEGBC, BOABC, and POABC, which form the BC Building Code Interpretation Committee. The purpose of the committee is to encourage uniform province wide interpretation of the BC Building Code. These views should not be considered as the official interpretation of legislated requirements based on the BC Building Code, as final responsibility for an interpretation rests with the local <i>Authority Having Jurisdiction</i>. The views of the joint committee should not be construed as legal advice.</small>	

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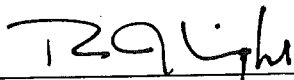
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## 2. YES - ( See Page 3 - Drawing B )

Sentence 7.3.5.3.(1) states that where piping passes under a wall it shall be installed so that the wall does not bear on the pipe. If this performance statement was taken literally a plastic sewer pipe could not be installed under a foundation wall regardless of precautions taken as there would always be some weight imposed on the piping. However, it would be considered reasonable to allow a loading on the plastic pipe that did not exceed the testing criteria indicated in the appropriate CSA standard for the pipe used in the installation.

Sentence 7.2.5.10.(1) indicates that all plastic sewer piping systems must have an approved pipe stiffness of not less than 320 kPa ( 46 psi) which can be related to shear loading imposed on the pipe. The acceptable dead weight load on the plastic sewer pipe would be 1897 kPa ( 275 psi) where the piping is installed in fine sand bedding commonly used in small buildings. Acceptable dead loads greater than the 275psi can be achieved if the bedding material under and around the piping is upgraded to crushed rock. In all buildings where the BCBC requires a registered professional the dead loads imposed on the plastic sewer piping must be considered in the foundation design.

Due to the fact that the piping installed under a foundation would not be secured at the wall there would be no need to install flexible couplings to address concerns of expansion and contraction or movement of the surrounding soil but the loading imposed on the piping by the building foundation must be considered.



R. J. Light, Committee Chair

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