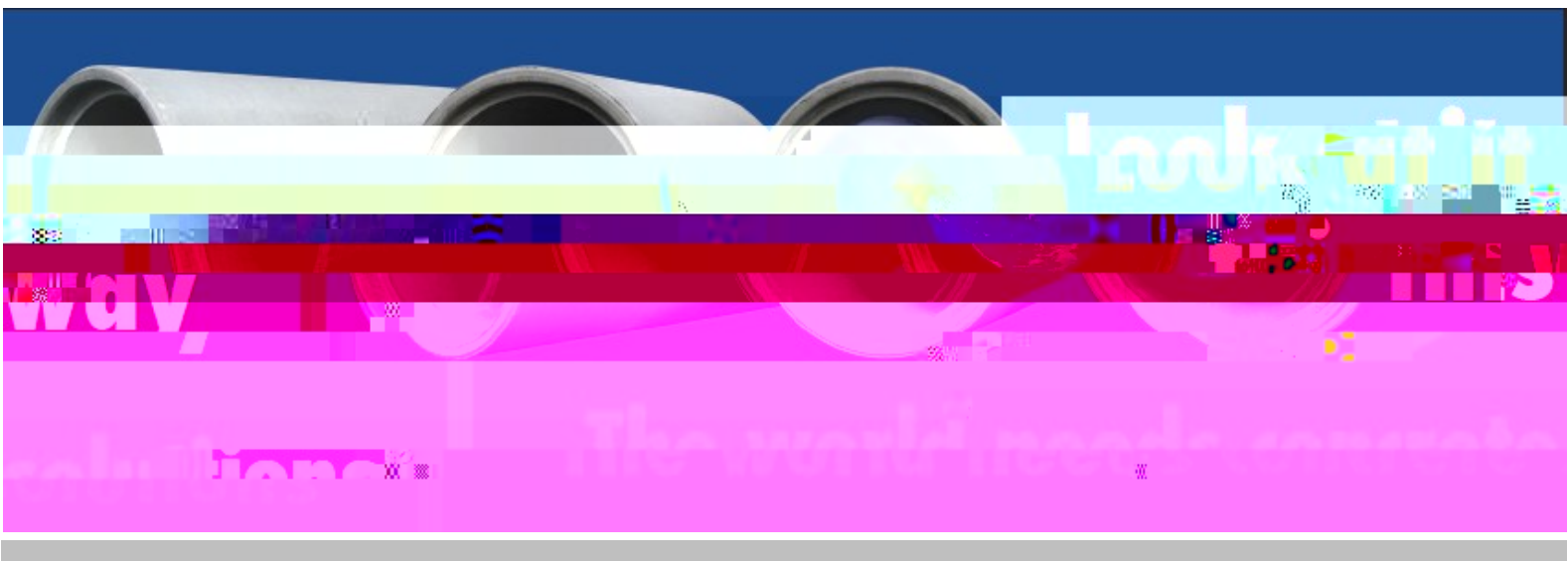
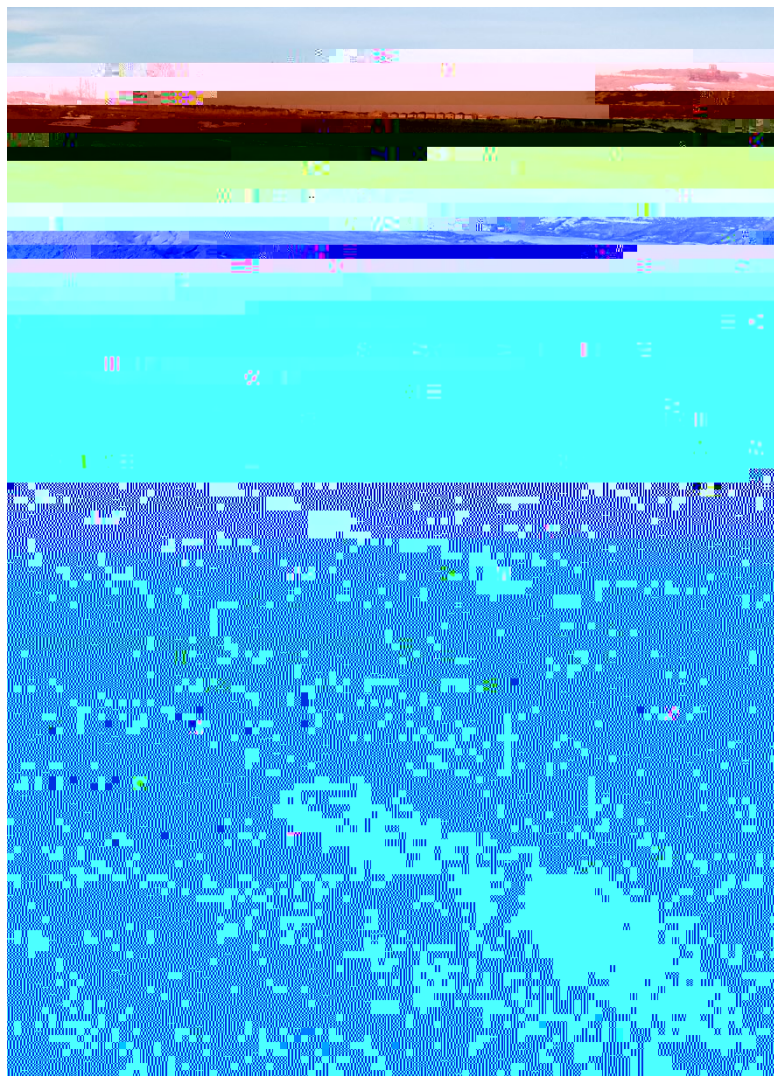




Standard Sewer Pipe Installations

Are Design Engineers being too Conservative?



Every major municipality across Canada has developed their own standard installation detail for sewer pipe; some only use one bedding detail as where others use separate bedding details, based on the pipe material. A very common installation detail found in every municipality is the same detail as that found in

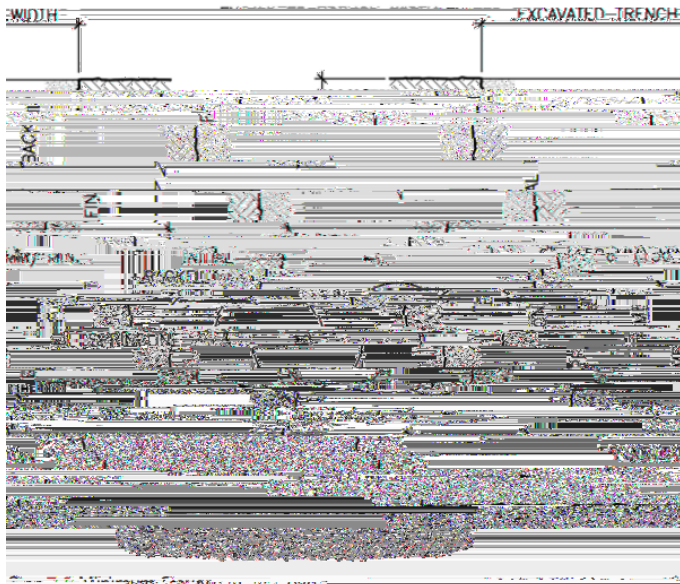


Figure 1: Installation Detail from ASTM D2321: Underground Installation of Thermoplastic Pipe for Sewers

This detail shows the need to have embedment material at least 150mm above the crown of the pipe (note the asterisk too; most municipalities take it to a minimum of 300mm above the crown). Flexible pipe requires the soil envelope around it to provide the structural support it needs to withstand the design loads, otherwise it will fail. Roughly 90% of a flexible pipe's ability to resist load comes from the embedment material around it. Should the same installation principles be applied to rigid pipe, such as concrete, where roughly 90% of the load is resisted from the pipe itself?

Recently, Inland Pipe sourced local contractors to provide pricing for different concrete pipe installations. The two installations assessed were the current standard MMCD installation as per Drawing G4 (similar to ASTM D2321) and the concrete pipe industry recommended ASTM C1479 Type 2 installation. Simplified details of the two installation types studied in this project are shown in Figure 1 below:

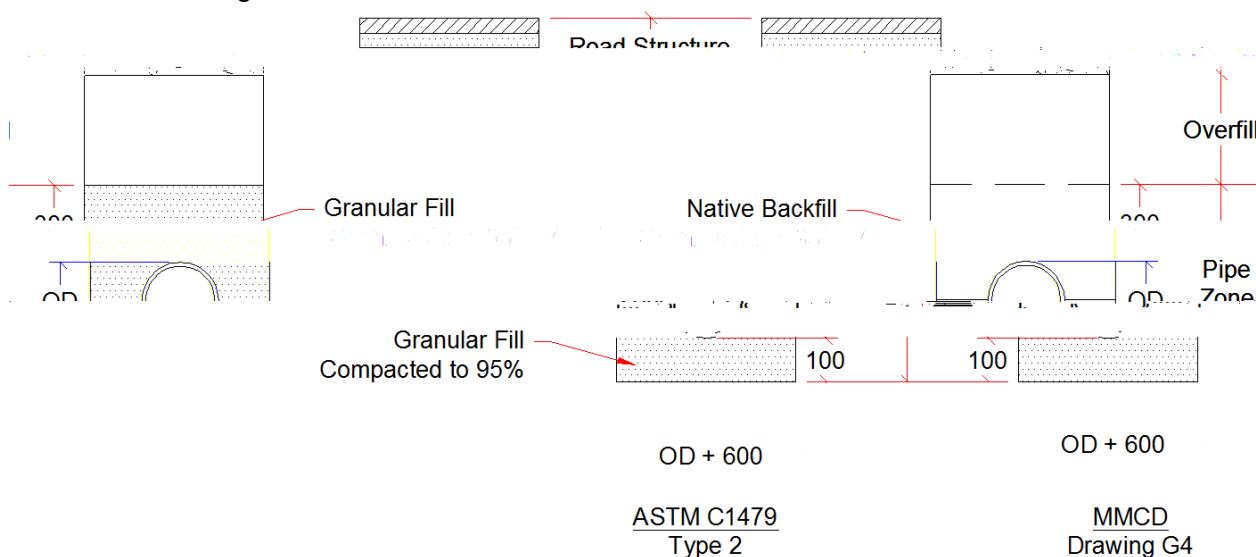


Figure 2 : Installation Details Examined in this Project

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