



City of Whitehorse



BUILDING ADVISORY - OCTOBER 25, 2010

City of Whitehorse
Planning and Development Services Department

RE: Building Advisory October 25, 2010 – Drainage Standards for Building Foundations

This building advisory is to alert contractors, home builders, designers and property owners that all building permit applications for new buildings with subsurface foundations constructed in Whitehorse will need to adhere to prescriptive standards for drainage effective immediately. Drawings and specifications are attached to this advisory.

The construction of all new occupied buildings with permanent wood foundations must follow the standard as outlined in CAN/CSA S-406-92 “Construction of Preserved Wood Foundations” as identified by the National Building Code (NBC).

Similarly, concrete foundations must follow the prescriptive standard as cited in the NBC 2005, Section 9.14 “Drainage”, which describes the minimums for foundation drainage, drainage tile and pipe, granular drainage layers, drainage disposal and surface drainage.

The NBC allows for standards to be varied by the authority having jurisdiction (City of Whitehorse) based upon local conditions and past performance. Historically, permanent wood foundations and concrete foundations have not had to include a drainage layer or drainage system such as a sump and drainage pit as soils were deemed to be “free draining” relative to the local precipitation. This assessment was supported by over 35 years of demonstrated performance.

However, a recent geotechnical report has concluded that the soil composition in some areas should not be considered as “free draining”. As a result of this analysis, adherence to the prescriptive standards as outlined in the NBC is the most appropriate measure to ensure that building foundations are protected and is now adopted city wide.

Effective October 25, 2010

As a result, please be advised that PWF dwelling unit foundations with pressure treated wood footings will require a minimum 125mm (5”) compacted drainage layer beneath the foundation and extending 12” beyond the footing. A sump pit must be installed, with provision for a sump pump to facilitate the removal of excess ground water should it prove necessary. Out-flow from this pump must be directed to the surface away from the building, and not to a side which may impact neighbouring properties.

CAN/CSA S-406-92 “Construction of Preserved Wood Foundations” also allows for concrete footings to be placed on undisturbed ground which would allow water to pass through by the installation of 60mm (2 ¼”) diameter pipe at 1200mm (48”) intervals around the perimeter footing. Again the installation of the sump pit is necessary.



Full depth concrete foundations with concrete footings are required to have perimeter drainage tile which terminate in a now required sump pit. A sump pump is to be installed to assist in the removal from the foundation area should water accumulation in the sump pit warrant it.

Existing City of Whitehorse bylaws do not allow connections to the sanitary sewer infrastructure for this drainage.

Alternatives

If you wish to pursue an alternative to the prescriptive standards outlined, there are options that can be proposed. One option is to provide site specific soil analysis that meets the conditions for a “free draining” soil type verified by a stamped report from a Yukon licensed engineer experienced in soils analysis. When this “free draining” soil type designation is obtained, the drainage layer and sump assembly can be omitted.

Another option available is for a building designed under Part 4 of the NBC. This prescriptive requirement foundation drainage may be omitted/altered by a structural engineer’s letter of design assurance and field review.

Lastly a building constructed “slab on grade” need not provide the sump pit and associated equipment.

Please do not hesitate to contact a Building Official for further information @ 668-8340.