

26 May 2016

To : All Authorized Persons
Registered Structural Engineers
Registered Geotechnical Engineers
Registered Inspectors
Registered General Building Contractors
Registered Specialist Contractors
Registered Minor Works Contractors

Dear Sir/Madam,

Roof Greening in Existing Buildings

Roof greening has become more common in urban landscape design and it plays an important role in improving the living environment in densely populated cities like Hong Kong. This circular letter serves as a friendly reminder on the provisions that should be taken into account in designing and installing new roof greening on existing buildings.

Submission to the Buildings Department (BD)

As roof greening may come in various forms and extent and be installed at various locations in a building, its implications on aspects such as structural, drainage, usage, maintenance of the building may vary considerably.

Where no new building works is involved in the roof greening, plan submission to the BD is not necessary. However issues such as the load bearing capacity of the existing building structure, effect on the drainage system and the associated change in use should nevertheless be carefully considered.

Where new building or building works including the strengthening of the existing structures are involved in the greening, proposal for alteration and addition works should be submitted to the BD for approval.

Structural Considerations

In carrying out structural assessment to ascertain whether a proposed roof greening is suitable in an existing building, the AP and/or RSE should check the approved records of the relevant parts of the existing building and their existing site conditions against the loading induced by the greening which may vary significantly from green carpets to deep water ponds. Reference should be made to PNAP APP-117 on the Structural Requirements for Alteration and Addition Works in Existing Buildings.

In assessing the structural adequacy of the affected existing structure, all loading combinations associated with the proposed greening, such as drainage layer, substrate layer, growing medium layer, vegetation layer etc. should be considered against the loading capacity of the affected structural elements. The fully saturated weight of the layers should be taken into account. Consideration should also be given to the loading of the proposed irrigation system and construction load. Imposed loads for roofs should be allowed for in addition to the weight of the whole greening.


Drainage System and Waterproofing

To avoid water ponding thus overloading the structure, adequate drainage system of the proposed greening should be provided. The water tightness of the existing roof should be ensured before the greening to avoid water seepage causing structural deterioration.

Advice to Owners

The building owner should be well advised of your assessment, whether submission to the BD is necessary or otherwise as well as the guidelines for the safe use of the proposed greening after completion of the works including regular inspection and maintenance of the affected structures.

Yours faithfully,


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for Director of Buildings