Other Foundation Types

The types of foundations used on permafrost have varied widely throughout the arctic and subarctic regions of the north. Each foundation type has had varying degrees of stability. Two foundation types currently employed involve a thermal raft and a shallow spread footing foundation.

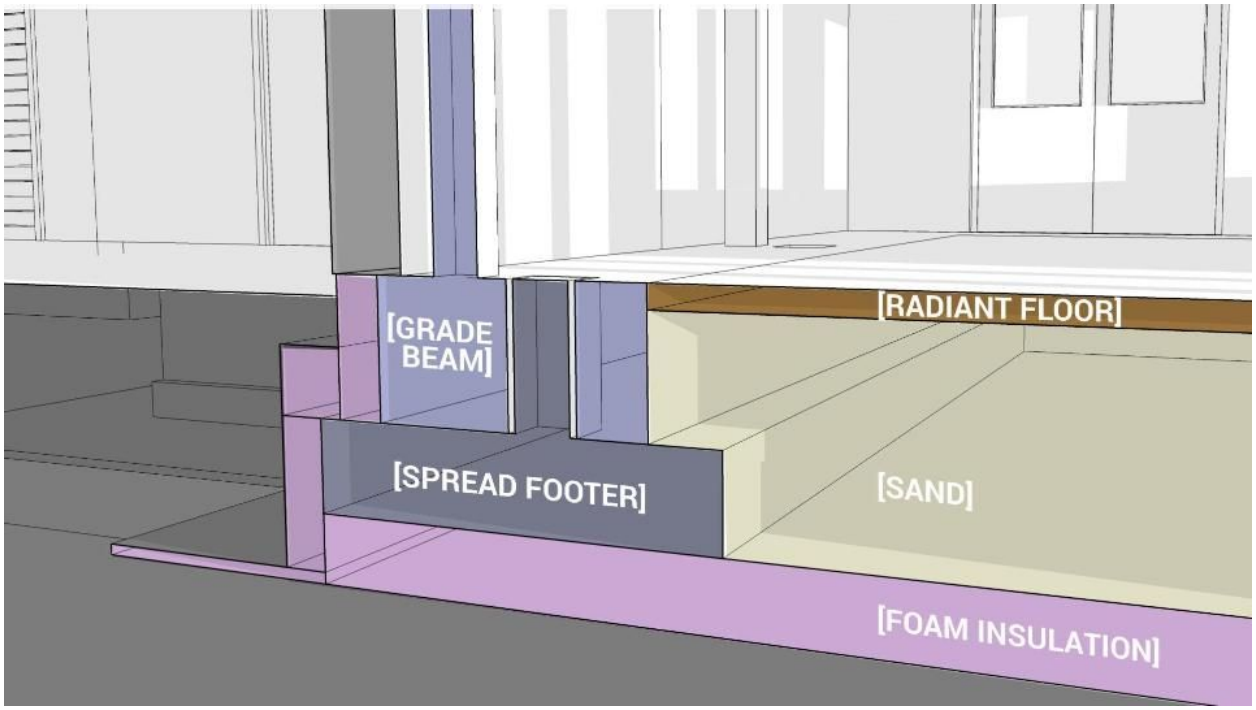
Thermal raft foundations are suitable for minimal site disturbance and are best used for small footprints. These foundations involve emplacing a geo-textile directly on the ground, fabricating a light steel frame foundation and spraying urethane foam directly on the ground and frame to effectively create an R-100 thermal boundary between the ground and the building envelope.

Adjustable spread footing foundations are also suitable for larger commercially-sized buildings. Spread footings are designed to bear on weak soils and the foundation rests on a grade beam which bears on the spread footing. The grade beam and spread footing are two separate components. If differential settlement occurs under the structure, hydraulic jacks are used level the building by separating the grade beam from the spread footing and injecting structural foam in the void.

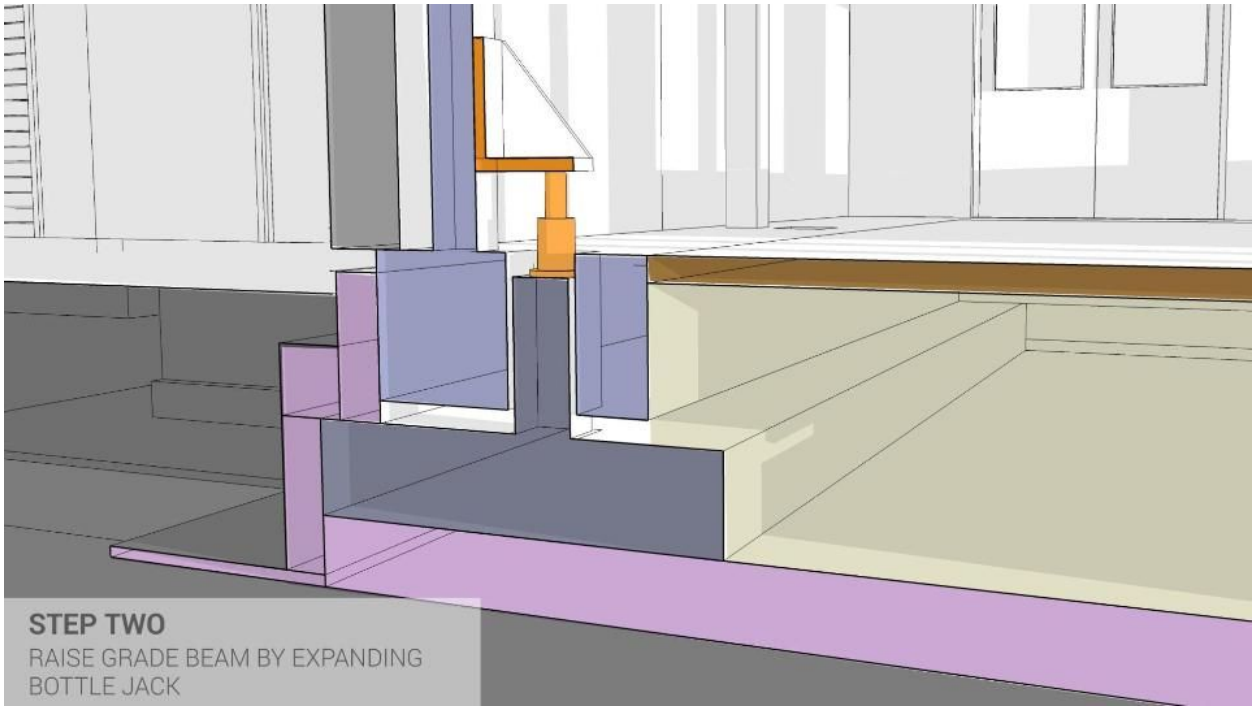
Raft Foundation Installation

Rendering of Home with Raft Foundation

Photo of Home with Raft Foundation



Component View of Spread Footing with Adjustable Foundation



Adjustment of Spread Footing with Adjustable Foundation