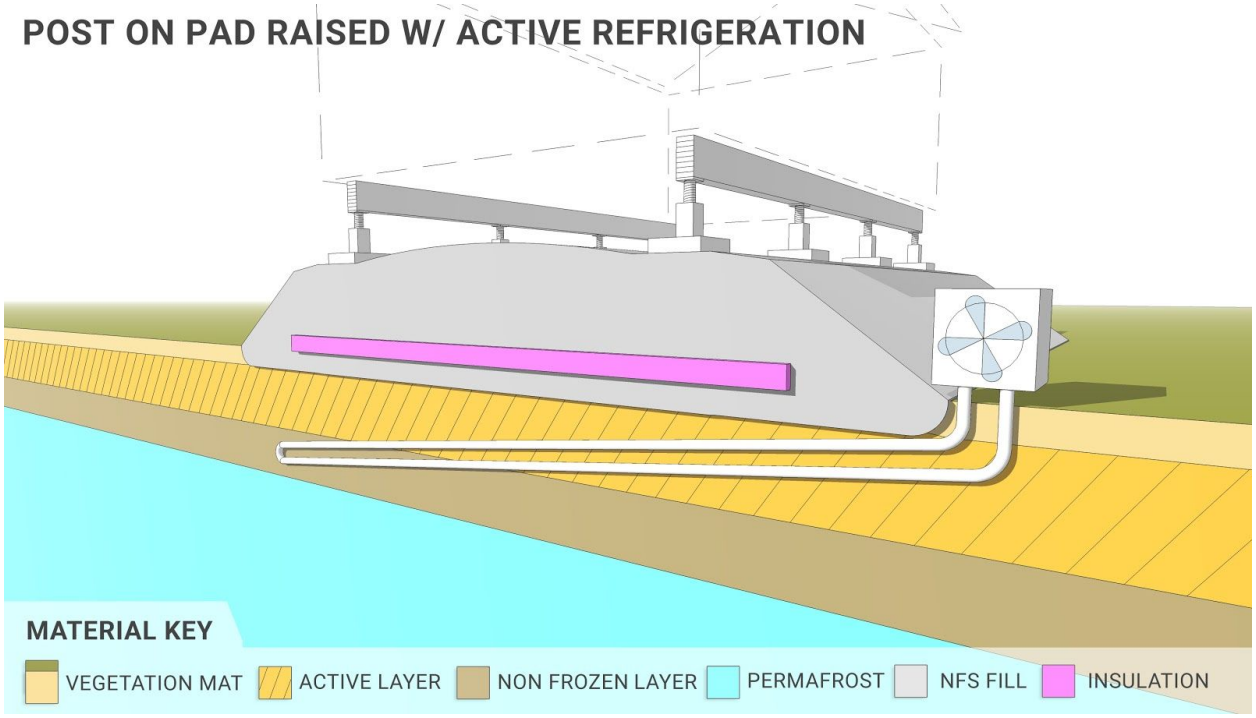
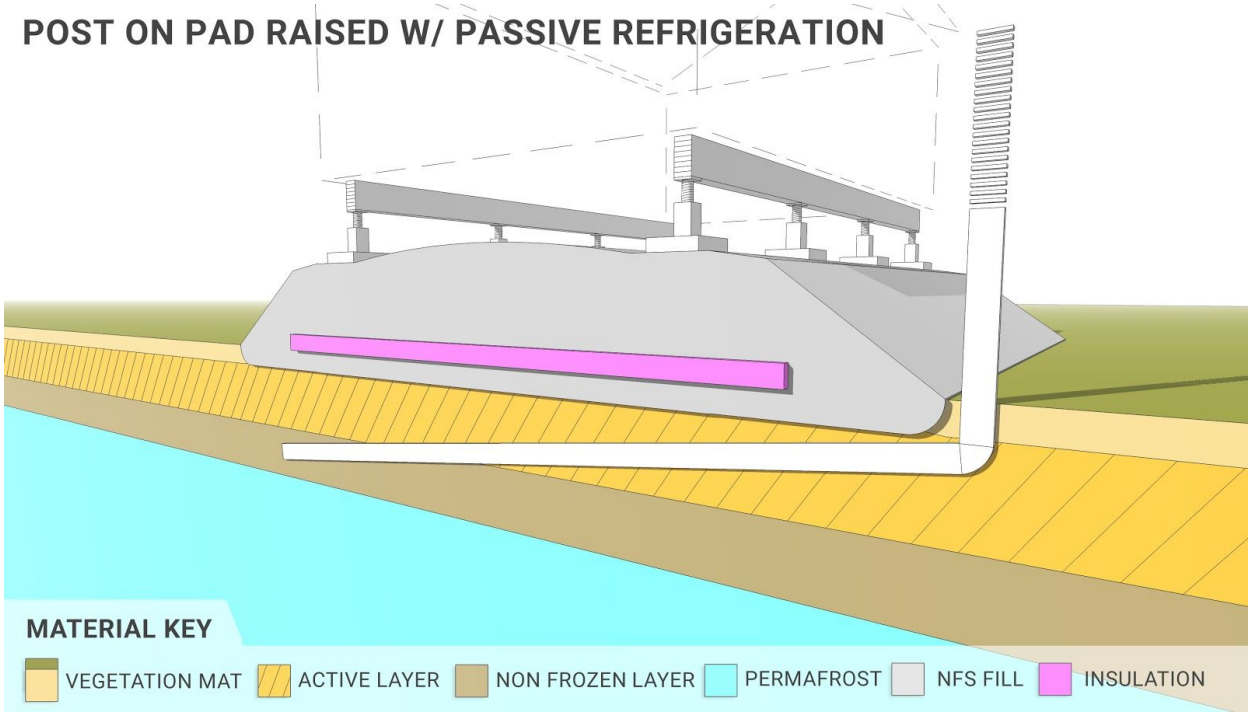
Refrigerated Foundations

Refrigerated and actively-cooled foundations rely on an active or passive refrigeration system to maintain a frozen foundation bearing subsurface. Active refrigeration systems can be implemented in slab-on-grade foundations, adfreeze pile foundations, or stem wall foundations, to name a few. For slab-on-grade and stem wall foundations, active refrigeration may consist of refrigeration coils in a gravel subsurface layer. A passive refrigeration system may use thermosyphons to remove the heat from the subsurface layer during cold air conditions.

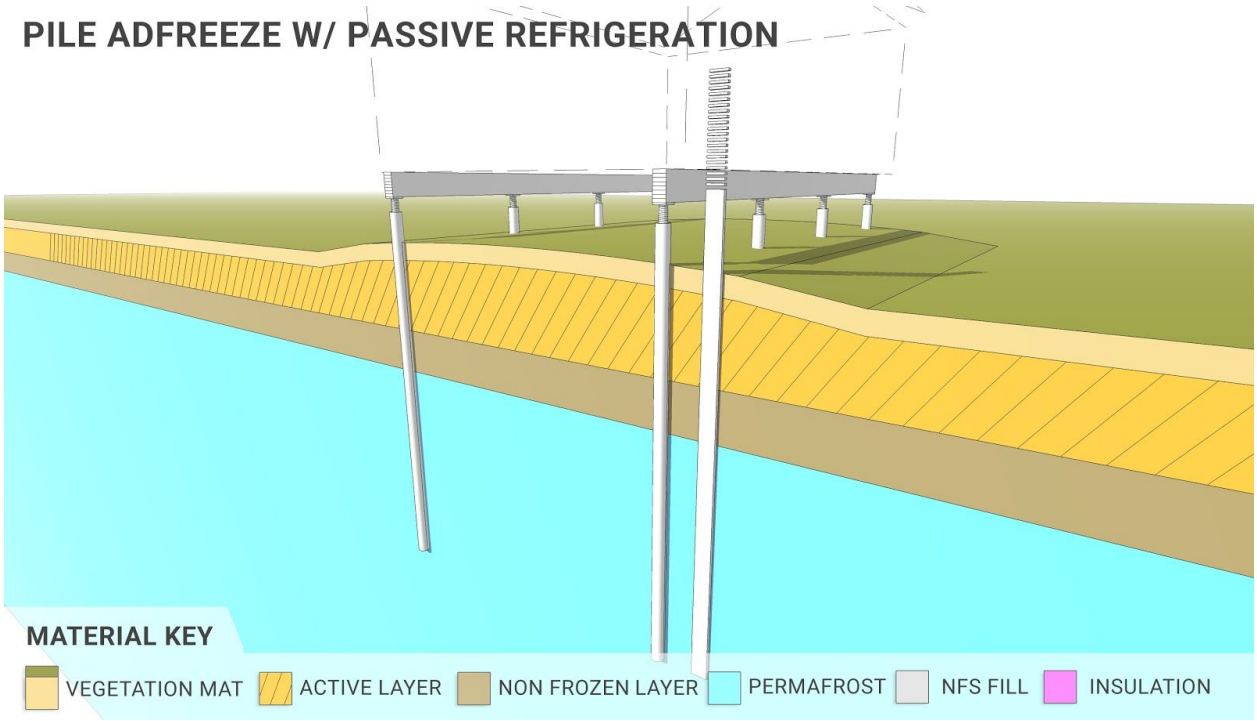
For adfreeze pile foundations, active refrigeration systems and thermosyphons are implemented to keep the area along the pilings frozen. Active refrigeration systems must be maintained throughout the life of the building, thus increasing yearly maintenance costs. Passive refrigerated systems (i.e. thermosyphons) must be checked periodically to ensure they continue to function.



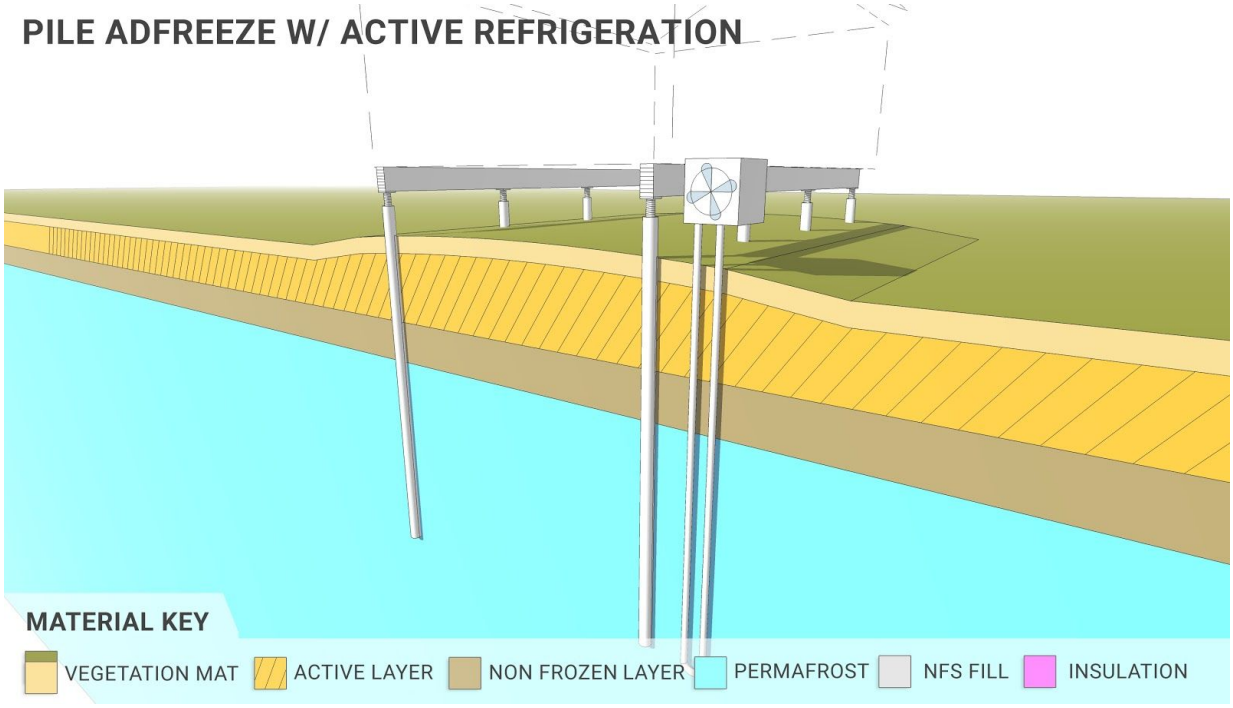
POST ON PAD RAISED W/ PASSIVE REFRIGERATION



PILE ADFREEZE W/ PASSIVE REFRIGERATION



PILE ADFREEZE W/ ACTIVE REFRIGERATION



SLAB ON GRADE ACTIVE