

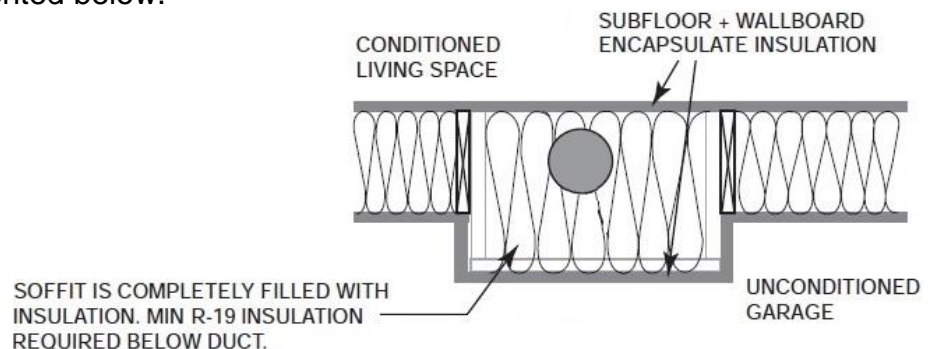
Date: 10/28/22

Building Services – Chief Building Official code interpretation:

The following is a building code interpretation by the Chief Building Official explaining the intent and requirement of a specific code section that is not entirely clear and not concisely explained in the code.

Issue: The amended 2021 International Energy Conservation Code (IECC) **Section R403.3.2 Ducts located in conditioned space** requires that for HVAC ducts to be considered within the conditioned space it shall be located completely within the continuous air barrier and within the building thermal envelope. Specific requirements for insulation depth below an HVAC duct within the floor assembly above an unconditioned garage are not defined within the amendment. However, this is defined within the 2021 IECC as published by the International Code Council (ICC). The ICC code language explicitly addresses what value of insulation is to be installed between the duct and the air barrier that separates the floor from the unconditioned space below. To provide clarity as to the insulation *R*-value required to determine whether or not the duct is to be insulated per **R403.3.1 Ducts located outside conditioned space** or **R403.3.2** previously mentioned see below.

1. HVAC ducts located outside conditioned space that are 3 inches or larger in diameter shall be insulated to an *R*-value not less than R-8. Ducts smaller in diameter than 3 inches shall be insulated to an *R*-value not less than R-6.
2. For a duct to be considered within the thermal envelope it must be kept to warm side of the floor cavity by insulating below the duct.
3. The warm side of the cavity is determined to be equal to or greater than half of the required floor cavity insulation *R*-value of R-38. This equates to a minimum R-19 as represented below.



Marcus Coldiron
 Chief Building Official