CASE STUDY

KUHL SOLUTIONS TO CLIENT PROBLEMS

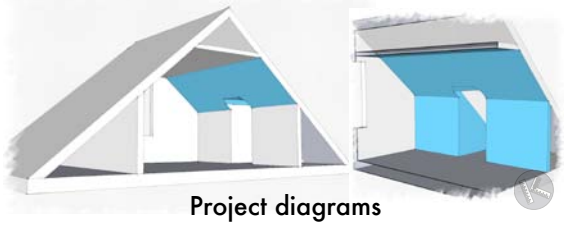
KUHL CASE #21

Ice Dam Puzzle

Minneapolis Homeowner Struggled to Find Educated Perspective on Ice Dam Mystery

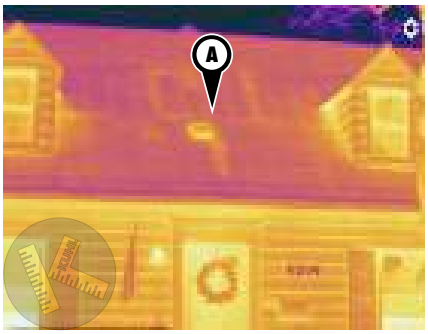
The Problem

Our client had been plagued by ice dams and cold-room-syndrom for many years. Ice dams are a roof problem, so why not call a roofer? The fact is, ice dams are not a roof problem and while one can limit the damage done by ice dams through intelligent roof design and installation, ice dams are a part of a bigger system involving the way heat and air move through a home. Simply replacing this roof would not prevent ice dams from happening in the future. Need a problem solved right? Call Kuhl.



Project diagrams

The Solution



The solution to just about any problem involves first understanding the underlying causes. Ice dams are the result of a complex interaction of many things including architecture, climate and lifestyle. To put a finer point on it, ice dams are related to how heat escapes from the areas it belongs to areas it is not supposed to be. That heat causes snow melt on your roof, and the saga begins.

We used our thermal imager to study the heat loss in this home (A). The result was clear: we needed high performance insulation and it had to be in a small cavity. That's a perfect time for spray foam insulation (B). At R 6.8 per inch, it packs a real punch in a small area. We removed the plaster and sprayed foam insulation in the exposed roof areas to create a hot roof (a roof that needs no ventilation). After insulating the knee wall spaces and replacing the roof area above with a full treatment of ice and water shield, we installed new plaster and repainted.

There are few companies in Minnesota that can diagnose and resolve small, multi-trade home improvement projects with the efficiency and cost effectiveness of Kuhl. Not to brag, but we are pretty awesome.