# Twigg Ecoroof: End of Project Report

## **Project Summary:**

2,347 sqft ecoroof on new residential house designed by architect Darin Dougherty

When designing a new home, we wanted to reduce our impact on the neighborhood and environment as much as possible, and adding an ecoroof quickly became a key component. The roof was completed in May, and house construction should be complete this September (2012).

### Cost breakdown:

Costs for the roof were blended into the overall house project. Roof completion, including membrane and ecoroof construction was included in our construction contract at \$22,452. Dan Manning was the roofing contractor. The bid included a TPO membrane protection layer, 4" of pro-gro extensive mix, planting of sedum species in spring form, and a layer of jute mat. Rock drainage channels and other plants (grasses, flowers) were included as well. Considering that a standard roof would likely cost a similar amount, or possibly more, the ecoroof seemed to be a reasonably good value.

Structural engineering was a key component to designing the ecoroof, as the entire structure needed to be designed to hold significant loads. This was particularly challenging, given the modern, open design of the residence and the steep slope of the lot. Engineering was incorporated into the overall house design, so we don't have a breakdown specific to the roof; still, we would estimate that engineering and design for the ecoroof likely added roughly \$1,000 to our costs.

Permitting for the roof was done at the same time as permitting for the house.

#### Issues:

The roof was installed in May, and wet weather helped establish the plantings. However, the house is still under construction, and maintenance of the roof has been less than ideal during the hot summer months. Weeds have become problematic, and some plants are dying despite daily watering. The roof will need some work to ensure that plants are well established when the house is completed this fall.

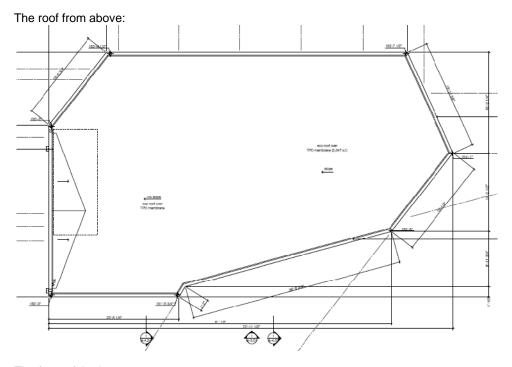
# Results to date:

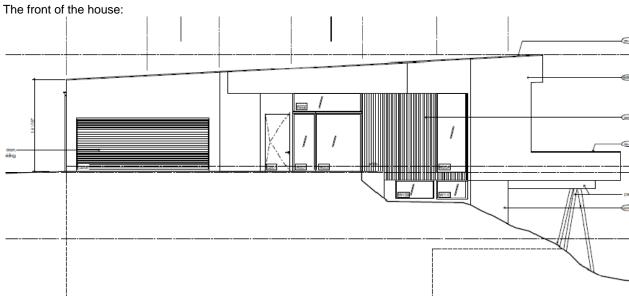
Some of the decorative grasses have died or become uprooted during the summer. Other plants are establishing well. Weeds have become problematic, as the house is still under construction roof maintenance has been low.

During the rainy season, it was noticed that the roof would hold water for several days after the rain ended (water would still be dripping down the scuppers). The roof appears to be fantastic at reducing urban rainwater runoff!

### Pictures:

We only have one photo so far; we will take more when we move in. We have also attached a few schematics of the





Design at parapet (the parapet was reduced to 6", to match the depth of the ecoroof):

