How Do We Retrofit the Tough Buildings?

Cape Cod Style and Masonry
Ken Neuhauser, Building Science Corporation

Retrofitting the Tough Buildings
29 April 2013
Cape Cod Style

Cape Cod Style – Knee Wall

Add insulating sheathing to knee wall framing.

Additional insulation.

Replace insulation in cavity.

Cape Cod Style

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Cape Cod Style – overhang

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Cape Cod Style – overhang

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DER Pilot – cost data

- National Grid Deep Energy Retrofit Pilot Program (Massachusetts)
- R-60 target
- Data for 6 implementations
- Cost net of standard re-roofing
  - Mean: $13.16 / s.f.
  - Range: $10 – 18 / s.f.

DER Pilot – performance data

Cape Cod Style – Before
Cape Cod Style – After
Initial Performance Results for Massachusetts DER Pilot Program
Masonry Walls

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Masonry Walls

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CEDA Wx Implementation – cost data

- 2 Story (Average of 3 lowest bids):
  - $14.43 / s.f. gross wall area
- Post implementation contractor estimate:
  - $12.60 / s.f. gross wall area
- Above 2 stories (Average of 3 lowest bids):
  - $25.31 / s.f. gross wall area
- Post implementation contractor estimate:
  - $20.10 – 21.30 / s.f. gross wall area

Windows

- Flashing
- Flanking losses (thermal bridges)
- Replacement
Masonry Walls – windows

- Self-adhered flashing
- Formable flashing
- Manufactured flashing

Windows

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Masonry Walls – windows

Windows
- Flashing
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- Replacement

REPLACEMENT WINDOW JAMB DETAIL