



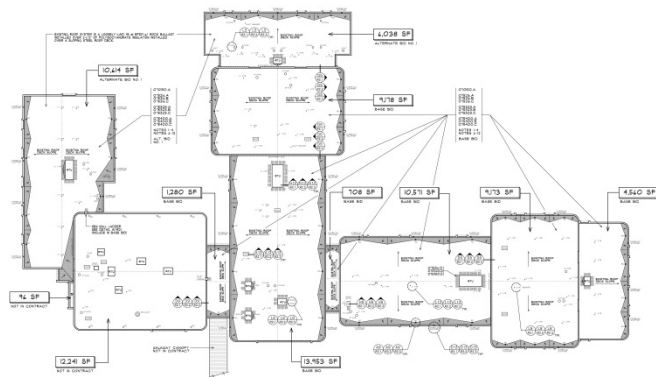
**Lenoir City Elementary School  
Roof Replacement  
Lenoir City Schools  
Lenoir City, Tennessee**



Lenoir City Elem. Roof 67,392 s.f.  
Construction Cost \$200,015  
Cost/s.f. \$2.97  
Completion Date 2008

ARCHITECTS  
WEEKS  
AMBROSE  
McDONALD  
INC.

Architects Weeks Ambrose McDonald, Inc. was again selected by Lenoir City Schools to perform design and inspection services for another school roof replacement project.



Lenoir City Elementary School Roof Plan

Lenoir City Elementary had an existing ballasted EPDM roof installed that was difficult to maintain by the school system maintenance department and they also had a problematic rooftop air handling unit that contributed to the reported roof leaks in the building.

The EPDM membrane had reached its acceptable service life and it had been bridging at the parapet walls causing splits and tears at the base of the membrane. The school maintenance department attempted minor repairs around the parapet but unfortunately they used an incompatible product for the EPDM membrane which made the condition even worse at the walls and other roof penetrations.



EPDM Membrane "Bridging"



Improper EPDM Repairs

Due to limited funding for the roof replacement, Architects Weeks Ambrose McDonald conducted a moisture analysis of the underlying roof insulation to see if it could be retained for the new roof system. The moisture analysis confirmed the existing roof insulation could be retained for the new roof which saved the Owner thousands of dollars.

The roof replacement consisted of removing the existing rock ballast and 45 mils thick EPDM membrane, removing/replacing portions of the existing insulation found to be wet or unserviceable, installing a high density coverboard over the existing insulation, attaching the insulation composite to the roof deck, and installing a 60 mils thick fully adhered EPDM membrane for a 20-year roof guarantee. All new metal coping and metal flashings were installed throughout and the problematic rooftop air handling unit was repaired at the condensation pan.



New Adhered EPDM Roof



New Adhered EPDM Roof



Problematic HVAC Unit



Existing Ballasted EPDM



New Fully Adhered 60 Mil Thick EPDM Roof