Great Lakes Roofing Systems

Case Study – Jenison Public Schools Saves $1,000,000 in Roof Repairs

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Presented by: Kevin Clausen

Case Study for Jenison High School

Client profile

- Jenison Public Schools, established in 1970, has an enrollment of 4,700 students
- There are nine main buildings, including 1 high school, 1 middle school, 5 elementary, and 1 early childhood facilities
- 2012-2013 General Fund Expenditures: $45 million

Business situation

Facility roofs are aging, with leaks in various areas. The district has no sinking fund to cover expenses like roofs, carpeting and other maintenance costs. Thus, major capital expenses require the complex public bond proposal and approval process. Meanwhile, the high school facility was facing significant issues with its roof.

Technical situation

- On the high school, the existing fully adhered EPDM roof is installed over a ½" recovery board and tapered expanded polystyrene on a cementitious fiber deck.
- The existing roof has minor leaks but at over 20-years old has a number of deficiencies including open seams, perimeter flashing deterioration, and fastener 'tenting'.
- Coring and infrared scans reveal the existing insulation to be dry and in excellent condition with a few small exceptions.
- The existing tapered insulation system is fastened to the cementitious deck with lightweight plastic fasteners at a rate of 1 per 2 SF.
- The challenge is to preserve this insulation system – and prevent the need for more fasteners penetrating the structural roof deck – while the bond issue is planned and ultimately voted on. This process will likely take 3 to 5 years.
- The existing insulation has a replacement value of $900,000.00 including $250,000.00 to remove and dispose in landfills.
- Replacement of the insulation would also add approximately 3,500 man hours (437 man days) to the completion schedule of the project.

Solution

- In order to preserve the existing insulation Great Lakes Systems developed a plan to remediate the worst problems – or the areas that water was already infiltrating – first. From there, the fastener tenting would be repaired, and finally the deteriorated perimeter flashings would be repaired. The plan was to be implemented over a 4-year period so if the bond issue was approved sooner rather than later, the less critical repairs could simply be eliminated.

Benefits

- By investing nearly $50,000.00 over the 4-year period, the school district was able to prevent water infiltration into the existing roof system and preserve the existing insulation. Not only did the district save nearly $1 million on their insulation, they were able to have their roof installed in nearly half the time.

Products and services used

- The infrared scanning was completed in conjunction with Commercial Roofing Services using a Flir Compact Infrared Camera.
- The roofing material used for the reroofing was Carlisle 115mil Fleeceback EPDM using Fast100 adhesive dispensed from a customized PaceCart dispenser proprietarily modified by Great Lakes Systems, Inc.