

General Description:

- **Location:**
Saline, MI
- **Profile:**
203, 795 sq. ft. (replaced)
- **Project:**
Roof Replacement
Single-Ply

Services Provided:

- Design Development
- Construction Documents
- Bidding
- Construction Review & Administration

Challenge:

- School district needed a financially viable solution - had a limited budget within the frame work of a bond issue process but wanted the most for that budget
- Dead level roof with existing ponding water conditions

Solution:

- Designed a high quality, fully-adhered, single-ply system
- Designed additional drains and a tapered insulation system around the drains

Project Team:

- **StructureTec Corporation**
Building Envelope Consultant
- **TMP Associates**
Architect
- **Granger Corporation**
Construction Manager



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Saline Area Schools

Saline High School

As Consultant to the Construction Manager, StructureTec worked with the Architect to develop the roofing program for Sa-

drainage, spawning ponding water conditions. This challenge was solved by designing nine additional drains on the roof and designing ta-



Overview of Saline High School

line High School's renovation. Saline Area Schools had successfully passed a bond issue process, allowing them to renovate their buildings. A built-up roof system with a 25-year life expectancy was originally designed, but the school district needed to cut back on expenses in order to accomplish everything needed from their bond issue funds. An alternative single-ply EPDM fully-adhered system with a 15-18 year life expectancy was then specified. An additional challenge arose from the fact that the high school roof was dead level and provided inadequate

pered insulation and zoning around the drains to promote proper drainage. A contractor was then selected through a bidding process and the Construction Phase began. Obsolete roof penetrations were removed and new decking was installed at the openings. The existing roof sys-



Areas of the roof included a number of skylights which required special attention and detailing.



New baseboards with proper flashing were installed along the parapet wall.



The insulation boards for the replacement roofs were mechanically attached to the deck.

tem was removed down to the structural deck. Two layers of poly-isocyanurate insulation were installed, with a tapered system around the roof drains. The reinforced, black EPDM membrane was then installed as a fully-adhered system. Special attention to detail was given to fascia systems, base flashings, counterflashings, parapets, copings, and field of the roof details. Field Quality Assurance was performed throughout this phase to ensure overall project quality. In addition, a final walkover was conducted and a formal Punch List was developed as part of the project close-out administration. By designing a fully-adhered system, the life expectancy of the

roof increased over other single-ply systems, thereby maximizing the school districts return on investment upon completion of this project. The school district was provided with a high quality roof system which fit their budget and was adaptable to the existing environment. ■



Overview of roof replacement

<u>FEATURES</u>	<u>BENEFITS</u>
Designed a fully-adhered membrane	Realized greater longevity and performance
Designed tapered insulation	Allowed water to flow towards the drains
Designed additional insulation	Increased R-value and decreased future expenses
Designed additional protection at seams	Provided additional support for weakest link in system
Designed additional drains	Helped eliminate ponding conditions
Life-cycle cost (high rating for longevity)	Maximized return on investment
Provided Field Quality Assurance	Ensured high quality end product

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