



PROJECT PROFILE

Zionsville Fire Department Station 93

Roof Assessment | Zionsville, IN



CLIENT

Town of Zionsville

BACKGROUND

The Zionsville Fire Department Station 93 is essentially L-shaped in plan with the apparatus bay to the north and living quarters to the south. The dimensions of the building are approximately 160 feet in the north-south direction and 150 feet in the east-west direction. The roof system is a pitched roof with hipped ends and typically consists of dimensional asphalt shingles with an underlayment installed on plywood sheathing fastened to a metal deck. The metal deck spans between light gauge steel trusses above the living quarters and steel joists above the apparatus bay.

After construction of the Zionsville Fire Department Station 93, the roofing shingles began to blow off the roof as a result of moderate wind speeds. The Zionsville Fire Department engaged WJE to investigate the cause and provide recommendations for repair.



SOLUTION

WJE performed a site visit to visually observe the asphalt roofing system and reported damage. WJE also reviewed the design specifications and previous architect field reports to gather information relevant to the observed conditions.

Based on WJE's observations and review of the architect field reports, the damage to the roofing was largely the result of installation-related deficiencies. The architect field reports indicated that the roofing shingles were installed during cold weather in the winter months, and WJE's visual observations confirmed that the shingle edges did not adequately seal to the underlying shingles due to the cold temperatures at installation.



Without repairs, the building would become susceptible to water leakage due to existing damaged areas and further wind-related damage from deficiencies in the existing system. WJE recommended removing and replacing the damaged shingles and installing asphalt roofing sealant at all edges to provide adequate sealing to the underlying shingles.