

ST. MICHAEL'S CATHOLIC CHURCH GALENA, ILLINOIS

St. Michael's Church was visited to determine the cause of ceiling cracks and differential roof truss movement. Steel reinforcement was discovered at the eastern bearing end of one of the roof trusses that had dropped. Apparently, the bearing condition on the eastern end of the truss failed in some fashion in the past. The actual cause of the bearing failure was not known, but there was obviously a repair, which incorporated new masonry and the introduction of steel angles attached to the bottom chord supplementing the bearing.

Fortunately, the dropped bearing condition explained the atypical deflection values. The bearing repair was not new, so the truss had been in the dropped position for quite some time. Therefore, no repair for the dropped bearing was required.

A second issue was discovered during the roof framing investigation where shims were installed at various truss joints. The existing web members within the trusses were constructed in such a manner that any movement resulted in gaps between the end of the web members and the chord members. Shims were used in the past to fill the gaps.

While the systems of shims appeared to be effective, a new system of gusset plates to secure the compression web members to the chord members was proposed to avoid the constant maintenance associated with adjusting the shims.



Supplemental Steel Angle with Stiffener Plates at Bearing