The chapel building also served as housing for the first general store of Vermontville. It was located on the ground floor. Today the building is a museum and is open to the public on special occasions.

Religious services were held in the chapel until 1864, when the present church building was completed and dedicated. The present church building strongly resembles many New England meeting houses of the late 18th century, especially in the roof framing and the interior woodwork. New Englanders borrowed much from Greek architecture, as is evident in the Grecian arch that can be observed above the altar.

The choir loft originally was located above the congregation to the back of the church, in the balcony. In more recent years it has moved forward to the front of the church. The balcony now houses an office, and a meeting room. While the church members today are constantly striving to keep the church in good structural condition, and while they have done some remodeling, the church remains much the way it was over 100 years ago.

The stained glass windows present in the building today were purchased by the members of the church and installed in 1900. They are made of cathedral glass, which means that the color is ground into the glass, not the more common opalescent type, which has the color put on, then fired like china. They are prized possessions of the church and community, and their value is immeasurable. A description follows of what each window is thought to represent:

Southside:

- (1) Anchor with a loose rope: steadfastness, dependability, faith and assurance.
- (2) Grapes on a vine: fruitfulness, and the blood of Christ.
- (3) Ivy climbing upward: CE stands for Christian Endeavor; the JR for junior. The Jr. Christian Endeavor Group was a group of youth that was very active in the church in the early 1900's. The ivy climbing upwards represents the difficulty that youth has in attaining adulthood, needing the church's guidance to succeed.
- (4) A rake, sickle, and wheatball: the bread of holy communion and the body of Christ.

Northside:

- (5) The crown representing Christ's kingly office, also the crown of life. The cross represents Christ's resurrection, victory over death, and glory through suffering.
- (6) The letters IHS, were originally IHC. IHC are the first three letters of the name of Jesus in Greek. The modern meaning for IHS can be interpreted as In His Service, or I have suffered.