

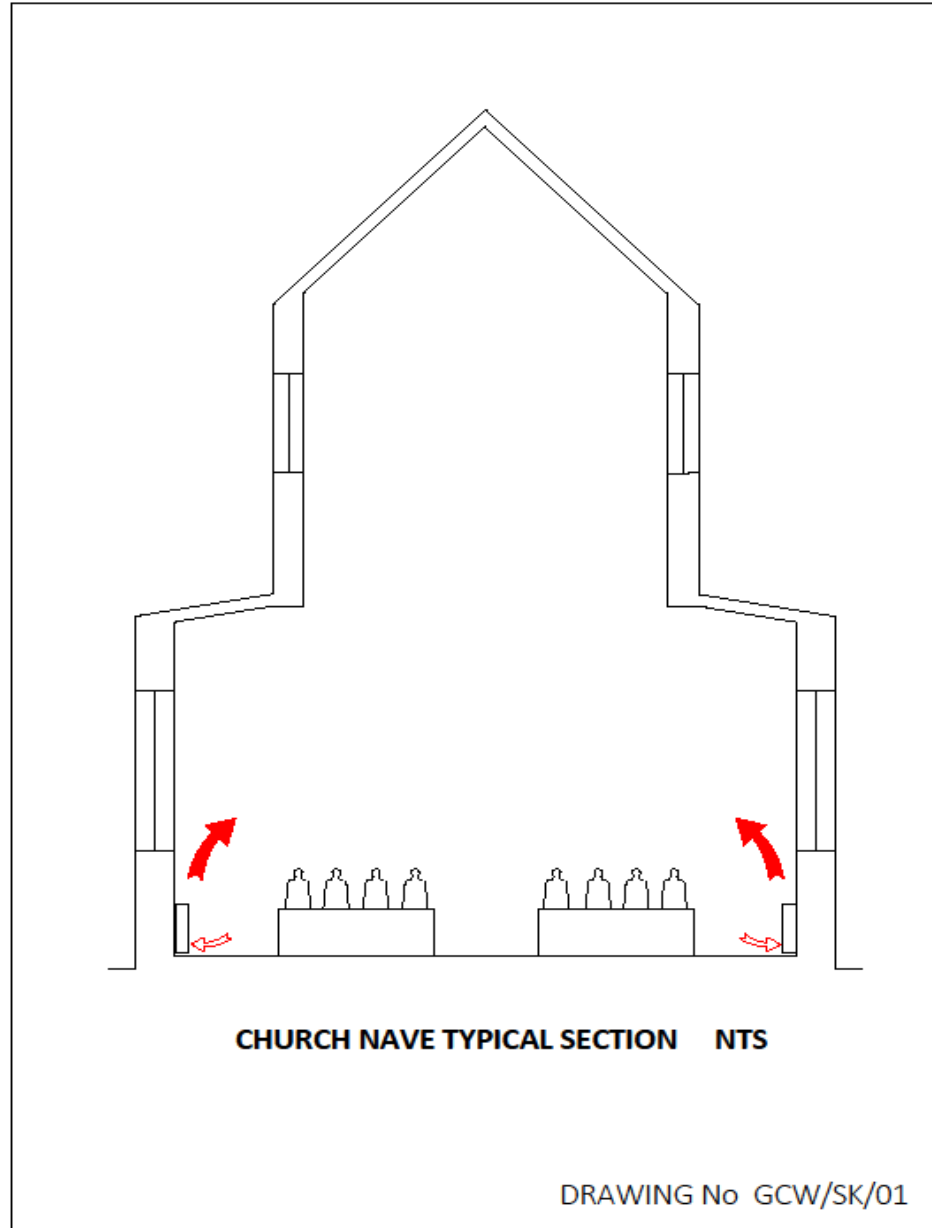
- ❖ Introduction
- ❖ Ruth Knight
- ❖ Methodology
- ❖ Comfort in Church
- ❖ Avoid condensation

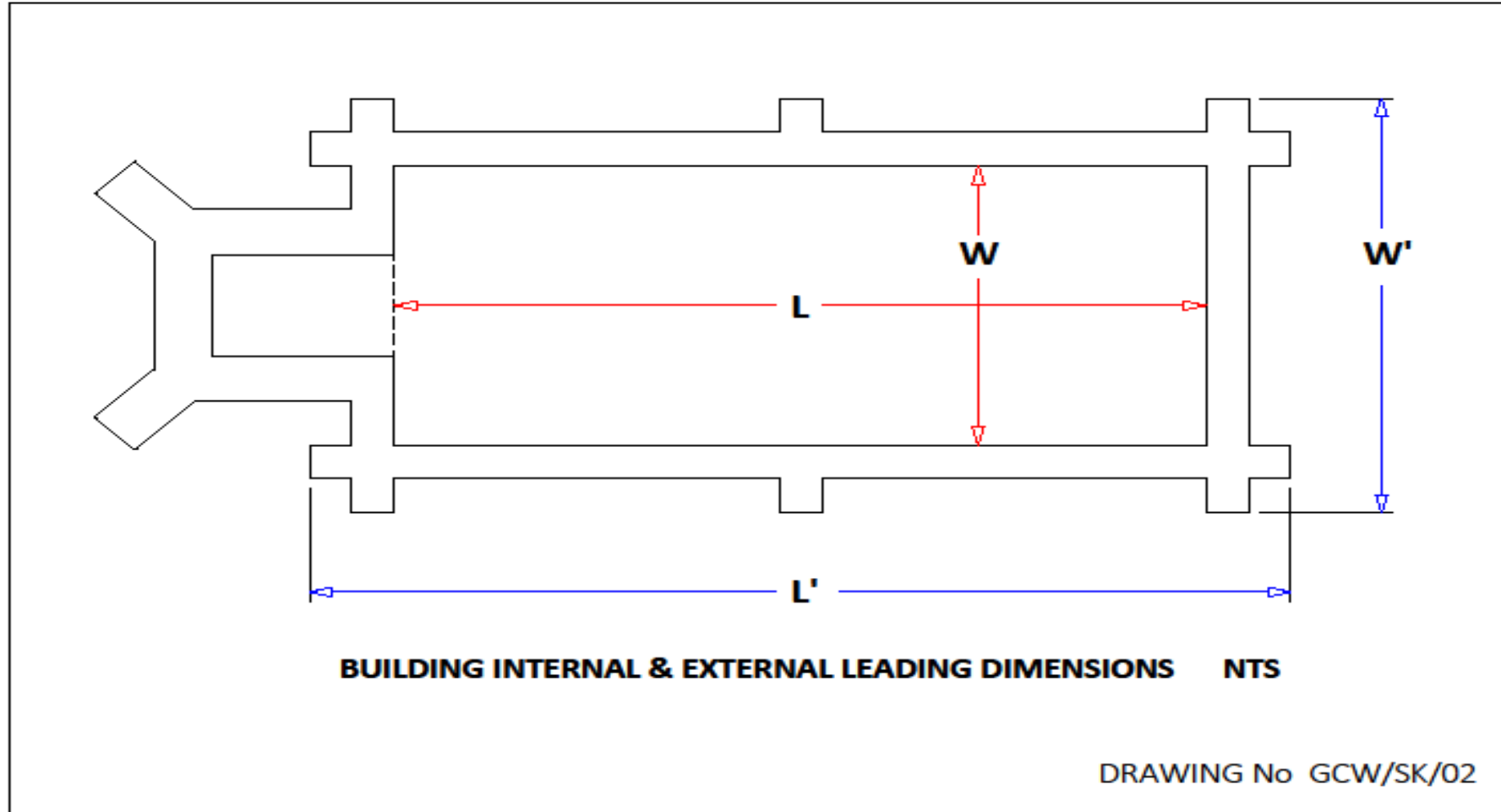


Jesus Chapel St Mary's Church Wellingborough

- ❖ Thermal insulation
- ❖ Diocese and Historic England
- ❖ Building Regulations and energy efficiency
- ❖ Future energy

- ❖ Heated spaces in Churches
- ❖ High space volume
- ❖ High thermal values
- ❖ High thermal mass
- ❖ Wall thickness





- ❖ Building fabric areas and volumes
- ❖ Stone mason
- ❖ Foundations

- ❖ Heating design parameters
- ❖ Geographical location
- ❖ External design temperatures
- ❖ Operative temperature
- ❖ Mean radiant temperature
- ❖ Air temperature

- ❖ 3 dimensional computer model
- ❖ Dynamic simulation
- ❖ Relative humidity
- ❖ Minimum temperatures
- ❖ Heat recovery ventilation

- ❖ Duration of heating season
- ❖ Heating performance
- ❖ Capital and operating cost balance
- ❖ Adventitious heat gains
- ❖ Heating control

- ❖ Low pressure hot water heating
- ❖ Monuments & Architectural features
- ❖ Minimum temperature gradients
- ❖ Primary heating equipment
- ❖ System heat output
- ❖ Annual primary heating energy

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