Site Visit Report

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Project No:	12555		
Project:	**St George's Church, Wembdon**	Report No:	**12555-551**
Engineer:	Stephen Swinbank	Page:	Page 1 of 4
Date of visit:	11/11/24		
Present:	Paul Hodge, Michael Vaughan, Tom Lewis		

Weather: Dry and partly cloudy

Site Notes

Mann Williams have been engaged by the Parochial Church Council of St George's, Wembdon to provide structural advice following recent storm damage to the church.

The storm damage occurred over the weekend of 5th October 2024. During the storm, a tree to the north side of the church lost substantial limbs. The limbs impacted the east end of the north aisle roof along with the roof structure beyond the east end of the north aisle (over the organ). Tiles were also damaged to the north roof slope of the Chancel.

At the time of our visit, the organ had been removed along with the damaged roof finishes. Temporary sheeting had been installed where roof tiles had been lost and tiles over the Chancel reset to temporarily address weather tightness and stem the risk of further damage from water ingress (refer to Photos 1 & 2 below).

Photo 1 – Roof temporarily sheeted above organ room

Photo 2 - Roof temporarily sheeted above east end of north aisle

Distribution				
	Client	☒	Project Manager	☐
	Architect	☒	Quantity Surveyor	☐
	Landscape Architect	☐	M&E	☐
	File	☐	Contractor	☐

Externally the areas impacted by falling tree limbs were inspected at close quarters from ladder access. Note, that in order to maintain weather tightness, the roof sheeting was not disturbed. Aside from the impact on the north aisle roof, the copings at the east end of the north aisle have been impacted with the fractured kneeler stone (Photo 3) requiring an indented repair or replacement; the bedding of the copings has also fractured. It is envisaged that the copings will need to be lifted and re-secured as part of the repair work to the roof finishes. The easternmost window of the north aisle shows signs of movement both internally and externally. Whilst some of the movement to this window will be longstanding, movements appear to have been exacerbated by the shock loading from the falling tree limb which also fractured and caused the localised loss of gutter ironwork. The keystone to on the external face of the window is delaminating (Photo 4) and will require an indented repair or replacement depending on the depth of fracturing. Internally there is also further evidence of recent movement to the window tracery. All open joints in the window tracery should be cleaned out and repointed in a suitable lime mortar. Similarly, fractured joints above the head of the window need to be raked out and fully filled with lime mortar (both internally and externally).

Photo 3 – Fractured kneeler stone to east end of north aisle

Photo 4 – Failing keystone and fracturing of masonry above (north aisle, east end)

At the east end of the north aisle, failure of the insulated plasterboard ceiling panels are evident where the tree limbs have pushed through (Photo 5). Fracturing is evident in the roof purlin, indicating this has been weakened by the impact of the tree limb (Photo 6). We advise the fractured purlin be partnered full length with a new timber. This timber should bear into the east wall to account for the loss of shear strength in the fractured purlin. The full cross sections of the north aisle common rafters is not visible (with the insulated plasterboard supported on battens fixed to the sides of the common rafters) and their condition will need to be reviewed externally ahead of recovering.

Photo 5 – Damage to ceiling panels of north aisle. Fracturing of masonry above east window.

Photo 6 – Fracturing of roof purlin and damage to ceiling panel.

The ceiling structure over the organ was found to be badly fractured below the level of the intermediate roof purlin (Photos 7 and 8). It is also clear that there has been significant water ingress where the roof tiles were lost. It appears that the ceiling is of lath and plaster construction. The ceiling finish will need to be stripped to the lower half of the ceiling (i.e. beyond the northern edge of the purlin). Over this area of roof, only the down stand of the purlin was visible for inspection and this appears undamaged. However, it may be that there is damage to the common rafters above the ceiling line. The roof structure will need to be fully appraised when the lath and plaster is stripped. At this stage, we suggest an allowance is set against partnering the common rafters to the lower half of the roof in treated structural softwood timber in case these elements have fractured.

Photo 7 – Damaged ceiling structure over organ. Down stand purlin appear sound

Photo 8 – Area of severe ceiling fracturing within the organ room. Fracturing to the north wall.

The north wall of the organ room has a longstanding fracture. An Avongard tell-tale has been set across the fracture in the past (the date of fitting is not known) but this is not indicating any structural movement since fitted. We would recommend that the delaminated plaster be removed and stainless steel spiro ties set across the fracture, within the bed joints. With the plaster removed, the fractures can also be raked out and fully pointed. Lime mortar can be utilised for bedding the spiro ties as well as pointing the fractures. An allowance should be made for 800mm long spiro ties set centrally across the fracture at approximately 300mm vertical centres. Plaster will need to be reinstated to match existing. Whilst this fracture is considered to be longstanding, it is likely that degradation of the wall plaster has been exacerbated by the recent water ingress.

Whilst tiles were lost on the north slope of the Chancel roof, at the time of our visit these had been reinstated. The ceiling to the Chancel appears to follow the line of an early barrel-vaulted roof structure. The ceiling would appear to be lath and plaster and is in particularly poor condition beneath the southern roof slope (Photo 9). From ground level, the condition of the ceiling appears poor and as such we consider there is potential for plaster falls (in particular of plaster which has become detached from lath or even where lath fixings have degraded). The church should take appropriate steps to safeguard against plaster falls and plan for investigation and repair of the Chancel ceiling structure. It is considered possible that the roof frames which form the barrel vault may also require repair and again we advise the church should plan for this. We cannot rule out the possibility that there has been some limited damage to the plaster under the north roof slope as a consequence of water ingress, following the storm damage, but currently it is the plaster under the southern roof slope which is in poorest condition.

Photo 9 – Degraded plaster work to barrel-vaulted ceiling of Chancel.