

# Sustainable Drainage Strategy Statement for Sawbridgeworth Evangelical and Congregational Church Building Project

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*3D visualization of proposed development*

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# 1 Executive Summary

This Surface Water Drainage Strategy Statement has been prepared with respect to the application for development of Sawbridgeworth Evangelical and Congregational Church (SECC). This statement serves to confirm the outline drainage strategy proposals to achieve the requirements of the East Herts Council District Plan as contained in Appendix B.

In line with Planning Practice Guidance and the Building Regulations, the following hierarchy of surface water disposal will be adhered to, in decreasing order of preference:

- I. Discharge to ground;
- II. Discharge to a surface water body;
- III. Discharge to a surface water sewer; and
- IV. Discharge to a combined water sewer.

Due to the sensitivity of the graveyard, and other potential archaeologically sensitive conditions, it is proposed that ground investigations (such as soakage tests) to establish the site's suitability for infiltration drainage are carried out at the technical design stage. It is therefore proposed that approval of the detailed drainage design is reserved by Planning Condition.

Through mitigation measures, the development will not increase flood risk to the surrounding area. In addition, the risk of pollution to surrounding aquifers and Brook is deemed to be low.

A detailed Surface Water Drainage Strategy will be provided which meets the requirements of all Government Policy and best practice through the provision of a Sustainable Drainage System (SuDS) system which mimics the natural environment. The drainage system will be designed to cater for surface water up to the 1 in 100-year event plus a climate change allowance of 40%, thus minimising the risk of flooding to the development and surrounding area.

Due to the sensitivity of the graveyard, and other potential archaeologically sensitive conditions, it is proposed that ground investigations (such as soakage tests) to establish the site's suitability for infiltration drainage are carried out at the technical design stage. It is therefore proposed that approval of the detailed drainage design is reserved by Planning Condition.

The proposed drainage system would be designed to convey foul and surface water separately and that the design would be in accordance with BS EN 752 – Drain and Sewer Systems Outside Buildings, BS EN 12056 – Gravity Drainage Systems Inside Buildings, and Approved Document H of Building Regulations.

## 2 Introduction

Sawbridgeworth Evangelical and Congregational Church (SECC) is situated on London Road in Sawbridgeworth and was built in 1862. The address of the property is:

Sawbridgeworth Evangelical and Congregational Church, London Road, Sawbridgeworth, Herts., CM21 9EH.

In 1911, a School Block was built alongside the church on the north side. A Kitchen and Toilet block was built behind the School Block in 1972. A storeroom was added in 1993 as an infill building between the Church Hall and the Kitchen Block (connecting to both buildings)

The members of the church along with the Trustees of the church are now seeking to make a significant refurbishment of the church sanctuary and church hall area as well as demolishing the School Block and Kitchen Toilet Block to make way for a new annex for the church as it moves forward in its ministries and outreach into the community.

### 3 Planning Policy Summary

The current planning policy document NPPF and Environment Agency guidance requires developments to employ Sustainable Drainage Systems (SuDS) techniques in the management of site run-off and surface water drainage. An extract is contained within Appendix A. Careful design of SuDS features can ensure that the site storm water drainage closely reflects the natural hydrology and hydrogeology of the site.

The key benefits of the proposed SuDS on-site are as follows:

- Improving water quality over a conventional piped system by removing pollutants from diffuse pollutant sources (e.g. roads).
- Improving amenity through the provision of open green space and wildlife habitat.
- Enabling a natural drainage regime which recharges groundwater and water courses (where possible)

The East Herts Local Plan Clause 23.5 deals with Sustainable drainage and is included in Appendix B for ease of reference.

Appendix C details an extract of paragraph 55 from <https://www.gov.uk/guidance/flood-risk-and-coastal-change> and details the principles of sustainable drainage required to be followed.

## 4 Existing Situation

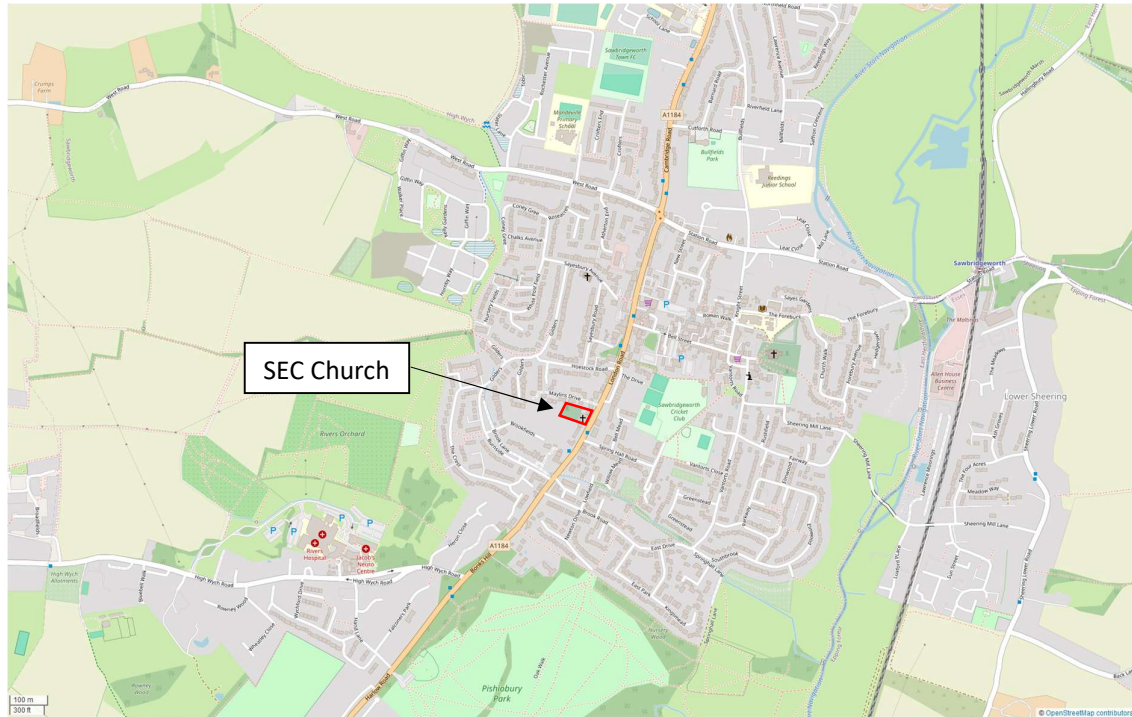


Figure 1 Location of SECC on London Road, Sawbridgeworth. Map data from OpenStreetMap 2023-12-03.

### 4.1 Current Buildings

The current church and hall were built in 1862. It is built in early English style with styling and details taken from churches designed by A W Pugin and S S Teulon and constructed by a local builder. The church has been updated internally at several different times to install a pipe organ, add water-based heating and radiators, install electric lighting, move the pipe organ and remove choir stalls, replace the church hall flooring, install a modern radiator based central heating system in the church hall, remove some pews to improve disabled access along with other minor improvements.

In 1911, a School Block was built alongside the church on the north side. A Kitchen and Toilet block was built behind the School Block in 1972. A storeroom was added in 1993 as an infill building between the Church Hall and the Kitchen Block (connecting to both buildings). The School Block has several issues that very difficult to resolve such as rising damp, penetrating damp (due to 9" wall construction) and no accessibility for disabled people. The roof is also close to end of life. Whilst some of these issues could be addressed at some expense, there would be on-going issues with penetrating damp and the issue of accessibility is hard to address within the existing building. Developing a new building with greatly improved energy efficiency and accessibility designed in is deemed to be a better approach.

The current buildings extend across most of the frontage of the site. Access to the rear of the site by vehicle is not possible as the buildings on the north of the site extend to the boundary line and the narrowest pint of the passageway on the south side of the site is less than approximately 2 metres.





Figure 2 Frontage of SEC Church on London Road.

The parking area at the front of the site is tarmacked with no surface water drainage included in the tarmacked area.

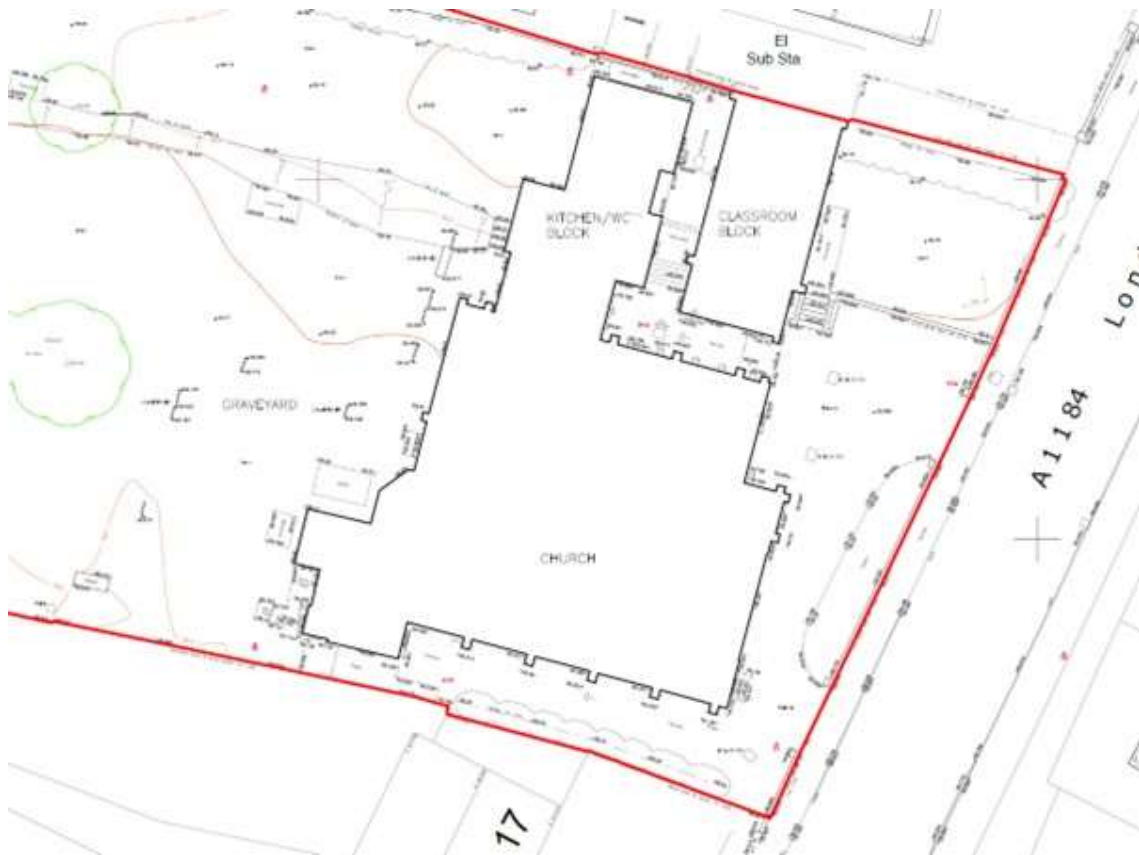


Figure 3 Existing site plan.

## 4.2 Existing drainage

For the purposes of this planning application and drainage statement, the existing facilities can be divided into 2 distinct areas:

1. Existing sanctuary (proposed internal refurbishment only)
2. Existing schoolroom block and modern kitchen/toilet block (proposed demolition and development of new annex)

Both the existing sanctuary and more modern annex building have foul and surface water drainage to a combined drains which discharge into the mains sewer in the London Road to the east. A small amount of run off goes to surrounding soft landscaping.

It is estimated that there is an existing total GFA of approximately 602m<sup>2</sup>.

There is currently 1 kitchen and WC facilities with a total of 14 sanitary appliances (WCs, urinals, and wash hand basins)







Figure 5 Proposed ground floor plan of SEC Church with new annex.



Figure 6 Proposed first floor plan of SEC Church with new annex.

The Phase 1 refurbishment would not change the existing GFA of ~602 m<sup>2</sup>. The Phase 2 redevelopment would result in 208 m<sup>2</sup> of existing floor area being demolished and a new building of approximately 432 m<sup>2</sup> being constructed (new ground floor area ~315 m<sup>2</sup> and new first floor area ~108 m<sup>2</sup>). The total GFA for the site would be approximately 817 m<sup>2</sup> which is a nett increase in GFA of 215 m<sup>2</sup>.

It is proposed that the area for the new building is lowered by approximately 1.2 m so that the new annex floor is aligned with the existing church floor level. This is to provide better accessibility and better-quality facilities to support the community. This can be seen by the provision of lifts, improved disabled toilets facilities and level access for improved accessibility, more storage to

improve the safety and security of people on site and a slightly larger kitchen to enable safer preparation of food for events like Make Lunch (which happens during school holidays) and other occasional church events. Space is also dedicated to enable better circulation areas. Whilst we are aiming to encourage and increase the participation of the local community in the activities offered by the church, the range of activities will broadly remain the same for the foreseeable future.

A Surface Water Drainage Strategy will be developed during the detailed design activities of the new annex (Phase 2) to meet the policy of the East Herts Local Plan 2018 and mimic natural drainage. The proposed strategy for Phase 2 will primarily focus on provision of soakaways or stormwater attenuation systems. In addition, to aid conservation of water, butts will be provided where feasible. A detailed drainage strategy report will be submitted prior to commencement of Phase 2. In line with local policy, the drainage designs will aim to achieve Greenfield run-off rates.

## 5.2 Car Parking Area

The area of the site devoted to car parking is not being changed significantly. With properly marked out parking bays, we expect this to result in approximately 3 to 4 car parking spaces. The area at the north end of the car park will be excavated and the area paved. The existing area will also be resurfaced as the existing tarmac has cracks and needs constant repair. As part of this improvement of the parking area, surface water management will be improved over the current situation. The church building has shown visible signs of movement in the past. Being a Grade II listed building that was built in 1862 with shallow foundations, care needs to be taken not to allow surface water to ingress around the foundations and thereby cause further movement. This may limit the options available for the hardstanding around the existing church, which may need to remain impermeable surface. We will employ current best practice to manage surface water run-off.

## 6 Conclusion

This Sustainable Drainage Statement outlines the strategies that will be employed to meet drainage design and implementation in ways to deliver policy objectives of the National framework and East Herts Local plan. The on-site sustainable drainage system will be designed to cater for flood events up to and including a 1 in 100-year storm event plus 40% climate change and will not present an increased flood risk to the site or surrounding properties. The detailed design will be carried out prior to commencement of Phase 2 and a full drainage strategy report will be submitted at that time.

In line with Planning Practice Guidance and the Building Regulations, the following hierarchy of surface water disposal will be adhered to, in decreasing order of preference:

- I. Discharge to ground;
- II. Discharge to a surface water body;
- III. Discharge to a surface water sewer; and
- IV. Discharge to a combined water sewer.

Due to the sensitivity of the graveyard, and other potential archaeologically sensitive conditions, it is proposed that ground investigations (such as soakage tests) to establish the site's suitability for infiltration drainage are carried out at the technical design stage. It is therefore proposed that approval of the detailed drainage design is reserved by Planning Condition.

As part of the development, the surface water management of the existing car park area will be improved within the constraints of having to protect the shallow foundations of the existing Grade II listed church building.

# Appendix A – Extract of Clause 165 to 175 from National Planning Policy Framework 2023

175. Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

- a) take account of advice from the lead local flood authority;
- b) have appropriate proposed minimum operational standards;
- c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
- d) where possible, provide multifunctional benefits

# Appendix B – East Hertfordshire District Plan Sustainable Drainage Policy

## 23.5 Sustainable Drainage

23.5.1 Sustainable Urban Drainage systems (SUDS) mimic natural drainage from a site and enable rainwater to run back into natural systems, rather than the stormwater drainage network. SUDS also treat run-off water to remove pollutants. This can have multiple benefits:

1. increased recharge of groundwater and aquifers
2. reduced runoff into the sewer system (resulting in reduced energy and chemical costs of treatment)
3. improved groundwater quality via natural infiltration
4. reduced degradation of chalk stream habitats

23.5.2 Depending on the type of drainage techniques used, there can be flood reduction benefits, pollution control benefits, and landscape and wildlife benefits. When selecting appropriate drainage techniques, it is important to try to maximise the number of benefits, and to prioritise the most sustainable approaches. These can be set out in the form of a hierarchy. The SUDS hierarchy contained within the Council’s SFRA is shown below:

	SUDs Technique	Flood Reduction	Pollution Reduction	Landscape and Wildlife Benefit
Most Sustainable				
	Living Roofs	√	√	√
	Basins and Ponds <ul style="list-style-type: none"> <li>• Constructed wetlands</li> <li>• Balancing ponds</li> <li>• Detention basins</li> <li>• Retention ponds</li> </ul>	√	√	√
	Filter Strips and Swales	√	√	√
	Infiltration Devices <ul style="list-style-type: none"> <li>• Soakaways</li> <li>• Infiltration trenches and basins</li> </ul>	√	√	√
	Permeable Surfaces and Filter Drains	√	√	



	<b>SUDs Technique</b>	<b>Flood Reduction</b>	<b>Pollution Reduction</b>	<b>Landscape and Wildlife Benefit</b>
	<ul style="list-style-type: none"> <li>• Gravelled surfaces</li> <li>• Solid paving blocks</li> <li>• Porous paviers</li> </ul>			
	Tanked Systems <ul style="list-style-type: none"> <li>• Over-sized pipes/tanks</li> <li>• Storm cells</li> </ul>	√		
<b>Least Sustainable</b>				

23.5.3 The sustainable drainage hierarchy is intended to ensure that all practical and reasonable measures are taken to manage surface water higher up in the hierarchy and that the amount of surface water managed at the bottom of the hierarchy is minimised. The hierarchy is also relevant to paving of front gardens, where the cumulative impact of impermeable paving on run-off rates may be considerable.

23.5.4 There are many practical issues of design, installation and maintenance in the implementation of effective SUDS. The Flood and Water Management Act 2010 requires upper tier authorities to set up a Sustainable Urban Drainage System (SUDS) Approving Body or 'SAB' to:

1. Evaluate and approve SUDS proposals for new development or redevelopment where construction work would have drainage implications, and
2. Adopt and maintain SUDS on schemes that meet the evaluation criteria set out in the National SUDS Standards.

23.5.5 Drainage aspects of policy have become the responsibility of the County Council. However, East Herts still has an involvement in drainage management and the environmental and amenity aspects of drainage schemes. Hertfordshire County Council has produced a SUDs Design Guide For Hertfordshire (March 2015) which sets out the relevant requirements. It is possible that some developments (especially smaller sites) could be offered to East Herts District Council for adoption.

#### Policy WAT5 Sustainable Drainage

- I. Development must utilise the most sustainable forms of drainage systems in accordance with the SUDS hierarchy, unless there are practical engineering reasons for not doing so.
- II. Development should aim to achieve Greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible.
- III. Drainage should be designed and implemented in ways that deliver other policy objectives of this Plan, including water use efficiency and quality, biodiversity, amenity and recreation. The provision of balancing ponds as part of an area of public open space for recreation or wildlife should be designed to ensure the safety of other users of the

space. Where SUDs are provided as part of a development, applicants should detail how it will be maintained in the long term.

- IV. Where practicable, SUDS should be designed to ensure the sustainable drainage networks have the additional capacity required to cope with infrequent adverse weather conditions and therefore reduce flood

# Appendix C – Principles of Sustainable Drainage

## 6.1 Sustainable drainage systems

### 6.1.1. What are sustainable drainage systems and why are they important?

Sustainable drainage systems (or SuDS) are designed to control surface water run off close to where it falls, combining a mixture of built and nature-based techniques to mimic natural drainage as closely as possible, and accounting for the predicted impacts of climate change. They provide benefits for water quantity, water quality, biodiversity and amenity. Many types of sustainable drainage systems are possible, contributing to reducing the causes and impacts of flooding. Multifunctional sustainable drainage systems are those that deliver a wider range of additional biodiversity and environmental net gains such as to:

- ameliorate urban heating and air pollution;
- replenish groundwater resources;
- contribute to biodiversity net gain targets;
- capture and re-use rainwater;
- store carbon;
- reduce the need for carbon-intensive construction techniques and pumped systems;
- release capacity in combined sewerage systems and at wastewater treatment works;
- create and connect valuable areas of blue-green infrastructure
- reduce lifetime maintenance costs; and
- enhance the attractiveness and value of new development by integrating water management with habitat for wildlife and opportunities for amenity and recreation.

The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.

Guidance on the planning considerations on sustainable drainage needs to be read in conjunction with guidance related to:

- [water quality](#)
- [what to think about if there are concerns about water supply/quality?](#)

Paragraph: 055 Reference ID: 7-055-20220825

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