

Dyne House & Dyne House Tunnel Link Building on the Island Site – Flood Risk Note for Planning

Highgate School: Dyne House and Dyne House Tunnel Link Building on the Island Site

Reason for Issue	For Planning	Author	F Wyatt
Date	16/01/2023	Checked	F Labbe
Issue	0	Approved	F Labbe

1. Introduction

This purpose of this note is to accompany the Planning Application for the redevelopment at Dyne House and Dyne House Tunnel Link Building on the Island Site (referred to hereafter as 'Island Site') to address the Supplementary Planning Document (SPD) requirements that a Flood Risk Assessment (FRA) should be submitted to support the Application. This note should be read in conjunction with the Highgate School Campus Development Site Wide Flood Risk Assessment (FRA) produced by Edenvale Young [1].

The Site is situated in Flood Zone 1 on the Environment Agency Flood map and is less than 1Ha, so therefore does not trigger any of the required reasons stated in the NPPF for a site-specific FRA.

2. Site Description

The Site is located on Southwood Lane in North London (Senior School Campus on Figure 1). The main part of the site which includes Dyne House, sits east of the street. It is elongated in the East-West direction and slopes down towards the East. A small part of the site (Island Site) sits west of the street and is connected to the main part via a tunnel link below Southwood Lane (see Figure 2).

The site covers an area of approximately 5,740m²(0.57Ha), approximately 85% of which is impermeable, and includes Island Site and The Parade Ground at the East end of the site. Ground levels on the Main Site vary between typically 125mAOD along Southwood Lane on the western edge of the site, to 110mAOD on the eastern edge of the site. Ground Levels on the Parade ground vary between typically 111.3mAOD on the western side to 110.3mAOD on the eastern side. Ground Levels on the island site vary from 126.5mAOD adjacent to the existing school building to 126.0mAOD at the entrance to the site.

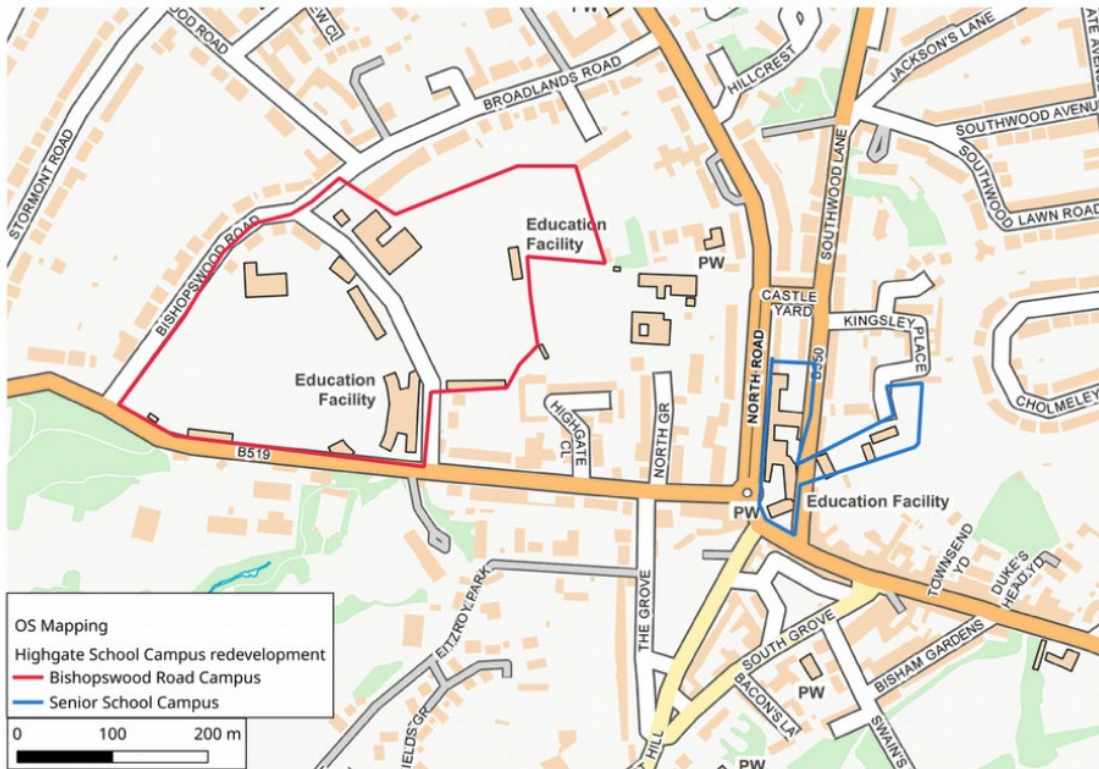


Figure 1: Site Location Plan

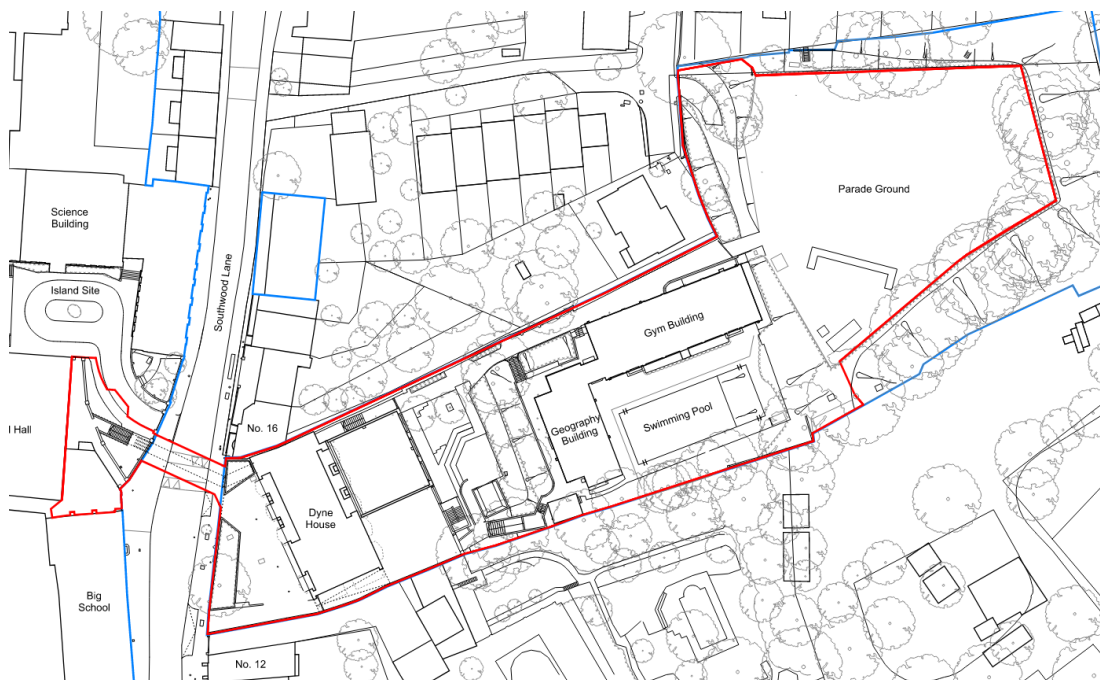


Figure 2: Site Boundary

3. Development Proposals

The architectural proposals for the Main Site incorporate a front extension towards Southwood Lane which will include: an informal assembly area in a new basement at lower ground level and the creation of a new street level entrance.

Dyne House itself is to be extensively re-modelled with the demolition of an existing stair and lift core, amendments to the internal layouts and re-building of the top storey to improve the teaching accommodation. These works include the removal of the elements forming the existing stability system and construction of an alternative stability system.

The facilities for the existing auditorium are to be enhanced by the construction of a single storey eastwards extension.

New teaching accommodation is to be built further east extending towards the Parade Ground including music teaching spaces, seminar rooms, an electronic library, and general classrooms. This will include a basement.

A new corridor will link together the structures from the back of the existing Dyne House to the new teaching accommodation.

A MUGA/Netball pitch and associated landscaping is proposed on the Parade Ground.

Proposals on the Island Site include a new basement providing a link to the Tunnel beneath Southwood Lane and additional toilet provision. At ground level plant rooms and a bin store are proposed with staircase access to the basement and tunnel link.

4. Review of flood risk to the proposed development

4.1 Flooding from Rivers and the Sea

The site is situated in Flood Zone 1 on the Environment Agency Flood Map for Planning and there is therefore no significant risk of flooding from Rivers and the Sea (see Figure 3 below).

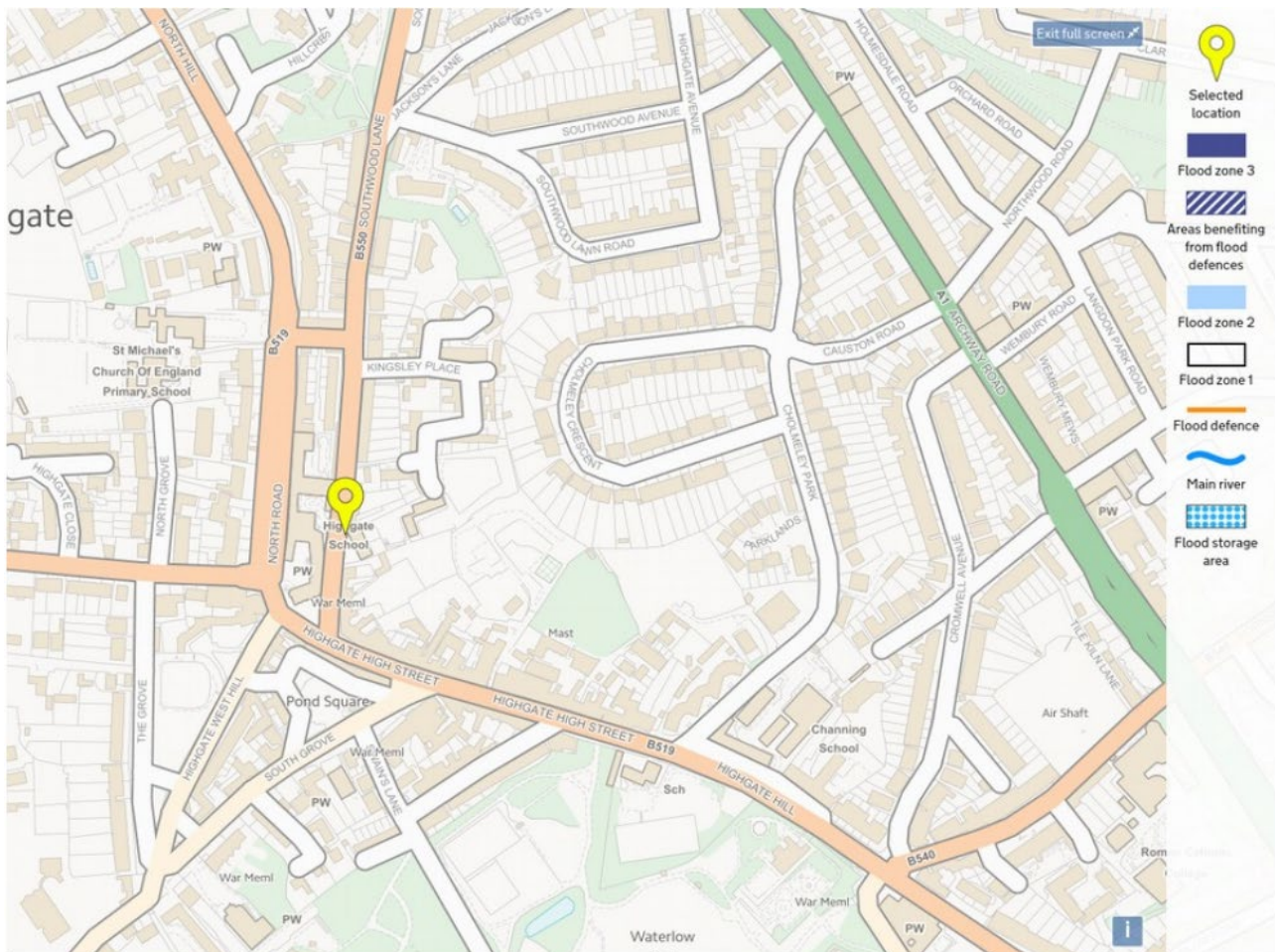


Figure 3: Extract from EA Fluvial Flood Risk Map

4.2 Flooding from Surface Water

The EA surface water flood map shows that there is no flood risk to the Site. The flood map indicates that there is a small area at a very low risk of surface water flooding at the base of the ramp leading down to the Parade Ground (<0.1% AEP). See Figure 4 below. The site wide FRA [1] concludes that flood risk from surface water and overland flows is considered low.

A surface water drainage strategy [2] has been developed for the Site to accompany the Planning Application. This sets out how surface water will be managed to protect the proposed development from flooding and ensure flood risk is not increased elsewhere.

Emergency storage has been provided at the basement pumping stations, to prevent flooding in the event of a failure of the pumping station. The drainage strategy also sets out the maintenance schedule, to minimise the risk of blockage and malfunction of the drainage system and minimise residual risks of flooding.

New hardstanding surfaces will fall away from entry thresholds, in particular at any openings into the basement and the top of the steps leading down to the Tunnel Link on Island Site.

To prevent flooding of the new building in the lower part of the site during extreme events, all surface water drainage running within the building or low level lightwells will be sealed. The cover of the surface water manholes along the Parade Ground in the lowest part of the site should be set below finished floor levels within the building.

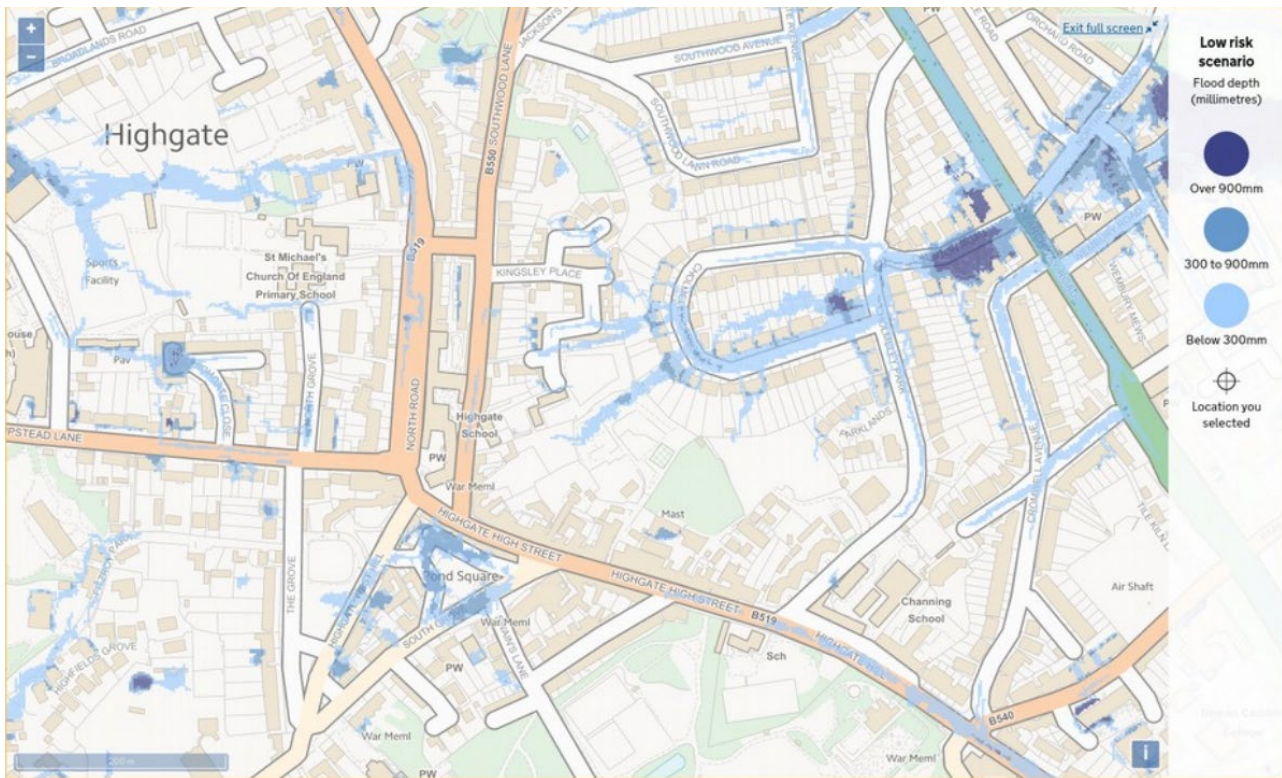


Figure 4: EA Surface Water Flood Risk Map (Low Risk Scenario)

4.3 Sewer Flooding

The site wide FRA states that the SWMP mapping has not identified a specific flooding issue in the vicinity of either campus.

4.4 Flooding from Groundwater

The site wide FRA concludes that the site is considered at low risk of ground water flooding and the proposed basements will be designed to be fully waterproof for the lifetime of the development.

4.5 Basement Impact Assessment

A new basement is proposed on Island Site providing a link to the Tunnel beneath Southwood Lane. A basement is also proposed on the new teaching extension on the Main Site.

A Basement Impact Assessment (BIA) [3] has also been completed by A-Squared Studio which considers any risks from ground water displacement and review the impact on the basements across the site.

The BIA concludes that there is a low risk of ground water flooding. It is anticipated that the construction of the proposed rear basement will locally raise the groundwater table by approximately 0.5 to 2.0m but the BIA concludes that this is not likely to have a significant impact on any surrounding assets or structures.

It has also been concluded that there is a very low risk of surface water flooding on the site and there are no significant impacts to the wider hydrological environment.

5. Conclusion

The Site is situated in Flood Zone 1 on the Environment Agency Flood map and is less than 1Ha, so therefore does not trigger any of the required reasons stated in the NPPF for a site specific FRA. This note has been produced to accompany the Highgate School Campus Development site wide FRA [1] to address the Supplementary Planning Document (SPD) requirements. No significant risk of flooding has been identified for the Site and the site wide FRA [1] concludes that the proposed developments within the Senior School campus have an acceptable level of flood risk within the terms and requirements of NPPF. Falls will be required from all entrance thresholds, in particular any openings into the basements and the top of the steps leading down to the Tunnel Link on Island Site.

A surface water drainage strategy [2] has been developed for the Site to accompany the Planning Application. This sets out how surface water will be managed to protect the proposed development from flooding and ensure flood risk is not increased elsewhere.

Emergency storage has been provided at the basement pumping stations, to prevent flooding in the event of a failure of the pumping station. The drainage strategy also sets out the maintenance schedule, to minimise the risk of blockage and malfunction of the drainage system and minimise residual risks of flooding.

New hardstanding surfaces will fall away from entry thresholds, in particular at any openings into the basement and the top of the steps leading down to the Tunnel Link on Island Site.

To prevent flooding of the new building in the lower part of the site during extreme events, all surface water drainage running within the building or low level lightwells will be sealed. The cover of the surface water manholes along the Parade Ground in the lowest part of the site should be set below finished floor levels within the building.

The Highgate School Campus Development site wide FRA and this site-specific flood risk note are believed to satisfy the SPD requirements of the LLFA.

REFERENCES

- [1] Highgate School Campus Development, London – Site Wide Flood Risk Assessment, Edenvale Young dated 11th September 2019.
- [2] Dyne House & Island Site Highgate School – Sustainable Urban Drainage Statement, Expedition Engineering dated 1st July 2022.
- [3] Highgate School – Dyne House and Island Site Basement Impact Assessment, A-squared Studio dated December 2019