Oriel

Response to additional technical queries on the Flood Risk Assessment and Drainage Strategy

March 2021

Oriel
Creating the centre for advancing eye health

Moorfields Eye Hospital NHS Foundation Trust

NHS

Moorfields Eye Charity

UCL INSTITUTE OF OPHTHALMOLOGY

Oriel – Response to additional technical queries on the Flood Risk Assessment and Drainage Strategy – 30th March 2021

1. Introduction

Moorfields Eye Hospital NHS Foundation Trust, on behalf of Oriel[1] (the 'Applicant'), submitted a planning application on 16th October 2020 (Application Ref. 2020/4825/P) to the London Borough of Camden (LBC) for a new facility that would allow the existing Moorfields Eye Hospital at City Road (Moorfields at City Road) and University College London (UCL) Institute of Ophthalmology (IoO) services at Bath Street to relocate into a single building at the existing St. Pancras Hospital site (hereafter referred to as the 'Proposed Development').

The Proposed Development will be located at part of the existing St. Pancras Hospital site (hereafter referred to as the 'Site'). The Proposed Development comprises a single building, between seven and ten storeys in height (including Ground Level and Lower Ground Level, as well as plant at Roof Level), as well as provision of public realm at ground level, blue badge parking, and a vehicular drop off point on St Pancras Way.

A Flood Risk Assessment and Drainage Strategy (FRADS) was prepared for the Proposed Development (Document Ref. ORL-INF-XX-XX-RP-PL-240-Flood Risk Assessment and Drainage Strategy) and submitted with the planning application in October 2020.

As the Lead Local Flood Authority (LLFA) for the Site, LBC reviewed the FRADS and requested information and/or clarity on a number of matters. These are summarised in a briefing note dated 31st January 2021. AECOM, as the authors of the FRADS, provided a response to the comments raised by the LLFA, on behalf of the Applicant, which was issued to LBC on 25th February 2021.

Additional technical queries were raised by the LLFA, which were received by the Applicant on 26th March 2021. This technical note provides a response to these additional technical queries.

[1] Oriel is a joint venture between Moorfields Eye Hospital NHS Foundation Trust, University College London Institute of Ophthalmology and Moorfields Eye Charity.

Please note the following terminology and associated definitions which are used in this response:

- The Site Boundary – the Planning Application boundary, i.e. the area of land for which planning permission is sought. This includes the proposed building area together with the surrounding public roads and shared private access spaces.
- The Development Boundary – this refers to the proposed building footprint and curtilage surrounding the building which will remain within the control of the Applicant.

For ease of reading the additional technical queries are replicated below and responses are provided in italics.

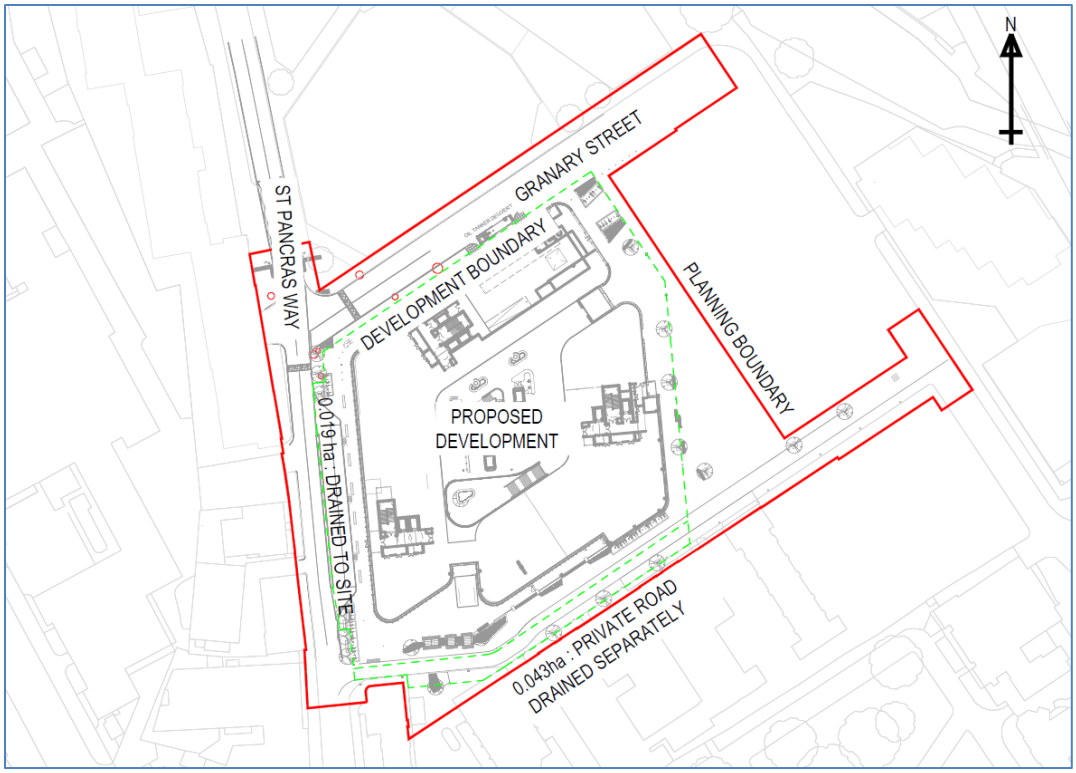
2. Applicant's Response to Further Technical Queries

1. Demonstrates why additional highway SuDS have not been considered.

As described in the Flood Risk Assessment and Drainage Strategy (FRADS) (Document Ref. ORL-INF-XX-XX-RP-PL-240-Flood Risk Assessment and Drainage Strategy) submitted with the planning application in October 2020, the Site (i.e. the Planning Application Boundary) covers an area of approximately 1.33 hectares (ha) which includes the proposed building area together with the surrounding public roads and shared private access spaces, as shown in red and referred to as the Planning Application Boundary in Figure 1-1 of the FRADS, and reproduced below in Figure 1.

The area within the Site boundary which is in the control of the Applicant (referred to as the 'Development Boundary', edged in green in Figure 1), has been maximised for the placement of cellular storage attenuation tanks and permeable paving. Very limited space remains within the Development Boundary, immediately adjacent to the building footprint, and this has been reserved for proposed services that will supply the building. Therefore, no space remains within the private curtilage of the proposed building to provide additional SuDS.

Figure 1 Planning Application Boundary and Development Boundary



External to the proposed building footprint, but within the Planning Application Boundary, are also the existing highways areas that will be reconfigured in some areas (mostly to the west of the proposed building) to facilitate the use of the proposed building. This will include the introduction of a layby to the west of the proposed building. However, no space is available for the inclusion of additional SuDS in the existing highways areas, nor is there a need to drain the existing highways in a different manner to the current arrangement (which would entail significant reconfiguration of the highways and would affect numerous public services that exist along the highways and are not within the control of the Applicant). Therefore, the inclusion of additional SuDS features in the highways areas within the Planning Application Boundary is not feasible.

2. **Shows the greenfield rate calculations.**

The greenfield runoff rate calculations are included in Appendix A of this document. Note that these are based on the area of the Development Boundary and not the entire site area (i.e. the Planning Application Boundary), in keeping with all other calculations presented within the FRADS, and to remain conservative when comparing to the proposed discharge rates – see responses to points 3 and 4 below.

3. **Provides calculations that use the entire site area for the runoff rate calculations.**

Calculations for the Planning Application Boundary cannot be undertaken without skewing the values for the calculations and rendering them incorrect. Whilst the Planning Application Boundary (the Site) is 1.33 ha, this includes approximately 0.5ha of land which is outside the control of the Applicant and within highway land which will not be drained to the private system. Therefore, the calculations in the submitted FRADS correctly demonstrate that the area within the Development Boundary (see Figure 1)will be drained in line with a restricted discharge rate whereas the highway areas are not included in the calculations and remain drained as per the existing arrangements.

4. **Provides calculations that use the entire site area for the attenuation volume calculations.**

Please see the response for point 3 above which also applies to this request.

5. **References the proposed flow control device and states a maintenance owner.**

The proposed drainage network will terminate with a vortex flow control device that will limit the discharge rate to the design values in line with the FRADS. This will be contained within a suitably sized manhole with a cover that can be regularly accessed

and inspected from the surface or entered (with appropriate training) to maintain the unit if a blockage is detected from the surface.

The unit will include a pull cord that will be connected to the manhole cover frame to allow a bypass door on the unit to be opened to drain down the system in event that the standard orifice is blocked – this allows the chamber to be emptied prior to operatives safely entering the system for maintenance. The inspection regime will be formalised during the detailed design stage which will include obtaining details of the specific flow control device from the chosen manufacturer at the time of purchasing the unit by the Contractor. However, this is expected to be no less than 6-monthly intervals of routine inspection and after large rainfall events, in line with standard best practice.

The building operator will hold an Operation and Maintenance manual detailing the workings of the proposed drainage network which will be used by the Facilities Management team to successfully manage the drainage network. Note that, as set out within the FRADS, the entirety of the proposed drainage network will remain in private ownership and therefore will be maintained in perpetuity by the building operator.

6. **Confirms that discharge rate proposed matches the sewer capacity set out within the Thames Water letter.**

The FRADS provides definition of the proposed discharge rate of 20.8 l/s and the Letter provided by Thames Water (Pre-planning enquiry dated 26th February 2021, see Appendix B) confirms that the discharge rate of 20.8 l/s is suitable to be received by their sewer. Therefore, we understand that this proves that the proposed discharge rate from the proposed development can be accommodated by Thames Water and no further works are required by Thames Water.

Appendix A Greenfield Run-Off Rates

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.450
Area (ha)	0.739	Urban	0.000
SAAR (mm)	600	Region Number	Region 6

Results l/s

QBAR Rural	2.7
QBAR Urban	2.7
Q100 years	8.6
Q1 year	2.3
Q30 years	6.1
Q100 years	8.6

Appendix B Thames Water Pre-planning Capacity Letter

[redacted]

AECOM
Midpoint
Alencon Link
Basingstoke
RG21 7PP

Wastewater pre-planning
Our ref DS6081542

26 February 2021

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Oriel Building MEH, St Pancras Way, London, NW1 0PE

Dear [redacted],

Thank you for providing information on your development.

Proposed site: Education Centre (210 people), Lab (100 people), Restaurant (800 people), Office (42 people), Hospital (1200 people), Hospital therapy and recovery (50 beds), Impermeable area : 8280m2
Proposed foul water discharge by gravity into combined water sewer downstream of manhole TQ29836601 via existing connection.
Proposed surface water discharge at 20.8 l/s for all storm events up to and including 1:100yr+40%CC into combined water sewer downstream of manhole TQ29836601 via an existing connection.

We have completed the assessment of the foul water flows and surface water run-off based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent combined water sewer network to serve your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

Surface Water

When developing a site, policy 5.13 of the London Plan and Policy 3.4 of the Supplementary Planning Guidance (Sustainable Design And Construction) states that every attempt should be made to use flow attenuation and SuDS/Storage to reduce the surface water discharge from the site as much as possible.

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you have followed the sequential approach to the disposal of surface water and considered all practical means.

The disposal hierarchy being:

1. store rainwater for later use.
2. use infiltration techniques where possible.
3. attenuate rainwater in ponds or open water features for gradual release.
4. attenuate rainwater by storing in tanks or sealed water features for gradual release.
5. discharge rainwater direct to a watercourse.
6. discharge rainwater to a surface water sewer/drain.
7. discharge rainwater to the combined sewer.
8. discharge rainwater to the foul sewer

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

If the above surface water hierarchy has been followed and if the flows are restricted to a total of 20.8 l/s, then Thames Water would not have any objections to the proposal.

Please see the attached 'Planning your wastewater' leaflet for additional information.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you have any further questions, please contact me on 0800 009 3921.

Kind Regards,

[redacted]
Developer Services – Technical Coordinator, Sewer Adoptions Team
Tel: 0800 009 3921
[redacted]
Get advice on making your sewer connection correctly at connectright.org.uk
Clearwater Court, Vastern Road, Reading, RG1 8DB
Find us online at developers.thameswater.co.uk