Camden London Borough Council Lead Local Floody Authority Comments Technical Review Note

This is a LLFA query response for planning submission reference 2023/3212/P for the redevelopment of the St Pancras Substation, Camden, London, NW1 0DP.

An initial drainage strategy was submitted in September 2023. Camden LLFA provided comments to the submission on the 25th October 2023.

The following query response note responds to the comments made by Camden LLFA to assist with the resubmission.

Review Summary:
This application has not sufficiently demonstrated the use of the London Plan's drainage hierarchy and is proposing the following key items:

- **Type of development:** Creation of new car parking and van parking spaces (for use by UK Power Networks operatives and staff), storage areas, installation of jet washing area, and replacement fence along the eastern boundary and increasing the height of the wall along the western boundary at an existing UK Power Networks substation site 57-71 Pratt Street, 10-15 Georgiana Street and Royal College Street

The current proposals relate to a limited area of an existing operational site. The sustainable drainage features proposed to enhance sustainability and water cleansing are based on the site usage and operational considerations and existing utility and site constraints.

- **Flood risk:** Not stated.

A Flood risk assessment has now been produced and is provided within the updated submission.

The reference is CCL-21-0644- FRA St Pancras Rev 01.

- **Types of conveyance / attenuation features**: Permeable paving and flow control device.

Attenuation
Correct, and in addition we have suggested cellular crates to accommodate the attenuation storage requirements.

Conveyance
We have also implemented linear drainage channels, gullies and perforated pipes within our proposed drainage strategy.

- **Greenfield runoff rate**: Not stated.

The greenfield runoff rates have been calculated. The Drainage Strategy report and flood risk assessment have been revised and updated with the greenfield runoff rates. These can also be found as appendices in both documents.

We had opened dialogue with Thames Water for to agree a discharge rate to the existing combined sewer north of the site at 5l/s. Following LLFA comments and to be in accordance with the London Plan and Ciria guidance, we have designed the runoff discharge at 2l/s for the pavement redevelopment areas (porous paving and circulatory routes).

- **Runoff rate restriction (l/s)**: 5 l/s

Please see above comment regarding runoff rate restriction.

- **Runoff attenuation volume (m^3)**: Not stated.

The cellular creates accommodate circa 170 Cu.m storage volume.
The porous paving accommodates circa 67 Cu.m storage volume.
The concept surface water strategy drawing has an attenuation volume value stated. This can be found as an appendix within the drainage strategy report.
The hydraulic simulations also provide a value of attenuation volume.

- **Maintenance plan**: Not included.

The maintenance plan has now been provided in the revised submission.

The reference is 21-0644 Maintenance Schedule.

Recommendations and Requests:
We object to the application for the following reasons:

1. The applicant has not sufficiently justified why green infrastructure such as raingardens or tree pits have not been included in the design.

Soft landscaped areas have been incorporated into the latest masterplan.

It should be noted that the development site is a substation with above and below ground constraints. As a result, the opportunities to implement some SuDs features and green infrastructure are not viable due to the operational constraints.

(N.B. *The earlier phase allowed for a sedum type green roof, where possible*)

2. The applicant has not provided greenfield or existing runoff rates for the 1 in 1 year, 1 in 30 year, or 1 in 100 year rainfall events. The climate change allowance used is unclear.

The greenfield and existing runoff rates for the site across different return periods have been included in the revised drainage strategy report, reference 21-0644-St Pancras DSR-Rev 06.

This can be found in section 4.0.

3. The proposed runoff rate has not been agreed upon with the LLFA, the applicant should try to meet greenfield run-off rates or as close as feasibly possible.

We had opened dialogue with Thames Water for to agree a discharge rate to the existing combined sewer north of the site at 5l/s. Following LLFA comments and to be in accordance with the London Plan and Ciria guidance, we have designed the runoff discharge at 2l/s for the pavement redevelopment areas (porous paving and circulatory routes).

We believe that this runoff restriction would provide a betterment of up to 95%.

Additional attenuation will be required if flows are to be restricted further and inspection / maintenance frequency will also need to be considered.

4. The applicant has not provided surface water runoff calculations or volumes of the proposed attenuation features.

The proposed hydraulic simulations periods have been provided within the revised submission. Return periods of 1year, 2year, 5year, 30year, 100year have been provided, along with allowances for climate change.

Volumes of proposed attenuation features can be found within the hydraulic simulations, along with a conservative value stated on the concept surface water strategy drawing.

5. The applicant has not provided calculations proving there is no flooding on site in a 1 in 30 year flooding event and to any building within the development for up to and including the 1 in 100 year flooding event plus an allowance for climate change

The proposed hydraulic simulations periods have been provided within the revised submission. Return periods of 1year, 2year, 5year, 30year, 100year have been provided, along with allowances for climate change.

6. The applicant has not provided a maintenance strategy or stated a maintenance owner.

The maintenance plan has now been provided in the revised submission.

The reference is 21-0644 Maintenance Schedule.

7. Pollution mitigation measures have not been considered.

Please can this comment be clarified. The alternative proposed drainage strategy provides for inherent water quality improvements by utilising porous pavement infrastructure which will provide interception of diffuse pollution and minimise hydrocarbon contamination.

The surface water collected and conveyed in the proposed network will be cleansed by the permeable paving, catchpit manhole chambers and hydrocarbon sponge interceptors prior to discharge to the existing drainage network, upstream of the existing bypass separator.

As this area of site will be reconstructed the sustainable drainage provisions are much enhanced.

Discharge to the downstream sewer networks will be less polluted than historic runoff.

The existing site has a bypass separator for hydrocarbon capture before discharge.

8. No information has been provided detailing the management of Health and Safety risks related to the SuDS design.

A H&S SuDs assessment has been produced and provided in the revised submission.

The reference is SuDs Health & Safety Schedule Rev00.

The facilities management and maintenance proposals should advise on the detailed design and associated health and safety risks related to the SuDS design.

Detailed design and further information will be required from the UK Power Networks team and their principal contractors in due course.