

bradbrook c o n s u l t i n g	Prepared by:	NH
	Checked by:	RLM
PROJECT: SILVERDALE ROAD, HAYES	Date:	Oct 2020
REPORT REF: 20-011R001 – First Issue		

DRAINAGE DESIGN AND MAINTAINENANCE STATEMENT

DRAINAGE DESIGN PHILOSOPHY

The proposed surface water drainage system detailed on Bradbrook Consulting drainage drawing 20-011-300 has been designed to drain by gravity and discharge into the Thames Water sewer at two outfall locations via a new pump station rated to discharge at a restricted Greenfield rate of 3l/s – total 6l/s. Proposed outfalls are via former connection into TW SWMH 0501 and 300 diameter surface water sewer to the north of the site and new connection into TW SWMH 8509 and 300 diameter surface water sewer to the west of the site. Proposed new connection when the scheme is developed will be advised to Thames Water via a S106 connection application.

Original Mayer Brown FRA and Surface Water Drainage Report (Ref. A/HSGSILVERDALE.10 dated Oct 2016) submitted for the original planning application (Hillingdon Planning Ref 71374/APP/2016/4027) was suggesting discharge be restricted to 5l/s at each outfall – total 10l/s. However, following a predevelopment enquiry completed with Thames Water a further reduction needed to be considered as confirmed by Thames Water letter dated 21st September 2020 (Ref DS6076264), copy appended in Appendix A

The site levels and storm water attenuation system, comprising below ground cellular storage tanks, has been designed to accommodate all storm events up to and including 1 in 100 year plus 40% climate change event.

Roof drainage system is kept separate from the external drainage system. Runoff off from the underground car park areas and landscape areas will discharge via catch pit manholes to eliminate and mitigate as far as practically possible the risk of pollution and silt discharging into the sewer.

The proposed foul water drainage system detailed on Bradbrook Consulting drainage drawing 20-011-300 has been designed to drain by gravity and discharge via a new pump station at two outfall locations into the offsite Thames Water Foul water sewer system, with pump flows restricted to 3.8l/s

Proposed outfalls are via former connection into private offsite 150 diameter foul drainage system to the east of the site, and via a new connection into TW FWMH 9621 and 150 diameter foul water sewer to the west of the site. Proposed new connection when the scheme is developed will be advised to Thames Water via a S106 connection application.

The drainage system for the new development has been designed adequately with suitable gradients, silt pits, catchpits and interceptors and access points to reduce the requirement for maintenance other than periodic inspections, unless a blockage occurs. On completion of the main drainage installation during the development works a full CCTV drainage survey will be completed to confirm that the as built drainage installation is fully operational and in good working order.



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INSPECTION AND MAINTENANCE PLAN

Regular inspections and maintenance of the surface and foul water drainage system is important to ensure the effective and efficient operation of the system and to reduce the likelihood of blockages and flooding on site.

Responsibility for maintaining and managing the drainage system on completion will be by the landowner, through their site facilities management team and/or tenants occupying the units. Landowner contact is:

Access Storage
93 Park Lane
Mayfair
London
W1K 7TB

In use drains, attenuation tanks, pump chambers, manholes, drainage channels and silt pits will be regularly inspected to monitor debris build or after large storm events. Where debris is identified this will be cleaned at the earliest opportunity to prevent blockages. If faults persist jetting and CCTV survey may be required.

The following are maintenance guidance for key SUDs features,

STORAGE TANKS	
Regular Maintenance	Frequency
Inspection Inspect inlets, outlets and overflows for blockages, and clear if required. If faults persist jetting and CCTV survey may be required. (Note specific requirement for jetting below)	Monthly
Occasional Tasks Inspect and identify any areas that are not operating correctly. Debris removal from catchment surface (where may cause risks to performance) Full jet clean and remove sediment from pre-treatment structures. (Note specific requirement for jetting below)	6 Monthly Annually
Remedial Work Repair/rehabilitation of inlets, outlet, overflows and vents.	As required

The drainage system will be fully jet cleaned out and full CCTV drainage surveyed completed at minimum 12 monthly intervals to assess the condition of the drainage system. Any remedial works identified during inspection will be carried out at the earliest opportunity to ensure the drainage system is in good working order.



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If and when the drainage system is jet cleaned it must be undertaken in a managed way to mitigate the risk of any debris or polluted water being discharged off site into the existing Thames Water sewer. The following measures should be considered and implemented prior to jetting works being undertaken:

1. Ensure any jetting of sections of the drainage system is undertaken in dry weather where possible
2. When drains are jetted, a tanker should be employed to suck out jetted water at the downstream manhole during the works to ensure debris is not simply being pushed down the drainage network impacting on other drainage systems and being discharged off site
3. As an additional precautionary measure a temporary bung should be inserted in the final outfall manhole to ensure that any accidental wash down of debris down the drainage system is captured. This is to be removed on completion of the works
4. On completion of any jetting works all downstream pipes, pretreatment structures and manholes should be lifted and inspected via a final CCTV survey, and cleared as necessary using the suction truck to ensure there is no residual debris in the system and that the system is left in a good and clean operational condition

Suitable access and rodding points has been provided to allow safe access for inspection and cleaning to drains, manholes and below ground tanks. This includes rodable points from above ground RWP's and SVP's into the below ground surface and foul water system.

Reference will also be made to the manufacturer's information and maintenance requirements included in the Operation and Maintenance Manual to be compiled on completion of the project for recommended intervals and safe methods of cleaning for the following proprietary systems:

- storm water storage system
- drainage channels
- surface and foul water pump station

In all instances, inspection and cleaning is to be carried out only by a suitable Specialist Contractor, following the guidelines given in BE EN 752 Part 7 1998 "Maintenance and Operations" and "Safe Working in Sewers and at Sewage Works", published by the National Joint Health and Safety Committee for the Water Services.

All underground drains, tanks, access chambers and manholes (including petrol interceptors) represent working in confined spaces. Appropriate precautions should be taken before entering drains and manholes. Access should only be undertaken by appropriately trained personnel.

Final details of the maintenance requirement of the installed system will be included in the site Operation and Maintenance Manual to be compiled at the end of the development works.

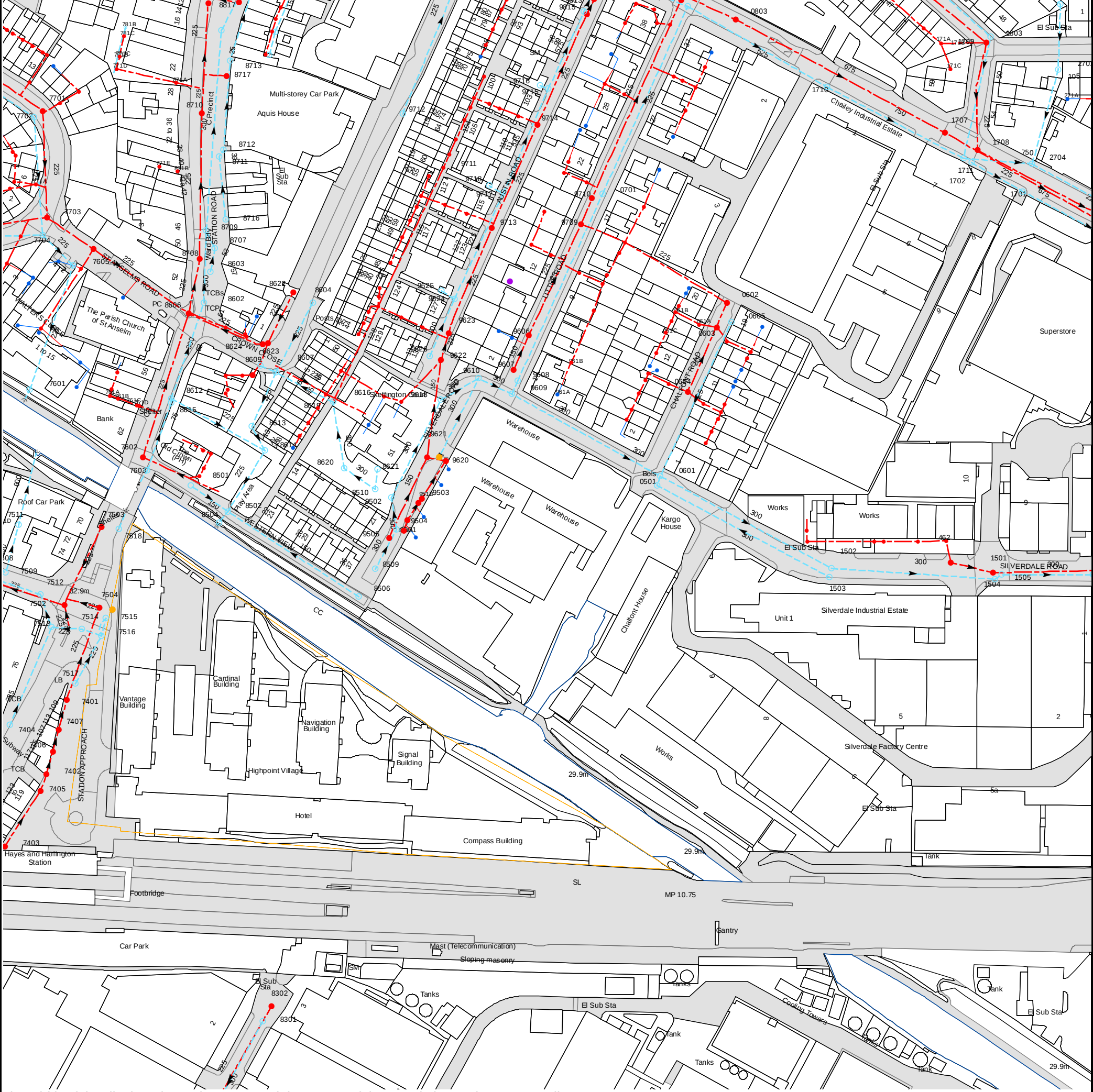


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APPENDIX A – THAMES WATER SEWER MAP AND PRE-PLANNING ENQUIRY APPROVAL



Asset Location Search Sewer Map - ALS/ALS Standard/2016 3416715



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 509978,179569
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Trunk Surface Water
	Trunk Foul
	Storm Relief
	Trunk Combined
	Vent Pipe
	Bio-solids (Sludge)
	Proposed Thames Surface Water Sewer
	Proposed Thames Water Foul Sewer
	Gallery
	Foul Rising Main
	Surface Water Rising Main
	Sludge Rising Main
	Vacuum

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	Air Valve
	Dam Chase
	Fitting
	Meter
	Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	Control Valve
	Drop Pipe
	Ancillary
	Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	Outfall
	Undefined End
	Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Invert Level
	Summit

Areas

Lines denoting areas of underground surveys, etc.

	Agreement
	Operational Site
	Chamber
	Tunnel
	Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

	Foul Sewer
	Surface Water Sewer
	Combined Sewer
	Culverted Watercourse
	Gully
	Proposed
	Abandoned Sewer

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.



Roque Menzes

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55 Eden Street
Kingston
KT1 1BW



21 September 2020

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Silverdale Industrial Estate, Silverdale Road, Hayes UB3 3BN

Dear Roque,

Thank you for providing information on your development.

Proposed site: General Housing (124 units), Commercial premises (230m²)

Proposed foul water discharge by pump at 3.5 l/s into foul water manhole TQ09799505.

Proposed surface water discharge by pump at 3.0 l/s into surface water manhole TQ09798509 and at 3.0 l/s into surface water manhole TQ10790501 for all storm events up to and including 1:100yr+40%CC.

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 foul 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 6.0 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,

Hemlata Gurung

Developer Services – Technical Coordinator, Sewer Adoptions Team

Tel: 0800 009 3921

hemlata.gurung@thameswater.co.uk

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