

**FLOOD RISK ASSESSMENT & SuDS REPORT FOR
FORMER REGAL CINEMA, 233 HIGH STREET,
UXBRIDGE, UB8 1LD**

DOCUMENT NUMBER: C3783-R1-REV-A

PREPARED BY



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1. SITE DETAILS

Site Name	Former Regal Cinema
Site Address	Former Regal Cinema, 233 High Street, Uxbridge, UB8 1LD
Purpose of Development	Commercial
Existing Land Use	Brownfield
County	Greater London
Country	England
Local Planning Authority	London Borough of Hillingdon

1.1 Site Location

The location of the project site is provided in Appendix A.

1.2 Existing Site Description

The Site comprises of the former Regal Cinema, as well as the paved area surrounding this, which forms the access road and entrance to the listed building.

The existing site is 100% impermeable, and this can be seen in drawing 'C3783-01' located within Appendix A.

1.3 Proposed Development Description

The proposed development consists of the construction of a new hotel building to the western flank of the listed building, the change of use of the former regal cinema to a

banqueting suite and kitchen space involving the refurbishment of the existing entrance.

The proposals can be located within Appendix A in drawing 'C3783-02'.

1.4 Geology of The Area

According to the British Geological Survey, the superficial deposit at the Site is of the Langley Silt Member, consisting of clay and silt, as shown in Figure 1 below. The bedrock at the area is of the London Clay Formation, consisting of clay, silt and sand, as shown in Figure 2.

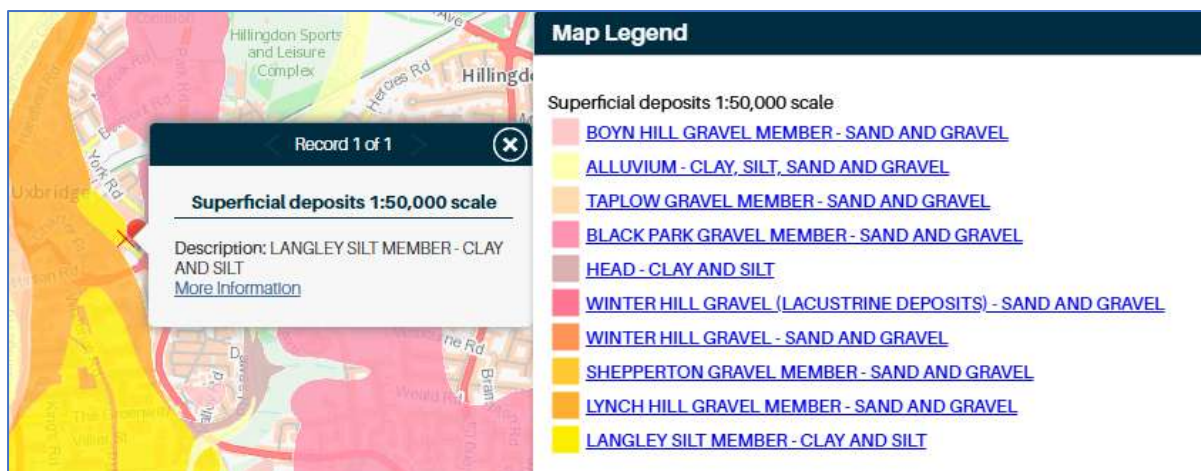


Figure 1 - Superficial Deposits at the Site. (Source: British Geological Survey website (contains British Geological Survey materials © NERC2026)).

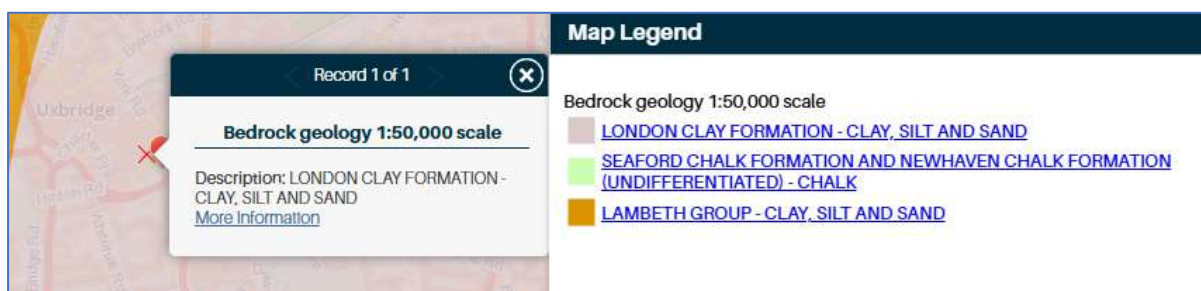


Figure 2 - Bedrock at the Site. (Source: British Geological Society Website (contains British Geological Survey materials © NERC2026)).

2. PLANNING POLICIES

2.1 National Planning Policies

- National Planning Policy Framework (December 2024)
- National Planning Practice Guidance Suite (August 2022)
- CIRIA SuDS Manual C753

2.2 Local Planning Policy

The report has been written in conjunction with the following local planning policies:

- London Borough of Hillingdon Local Plan, adopted November 2012 - 2026;
- London Borough of Hillingdon Local Flood Risk Management Strategy (June 2024);
- West London Strategic Flood Risk Assessment;
- The London Plan (2021), Policy S1 12, which states:

A Current and expected flood risk from all sources (as defined in paragraph 9.2.12) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.

- B Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should cooperate and jointly address cross-boundary flood risk issues including with authorities outside London.
- C Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.
- D Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.
- E Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.
- F Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are

demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

G Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

- The London Plan, Policy SI 13 Sustainable drainage, which states:

A Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.

B Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

1. Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. Rainwater infiltration to ground at or close to source

3. Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
 4. Rainwater discharge direct to a watercourse (unless not appropriate)
 5. Controlled rainwater discharge to a surface water sewer or drain
 6. Controlled rainwater discharge to a combined sewer.
- C Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.
- D Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

- The London Local Plan, Core Strategic Policy CS 18 Flood Risk, which states:

A. Minimising river flooding risk, requiring development in the City Flood Risk Area to seek opportunities to deliver a reduction in flood risk compared with the existing situation:

1. applying the sequential test and exception test as set out in the NPPF and Planning Practice Guidance and requiring Flood Risk Assessments to be submitted, in support of all planning applications in the City Flood Risk Area (Environment Agency Flood Zones 2 and 3 and surface water flood risk hotspots) and for major development proposals elsewhere;
2. protecting and enhancing existing flood defences along the riverside, particularly those identified as fair or poor in the current City of London SFRA. Development adjacent to the River Thames must be designed to allow for maintenance of flood defences.

B. Reducing the risks of flooding from surface water throughout the City, ensuring that development proposals minimise water use and reduce demands on the combined surface water and sewerage network by applying the London Plan drainage hierarchy.

C. Reducing rainwater run-off, through the use of suitable Sustainable Drainage Systems (SuDS), such as green roofs and rainwater attenuation measures throughout the City.

- D. Ensuring that wider flood defences afford the highest category of protection for the City, participating in the development and implementation of the Environment Agency's Thames Estuary 2100 project.

- E. Reviewing and updating the City of London's Strategic Flood Risk Assessment at least every 5 years or more frequently if circumstances require, to ensure that changes in flood risk are identified and suitable responses implemented.

- The London Local Plan, Policy DM 18.1 Development in the City Flood Risk Area, which states:
 - Where development is proposed within the City Flood Risk Area evidence must be presented to demonstrate that:
 - A. the site is suitable for the intended use (see table 18.1), in accordance with Environment Agency and Lead Local Flood Authority advice;
 - B. the benefits of the development outweigh the flood risk to future occupants;
 - C. the development will be safe for occupants and visitors and will not compromise the safety of other premises or increase the risk of flooding elsewhere.

- Development proposals, including change of use, must be accompanied by a site-specific flood risk assessment for:
 1. all sites within the City Flood Risk Area as shown on the Policies Map; and
 2. all major development elsewhere in the City.
- Site-specific flood risk assessments must address the risk of flooding from all sources and take account of the City of London Strategic Flood Risk Assessment. Necessary mitigation measures must be designed into and integrated with the development and may be required to provide protection from flooding for properties beyond the site boundaries, where feasible and viable.
- Where development is within the City Flood Risk Area, the most vulnerable uses must be located in those parts of the development which are at least risk. Safe access and egress routes must be identified.
- For minor development outside the City Flood Risk Area, an appropriate flood risk statement may be included in the Design and Access Statement.
- Flood resistant and resilient designs which reduce the impact of flooding and enable efficient recovery and business continuity will be encouraged.

- The London Local Plan, Policy DM 18.2 Sustainable drainage systems (SuDS),

which states:

- A. The design of the surface water drainage system should be integrated into the design of proposed buildings or landscaping, where feasible and practical, and should follow the SuDS management train and London Plan drainage hierarchy.
- B. SuDS designs must take account of the City's archaeological heritage, complex underground utilities, transport infrastructure and other underground structures, incorporating suitable SuDS elements for the City's high density urban situation.
- C. SuDS should be designed, where possible, to maximise contributions to water resource efficiency, biodiversity enhancement and the provision of multifunctional open spaces.

- The London Local Plan, Policy DM 18.3 Flood Protection and climate change resilience, which states:
 - A. Development must protect the integrity and effectiveness of structures intended to minimise flood risk and, where appropriate, enhance their effectiveness.
 - B. Wherever practicable, development should contribute to an overall reduction in flood risk within and beyond the site boundaries, incorporating flood alleviation measures for the public realm, where feasible.
- The London City Plan, Policy CR2 Flood Risk, which states:

All development within the City flood risk area, and major development elsewhere, must be accompanied by a site-specific flood risk assessment demonstrating that:

- A. the site is suitable for the intended use, in accordance with the sequential and exception tests (see tables 4 and 5) and with Environment Agency and Lead Local Flood Authority advice;
- B. the development will be safe for occupants and visitors and will not compromise the safety of other premises or increase the risk of flooding elsewhere;
- C. safe access and egress routes are identified; and

D. flood resistance and resilience have been designed into the proposal.

- The London City Plan, Policy CR3 Sustainable drainage systems (SuDS), which states:

A. All development, transportation and public realm proposals must incorporate SuDS principles and be designed to minimise the volume and discharge rate of rainwater run-off into the combined drainage network in the City, ensuring that rainwater is managed as close as possible to the development.

B. The design of the surface water drainage system should be integrated into the design of proposed buildings and landscaping, unless there are exceptional circumstances which make this impractical. Proposals should demonstrate that run-off rates are as close as possible to greenfield rates and the number of discharge points has been minimised.

C. SuDS designs must take account of the City's archaeological and other heritage assets, complex underground utilities, transport infrastructure and other underground structures, incorporating suitable SuDS elements for the City's high density urban situation.

- D. SuDS should be designed, where possible, to maximise contributions to water resource efficiency, water quality, biodiversity enhancement and the provision of multifunctional open spaces.
 - E. An operation and maintenance plan will be required to ensure that the SuDS elements will remain viable for the lifetime of the building.
- The London City Plan, Policy CR3 Flood protection and flood defences, which states:
 - A. Development must protect the integrity and effectiveness of structures intended to minimise flood risk and, where appropriate, enhance their effectiveness.
 - B. Wherever practicable, development should contribute to an overall reduction in flood risk within and beyond the site boundaries, incorporating flood alleviation measures for the public realm.

3. FLOOD RISK

The possible causes of flooding set out in NPPF are considered in this section in relation to flood risk to the Site itself and the effects of the development of the Site on the flood risk elsewhere.

3.1 Flood Zones

The Environment Agency has developed a flood risk map which shows the relative risk of flooding for different return periods. Flood zones assume that no defences are present and so where these do exist, they are only indicative of the potential for flooding.

The Environment Agency's Flood Map for Planning (Rivers and Sea), shown in Figure 3 overleaf, indicates the Site is in Flood Zone 1, and not at risk of flooding from rivers or the sea.

Former Regal Cinema, 233 High Street, Uxbridge, UB8 1LD

Nimbus Engineering Consultants Ltd

Flood Risk Assessment and SuDS Report

May 2026

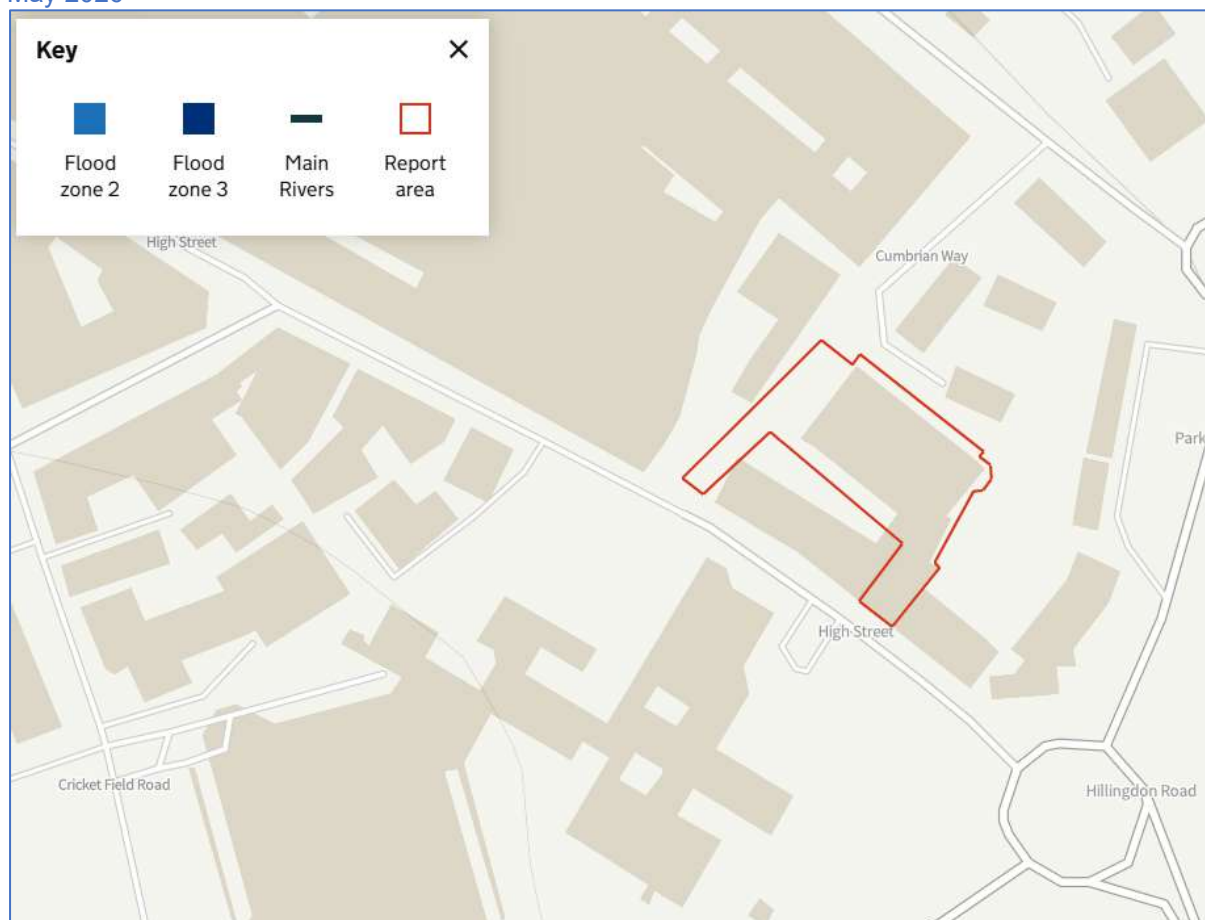


Figure 3 – Environment Agency Flood Map for flooding extent from rivers and sea for the Proposed Development.

4. FLOOD RISK ASSESSMENT

The possible causes of flooding set out in NPPF's technical guidance are considered in this section in relation to the flood risk to the Site itself and the effects of the development of the Site on flood risk elsewhere.

4.1 Flooding from Land (Overland Flow)

The majority of the Proposed Development Site is shown as having a low risk of flooding from surface water, with only a small section at risk for a 1:1000 year storm as can be seen in the Environmental Agency's flood map in Figure 4 below.

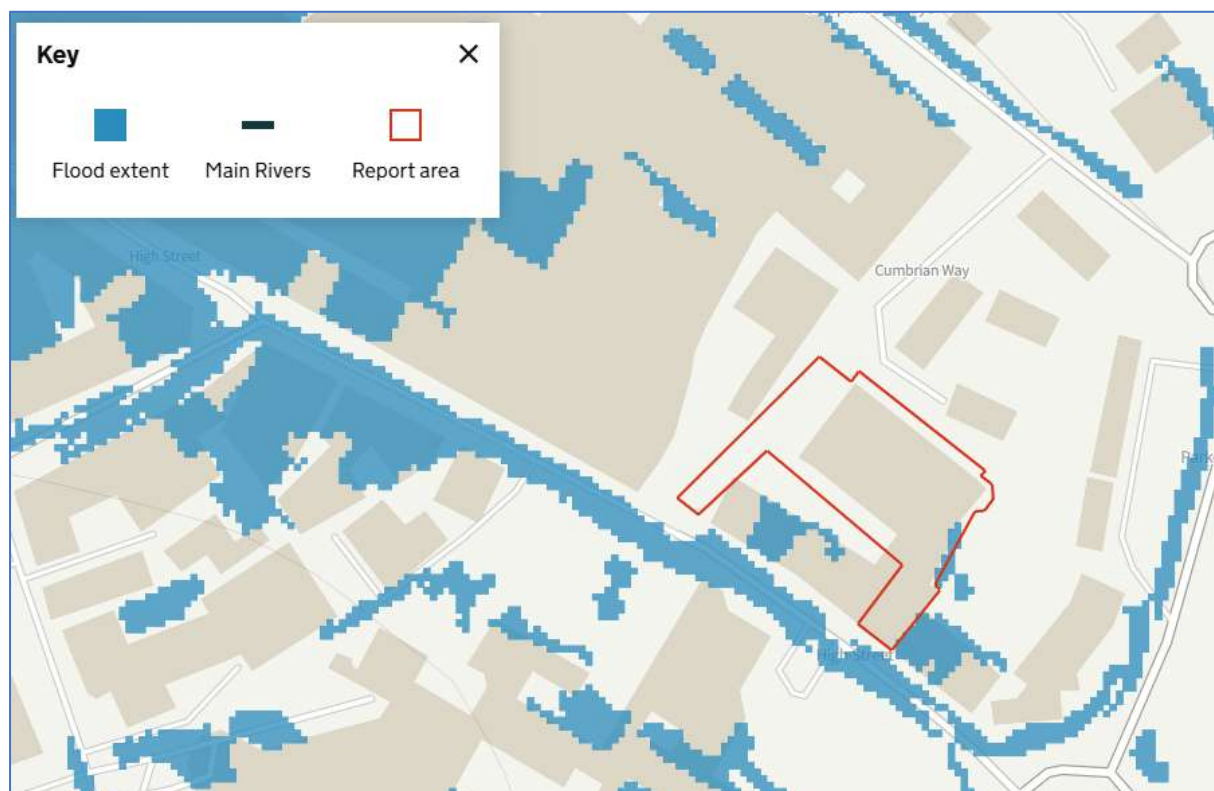


Figure 4 – Environment Agency Surface Water Flood Map for the Proposed Development.

To assess this in further detail, surface water flood maps were created and overlayed on to the proposed site plan. These can be located in Appendix A, drawings 'C3565-05/06.' With this information, we can conclude that there is a very small area at a low risk of flooding to 0.3m, however, it should be noted that this is in an area of already existing impermeable land that will not be developed further, and most likely due to topographical dips causing slight ponding in the area. This can also be confirmed by the West London SFRA's Surface Water Extents map, as can be seen in Figure 5, below.



Figure 5 – West London SFRA Surface Water Flood Map for the Proposed Development.

4.2 Flooding from Groundwater

The EA's Susceptibility to Groundwater Flooding Map, shown below, and extracted from the West London SFRA shows that the Site is within an area with high risk for groundwater flooding to occur at the surface. However, there have been no recorded instances of groundwater flooding at the Site or within the vicinity of the Site.

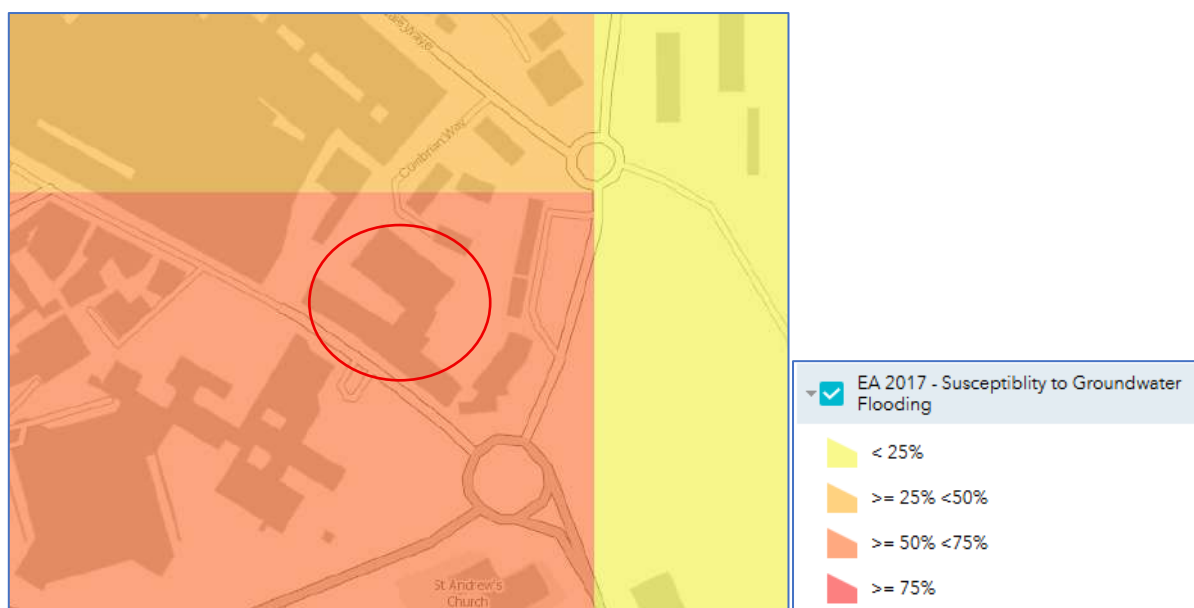


Figure 6 – Susceptibility to Groundwater Flooding Map – Extracted from the West London SFRA

The client will undertake long term groundwater monitoring to ascertain the depth of standing groundwater at the site, and to determine if groundwater pumping will be required during construction of the proposed development.

4.3 Flooding from Sewers

According to the West London Strategic Flood Risk Assessment (SFRA), the proposed site is at no risk of flooding from sewers. Furthermore, there have been no recorded instances of sewer flooding at the Site.

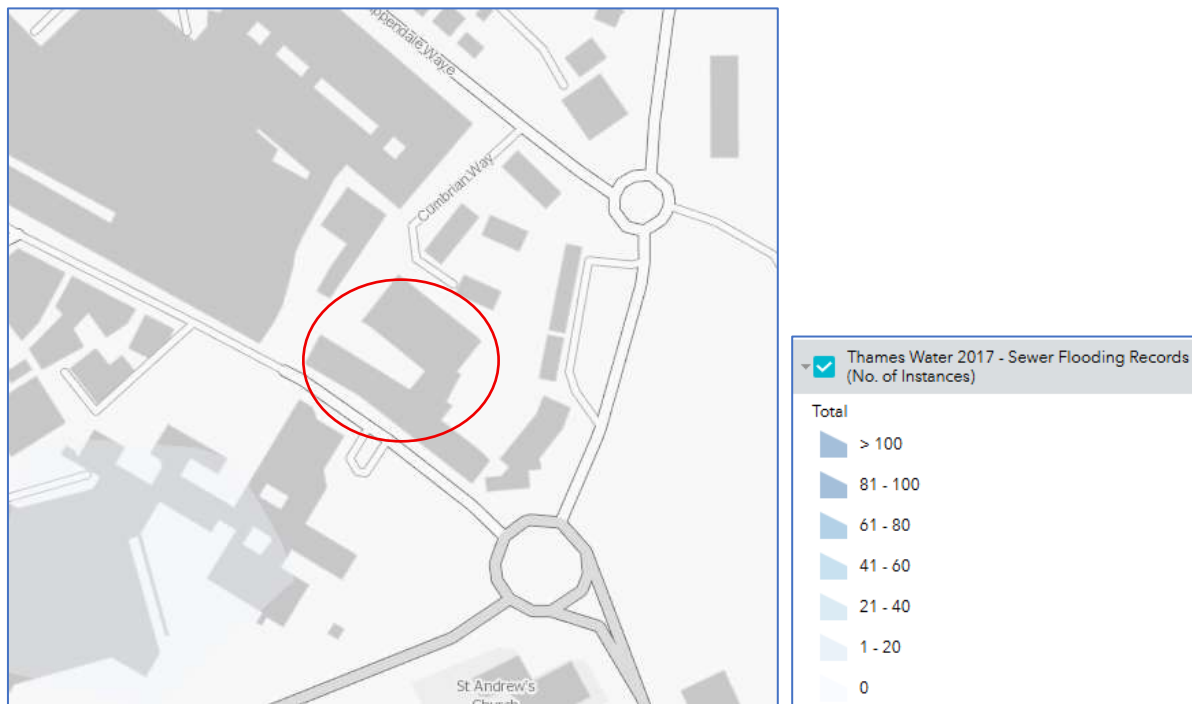


Figure 7 – Thames Water Sewer Flooding Records – Extracted from the West London SFRA

4.4 Flooding from Reservoirs, Canals or Other Artificial Sources

The Environment Agency's Flood map shown in Figure 8 below, shows the site not to be at risk of any reservoir, canal or other artificial flooding.

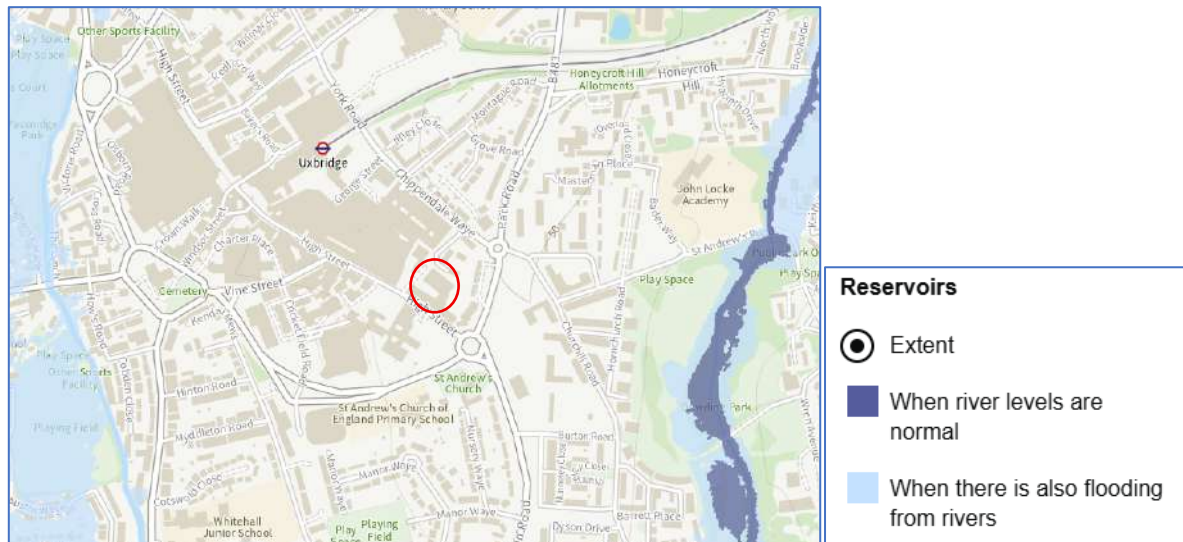


Figure 8 – Environment Agency Flood Map from reservoirs for the Proposed Development

5 SUSTAINABLE URBAN DRAINAGE SYSTEMS

The total Site area is 3324m², and the impermeable areas of the Site prior to development are 3224m². Following the development at this Site, the impermeable areas will reduce to 3156m².

However, only of this only 1006m² will be altered and considered in the hydraulic model, consisting of the new hotel building and the resurfaced access road, prior to any mitigation by using Sustainable Urban Drainage Systems (SuDS).

Pre and post development surface water runoff calculations showing the peak flow rate leaving the Site can be found in Appendix B.

Surface water arising from a developed Site should, as far as practicable, be managed in a sustainable manner to mimic the surface water flows arising from the Site prior to the Proposed Development, while reducing the flood risk to the Site itself and elsewhere, taking climate change into account.

Reducing the rate of surface water discharge from Urban Sites is one of the most effective ways of reducing and managing flood risk.

Traditional piped surface water systems work by removing the surface water from our developments as quickly as possible, however this can cause various adverse impacts:

- Increased downstream flooding, and sudden rises in flow rates and water levels in local water courses.
- Reduction in groundwater levels dry weather flows in watercourses.
- Reduce amenity and adversely affect biodiversity due to the surface water runoff containing contaminants such as oil, organic matter and toxic materials.

SuDS are defined as a sequence of management principles and control structures designed to drain surface water in a more sustainable fashion than conventional piped drainage techniques.

SuDS should utilise the environmental, ecological and social benefits.

These include:

- Protection and enhancement of water quality – As well as providing on-site attenuation, SuDS treat the water, resulting in an improved quality of water leaving the Site. This is achieved when the water passes through the fine soils and the roots of specially selected plants, pollutants washed off the hard landscaping by rainfall will be safely removed before the water reaches the natural water course.
- A sympathetic approach to the environmental setting by providing the opportunities to create habitats for flora and fauna in urban watercourses and open spaces.
- Meeting the amenity and social needs of the local community and residents in the creation of attractive green spaces.

The various types of SuDS include:

Permeable paving	
Soakaways;	
Swales and basins;	
Bioretention/ rain gardens;	
Green roofs and rainwater re-use;	
Infiltration trenches and filter drains	
Ponds and wetlands	

Preferably a combination of these techniques should be used as part of the surface water management train, and it is important for all stakeholders; such as developers, architects, landscape architects and engineers, to work together at the planning stage in order to determine a feasible solution.

The SuDS management train is shown in Figure 9 below, this has been followed when proposing the proposed Sustainable Urban Drainage Systems for this Site.

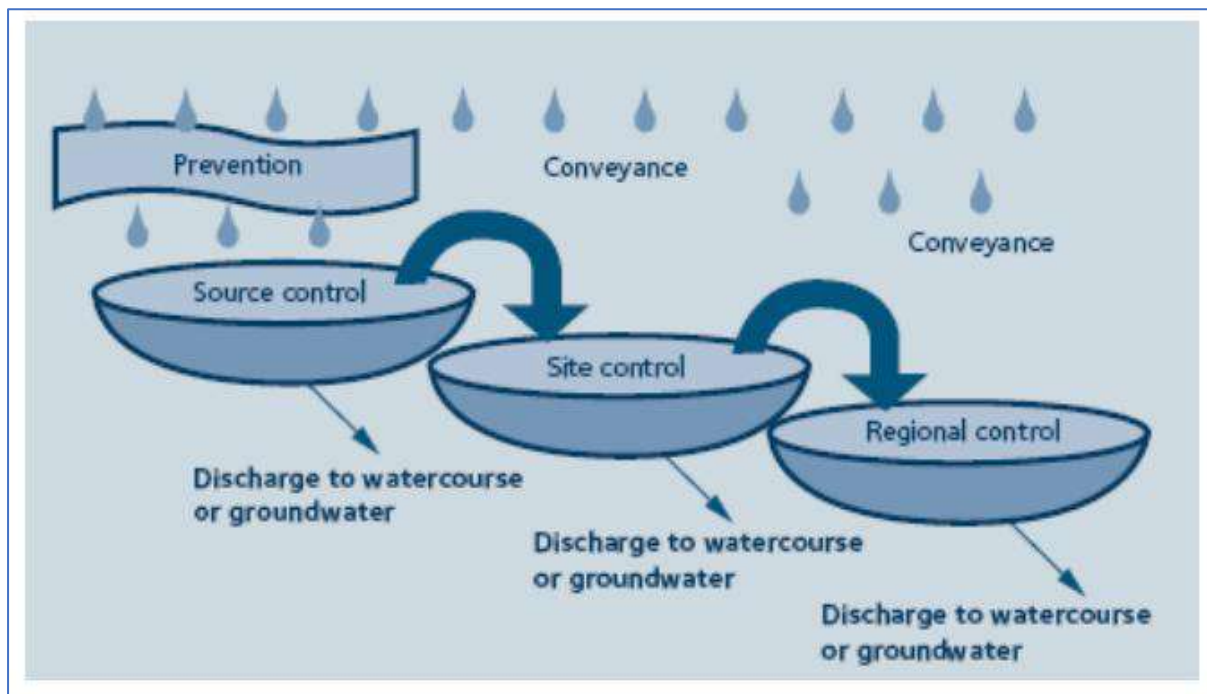


Figure 9 – SuDS Management Train

6 PROPOSED SuDS SOLUTION

Our proposed SuDS solution increases biodiversity and amenity space and lessens the burden on the existing Thames Water infrastructure by promoting rainwater re-use and the intention of treating rainfall at source across the proposed development site.

In order to ensure that the SuDS management train has been followed, our proposed solution involves the addition of a 1500 litre underground rainwater harvesting tank, as can be seen in the plans provided within Appendix A.

Additionally, all new uncovered hard standing areas will be formed of permeable paving in order to deal with as much of the surface water runoff at the source, underlain by a hydrocarbon-removing geotextile membrane in any car parking areas, with the surface water run off from sloped areas to be caught by filter drains, in order to also provide one level of treatment.

Furthermore, a 222m² blue-green roof will be provided, in order to provide a level of treatment and further biodiversity for the development, while also having an attenuation volume of 19.90m³.

The remaining surface water runoff will be directed into an underground, crate-style attenuation tank located towards front of the proposed development site, which has been designed for a 1 in 100 year storm plus 45% climate change allowance with a minimum net storage capacity of 30.780m³.

A detailed hydraulic model was built, using Infodrainage, to simulate rainfall events

for a 1 in 100 year storm event, with a 45% allowance for climate change using FEH Rainfall data, with a restricted flow discharging at a rate of 1.7 l/s, which is the **Qbar(Urban) rate** for the considered developed area of the proposed development site. These calculations show that a net storage volume of 50.68m³ of storage is required. The results of the hydraulic model can be found in Appendix B, along with all Qbar and Pre & Post development calculations.

The restricted surface water runoff will be conveyed via a gravity to the existing Surface Water chamber within the vicinity of the site, as shown on the asset plans provided in Appendix C and drawing C3783-03, located within Appendix A.

We believe the Sustainable Urban Drainage System hierarchy has been considered fully with respect to the type of development, the proposals will reduce flood risk at the site and elsewhere. The proposed SuDS strategy is shown on drawing number C3754-07 in Appendix A.

This reduction in flow rate represents a 98.36% reduction in surface water run off for the post-development 1 in 100 year + 45% CC storm event, and a 97.75% reduction for the pre-development 1 in 100 year + 45% CC storm event.

7 TIMESCALE AND MAINTENANCE OF DRAINAGE WORKS

All drainage works shall be completed prior to first occupation and there shall be no adoption of any of the drainage works within the site, and the managers of this building will be responsible to oversee the long-term maintenance of the communal drains.

The following outline maintenance strategy sets out recommended timescales for maintenance of the proposed drainage works, in line with CIRIA SuDS Design Guide:

- Regular inspection will comprise the inspection and cleaning of catchment, gutters, filters and tanks to reduce the likelihood of contamination, this is recommended to be carried out every 3 to 6 months.
- The catchpit chamber and flow control chambers for the attenuation tanks should be checked and cleaned every 3 months for the accumulation of debris/silt, in order to ensure that there are no blockages.
- Jet washing of permeable surfaces should be undertaken every 3 to 6 months in order to ensure that the system works properly.
- Inlets and outlets of rainwater harvesting tank to be checked regularly in order to avoid blockages;

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockages by sediment, algae or other matter: remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/ or internal forebays	Annually, or as required
Remedial actions	Repair/ rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Table 1: Operation and maintenance requirements for attenuation storage tanks.

Maintenance schedule	Required action	Typical Frequency
Regular maintenance	Inspection of the tank for debris and sediment build-up, inlets/outlets/withdraw devices, overflow areas, pumps, filters	Annually (and following poor performance)
	Cleaning of tank, inlets, outlets, gutters. Withdrawal devices and roof drain filters of silts and other debris	Annually (and following poor performance)
Occasional maintenance	Cleaning and/ or replacement of any filters	Three monthly (or as required)
Remedial actions	Repair of overflow erosion damage or damage to tank	As required
	Pump repairs	As required

Table 2: Operation and maintenance requirement for rainwater harvesting systems

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over the whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations or clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto the pervious surface from adjacent impermeable areas as this is the most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying.	As required
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the paving level.	As required
	Remedial work to any depressions, rutting, cracked, or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.	Three-monthly, 48 hours after large storms in six months
	Inspect slit accumulation rates and establish appropriate brushing frequencies.	Annually
	Monitor inspection chambers	Annually

Table 3: Operation and maintenance requirements for pervious pavements

Maintenance schedule	Required action	Typical Frequency
Regular Inspections	Inspect all components including soil substrate vegetation, drains irrigation systems (if applicable), membranes and roof structure for proper operation integrity of waterproofing and structural stability	Annually and after severe storms
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources	Annually and after severe storms
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system	Annually and after severe storms
	Inspect underside of roof for evidence of leakage	Annually and after severe storms
Regular Maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth	Six monthly and annually or as required
	During establishment (ie year one) replace dead plants as required	Monthly (but usually responsibility of manufacturer)
	Post establishment, replace dead plants as required (where > 5% of coverage)	Annually (in autumn)
	Remove fallen leaves and debris from deciduous plant foliage	Six monthly or as required
	Remove nuisance and invasive vegetation, including weeds	Six monthly or as required
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required- clippings should be removed and not allowed to accumulate	Six monthly or as required
Remedial Actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material and sources of erosion damage should be identified and controlled	As required
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate	As required

Table 4: Operation and maintenance requirement for green roofs.

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect from surface and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then 6 monthly intervals
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	Orifice plates within plastic chambers or vortex controls to be jetted from the surface after heavy rainfall events to remove any debris or silt	As required
	Empty catchpits upstream of SuDS features to ensure no debris is passed downstream	3 months or as required
Remedial actions*	In the event of a blockage, a vortex flow control can be removed from the chamber via the lifting cabled located at the access, this will be cleaned at surface level and reinstalled into its original location	As required
	In the event of a blockage, the orifice plate should be jetted from surface, and if blockage is not cleared the orifice plate can be removed by removing fixing bolts. These fixing bolts should be checked and replaced if needed.	As required
Monitoring	Following installation it is important that any extraneous materials i.e. building materials: granular backfill, in-situ pour concrete etc are removed from the unit and the new flow control chamber is fully jetted down	Upon installation
	Inspect/check chamber channel for any debris or silt build-up. Upstream chambers should be checked at the same time as these monitoring works to ensure network is operating at full capacity.	Annually

Table 5: Operation and maintenance requirements for flow control chambers

All Remedial Works should be carried out by a competent and certified contractor, with no access to chambers or removal of parts to be undertaken by managers.

If the upstream network of the flow control chamber is regularly maintained, little maintenance is required within the chamber as there are no moving parts.

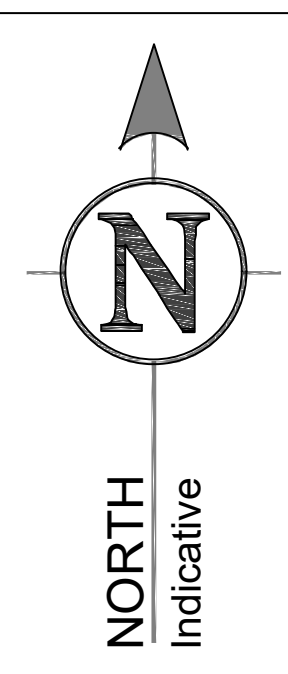
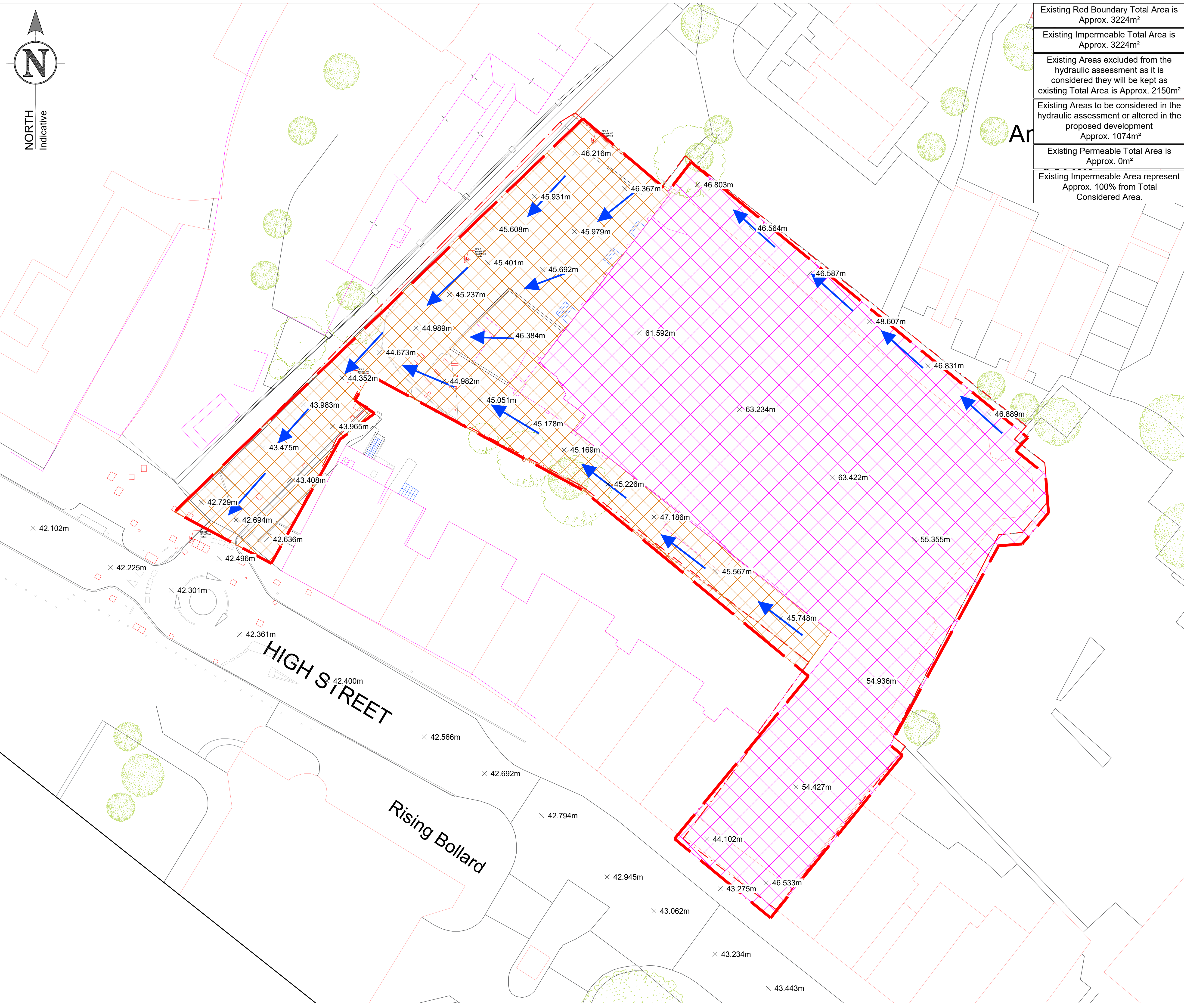
7 CONCLUSIONS

The site is at very low risk from flooding from tidal, fluvial, sewer and reservoir flooding. However, there is a low risk of surface water flooding during the 1 in 1000 year storm event, and a potential for groundwater flooding below the ground level. Appropriate mitigation measures have been provided for these.

The proposed development will not impact on any known flood flow route or flood storage area.

A suitable Sustainable Urban Drainage systems solution has been proposed which follows the SuDS hierarchy, and reduced the peak flow rate of surface water runoff from the Site to 1.7 l/s, which represents a 97.75% reduction in surface water runoff for the 1 in 100 year storm event, therefore, it is considered that the proposed SuDS strategy conforms with all relevant national, regional and local planning policy.

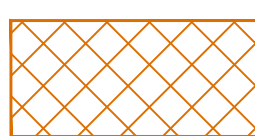
APPENDIX A – DRAWINGS

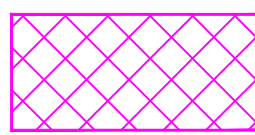


Existing Red Boundary Total Area is Approx. 3224m²
Existing Impermeable Total Area is Approx. 3224m²
Existing Areas excluded from the hydraulic assessment as it is considered they will be kept as existing Total Area is Approx. 2150m²
Existing Areas to be considered in the hydraulic assessment or altered in the proposed development Approx. 1074m²
Existing Permeable Total Area is Approx. 0m²
Existing Impermeable Area represent Approx. 100% from Total Considered Area.

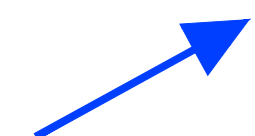
DRAWING TO BE PRINTED IN COLOUR.

KEY:

 Existing Hardstanding Area

 Any Area Remaining Unchanged

 Proposed Site Boundary

 Exceedance Route Arrow

NOT FOR CONSTRUCTION

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A	07-05-26	M.HAM	For Information.	SL	SL

PROJECT:
Former Regal Cinema, 233 High Street, Uxbridge, UB8

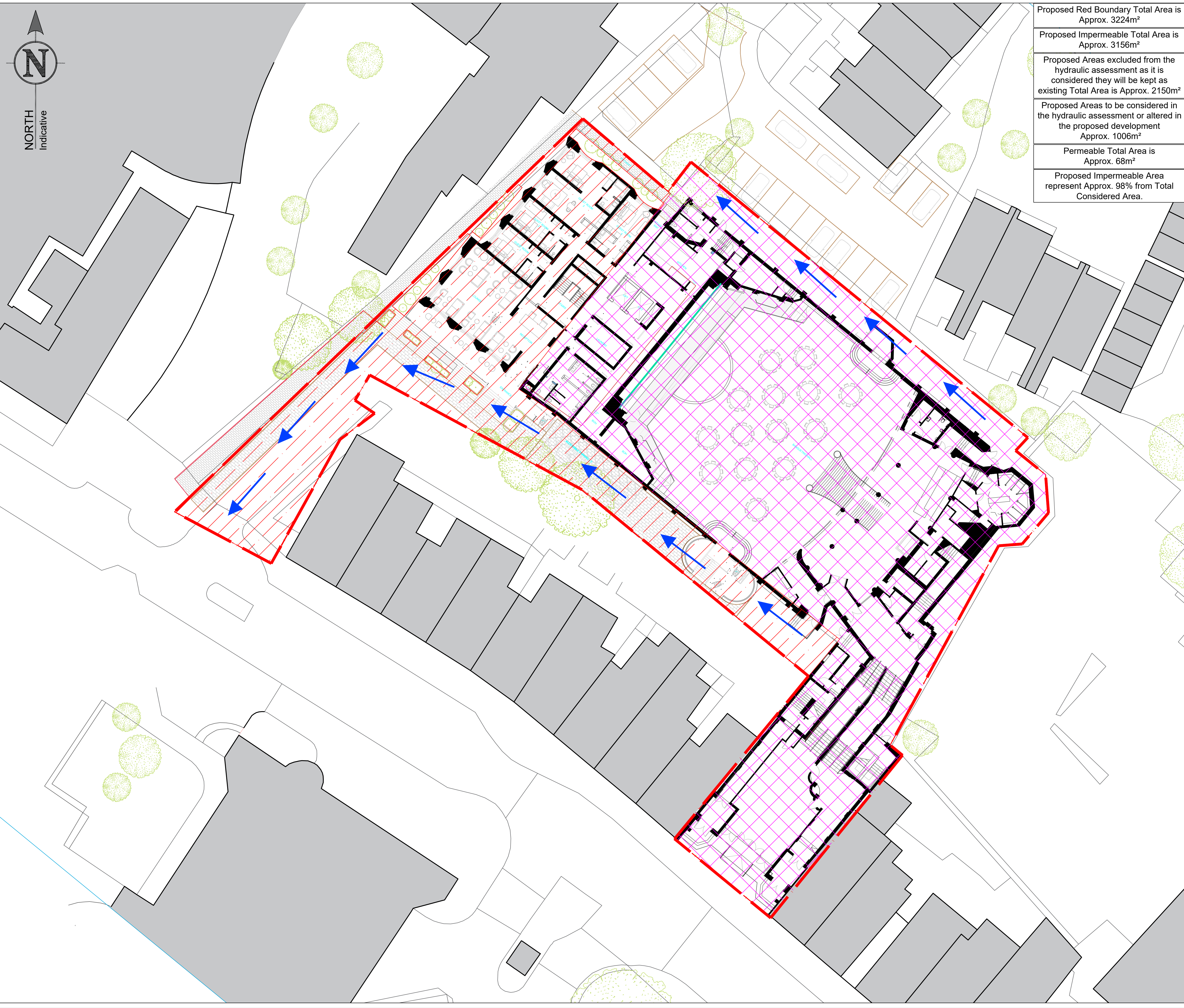
TITLE:
Pre-Development Impermeable Areas & Exceedance
Routes Plan

CLIENT:
Frough Ltd



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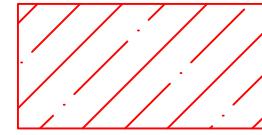
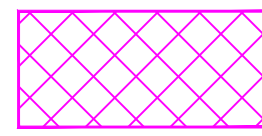
CHECKED BY: S.L	DATE: 07-05-26	APPROVED BY: S.L	DATE: 07-05-26
DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-01	REV: A
DATE: 07-05-26	SIZE: A1		



Proposed Red Boundary Total Area is Approx. 3224m ²
Proposed Impermeable Total Area is Approx. 3156m ²
Proposed Areas excluded from the hydraulic assessment as it is considered they will be kept as existing Total Area is Approx. 2150m ²
Proposed Areas to be considered in the hydraulic assessment or altered in the proposed development Approx. 1006m ²
Permeable Total Area is Approx. 68m ²
Proposed Impermeable Area represent Approx. 98% from Total Considered Area.

DRAWING TO BE PRINTED IN COLOUR.

KEY:

-  Proposed Roof & Hardstanding Areas
-  Any Area Remaining Unchanged
-  Proposed Site Boundary
-  Exceedance Route Arrow

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PROJECT:
Former Regal Cinema, 233 High Street, Uxbridge, UB8

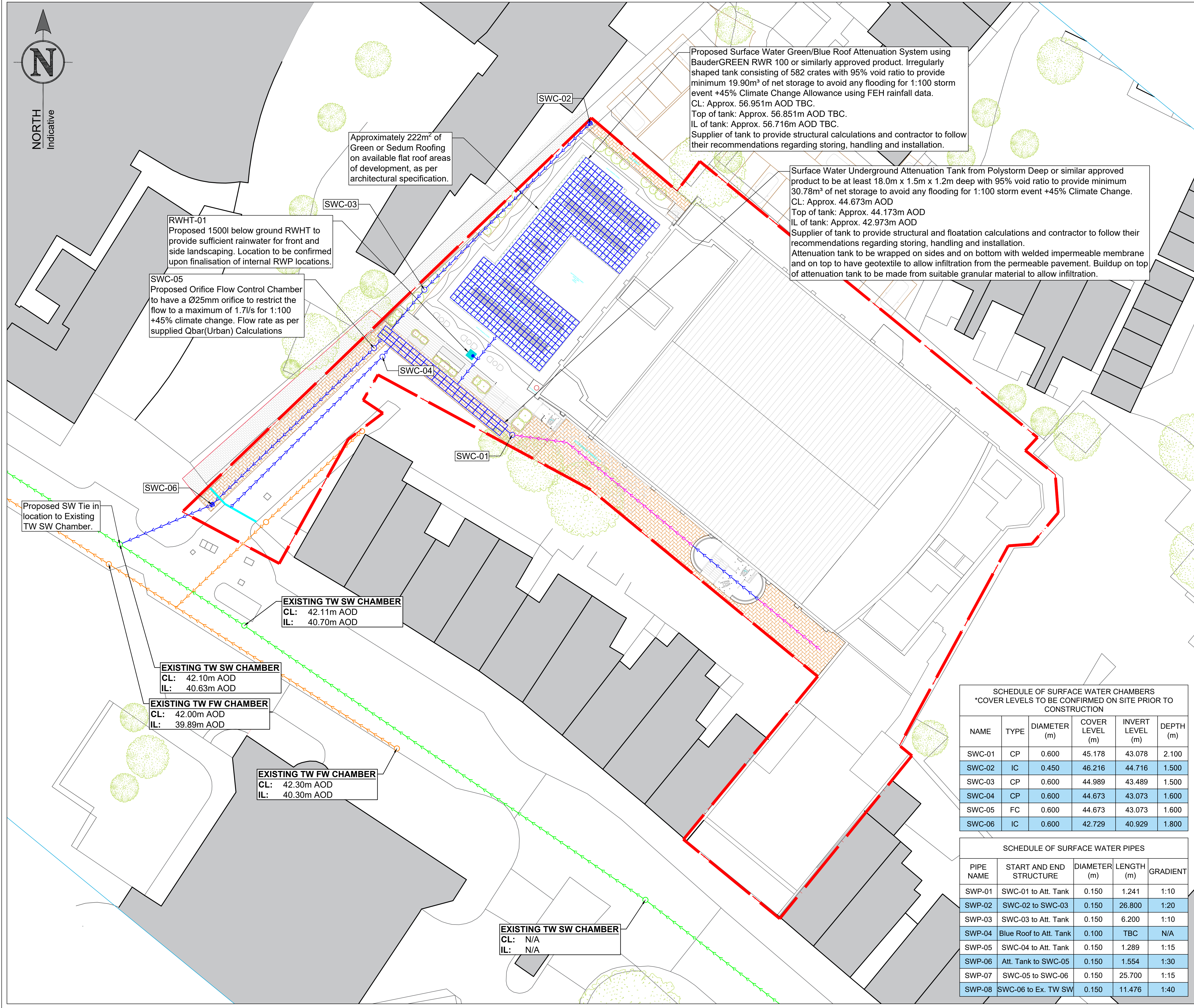
TITLE:
Post-Development Impermeable Areas & Exceedance
Routes Plan

CLIENT:
Frough Ltd



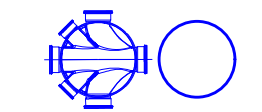
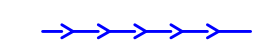
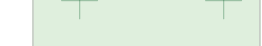
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CHECKED BY: S.L.	DATE: 07-05-26	APPROVED BY: S.L.	DATE: 07-05-26
DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-02	REV: A
DATE: 07-05-26	SIZE: A1		



DRAWING TO BE PRINTED IN COLOUR.

KEY:

-  Proposed Permeable Paving
-  Proposed Site Boundary
-  SW Inspection / Catchpit Chambers
-  Surface Water UPVC Pipes
-  Perforated Surface Water UPVC Pipes
-  Foul Water Pipe
-  Surface Water Pipe
-  Indicative Filter Drain Position
-  Proposed Attenuation Tank
-  Proposed Green Roof Extents
-  Proposed Rainwater Harvesting Tank

NOT FOR CONSTRUCTION

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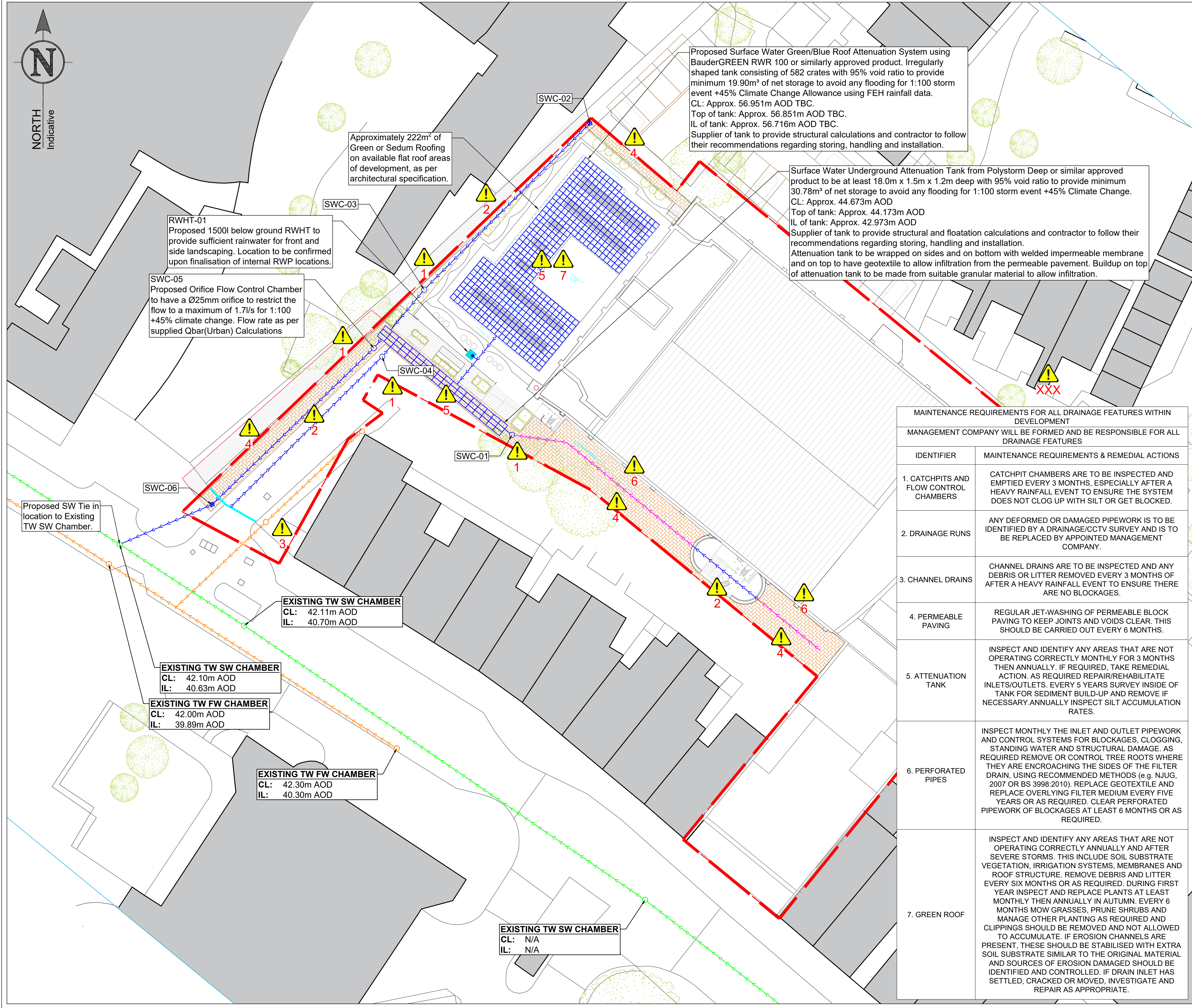
PROJECT:
Former Regal Cinema, 233 High Street, Uxbridge, UB8

TITLE:
Detailed SuDS Layout & Location Plan

CLIENT:
Frough Ltd

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DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-03	REV: A
DATE: 07-05-26	SIZE: A1		



DRAWING TO BE PRINTED IN COLOUR.

KEY:

- Proposed Permeable Paving
- Proposed Site Boundary
- SW Inspection / Catchpit Chambers
- Surface Water UPVC Pipes
- Perforated Surface Water UPVC Pipes
- Foul Water Pipe
- Surface Water Pipe
- Indicative Filter Drain Position
- Proposed Attenuation Tank
- Proposed Green Roof Extends
- Proposed Rainwater Harvesting Tank

MAINTENANCE REQUIREMENTS FOR ALL DRAINAGE FEATURES WITHIN DEVELOPMENT	
MANAGEMENT COMPANY WILL BE FORMED AND BE RESPONSIBLE FOR ALL DRAINAGE FEATURES	
IDENTIFIER	MAINTENANCE REQUIREMENTS & REMEDIAL ACTIONS
1. CATCHPITS AND FLOW CONTROL CHAMBERS	CATCHPIT CHAMBERS ARE TO BE INSPECTED AND EMPTIED EVERY 3 MONTHS, ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE THE SYSTEM DOES NOT CLOG UP WITH SILT OR GET BLOCKED.
2. DRAINAGE RUNS	ANY DEFORMED OR DAMAGED PIPEWORK IS TO BE IDENTIFIED BY A DRAINAGE/CCTV SURVEY AND IS TO BE REPLACED BY APPOINTED MANAGEMENT COMPANY.
3. CHANNEL DRAINS	CHANNEL DRAINS ARE TO BE INSPECTED AND ANY DEBRIS OR LITTER REMOVED EVERY 3 MONTHS OF AFTER A HEAVY RAINFALL EVENT TO ENSURE THERE ARE NO BLOCKAGES.
4. PERMEABLE PAVING	REGULAR JET-WASHING OF PERMEABLE BLOCK PAVING TO KEEP JOINTS AND VOIDS CLEAR. THIS SHOULD BE CARRIED OUT EVERY 6 MONTHS.
5. ATTENUATION TANK	INSPECT AND IDENTIFY ANY AREAS THAT ARE NOT OPERATING CORRECTLY MONTHLY FOR 3 MONTHS THEN ANNUALLY. IF REQUIRED, TAKE REMEDIAL ACTION. AS REQUIRED REPAIR/REHABILITATE INLETS/OUTLETS. EVERY 5 YEARS SURVEY INSIDE OF TANK FOR SEDIMENT BUILD-UP AND REMOVE IF NECESSARY. ANNUALLY INSPECT SILT ACCUMULATION RATES.
6. PERFORATED PIPES	INSPECT MONTHLY THE INLET AND OUTLET PIPEWORK AND CONTROL SYSTEMS FOR BLOCKAGES, CLOGGING, STANDING WATER AND STRUCTURAL DAMAGE. AS REQUIRED REMOVE OR CONTROL TREE ROOTS WHERE THEY ARE ENCROACHING THE SIDES OF THE FILTER DRAIN, USING RECOMMENDED METHODS (e.g. NJUG, 2007 OR BS 3998:2010). REPLACE GEOTEXTILE AND REPLACE OVERLYING FILTER MEDIUM EVERY FIVE YEARS OR AS REQUIRED. CLEAR PERFORATED PIPEWORK OF BLOCKAGES AT LEAST 6 MONTHS OR AS REQUIRED.
7. GREEN ROOF	INSPECT AND IDENTIFY ANY AREAS THAT ARE NOT OPERATING CORRECTLY ANNUALLY AND AFTER SEVERE STORMS. THIS INCLUDE SOIL SUBSTRATE VEGETATION, IRRIGATION SYSTEMS, MEMBRANES AND ROOF STRUCTURE. REMOVE DEBRIS AND LITTER EVERY SIX MONTHS OR AS REQUIRED. DURING FIRST YEAR INSPECT AND REPLACE PLANTS AT LEAST MONTHLY THEN ANNUALLY IN AUTUMN. EVERY 6 MONTHS MOW GRASSES, PRUNE SHRUBS AND MANAGE OTHER PLANTING AS REQUIRED AND CLIPPINGS SHOULD BE REMOVED AND NOT ALLOWED TO ACCUMULATE. IF EROSION CHANNELS ARE PRESENT, THESE SHOULD BE STABILISED WITH EXTRA SOIL SUBSTRATE SIMILAR TO THE ORIGINAL MATERIAL AND SOURCES OF EROSION DAMAGED SHOULD BE IDENTIFIED AND CONTROLLED. IF DRAIN INLET HAS SETTLED, CRACKED OR MOVED, INVESTIGATE AND REPAIR AS APPROPRIATE.

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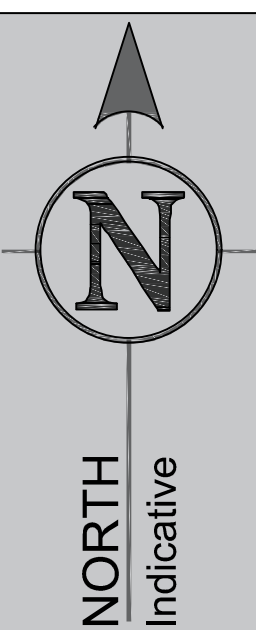
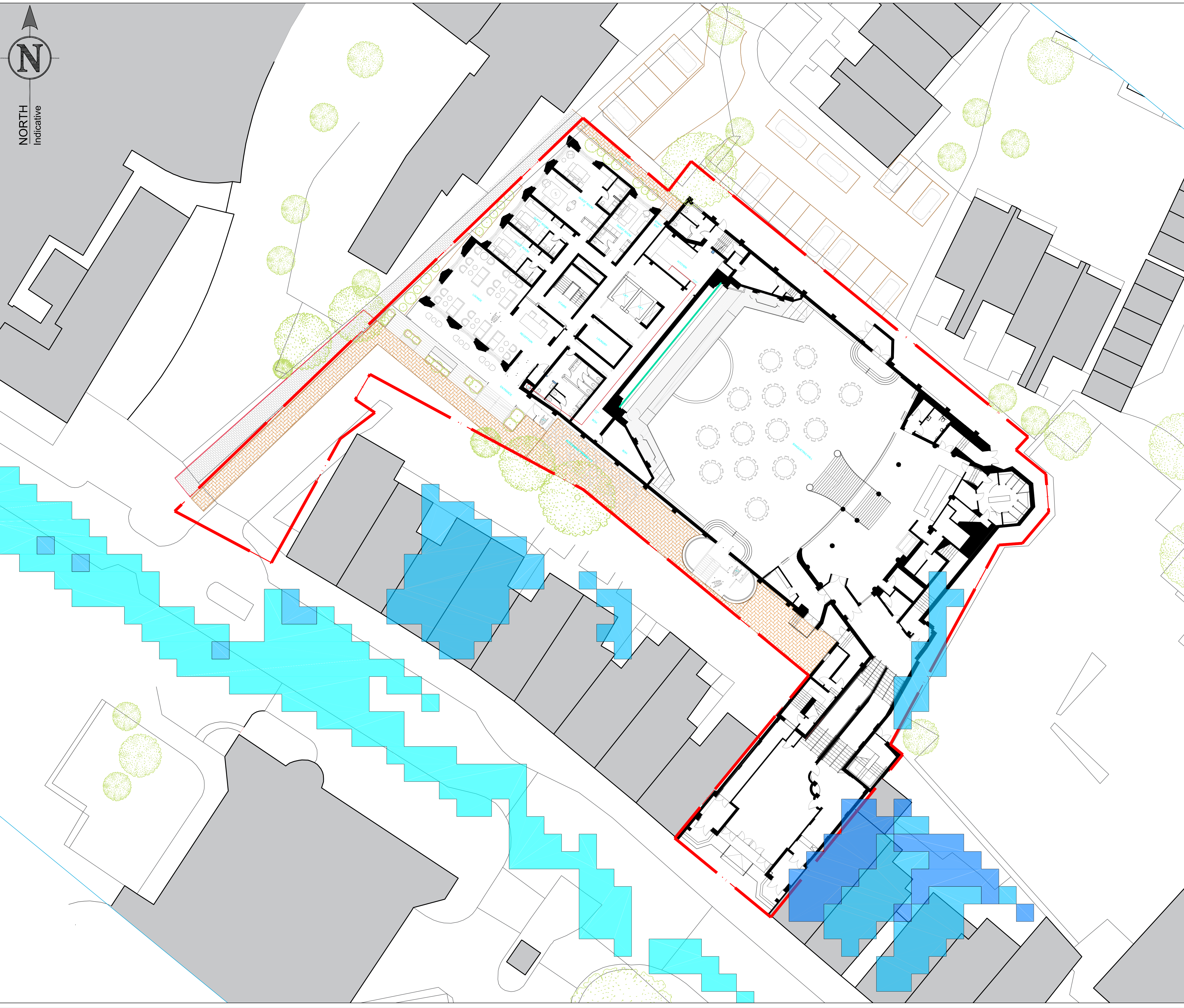
PROJECT:
Former Regal Cinema, 233 High Street, Uxbridge, UB8

TITLE:
SuDS Management & Maintenance Plan

CLIENT:
Frough Ltd

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CHECKED BY: S.L	DATE: 07-05-26	APPROVED BY: S.L	DATE: 07-05-26
DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-04	REV: A
DATE: 07-05-26	SIZE: A1		



DRAWING TO BE PRINTED IN COLOUR.

KEY:

- High
- Medium
- Low
- Very Low

NOT FOR CONSTRUCTION

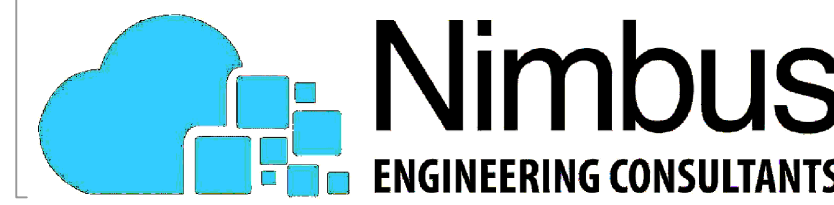
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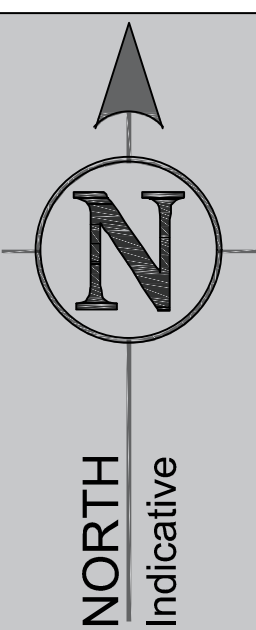
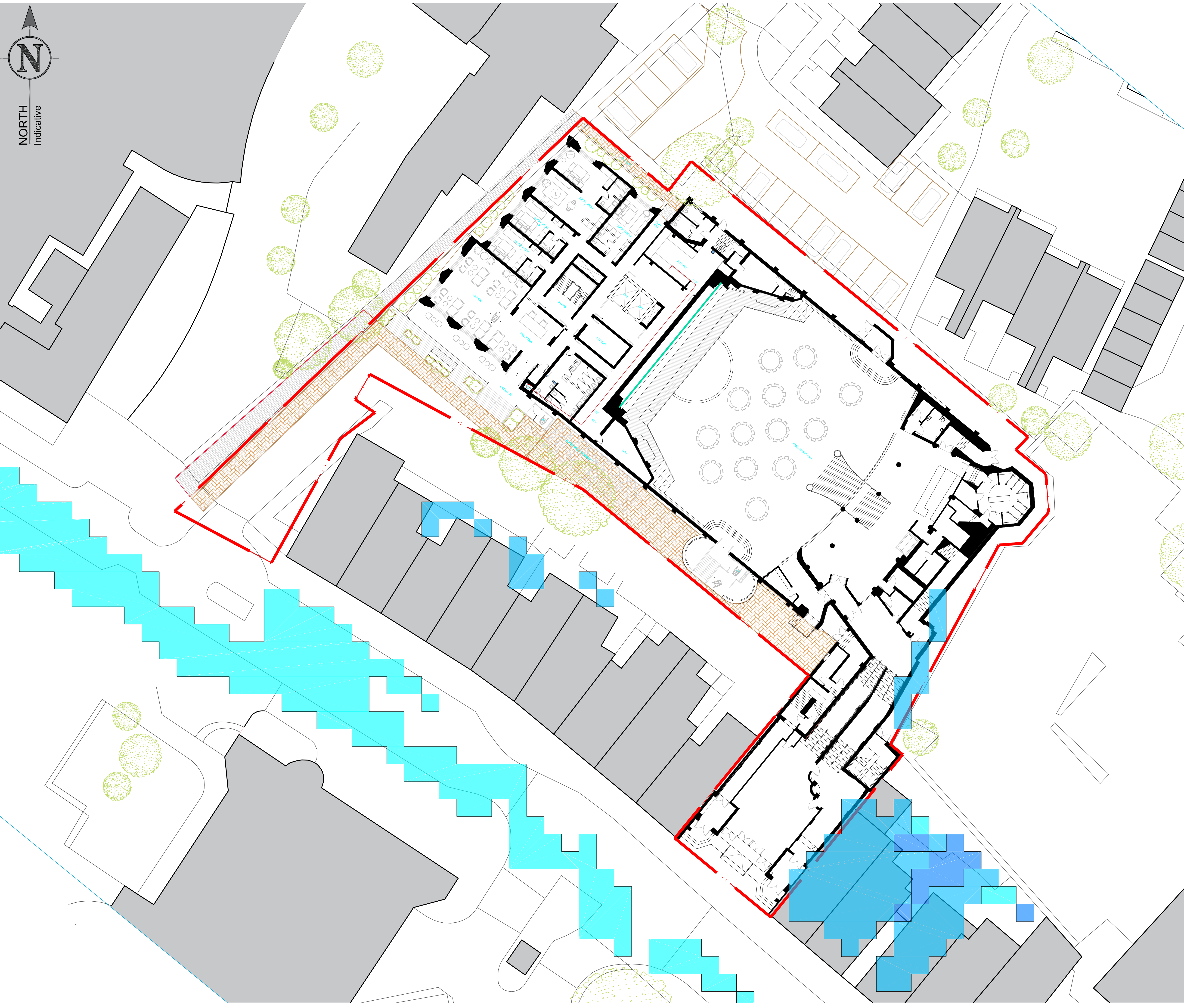
Former Regal Cinema, 233 High Street, Uxbridge, UB8

Surface Water Flood Risk for 0.2m Flood Depth on Proposed Site Plan

Frough Ltd



S.L	07-05-26	S.L	07-05-26
M.HAM	1:200	C3783-05	A
07-05-26	A1		



DRAWING TO BE PRINTED IN COLOUR.

KEY:

- High
- Medium
- Low
- Very Low

NOT FOR CONSTRUCTION

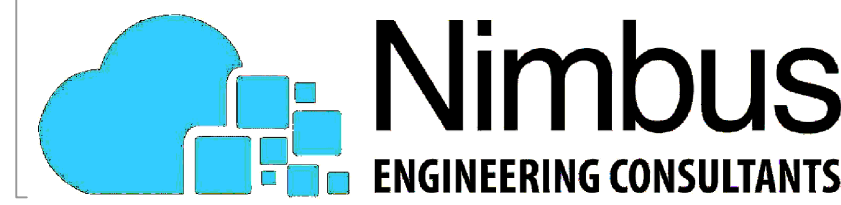
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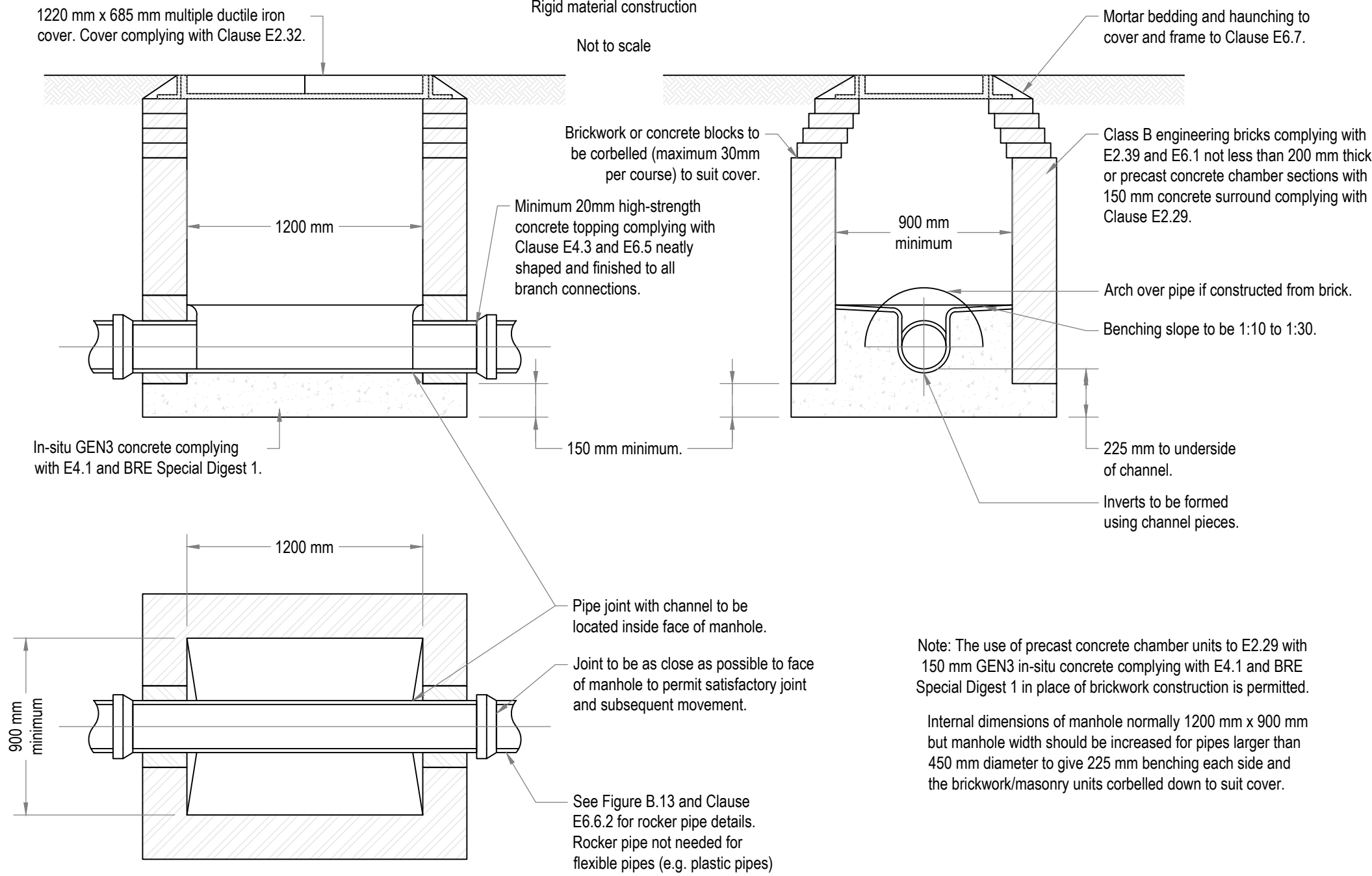
Surface Water Flood Risk for 0.3m Flood Depth on Proposed Site Plan

Frough Ltd



S.L	07-05-26	S.L	07-05-26
M.HAM	1:200	C3783-06	A
07-05-26	A1		

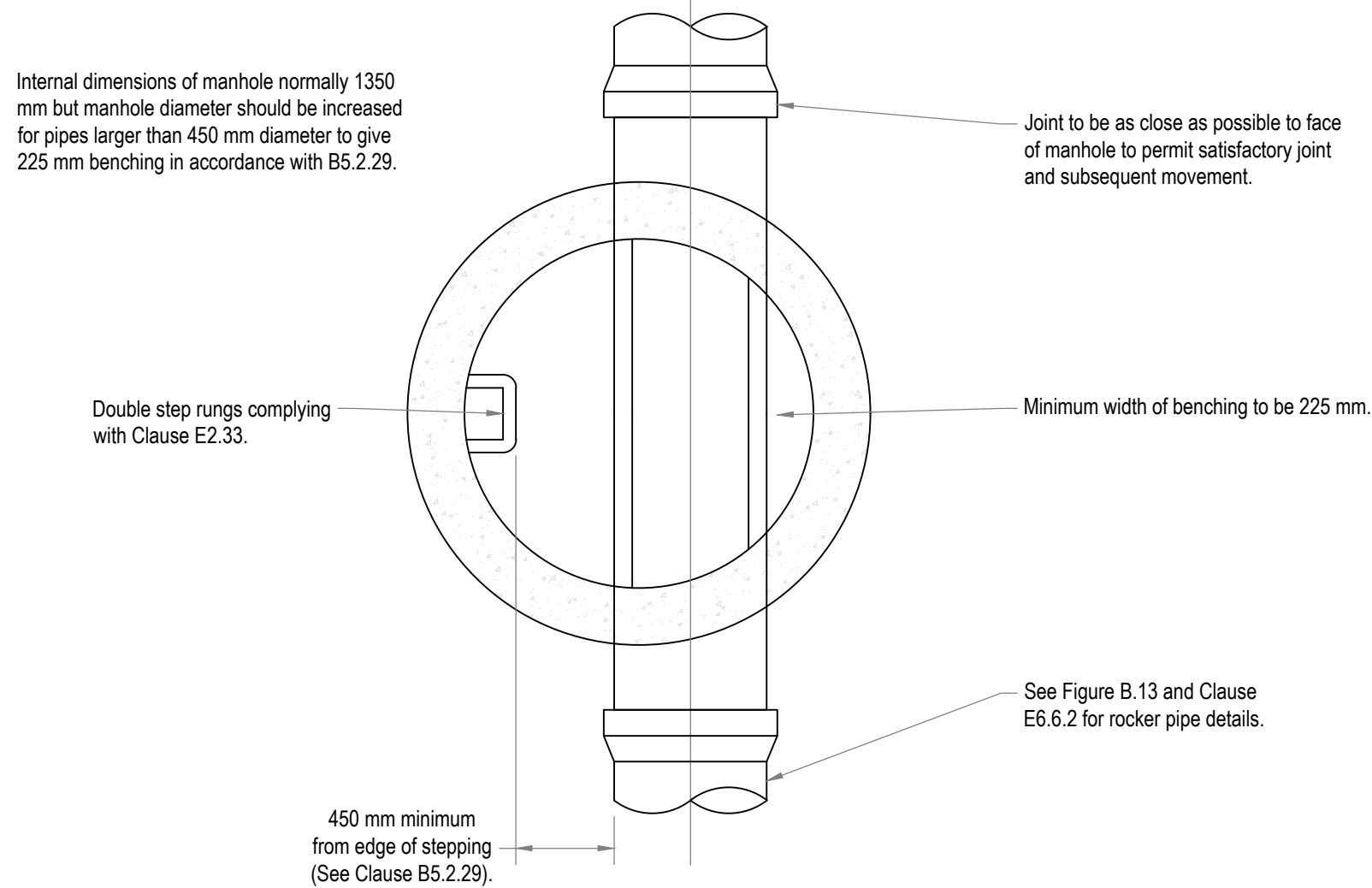
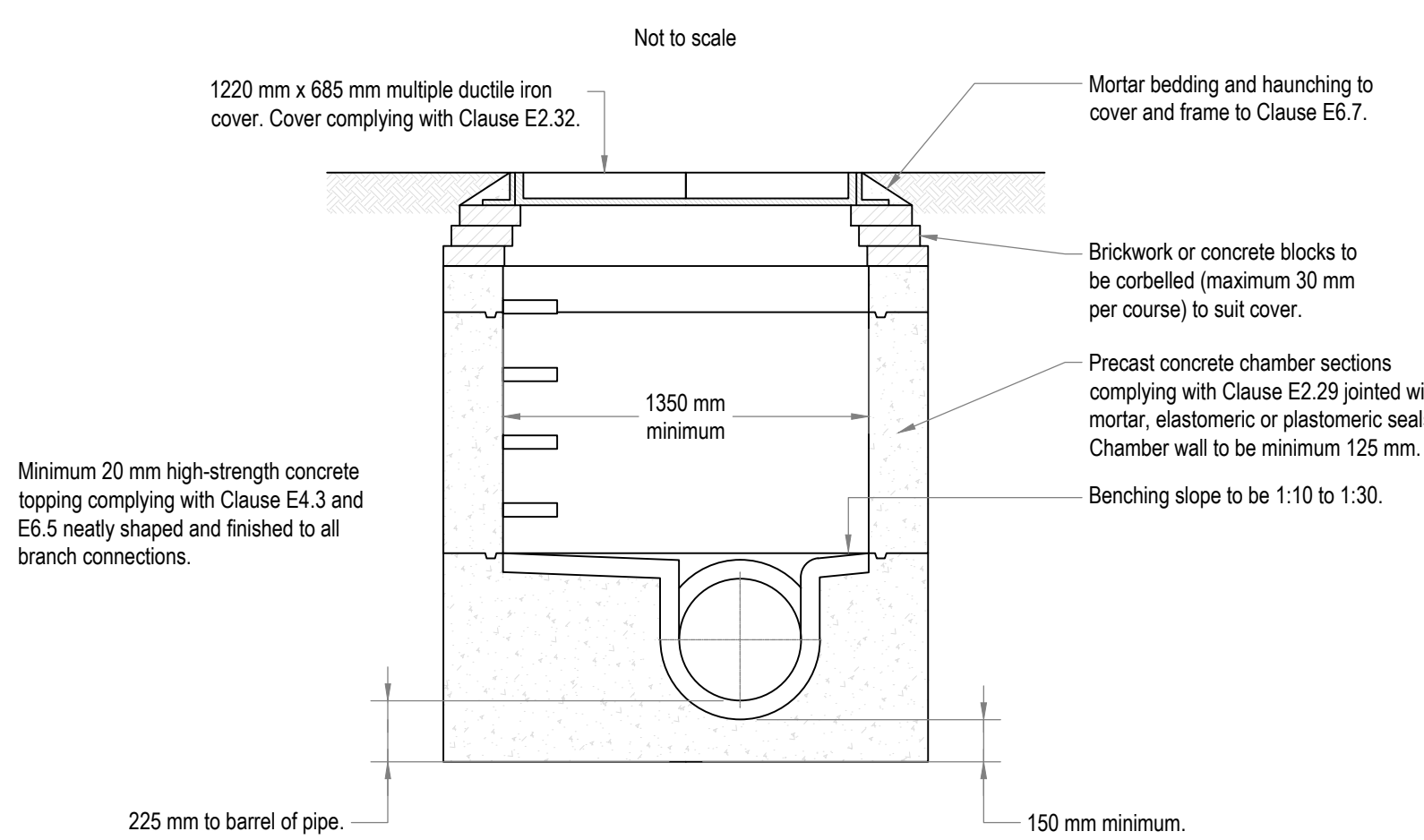
Figure B 14
Typical manhole detail - Type C
Depth from cover level to soffit of pipe less than 1.5 m
Maximum pipe size 450 mm diameter
Rigid material construction



Note: The use of precast concrete chamber units to E2.29 with 150 mm GEN3 in-situ concrete complying with E4.1 and BRE Special Digest 1 in place of brickwork construction is permitted.

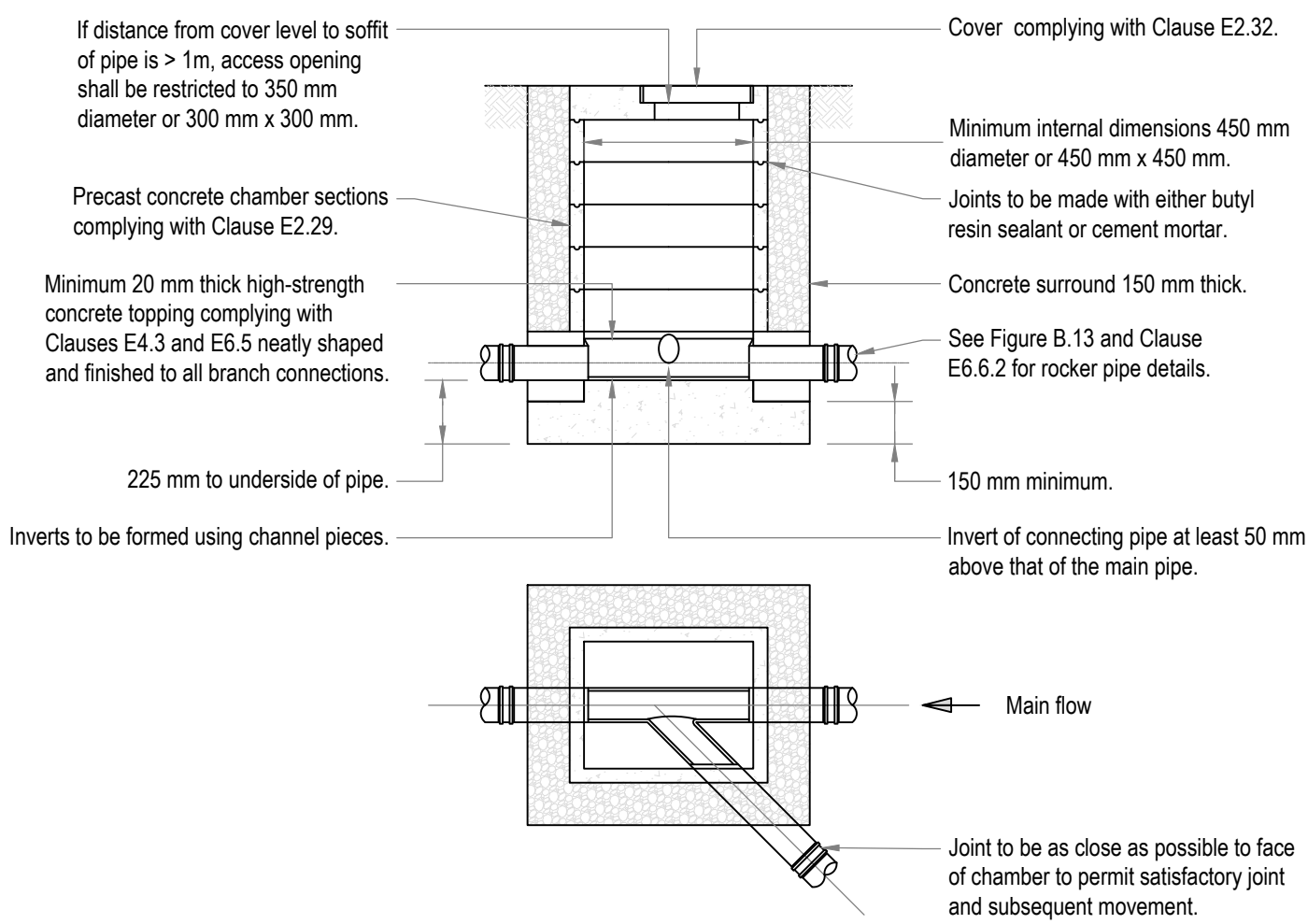
Internal dimensions of manhole normally 1200 mm x 900 mm but manhole width should be increased for pipes larger than 450 mm diameter to give 225 mm benching each side and the brickwork/masonry units corbelled down to suit cover.

Figure B 15
Typical manhole detail - Type C
Depth from cover level to soffit of pipe less than 1.5 m
Maximum pipe size 450 mm diameter
Rigid material construction



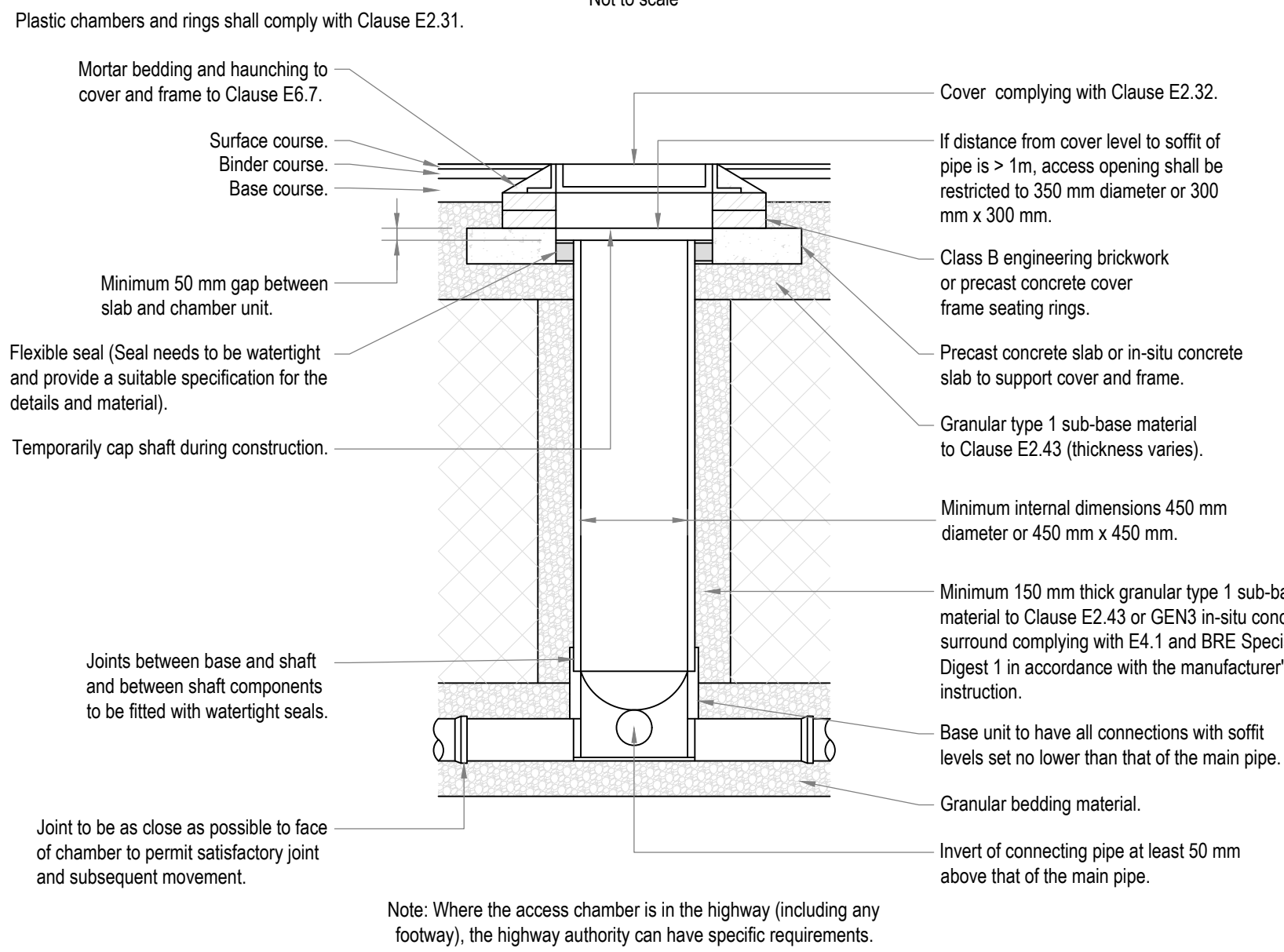
Note: The use of precast concrete chamber units to E2.29 with 150 mm GEN3 in-situ concrete complying with E4.1 and BRE Special Digest 1 in place of brickwork construction is permitted.

Figure B 21
Typical inspection chamber detail - Type D
Depth from cover level to soffit of pipe up to 3 m
Rigid material construction for use in areas subject to vehicle loading or landscaped areas
Not to scale



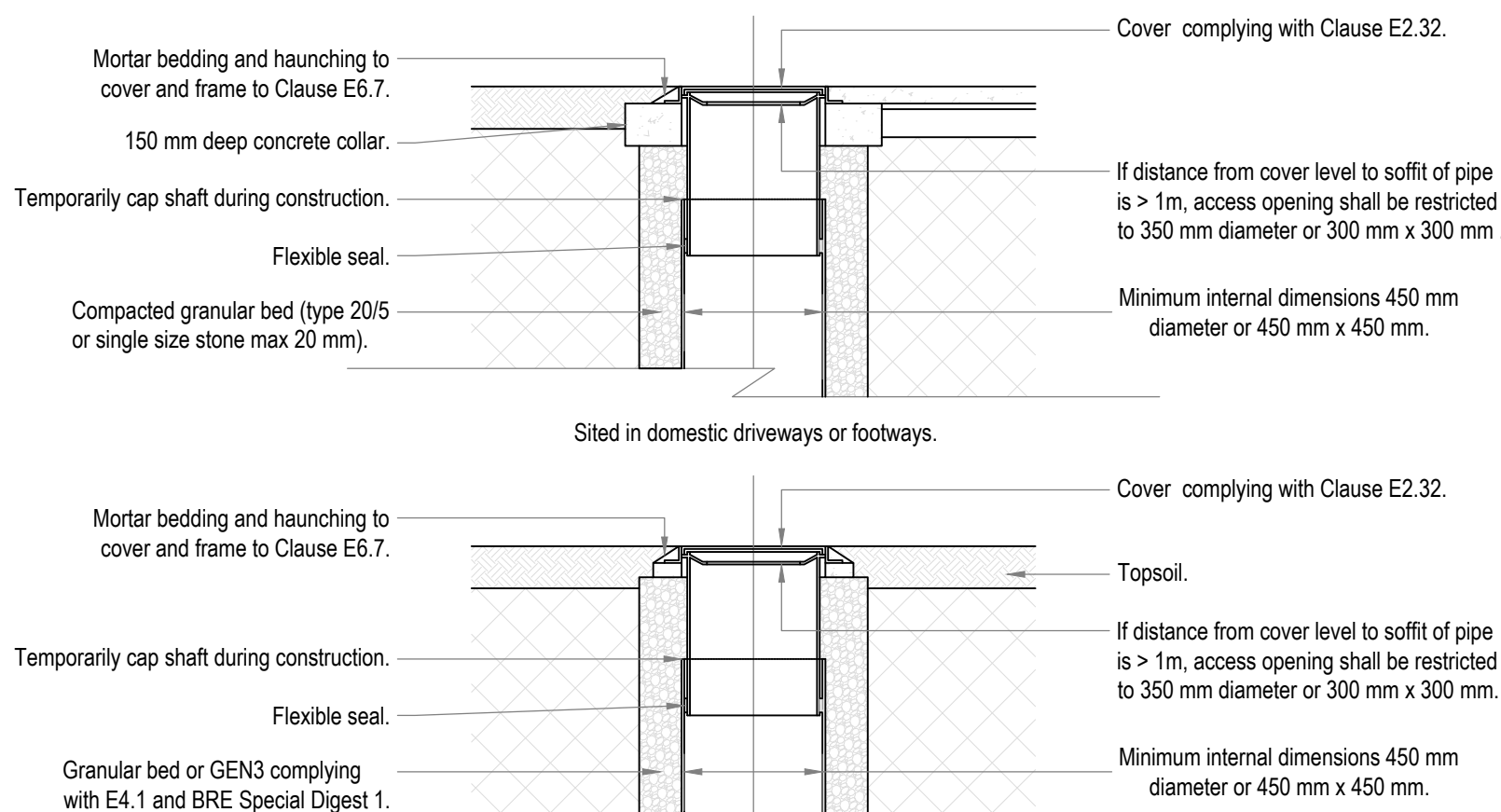
Note: Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements.

Figure B 18
Typical manhole detail - Type D
Depth from cover level to soffit of pipe up to 3 m
Flexible material construction for use in areas subject to vehicle loading
Not to scale

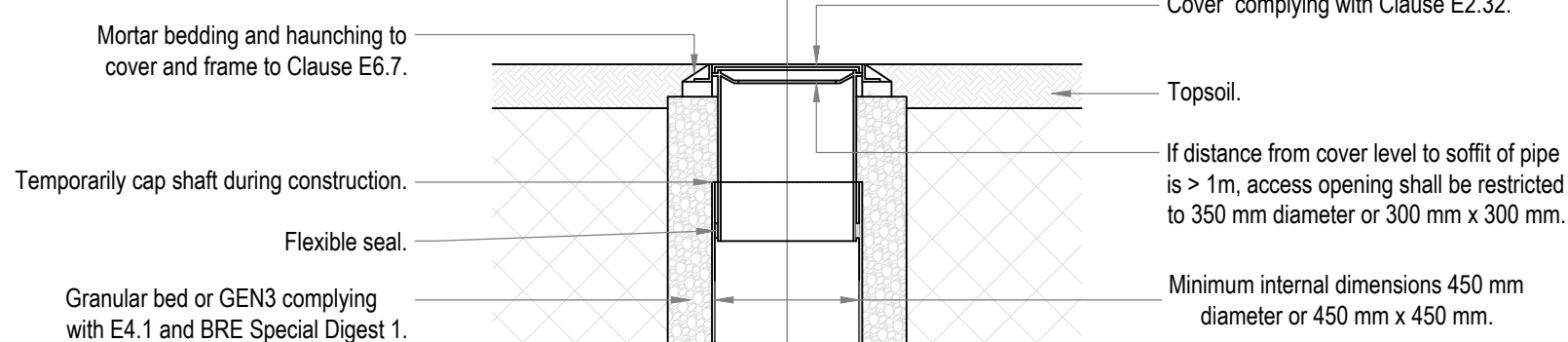


Note: Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements.

Figure B 19
Typical manhole detail - Type D
Flexible material construction alternative top details for use in areas of light vehicle loading or landscape areas
Not to scale



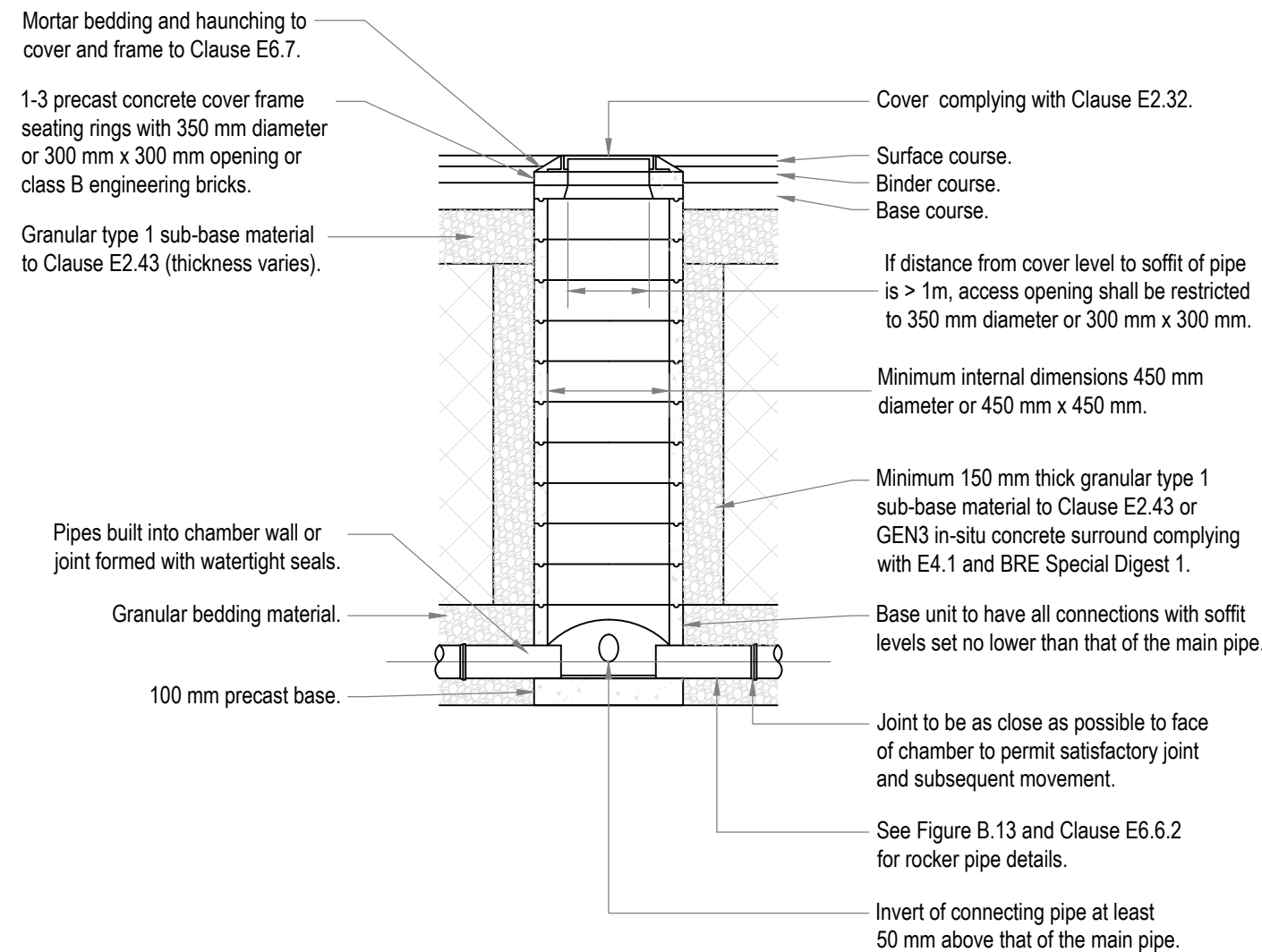
Sited in domestic driveways or footways.



Sited in domestic gardens.

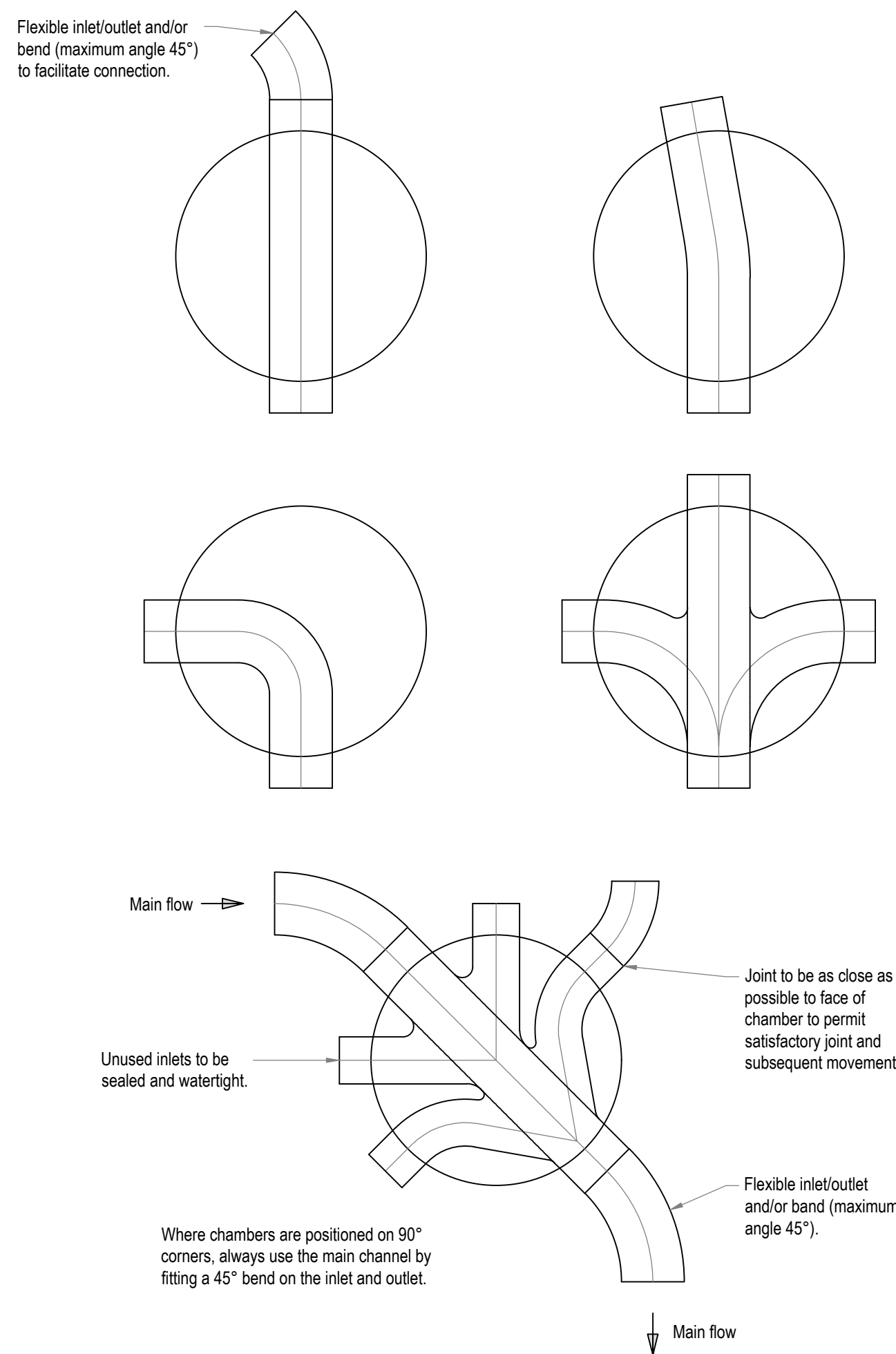
Note: Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements.

Figure B 20
Typical inspection chamber detail - Type D
Depth from cover level to soffit of pipe up to 3 m
Rigid material construction for use in areas subject to vehicle loading
Not to scale



Note: Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements.

Figure B 22
Typical inspection chamber detail - Type D chambers
Not to scale



Note: Where a bend is used immediately outside the manhole, this may be used as the rocker pipe.

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PROJECT:

Former Regal Cinema, 233 High Street, Uxbridge, UB8

TITLE:

Standard Drainage Details - Sheet 01 of 03

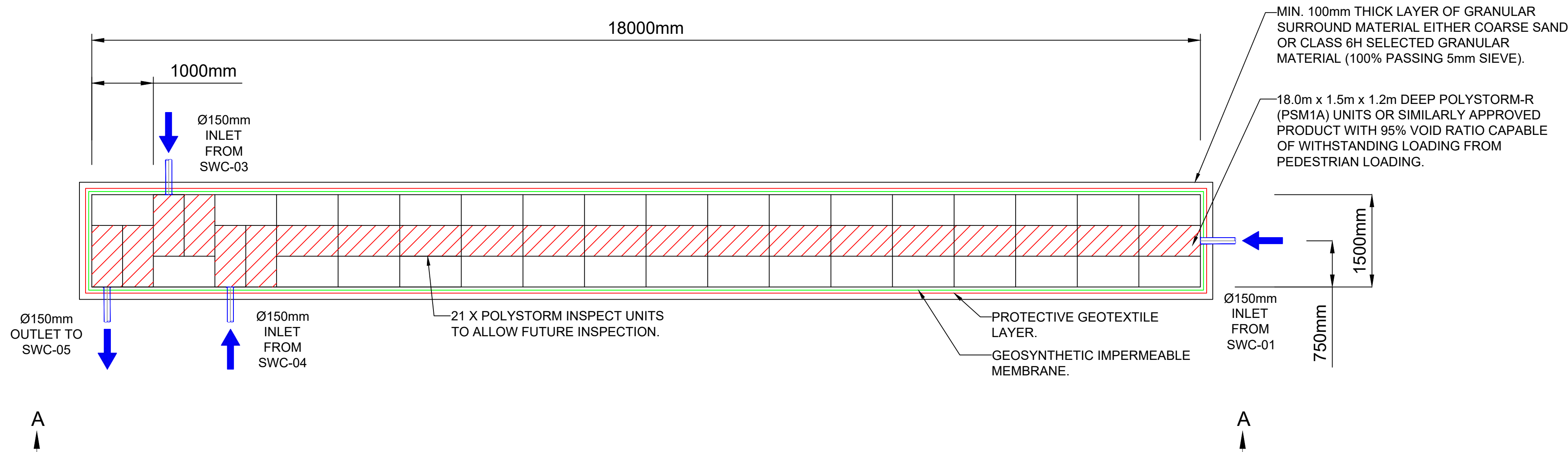
CLIENT:

Frough Ltd



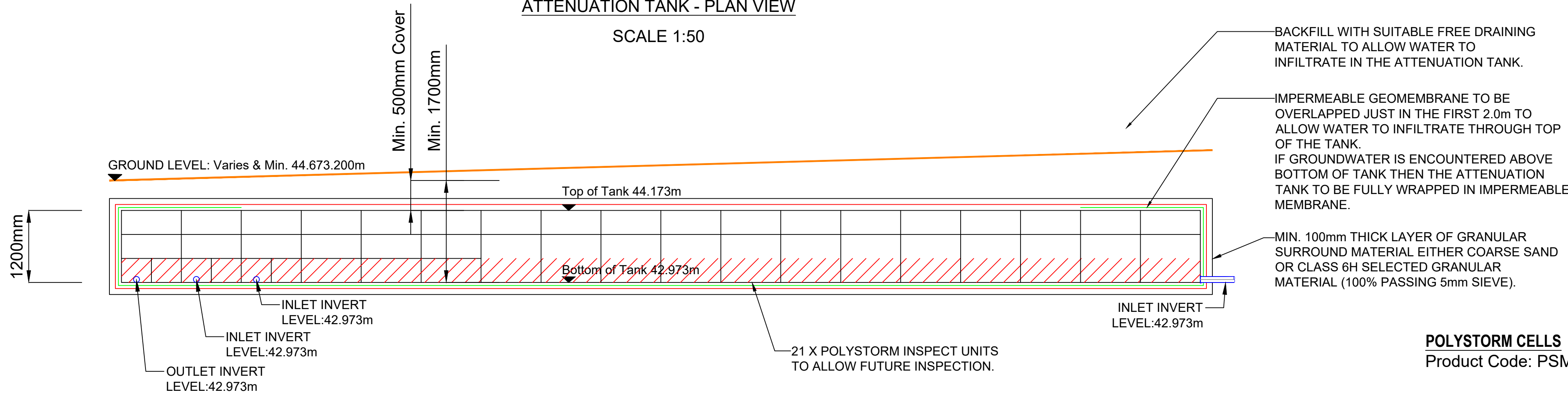
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DRN BY:	SCALE:	DRAWING NUMBER:	REV:
M.HAM	1:200	C3783-07	A
DATE:	SIZE:		
07-05-26	A1		



ATTENUATION TANK - PLAN VIEW

SCALE 1:50

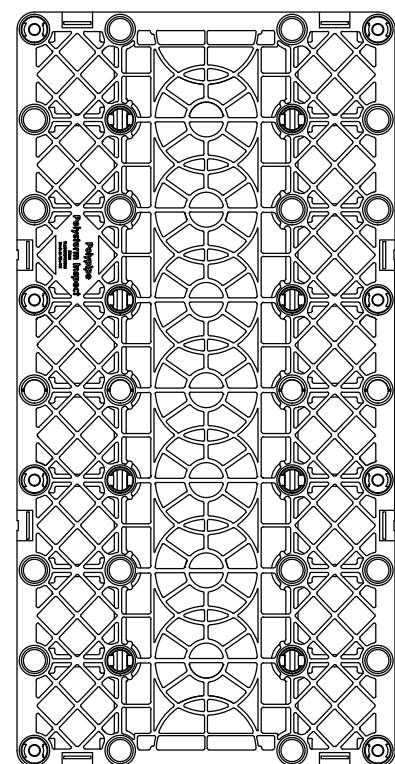


ATTENUATION TANK - SECTION A-A

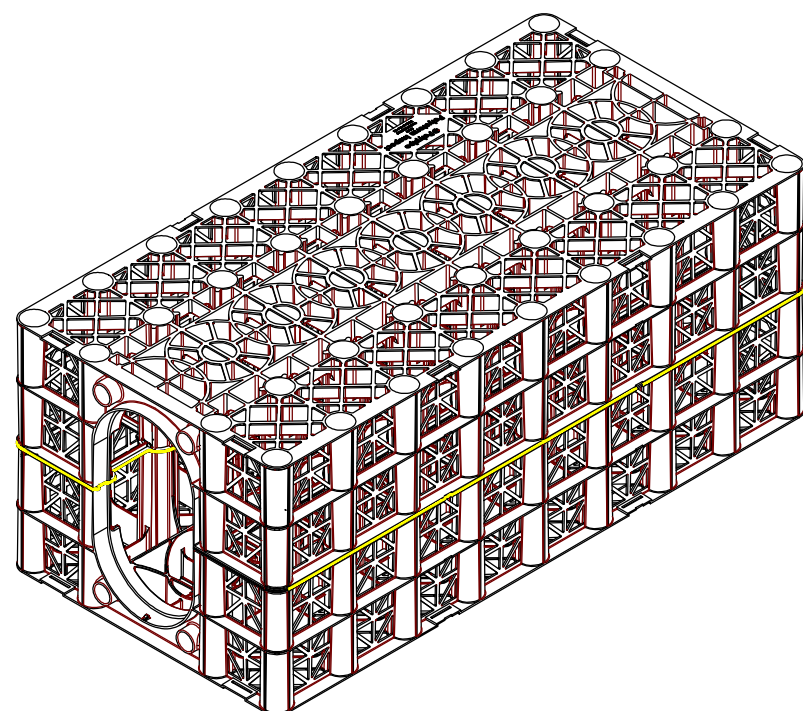
SCALE 1:50

POLYSTORM CELL
Product Code: PSM4

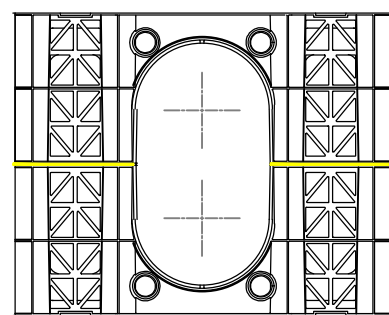
POLYSTORM TABLE									
NAME	CODE	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	A (mm)	VERTICAL STRENGTH (kN/m ²)	LATERAL STRENGTH (kN/m ²)	COLOUR	MATERIAL
Polystorm Inspect	PSM4	1000	500	400	54	440	63	Grey	Prime Polypropylene



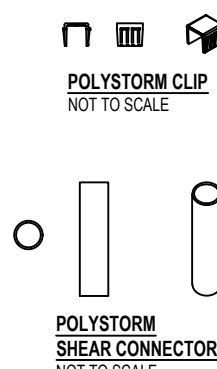
PLAN VIEW
NOT TO SCALE



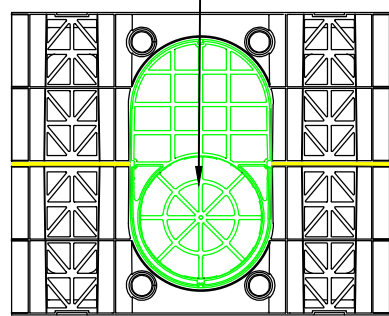
ISOMETRIC VIEW
NOT TO SCALE



END ELEVATION
NOT TO SCALE



Optional:
Polystorm Inspect End Plate
Product Code: PSM4-E
Recessed 'knock-out' accepts
Ø160mm BS EN 1401-1 pipe

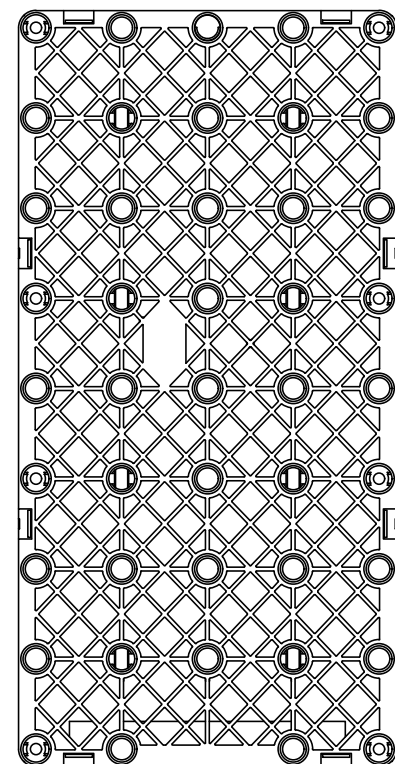


END ELEVATION
(Including Insert)
NOT TO SCALE

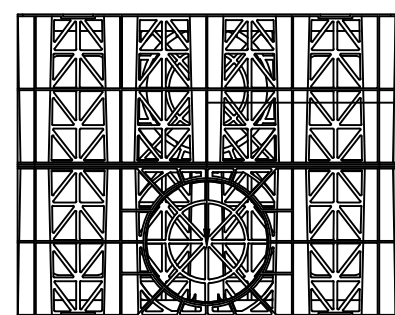
POLYSTORM CELLS

Product Code: PSM1, PSM1A & PSM2

POLYSTORM TABLE									
NAME	CODE	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	A (mm)	VERTICAL STRENGTH (kN/m ²)	LATERAL STRENGTH (kN/m ²)	COLOUR	MATERIAL
Polystorm	PSM1	1000	500	400	25	440	63	Grey	Prime Polypropylene
Polystorm - R	PSM1A	1000	500	400	25	610	63	Black	Recycled Polypropylene
Polystorm Lite	PSM2	1000	500	400	25	200	40	Black	Recycled Polypropylene



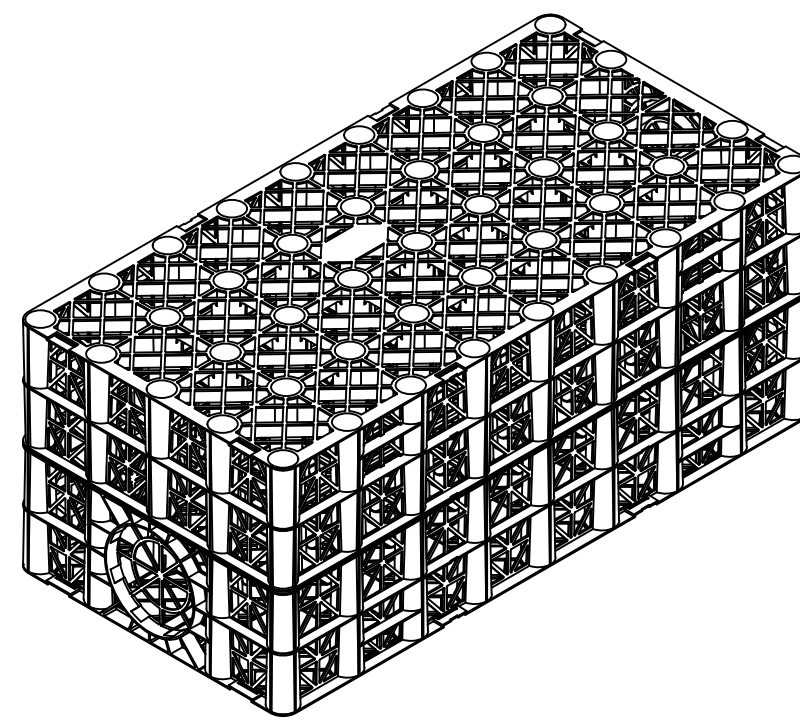
PLAN VIEW
NOT TO SCALE



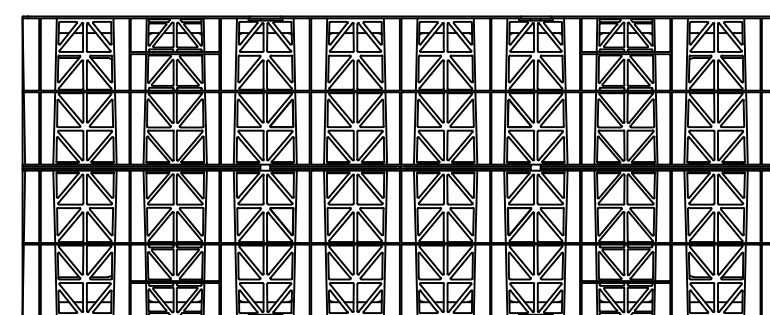
END ELEVATION
NOT TO SCALE

Recessed 'Knock-out' accepts Ø160mm BS EN 1401-1 pipe

Connecting pipe IL (160mm Ø BS EN 1401-1 pipe)



ISOMETRIC VIEW
NOT TO SCALE



SIDE ELEVATION
NOT TO SCALE

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A	07-05-26	M.HAM	For Information.	SL	SL

PROJECT:

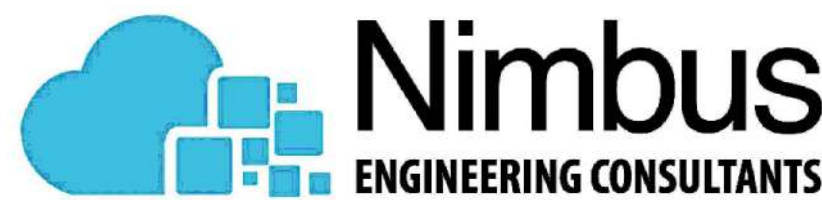
Former Regal Cinema, 233 High Street, Uxbridge, UB8

TITLE:

Standard Drainage Details - Sheet 02 of 03

CLIENT:

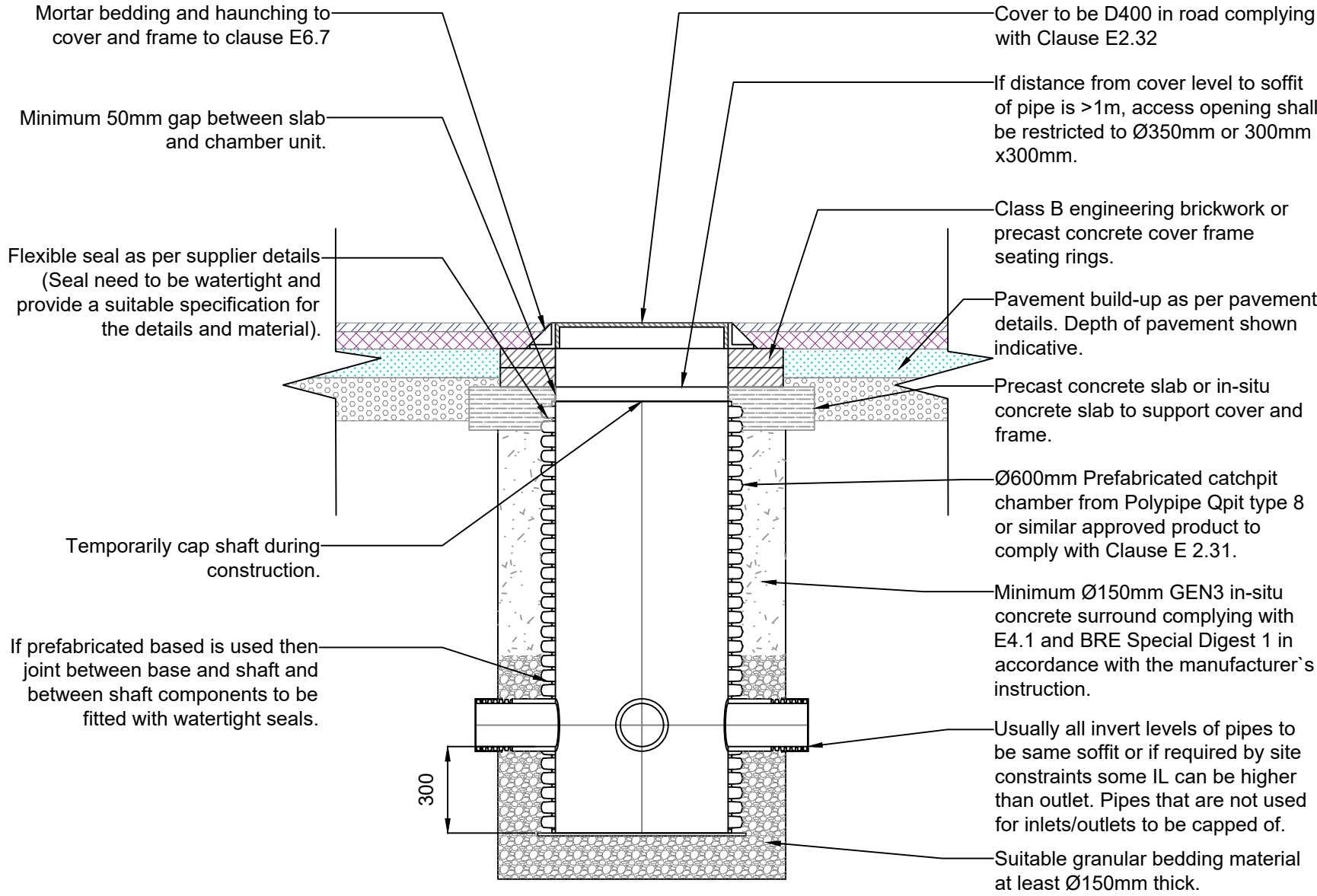
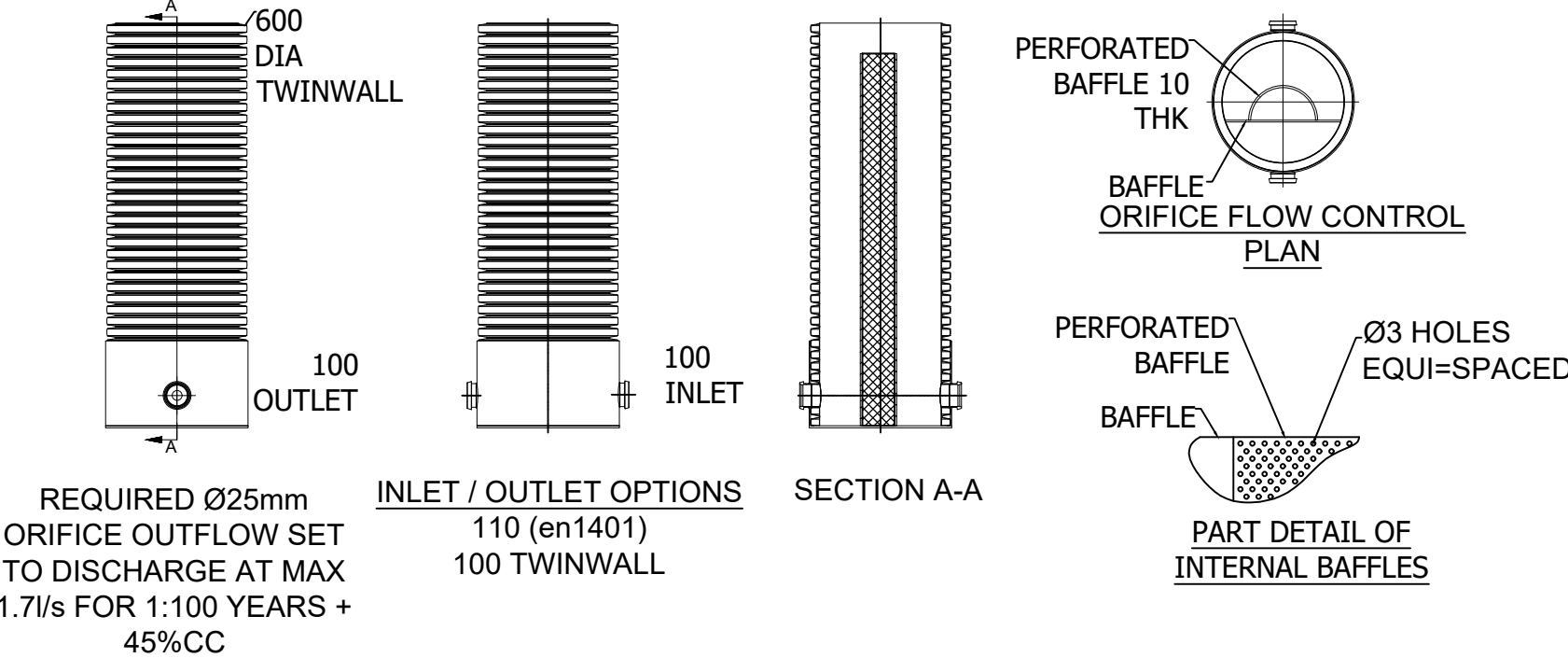
Frough Ltd



www.nimbusengineering.co.uk
info@nimbusengineering.co.uk

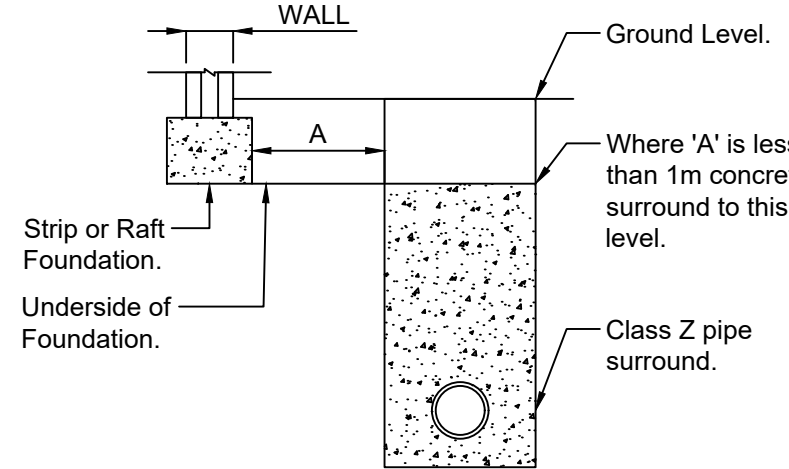
CHECKED BY: S.L	DATE: 07-05-26	APPROVED BY: S.L	DATE: 07-05-26
DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-08	REV: A
DATE: 07-05-26	SIZE: A1		

TRENCH BEDDING AND FILL MATERIALS								
GRANULAR BEDDING TYPE A								
TYPE	USE FOR NOMINAL PIPE (DIA.)	% PASSING BY MASS BS 410 SIEVE SIZES (mm)						
		63	37.5	20	14	10	5	2.36
A40	>1350	100	85-100	0-25	—	0-5	—	—
A20	600-1350	—	100	85-100	—	0-25	0-5	—
A14	300-525	—	—	100	85-100	0-50	0-10	—
A10	<300	—	—	—	100	85-100	0-25	0-5

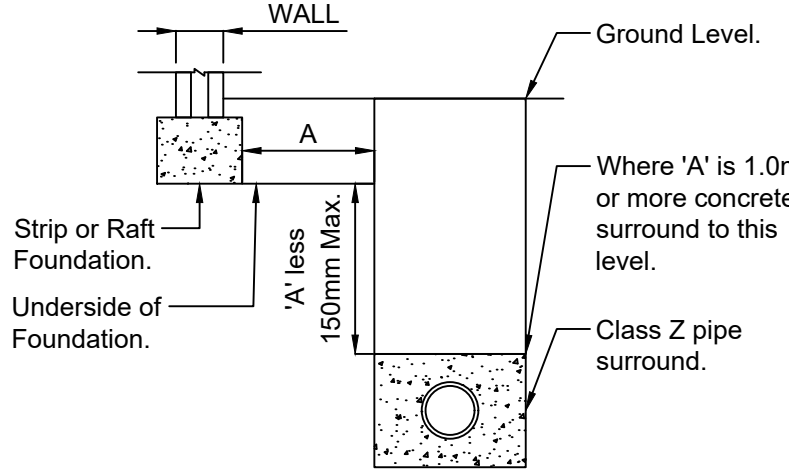


TYPICAL DETAIL FOR INSPECTION CATCHPIT CHAMBER IN ROAD
(ALL REFERENCES TO CLAUSES ARE FROM SEWERAGE SECTOR)

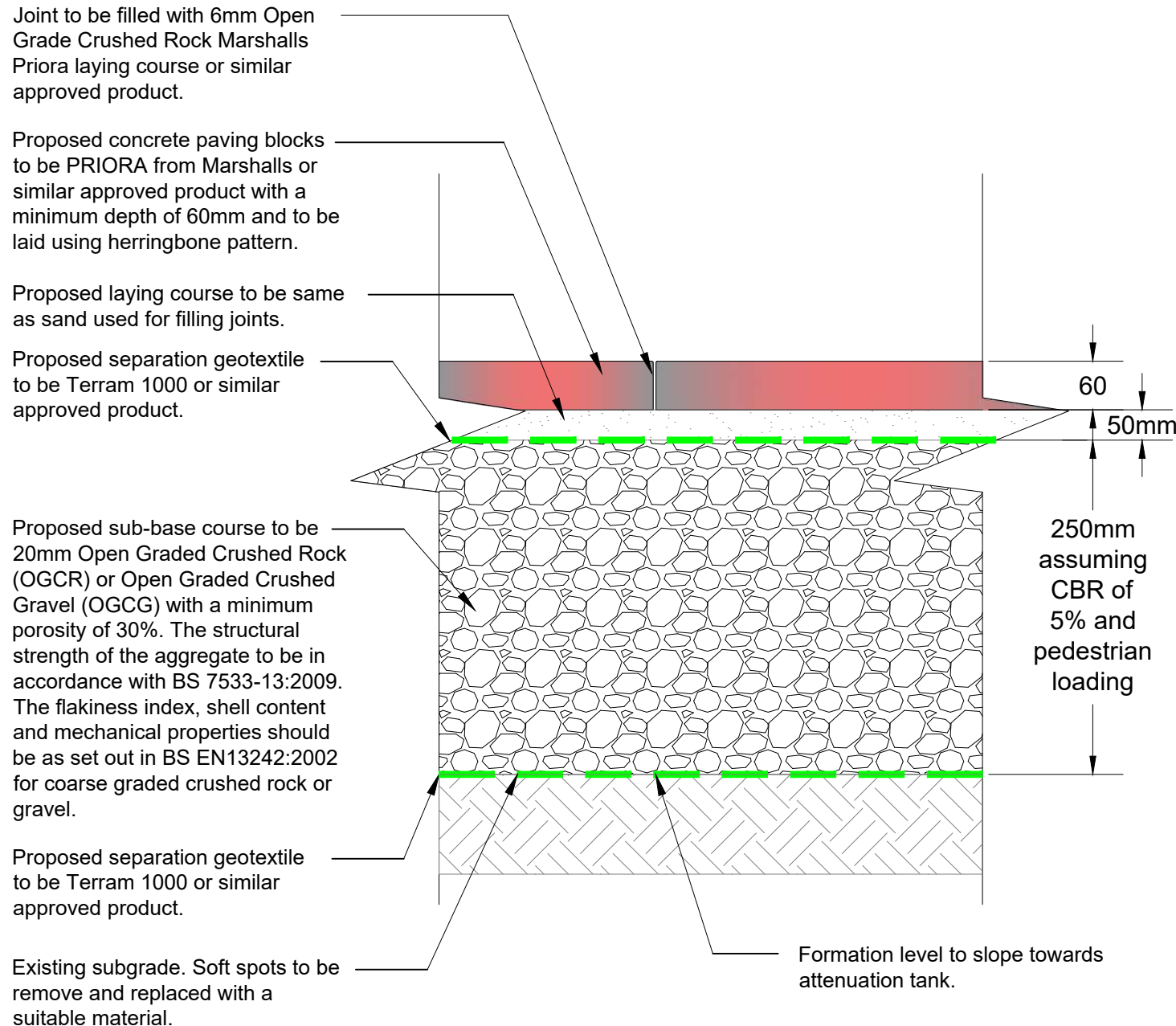
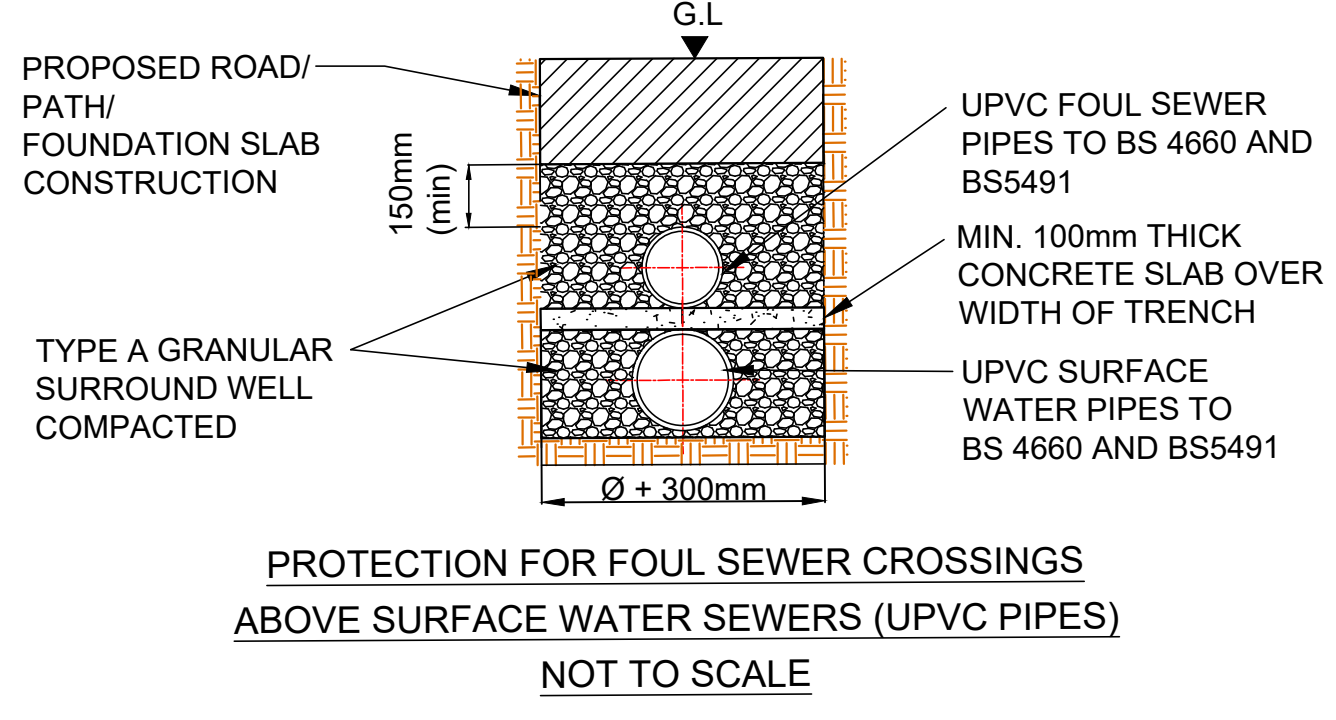
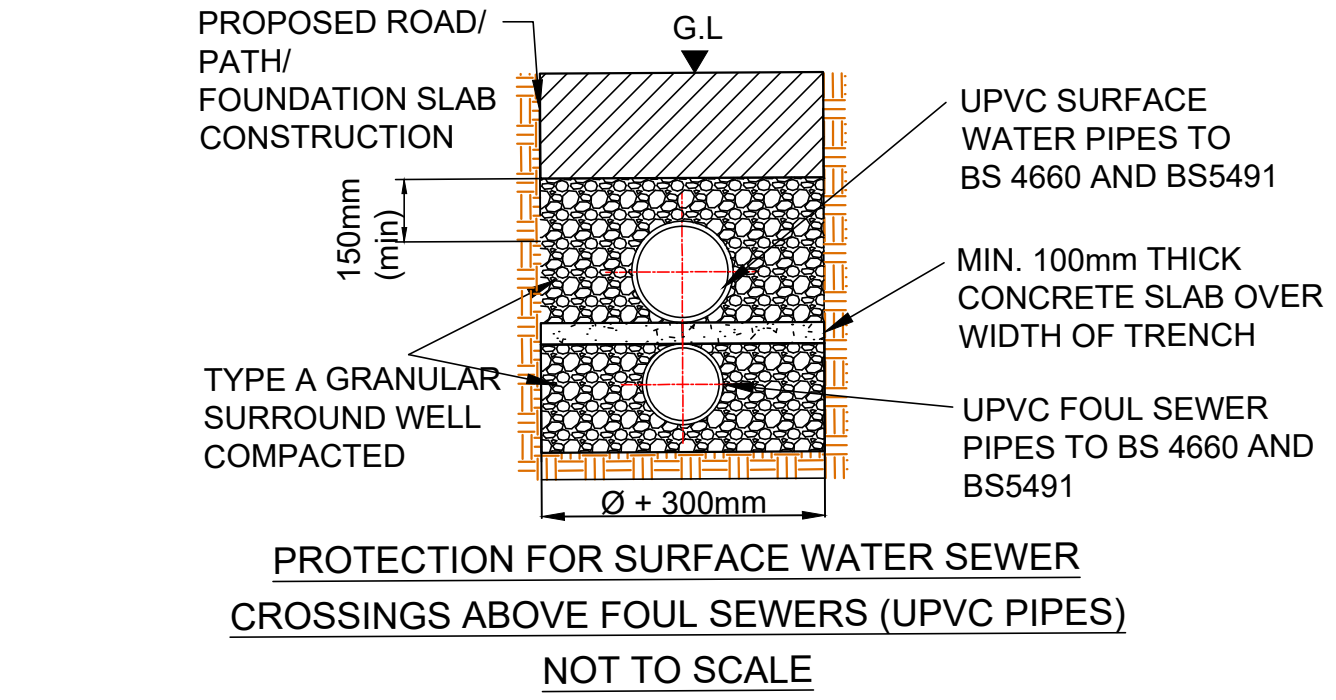
GUIDANCE - FORMER SFA)
SCALE 1:20



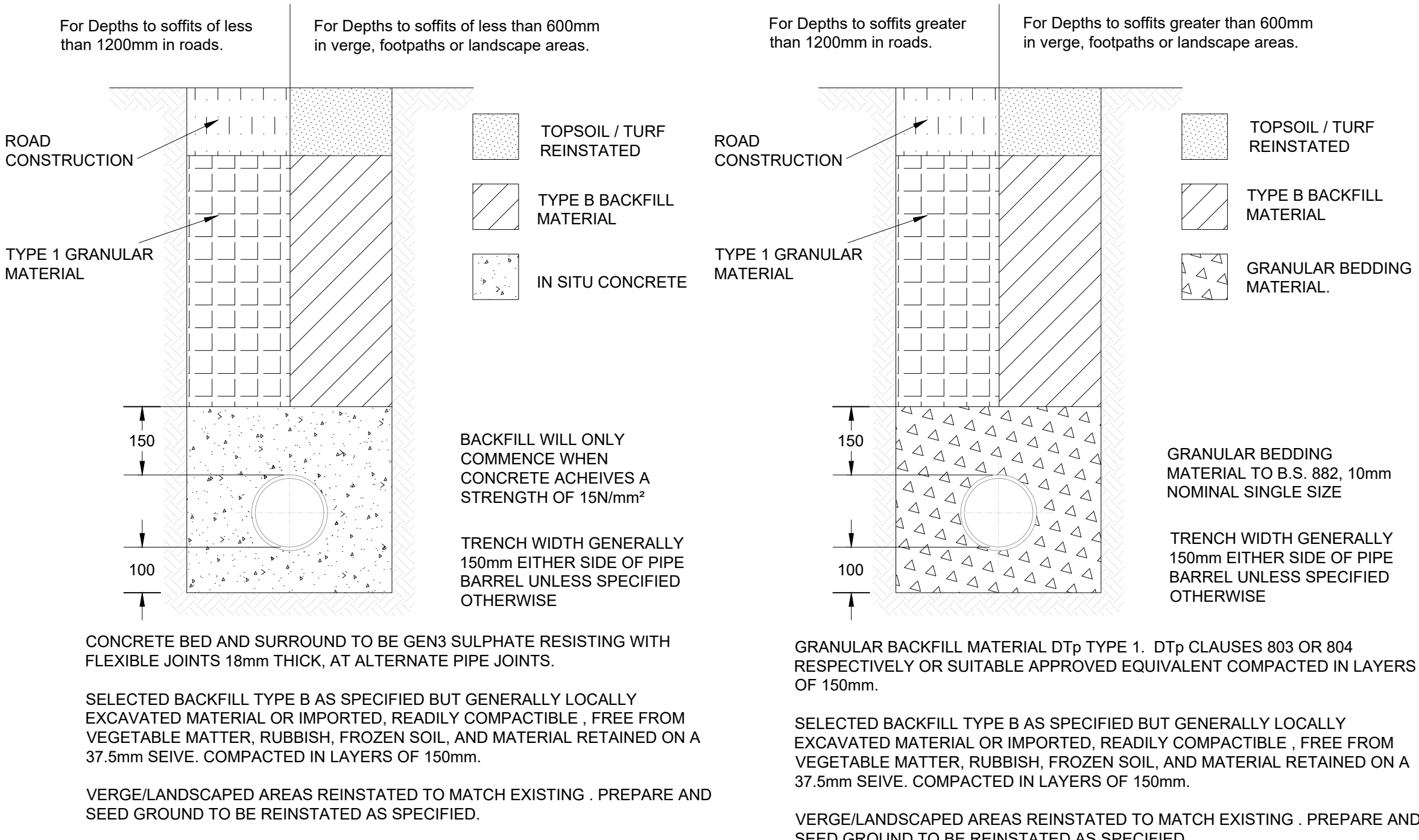
TYPICAL DETAIL FOR PIPE RUNS NEAR BUILDINGS
(A' LESS THAN 1m)
NOT TO SCALE



TYPICAL DETAIL FOR PIPE RUNS NEAR BUILDINGS
(A' GREATER THAN 1m)
NOT TO SCALE

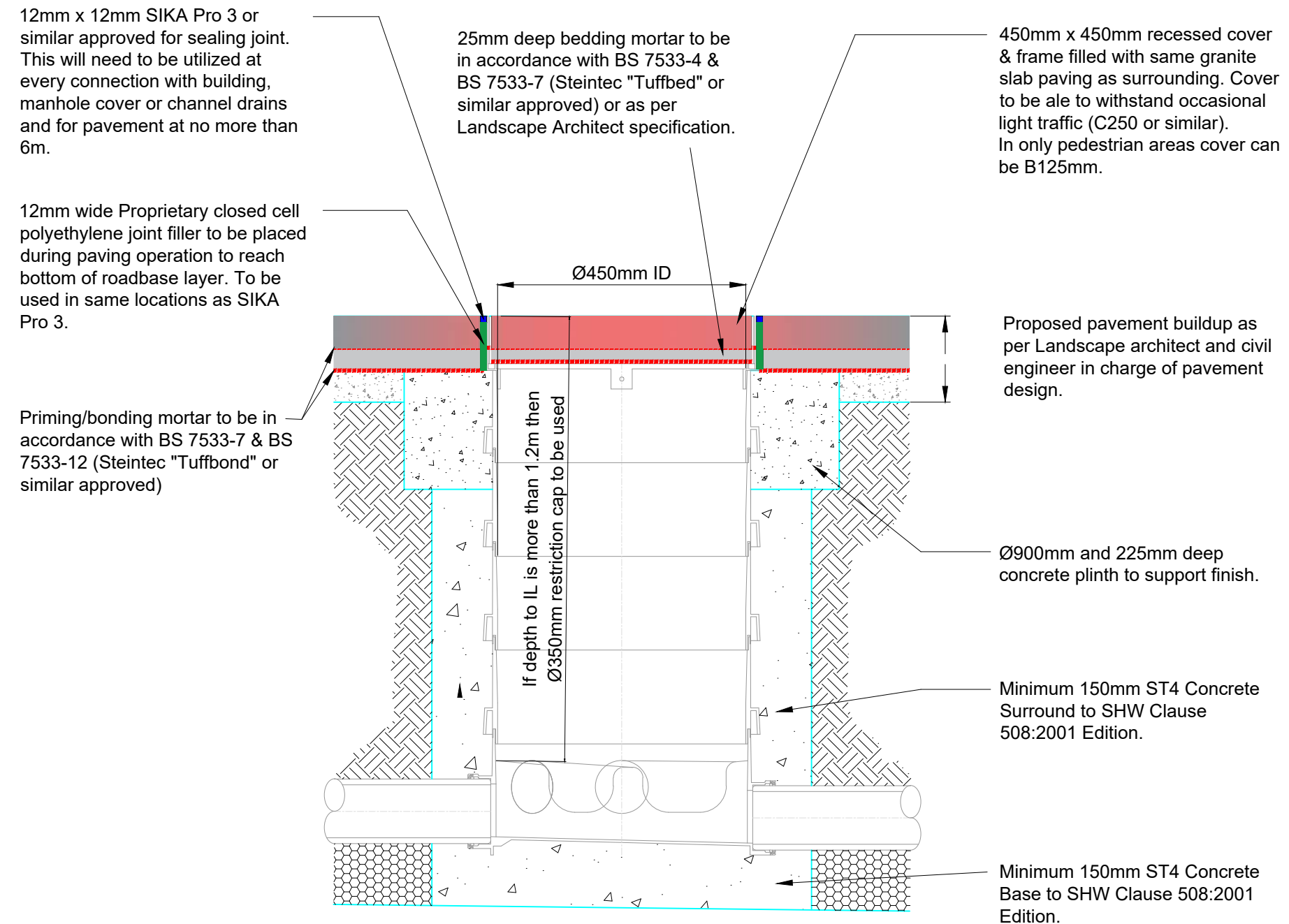
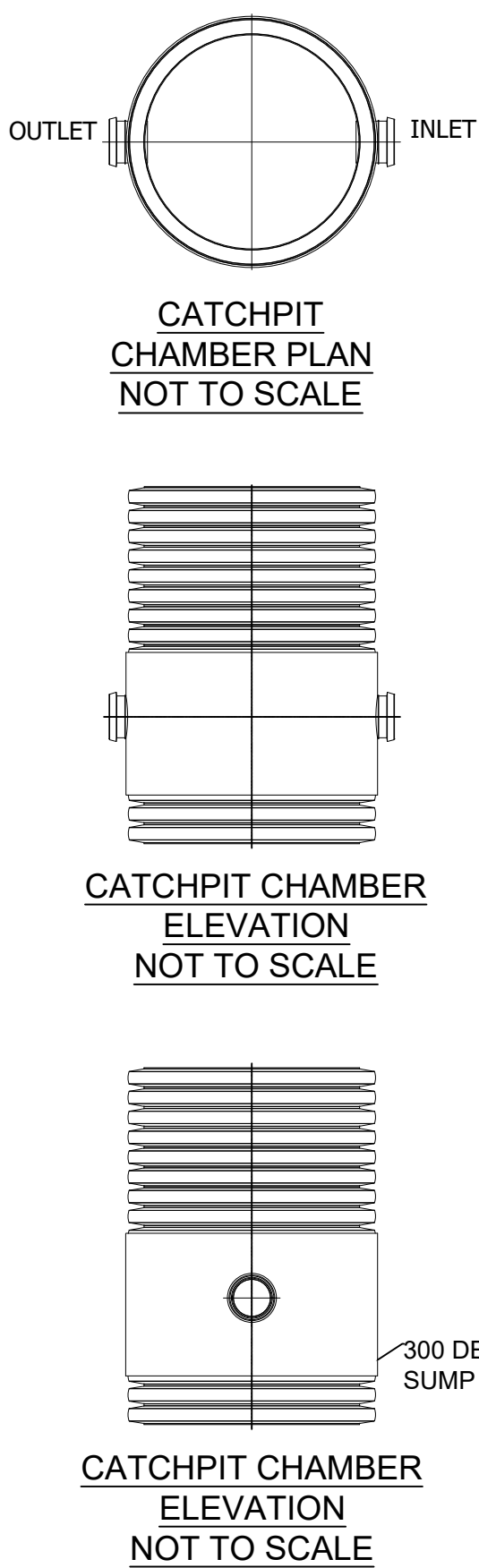


BLOCK PAVEMENT TYPE TYPICAL SECTION FOR SUBBASE ATTENUATION
(If Permeable Pavement from Marshall is used)
NOT TO SCALE



CLASS Z BEDDING FOR DRAINAGE PIPES
NOT TO SCALE

CLASS S BEDDING FOR DRAINAGE PIPES
NOT TO SCALE



Ø450mm SURFACE AND FOUL WATER INSPECTION CHAMBER TYPICAL INSTALLATION DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

IMPORTANT
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REV	DATE	DRAWN	DESCRIPTION	CHECK	APPR.
A	07-05-26	M.HAM	For Information.	SL	SL

PROJECT:
Former Regal Cinema, 233 High Street, Uxbridge, UB8

TITLE:
Standard Drainage Details - Sheet 03 of 03

CLIENT:
Frough Ltd

Nimbus
ENGINEERING CONSULTANTS

www.nimbusengineering.co.uk
info@nimbusengineering.co.uk

CHECKED BY: S.L	DATE: 07-05-26	APPROVED BY: S.L	DATE: 07-05-26
DRN BY: M.HAM	SCALE: 1:200	DRAWING NUMBER: C3783-09	REV: A
DATE: 07-05-26	SIZE: A1		

Former Regal Cinema, 233 High Street, Uxbridge, UB8 1LD

Nimbus Engineering Consultants Ltd

Flood Risk Assessment and SuDS Report

May 2026

APPENDIX B – SURFACE WATER RUNOFF CALCULATIONS & HYDRAULIC MODELLING REPORTS

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWC-01	Manhole	505863.405	183953.702	45.178	2.100	43.078	Circular	0.600
SWC-02	Manhole	505872.286	183989.266	46.216	1.500	44.716	Circular	0.450
SWC-03	Manhole	505853.381	183970.281	44.989	1.500	43.489	Circular	0.600
SWC-04	Manhole	505848.906	183962.840	44.673	1.600	43.073	Circular	0.600
SWC-05	Manhole	505847.641	183963.612	44.673	1.750	42.923	Circular	0.600
SWC-06	Manhole	505829.162	183945.751	42.729	1.800	40.929	Circular	0.600
Ex. TW SW MH	Manhole	505818.624	183941.207	42.100	1.470	40.630	Circular	0.600

Name	Lock
SWC-01	None
SWC-02	None
SWC-03	None
SWC-04	None
SWC-05	None
SWC-06	None
Ex. TW SW MH	None

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SWC-01	Outlet	SWP1	Free Discharge
SWC-02	Outlet	SWP2	Free Discharge
SWC-03	Outlet	SWP3	Free Discharge
SWC-04	Outlet	SWP5	Free Discharge
SWC-05	Outlet	SWP7	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	42.923	
SWC-06	Outlet	SWP8	Free Discharge

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Blue Roof

Type : Cellular Storage

Dimensions

Exceedance Level (m)	56.951
Depth (m)	0.100
Base Level (m)	56.716
Number of Crates Long	194
Number of Crates Wide	3
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.6
Crate Width (m)	0.6
Crate Height (m)	0.1
Total Volume (m³)	20.039



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	44.673
Depth (m)	1.200
Base Level (m)	42.973
Number of Crates Long	18
Number of Crates Wide	3
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	31.280

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-01	45.178 43.078	Diameter / Length: 0.600					Manhole
E:505863.405 N:183953.702	2.100						
			{a} SWP1	Pipe	43.078	Diam/Width:150	Not Applicable
SWC-02	46.216 44.716	Diameter / Length: 0.450					Manhole
E:505872.286 N:183989.266	1.500						
			{a} SWP2	Pipe	44.716	Diam/Width:150	Not Applicable
SWC-03	44.989 43.489	Diameter / Length: 0.600	{1} SWP2	Pipe	43.489	Diam/Width:150	Manhole
E:505853.381 N:183970.281	1.500						
			{a} SWP3	Pipe	43.489	Diam/Width:150	Not Applicable
SWC-04	44.673 43.073	Diameter / Length: 0.600					Manhole
E:505848.906 N:183962.840	1.600						
			{a} SWP5	Pipe	43.073	Diam/Width:150	Not Applicable
SWC-05	44.673 42.923	Diameter / Length: 0.600	{1} SWP6	Pipe	42.923	Diam/Width:150	Manhole
E:505847.641 N:183963.612	1.750						
			{a} SWP7	Pipe	42.923	Diam/Width:150	Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Manhole Schedule Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-06	42.729 40.929	Diameter / Length: 0.600	{1} SWP7	Pipe	40.929	Diam/Width: 150	Manhole
E:505829.162 N:183945.751	1.800		{a} SWP8	Pipe	40.929	Diam/Width: 100	Not Applicable
Ex. TW SW MH	42.100 40.630	Diameter / Length: 0.600	{1} SWP8	Pipe	40.630	Diam/Width: 100	Manhole
E:505818.624 N:183941.207	1.470						Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Blue/Green Roof	Blue Roof		Green Roof	0.035		0		0.035
Catchment Area	SWC-01		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (2)	SWC-04		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (3)	SWC-02		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.101				0.101

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Title: Rainfall Analysis Criteria	Kemp House: 124 City Road London EC1V 2NX		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 505883 183966 TQ 05883 83966
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		



Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWC-01	FEH: 100 years: +45 %: 15 mins: Summer	45.17 8	43.07 8	43.631	0.553	12.0	0.157	0.000	10.1	4.604	Surcharged
SWC-02	FEH: 100 years: +45 %: 15 mins: Summer	46.21 6	44.71 6	44.735	0.019	1.3	0.003	0.000	1.2	0.549	OK
SWC-03	FEH: 100 years: +45 %: 15 mins: Summer	44.98 9	43.48 9	43.631	0.142	1.2	0.040	0.000	1.2	0.437	OK
SWC-04	FEH: 100 years: +45 %: 15 mins: Summer	44.67 3	43.07 3	43.631	0.558	15.2	0.158	0.000	13.3	5.990	Surcharged
SWC-05	FEH: 100 years: +45 %: 15 mins: Summer	44.67 3	42.92 3	43.631	0.708	2.6	0.200	0.000	1.1	1.480	Surcharged
SWC-06	FEH: 100 years: +45 %: 15 mins: Summer	42.72 9	40.92 9	40.952	0.023	1.1	0.007	0.000	1.1	1.415	OK
Ex. TW SW MH	FEH: 100 years: +45 %: 15 mins: Summer	42.10 0	40.63 0	40.652	0.022	1.1	0.000	0.000	1.1	1.415	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)				Date: 07/05/2026				
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase				Designed by: M.HAM	Checked by: S.L	Approved By: S.L		
				Kemp House: 124 City Road London EC1V 2NX				



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Blue Roof	FEH: 100 years: +45 %: 360 mins: Summer	56.810	56.810	0.094	0.094	4.0	18.721	0.000	0.000	0.7	18.158	298	6.580
Cellular Storage	FEH: 100 years: +45 %: 240 mins: Winter	44.670	44.670	1.697	1.697	8.0	31.262	0.000	0.000	1.9	36.755	168	0.057

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Status
OK
OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWC-01	Manhole	505863.405	183953.702	45.178	2.100	43.078	Circular	0.600
SWC-02	Manhole	505872.286	183989.266	46.216	1.500	44.716	Circular	0.450
SWC-03	Manhole	505853.381	183970.281	44.989	1.500	43.489	Circular	0.600
SWC-04	Manhole	505848.906	183962.840	44.673	1.600	43.073	Circular	0.600
SWC-05	Manhole	505847.641	183963.612	44.673	1.750	42.923	Circular	0.600
SWC-06	Manhole	505829.162	183945.751	42.729	1.800	40.929	Circular	0.600
Ex. TW SW MH	Manhole	505818.624	183941.207	42.100	1.470	40.630	Circular	0.600

Name	Lock
SWC-01	None
SWC-02	None
SWC-03	None
SWC-04	None
SWC-05	None
SWC-06	None
Ex. TW SW MH	None

Outlets			
Junction	Outlet Name	Outgoing Connection	Outlet Type
SWC-01	Outlet	SWP1	Free Discharge
SWC-02	Outlet	SWP2	Free Discharge
SWC-03	Outlet	SWP3	Free Discharge
SWC-04	Outlet	SWP5	Free Discharge
SWC-05	Outlet	SWP7	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	42.923	
SWC-06	Outlet	SWP8	Free Discharge

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Blue Roof

Type : Cellular Storage

Dimensions

Exceedance Level (m)	56.951
Depth (m)	0.100
Base Level (m)	56.716
Number of Crates Long	194
Number of Crates Wide	3
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.6
Crate Width (m)	0.6
Crate Height (m)	0.1
Total Volume (m³)	20.039



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	44.673
Depth (m)	1.200
Base Level (m)	42.973
Number of Crates Long	18
Number of Crates Wide	3
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	31.280

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-01	45.178 43.078	Diameter / Length: 0.600					Manhole
E:505863.405 N:183953.702	2.100						
			{a} SWP1	Pipe	43.078	Diam/Width:150	Not Applicable
SWC-02	46.216 44.716	Diameter / Length: 0.450					Manhole
E:505872.286 N:183989.266	1.500						
			{a} SWP2	Pipe	44.716	Diam/Width:150	Not Applicable
SWC-03	44.989 43.489	Diameter / Length: 0.600	{1} SWP2	Pipe	43.489	Diam/Width:150	Manhole
E:505853.381 N:183970.281	1.500						
			{a} SWP3	Pipe	43.489	Diam/Width:150	Not Applicable
SWC-04	44.673 43.073	Diameter / Length: 0.600					Manhole
E:505848.906 N:183962.840	1.600						
			{a} SWP5	Pipe	43.073	Diam/Width:150	Not Applicable
SWC-05	44.673 42.923	Diameter / Length: 0.600	{1} SWP6	Pipe	42.923	Diam/Width:150	Manhole
E:505847.641 N:183963.612	1.750						
			{a} SWP7	Pipe	42.923	Diam/Width:150	Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-06	42.729 40.929	Diameter / Length: 0.600	{1} SWP7	Pipe	40.929	Diam/Width:150	Manhole
E:505829.162 N:183945.751	1.800		{a} SWP8	Pipe	40.929	Diam/Width:100	Not Applicable
Ex. TW SW MH	42.100 40.630	Diameter / Length: 0.600	{1} SWP8	Pipe	40.630	Diam/Width:100	Manhole
E:505818.624 N:183941.207	1.470						Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Blue/Green Roof	Blue Roof		Green Roof	0.035		0		0.035
Catchment Area	SWC-01		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (2)	SWC-04		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (3)	SWC-02		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.101				0.101

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Title: Rainfall Analysis Criteria	Kemp House: 124 City Road London EC1V 2NX		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 505883 183966 TQ 05883 83966
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-01: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	45.178	43.078	43.631	0.553	12.0	0.157	0.000	10.1	4.604	Surcharged
FEH: 100 years: +45 %: 15 mins: Winter	45.178	43.078	43.631	0.553	11.3	0.156	0.000	9.5	4.604	Surcharged
FEH: 100 years: +45 %: 30 mins: Summer	45.178	43.078	43.812	0.734	7.9	0.208	0.000	6.8	6.026	Surcharged
FEH: 100 years: +45 %: 30 mins: Winter	45.178	43.078	43.812	0.734	7.4	0.208	0.000	6.4	6.032	Surcharged
FEH: 100 years: +45 %: 60 mins: Summer	45.178	43.078	43.983	0.905	6.8	0.256	0.000	5.9	7.550	Surcharged
FEH: 100 years: +45 %: 60 mins: Winter	45.178	43.078	43.982	0.904	5.5	0.256	0.000	4.7	7.552	Surcharged
FEH: 100 years: +45 %: 120 mins: Summer	45.178	43.078	44.161	1.083	5.0	0.307	0.000	4.3	9.519	Surcharged
FEH: 100 years: +45 %: 120 mins: Winter	45.178	43.078	44.167	1.089	3.6	0.308	0.000	3.1	9.509	Surcharged
FEH: 100 years: +45 %: 180 mins: Summer	45.178	43.078	44.500	1.422	4.0	0.402	0.000	3.4	10.810	Surcharged
FEH: 100 years: +45 %: 180 mins: Winter	45.178	43.078	44.526	1.448	2.7	0.410	0.000	2.4	10.811	Surcharged
FEH: 100 years: +45 %: 240 mins: Summer	45.178	43.078	44.613	1.535	3.3	0.434	0.000	2.8	11.766	Surcharged
FEH: 100 years: +45 %: 240 mins: Winter	45.178	43.078	44.670	1.592	2.2	0.451	0.000	1.9	11.757	Surcharged
FEH: 100 years: +45 %: 360 mins: Summer	45.178	43.078	44.571	1.493	2.5	0.423	0.000	2.1	13.132	Surcharged
FEH: 100 years: +45 %: 360 mins: Winter	45.178	43.078	44.620	1.542	1.6	0.436	0.000	1.4	13.145	Surcharged
FEH: 100 years: +45 %: 480 mins: Summer	45.178	43.078	44.468	1.390	2.0	0.393	0.000	1.7	14.137	Surcharged
FEH: 100 years: +45 %: 480 mins: Winter	45.178	43.078	44.485	1.407	1.3	0.398	0.000	1.1	14.146	Surcharged
FEH: 100 years: +45 %: 600 mins: Summer	45.178	43.078	44.332	1.254	1.6	0.355	0.000	1.4	14.931	Surcharged
FEH: 100 years: +45 %: 600 mins: Winter	45.178	43.078	44.333	1.255	1.1	0.355	0.000	0.9	14.915	Surcharged
FEH: 100 years: +45 %: 720 mins: Summer	45.178	43.078	44.174	1.096	1.4	0.310	0.000	1.2	15.497	Surcharged
FEH: 100 years: +45 %: 720 mins: Winter	45.178	43.078	44.167	1.089	0.9	0.308	0.000	0.8	15.491	Surcharged

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-02: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	46.21 6	44.71 6	44.735	0.019	1.3	0.003	0.000	1.2	0.549	OK
FEH: 100 years: +45 %: 15 mins: Winter	46.21 6	44.71 6	44.735	0.019	1.2	0.003	0.000	1.1	0.549	OK
FEH: 100 years: +45 %: 30 mins: Summer	46.21 6	44.71 6	44.732	0.016	0.8	0.002	0.000	0.8	0.709	OK
FEH: 100 years: +45 %: 30 mins: Winter	46.21 6	44.71 6	44.731	0.015	0.8	0.002	0.000	0.8	0.709	OK
FEH: 100 years: +45 %: 60 mins: Summer	46.21 6	44.71 6	44.731	0.015	0.7	0.002	0.000	0.7	0.888	OK
FEH: 100 years: +45 %: 60 mins: Winter	46.21 6	44.71 6	44.729	0.013	0.6	0.002	0.000	0.6	0.894	OK
FEH: 100 years: +45 %: 120 mins: Summer	46.21 6	44.71 6	44.728	0.012	0.5	0.002	0.000	0.5	1.104	OK
FEH: 100 years: +45 %: 120 mins: Winter	46.21 6	44.71 6	44.726	0.010	0.4	0.002	0.000	0.4	1.104	OK
FEH: 100 years: +45 %: 180 mins: Summer	46.21 6	44.71 6	44.726	0.010	0.4	0.002	0.000	0.4	1.230	OK
FEH: 100 years: +45 %: 180 mins: Winter	46.21 6	44.71 6	44.725	0.009	0.3	0.001	0.000	0.3	1.230	OK
FEH: 100 years: +45 %: 240 mins: Summer	46.21 6	44.71 6	44.726	0.010	0.3	0.002	0.000	0.3	1.308	OK
FEH: 100 years: +45 %: 240 mins: Winter	46.21 6	44.71 6	44.724	0.008	0.2	0.001	0.000	0.2	1.314	OK
FEH: 100 years: +45 %: 360 mins: Summer	46.21 6	44.71 6	44.724	0.008	0.3	0.001	0.000	0.3	1.440	OK
FEH: 100 years: +45 %: 360 mins: Winter	46.21 6	44.71 6	44.723	0.007	0.2	0.001	0.000	0.2	1.440	OK
FEH: 100 years: +45 %: 480 mins: Summer	46.21 6	44.71 6	44.723	0.007	0.2	0.001	0.000	0.2	1.542	OK
FEH: 100 years: +45 %: 480 mins: Winter	46.21 6	44.71 6	44.722	0.006	0.1	0.001	0.000	0.1	1.500	OK
FEH: 100 years: +45 %: 600 mins: Summer	46.21 6	44.71 6	44.723	0.007	0.2	0.001	0.000	0.2	1.584	OK
FEH: 100 years: +45 %: 600 mins: Winter	46.21 6	44.71 6	44.722	0.006	0.1	0.001	0.000	0.1	1.578	OK
FEH: 100 years: +45 %: 720 mins: Summer	46.21 6	44.71 6	44.722	0.006	0.2	0.001	0.000	0.2	1.602	OK
FEH: 100 years: +45 %: 720 mins: Winter	46.21 6	44.71 6	44.722	0.006	0.1	0.001	0.000	0.1	1.650	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-03: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
Report Details: Type: Junctions Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX		

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	44.989	43.489	43.631	0.142	1.2	0.040	0.000	1.2	0.437	OK
FEH: 100 years: +45 %: 15 mins: Winter	44.989	43.489	43.631	0.142	1.1	0.040	0.000	1.1	0.437	OK
FEH: 100 years: +45 %: 30 mins: Summer	44.989	43.489	43.812	0.323	2.0	0.091	0.000	0.8	0.453	Surcharged
FEH: 100 years: +45 %: 30 mins: Winter	44.989	43.489	43.812	0.323	1.7	0.091	0.000	0.7	0.449	Surcharged
FEH: 100 years: +45 %: 60 mins: Summer	44.989	43.489	43.983	0.494	1.6	0.140	0.000	0.7	0.515	Surcharged
FEH: 100 years: +45 %: 60 mins: Winter	44.989	43.489	43.982	0.493	1.4	0.140	0.000	0.6	0.524	Surcharged
FEH: 100 years: +45 %: 120 mins: Summer	44.989	43.489	44.161	0.672	1.5	0.190	0.000	0.3	0.671	Surcharged
FEH: 100 years: +45 %: 120 mins: Winter	44.989	43.489	44.167	0.678	0.9	0.192	0.000	0.3	0.670	Surcharged
FEH: 100 years: +45 %: 180 mins: Summer	44.989	43.489	44.500	1.011	1.1	0.286	0.000	0.3	1.120	Surcharged
FEH: 100 years: +45 %: 180 mins: Winter	44.989	43.489	44.526	1.037	0.7	0.293	0.000	0.2	1.150	Surcharged
FEH: 100 years: +45 %: 240 mins: Summer	44.989	43.489	44.613	1.124	0.8	0.318	0.000	0.2	1.360	Surcharged
FEH: 100 years: +45 %: 240 mins: Winter	44.989	43.489	44.670	1.181	0.5	0.334	0.000	0.2	1.427	Surcharged
FEH: 100 years: +45 %: 360 mins: Summer	44.989	43.489	44.571	1.082	0.6	0.306	0.000	0.2	1.681	Surcharged
FEH: 100 years: +45 %: 360 mins: Winter	44.989	43.489	44.620	1.131	0.4	0.320	0.000	0.2	1.704	Surcharged
FEH: 100 years: +45 %: 480 mins: Summer	44.989	43.489	44.468	0.979	0.5	0.277	0.000	0.2	2.026	Surcharged
FEH: 100 years: +45 %: 480 mins: Winter	44.989	43.489	44.485	0.996	0.3	0.282	0.000	0.2	1.990	Surcharged
FEH: 100 years: +45 %: 600 mins: Summer	44.989	43.489	44.332	0.843	0.4	0.239	0.000	0.1	1.942	Surcharged
FEH: 100 years: +45 %: 600 mins: Winter	44.989	43.489	44.333	0.844	0.2	0.239	0.000	0.1	1.907	Surcharged
FEH: 100 years: +45 %: 720 mins: Summer	44.989	43.489	44.174	0.685	0.3	0.194	0.000	0.1	1.843	Surcharged
FEH: 100 years: +45 %: 720 mins: Winter	44.989	43.489	44.167	0.678	0.2	0.192	0.000	0.1	1.861	Surcharged

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-04: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	44.67 3	43.07 3	43.631	0.558	15.2	0.158	0.000	13.3	5.990	Surcharged
FEH: 100 years: +45 %: 15 mins: Winter	44.67 3	43.07 3	43.631	0.558	14.3	0.158	0.000	12.5	5.990	Surcharged
FEH: 100 years: +45 %: 30 mins: Summer	44.67 3	43.07 3	43.812	0.739	10.0	0.209	0.000	8.9	7.850	Surcharged
FEH: 100 years: +45 %: 30 mins: Winter	44.67 3	43.07 3	43.812	0.739	9.4	0.209	0.000	8.4	7.851	Surcharged
FEH: 100 years: +45 %: 60 mins: Summer	44.67 3	43.07 3	43.983	0.910	8.6	0.258	0.000	7.7	9.825	Surcharged
FEH: 100 years: +45 %: 60 mins: Winter	44.67 3	43.07 3	43.982	0.909	6.9	0.257	0.000	6.2	9.820	Surcharged
FEH: 100 years: +45 %: 120 mins: Summer	44.67 3	43.07 3	44.161	1.088	6.4	0.308	0.000	5.7	12.333	Surcharged
FEH: 100 years: +45 %: 120 mins: Winter	44.67 3	43.07 3	44.167	1.094	4.6	0.310	0.000	4.1	12.335	Surcharged
FEH: 100 years: +45 %: 180 mins: Summer	44.67 3	43.07 3	44.500	1.427	5.0	0.404	0.000	4.5	13.948	Flood Risk
FEH: 100 years: +45 %: 180 mins: Winter	44.67 3	43.07 3	44.526	1.453	3.5	0.411	0.000	3.1	13.950	Flood Risk
FEH: 100 years: +45 %: 240 mins: Summer	44.67 3	43.07 3	44.613	1.540	4.2	0.436	0.000	3.7	15.156	Flood Risk
FEH: 100 years: +45 %: 240 mins: Winter	44.67 3	43.07 3	44.670	1.597	2.8	0.452	0.000	2.5	15.165	Flood Risk
FEH: 100 years: +45 %: 360 mins: Summer	44.67 3	43.07 3	44.571	1.498	3.1	0.424	0.000	2.8	16.810	Flood Risk
FEH: 100 years: +45 %: 360 mins: Winter	44.67 3	43.07 3	44.620	1.547	2.0	0.438	0.000	1.8	16.823	Flood Risk
FEH: 100 years: +45 %: 480 mins: Summer	44.67 3	43.07 3	44.468	1.395	2.5	0.395	0.000	2.2	18.007	Flood Risk
FEH: 100 years: +45 %: 480 mins: Winter	44.67 3	43.07 3	44.485	1.412	1.6	0.400	0.000	1.5	18.034	Flood Risk
FEH: 100 years: +45 %: 600 mins: Summer	44.67 3	43.07 3	44.332	1.259	2.1	0.356	0.000	1.9	18.939	Surcharged
FEH: 100 years: +45 %: 600 mins: Winter	44.67 3	43.07 3	44.333	1.260	1.3	0.357	0.000	1.2	18.959	Surcharged
FEH: 100 years: +45 %: 720 mins: Summer	44.67 3	43.07 3	44.174	1.101	1.8	0.312	0.000	1.6	19.640	Surcharged
FEH: 100 years: +45 %: 720 mins: Winter	44.67 3	43.07 3	44.167	1.094	1.1	0.310	0.000	1.0	19.636	Surcharged

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-05: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
Report Details: Type: Junctions Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX		

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	44.67 3	42.92 3	43.631	0.708	2.6	0.200	0.000	1.1	1.480	Surcharged
FEH: 100 years: +45 %: 15 mins: Winter	44.67 3	42.92 3	43.631	0.708	2.5	0.200	0.000	1.1	1.482	Surcharged
FEH: 100 years: +45 %: 30 mins: Summer	44.67 3	42.92 3	43.812	0.889	2.1	0.252	0.000	1.2	3.447	Surcharged
FEH: 100 years: +45 %: 30 mins: Winter	44.67 3	42.92 3	43.812	0.889	2.1	0.252	0.000	1.2	3.449	Surcharged
FEH: 100 years: +45 %: 60 mins: Summer	44.67 3	42.92 3	43.983	1.060	2.0	0.300	0.000	1.3	7.673	Surcharged
FEH: 100 years: +45 %: 60 mins: Winter	44.67 3	42.92 3	43.982	1.059	1.8	0.300	0.000	1.3	7.671	Surcharged
FEH: 100 years: +45 %: 120 mins: Summer	44.67 3	42.92 3	44.161	1.238	1.8	0.350	0.000	1.4	16.633	Surcharged
FEH: 100 years: +45 %: 120 mins: Winter	44.67 3	42.92 3	44.167	1.244	1.6	0.352	0.000	1.4	16.642	Surcharged
FEH: 100 years: +45 %: 180 mins: Summer	44.67 3	42.92 3	44.500	1.577	1.7	0.446	0.000	1.6	25.888	Flood Risk
FEH: 100 years: +45 %: 180 mins: Winter	44.67 3	42.92 3	44.526	1.603	1.8	0.454	0.000	1.6	25.895	Flood Risk
FEH: 100 years: +45 %: 240 mins: Summer	44.67 3	42.92 3	44.613	1.690	1.8	0.478	0.000	1.7	34.857	Flood Risk
FEH: 100 years: +45 %: 240 mins: Winter	44.67 3	42.92 3	44.670	1.747	1.9	0.494	0.000	1.7	34.934	Flood Risk
FEH: 100 years: +45 %: 360 mins: Summer	44.67 3	42.92 3	44.571	1.648	1.8	0.466	0.000	1.7	50.850	Flood Risk
FEH: 100 years: +45 %: 360 mins: Winter	44.67 3	42.92 3	44.620	1.697	1.8	0.480	0.000	1.7	50.888	Flood Risk
FEH: 100 years: +45 %: 480 mins: Summer	44.67 3	42.92 3	44.468	1.545	1.7	0.437	0.000	1.6	64.300	Flood Risk
FEH: 100 years: +45 %: 480 mins: Winter	44.67 3	42.92 3	44.485	1.562	1.7	0.442	0.000	1.6	64.340	Flood Risk
FEH: 100 years: +45 %: 600 mins: Summer	44.67 3	42.92 3	44.332	1.409	1.6	0.399	0.000	1.5	75.110	Surcharged
FEH: 100 years: +45 %: 600 mins: Winter	44.67 3	42.92 3	44.333	1.410	1.6	0.399	0.000	1.5	75.182	Surcharged
FEH: 100 years: +45 %: 720 mins: Summer	44.67 3	42.92 3	44.174	1.251	1.5	0.354	0.000	1.4	83.288	Surcharged
FEH: 100 years: +45 %: 720 mins: Winter	44.67 3	42.92 3	44.167	1.244	1.5	0.352	0.000	1.4	83.389	Surcharged

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for SWC-06: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)				Date: 07/05/2026				
Report Details: Type: Junctions Summary Storm Phase: Phase				Designed by: M.HAM	Checked by: S.L	Approved By: S.L		
				Kemp House: 124 City Road London EC1V 2NX				

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	42.729	40.929	40.952	0.023	1.1	0.007	0.000	1.1	1.415	OK
FEH: 100 years: +45 %: 15 mins: Winter	42.729	40.929	40.952	0.023	1.1	0.007	0.000	1.1	1.420	OK
FEH: 100 years: +45 %: 30 mins: Summer	42.729	40.929	40.953	0.024	1.2	0.007	0.000	1.2	3.387	OK
FEH: 100 years: +45 %: 30 mins: Winter	42.729	40.929	40.953	0.024	1.2	0.007	0.000	1.2	3.390	OK
FEH: 100 years: +45 %: 60 mins: Summer	42.729	40.929	40.955	0.026	1.3	0.007	0.000	1.3	7.612	OK
FEH: 100 years: +45 %: 60 mins: Winter	42.729	40.929	40.954	0.025	1.3	0.007	0.000	1.3	7.610	OK
FEH: 100 years: +45 %: 120 mins: Summer	42.729	40.929	40.956	0.027	1.4	0.008	0.000	1.4	16.571	OK
FEH: 100 years: +45 %: 120 mins: Winter	42.729	40.929	40.956	0.027	1.4	0.008	0.000	1.4	16.580	OK
FEH: 100 years: +45 %: 180 mins: Summer	42.729	40.929	40.957	0.028	1.6	0.008	0.000	1.6	25.826	OK
FEH: 100 years: +45 %: 180 mins: Winter	42.729	40.929	40.957	0.028	1.6	0.008	0.000	1.6	25.833	OK
FEH: 100 years: +45 %: 240 mins: Summer	42.729	40.929	40.958	0.029	1.7	0.008	0.000	1.7	34.796	OK
FEH: 100 years: +45 %: 240 mins: Winter	42.729	40.929	40.958	0.029	1.7	0.008	0.000	1.7	34.873	OK
FEH: 100 years: +45 %: 360 mins: Summer	42.729	40.929	40.958	0.029	1.7	0.008	0.000	1.7	50.793	OK
FEH: 100 years: +45 %: 360 mins: Winter	42.729	40.929	40.958	0.029	1.7	0.008	0.000	1.7	50.832	OK
FEH: 100 years: +45 %: 480 mins: Summer	42.729	40.929	40.957	0.028	1.6	0.008	0.000	1.6	64.249	OK
FEH: 100 years: +45 %: 480 mins: Winter	42.729	40.929	40.957	0.028	1.6	0.008	0.000	1.6	64.290	OK
FEH: 100 years: +45 %: 600 mins: Summer	42.729	40.929	40.956	0.027	1.5	0.008	0.000	1.5	75.066	OK
FEH: 100 years: +45 %: 600 mins: Winter	42.729	40.929	40.956	0.027	1.5	0.008	0.000	1.5	75.139	OK
FEH: 100 years: +45 %: 720 mins: Summer	42.729	40.929	40.956	0.027	1.4	0.008	0.000	1.4	83.253	OK
FEH: 100 years: +45 %: 720 mins: Winter	42.729	40.929	40.956	0.027	1.4	0.008	0.000	1.4	83.354	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for Ex. TW SW MH: Rank By: Max. Flooded Volume

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
FEH: 100 years: +45 %: 15 mins: Summer	42.10 0	40.63 0	40.652	0.022	1.1	0.000	0.000	1.1	1.415	OK
FEH: 100 years: +45 %: 15 mins: Winter	42.10 0	40.63 0	40.652	0.022	1.1	0.000	0.000	1.1	1.420	OK
FEH: 100 years: +45 %: 30 mins: Summer	42.10 0	40.63 0	40.654	0.024	1.2	0.000	0.000	1.2	3.387	OK
FEH: 100 years: +45 %: 30 mins: Winter	42.10 0	40.63 0	40.654	0.024	1.2	0.000	0.000	1.2	3.390	OK
FEH: 100 years: +45 %: 60 mins: Summer	42.10 0	40.63 0	40.655	0.025	1.3	0.000	0.000	1.3	7.612	OK
FEH: 100 years: +45 %: 60 mins: Winter	42.10 0	40.63 0	40.655	0.025	1.3	0.000	0.000	1.3	7.610	OK
FEH: 100 years: +45 %: 120 mins: Summer	42.10 0	40.63 0	40.656	0.026	1.4	0.000	0.000	1.4	16.571	OK
FEH: 100 years: +45 %: 120 mins: Winter	42.10 0	40.63 0	40.656	0.026	1.4	0.000	0.000	1.4	16.580	OK
FEH: 100 years: +45 %: 180 mins: Summer	42.10 0	40.63 0	40.657	0.027	1.6	0.000	0.000	1.6	25.826	OK
FEH: 100 years: +45 %: 180 mins: Winter	42.10 0	40.63 0	40.658	0.028	1.6	0.000	0.000	1.6	25.833	OK
FEH: 100 years: +45 %: 240 mins: Summer	42.10 0	40.63 0	40.658	0.028	1.7	0.000	0.000	1.7	34.796	OK
FEH: 100 years: +45 %: 240 mins: Winter	42.10 0	40.63 0	40.658	0.028	1.7	0.000	0.000	1.7	34.873	OK
FEH: 100 years: +45 %: 360 mins: Summer	42.10 0	40.63 0	40.658	0.028	1.7	0.000	0.000	1.7	50.793	OK
FEH: 100 years: +45 %: 360 mins: Winter	42.10 0	40.63 0	40.658	0.028	1.7	0.000	0.000	1.7	50.832	OK
FEH: 100 years: +45 %: 480 mins: Summer	42.10 0	40.63 0	40.657	0.027	1.6	0.000	0.000	1.6	64.249	OK
FEH: 100 years: +45 %: 480 mins: Winter	42.10 0	40.63 0	40.657	0.027	1.6	0.000	0.000	1.6	64.290	OK
FEH: 100 years: +45 %: 600 mins: Summer	42.10 0	40.63 0	40.657	0.027	1.5	0.000	0.000	1.5	75.066	OK
FEH: 100 years: +45 %: 600 mins: Winter	42.10 0	40.63 0	40.657	0.027	1.5	0.000	0.000	1.5	75.139	OK
FEH: 100 years: +45 %: 720 mins: Summer	42.10 0	40.63 0	40.656	0.026	1.4	0.000	0.000	1.4	83.253	OK
FEH: 100 years: +45 %: 720 mins: Winter	42.10 0	40.63 0	40.656	0.026	1.4	0.000	0.000	1.4	83.354	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for Blue Roof: Rank By: Max. Avg. Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
FEH: 100 years: +45 %: 15 mins: Summer	56.740	56.740	0.024	0.024	6.2	4.819	0.000	0.000	0.2	0.091	656	75.950	OK
FEH: 100 years: +45 %: 15 mins: Winter	56.740	56.740	0.024	0.024	6.2	4.825	0.000	0.000	0.2	0.091	655	75.921	OK
FEH: 100 years: +45 %: 30 mins: Summer	56.765	56.765	0.049	0.049	7.3	9.784	0.000	0.000	0.4	0.711	417	51.176	OK
FEH: 100 years: +45 %: 30 mins: Winter	56.765	56.765	0.049	0.049	7.0	9.739	0.000	0.000	0.4	0.705	423	51.399	OK
FEH: 100 years: +45 %: 60 mins: Summer	56.783	56.783	0.067	0.067	7.1	13.345	0.000	0.000	0.5	2.364	275	33.406	OK
FEH: 100 years: +45 %: 60 mins: Winter	56.782	56.782	0.066	0.066	6.6	13.141	0.000	0.000	0.5	2.320	290	34.426	OK
FEH: 100 years: +45 %: 120 mins: Summer	56.798	56.798	0.082	0.082	6.4	16.272	0.000	0.000	0.6	5.855	294	18.798	OK
FEH: 100 years: +45 %: 120 mins: Winter	56.800	56.800	0.084	0.084	5.5	16.591	0.000	0.000	0.6	5.965	296	17.206	OK
FEH: 100 years: +45 %: 180 mins: Summer	56.806	56.806	0.090	0.090	5.6	17.836	0.000	0.000	0.7	9.357	292	10.996	OK
FEH: 100 years: +45 %: 180 mins: Winter	56.805	56.805	0.089	0.089	4.6	17.715	0.000	0.000	0.7	9.298	304	11.597	OK
FEH: 100 years: +45 %: 240 mins: Summer	56.809	56.809	0.093	0.093	5.0	18.419	0.000	0.000	0.7	12.585	341	8.087	OK
FEH: 100 years: +45 %: 240 mins: Winter	56.810	56.810	0.094	0.094	4.0	18.631	0.000	0.000	0.7	12.711	287	7.029	OK
FEH: 100 years: +45 %: 360 mins: Summer	56.810	56.810	0.094	0.094	4.0	18.721	0.000	0.000	0.7	18.158	298	6.580	OK
FEH: 100 years: +45 %: 360 mins: Winter	56.810	56.810	0.094	0.094	3.1	18.592	0.000	0.000	0.7	18.142	291	7.222	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
		Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX		



FEH: 100 years: +45 %: 480 mins: Summer	56.810	56.810	0.094	0.094	3.4	18.633	0.000	0.000	0.7	22.128	305	7.016	OK
FEH: 100 years: +45 %: 480 mins: Winter	56.808	56.808	0.092	0.092	2.5	18.377	0.000	0.000	0.7	22.117	309	8.296	OK
FEH: 100 years: +45 %: 600 mins: Summer	56.808	56.808	0.092	0.092	2.9	18.373	0.000	0.000	0.7	24.700	306	8.316	OK
FEH: 100 years: +45 %: 600 mins: Winter	56.806	56.806	0.090	0.090	2.1	17.959	0.000	0.000	0.7	24.701	294	10.382	OK
FEH: 100 years: +45 %: 720 mins: Summer	56.807	56.807	0.091	0.091	2.6	18.018	0.000	0.000	0.7	26.456	303	10.089	OK
FEH: 100 years: +45 %: 720 mins: Winter	56.804	56.804	0.088	0.088	1.8	17.426	0.000	0.000	0.6	26.464	279	13.042	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Summary Results for Cellular Storage: Rank By: Max. Avg. Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
FEH: 100 years: +45 %: 15 mins: Summer	43.631	43.631	0.658	0.658	42.4	16.887	0.000	0.000	2.6	2.442	116	46.012	OK
FEH: 100 years: +45 %: 15 mins: Winter	43.631	43.631	0.658	0.658	39.8	16.877	0.000	0.000	2.5	2.442	212	46.045	OK
FEH: 100 years: +45 %: 30 mins: Summer	43.812	43.812	0.839	0.839	27.8	21.519	0.000	0.000	2.1	4.669	116	31.204	OK
FEH: 100 years: +45 %: 30 mins: Winter	43.812	43.812	0.839	0.839	26.1	21.519	0.000	0.000	2.1	4.667	118	31.204	OK
FEH: 100 years: +45 %: 60 mins: Summer	43.983	43.983	1.010	1.010	24.1	25.910	0.000	0.000	2.0	9.075	132	17.169	OK
FEH: 100 years: +45 %: 60 mins: Winter	43.982	43.982	1.009	1.009	19.4	25.889	0.000	0.000	1.8	9.072	141	17.236	OK
FEH: 100 years: +45 %: 120 mins: Summer	44.161	44.161	1.188	1.188	17.5	30.483	0.000	0.000	1.8	18.164	158	2.547	OK
FEH: 100 years: +45 %: 120 mins: Winter	44.167	44.167	1.194	1.194	12.7	30.630	0.000	0.000	1.6	18.179	171	2.079	OK
FEH: 100 years: +45 %: 180 mins: Summer	44.500	44.500	1.527	1.527	14.0	31.100	0.000	0.000	1.7	27.667	156	0.575	OK
FEH: 100 years: +45 %: 180 mins: Winter	44.526	44.526	1.553	1.553	9.7	31.125	0.000	0.000	1.8	27.699	181	0.496	OK
FEH: 100 years: +45 %: 240 mins: Summer	44.613	44.613	1.640	1.640	11.7	31.208	0.000	0.000	1.8	36.613	185	0.231	OK
FEH: 100 years: +45 %: 240 mins: Winter	44.670	44.670	1.697	1.697	8.0	31.262	0.000	0.000	1.9	36.755	168	0.057	OK
FEH: 100 years: +45 %: 360 mins: Summer	44.571	44.571	1.598	1.598	8.9	31.168	0.000	0.000	1.8	52.324	171	0.358	OK
FEH: 100 years: +45 %: 360 mins: Winter	44.620	44.620	1.647	1.647	6.0	31.214	0.000	0.000	1.8	52.382	176	0.210	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:100 Year Storm Event + 45% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX		

FEH: 100 years: +45 %: 480 mins: Summer	44.468	44.468	1.495	1.495	7.3	31.070	0.000	0.000	1.7	65.412	191	0.672	OK
FEH: 100 years: +45 %: 480 mins: Winter	44.485	44.485	1.512	1.512	4.9	31.086	0.000	0.000	1.7	65.455	189	0.619	OK
FEH: 100 years: +45 %: 600 mins: Summer	44.332	44.332	1.359	1.359	6.1	30.941	0.000	0.000	1.6	75.847	193	1.085	OK
FEH: 100 years: +45 %: 600 mins: Winter	44.333	44.333	1.360	1.360	4.1	30.942	0.000	0.000	1.6	75.888	192	1.081	OK
FEH: 100 years: +45 %: 720 mins: Summer	44.174	44.174	1.201	1.201	5.3	30.791	0.000	0.000	1.5	83.711	202	1.564	OK
FEH: 100 years: +45 %: 720 mins: Winter	44.167	44.167	1.194	1.194	3.6	30.636	0.000	0.000	1.5	83.780	200	2.058	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Junctions Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWC-01	Manhole	505863.405	183953.702	45.178	2.100	43.078	Circular	0.600
SWC-02	Manhole	505872.286	183989.266	46.216	1.500	44.716	Circular	0.450
SWC-03	Manhole	505853.381	183970.281	44.989	1.500	43.489	Circular	0.600
SWC-04	Manhole	505848.906	183962.840	44.673	1.600	43.073	Circular	0.600
SWC-05	Manhole	505847.641	183963.612	44.673	1.750	42.923	Circular	0.600
SWC-06	Manhole	505829.162	183945.751	42.729	1.800	40.929	Circular	0.600
Ex. TW SW MH	Manhole	505818.624	183941.207	42.100	1.470	40.630	Circular	0.600

Name	Lock
SWC-01	None
SWC-02	None
SWC-03	None
SWC-04	None
SWC-05	None
SWC-06	None
Ex. TW SW MH	None

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SWC-01	Outlet	SWP1	Free Discharge
SWC-02	Outlet	SWP2	Free Discharge
SWC-03	Outlet	SWP3	Free Discharge
SWC-04	Outlet	SWP5	Free Discharge
SWC-05	Outlet	SWP7	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	42.923	
SWC-06	Outlet	SWP8	Free Discharge

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Blue Roof

Type : Cellular Storage

Dimensions

Exceedance Level (m)	56.951
Depth (m)	0.100
Base Level (m)	56.716
Number of Crates Long	194
Number of Crates Wide	3
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.6
Crate Width (m)	0.6
Crate Height (m)	0.1
Total Volume (m³)	20.039



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	44.673
Depth (m)	1.200
Base Level (m)	42.973
Number of Crates Long	18
Number of Crates Wide	3
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	31.280

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-01	45.178 43.078	Diameter / Length: 0.600					Manhole
E:505863.405 N:183953.702	2.100						
			{a} SWP1	Pipe	43.078	Diam/Width:150	Not Applicable
SWC-02	46.216 44.716	Diameter / Length: 0.450					Manhole
E:505872.286 N:183989.266	1.500						
			{a} SWP2	Pipe	44.716	Diam/Width:150	Not Applicable
SWC-03	44.989 43.489	Diameter / Length: 0.600	{1} SWP2	Pipe	43.489	Diam/Width:150	Manhole
E:505853.381 N:183970.281	1.500						
			{a} SWP3	Pipe	43.489	Diam/Width:150	Not Applicable
SWC-04	44.673 43.073	Diameter / Length: 0.600					Manhole
E:505848.906 N:183962.840	1.600						
			{a} SWP5	Pipe	43.073	Diam/Width:150	Not Applicable
SWC-05	44.673 42.923	Diameter / Length: 0.600	{1} SWP6	Pipe	42.923	Diam/Width:150	Manhole
E:505847.641 N:183963.612	1.750						
			{a} SWP7	Pipe	42.923	Diam/Width:150	Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Manhole Schedule Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-06	42.729 40.929	Diameter / Length: 0.600	{1} SWP7	Pipe	40.929	Diam/Width: 150	Manhole
E:505829.162 N:183945.751	1.800		{a} SWP8	Pipe	40.929	Diam/Width: 100	Not Applicable
Ex. TW SW MH	42.100 40.630	Diameter / Length: 0.600	{1} SWP8	Pipe	40.630	Diam/Width: 100	Manhole
E:505818.624 N:183941.207	1.470						Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Blue/Green Roof	Blue Roof		Green Roof	0.035		0		0.035
Catchment Area	SWC-01		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (2)	SWC-04		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (3)	SWC-02		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.101				0.101

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Title: Rainfall Analysis Criteria	Kemp House: 124 City Road London EC1V 2NX		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 505883 183966 TQ 05883 83966
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
30.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		



Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWC-01	FEH: 30 years: +40 %: 15 mins: Summer	45.17 8	43.07 8	43.470	0.392	9.0	0.111	0.000	7.5	3.465	Surcharged
SWC-02	FEH: 30 years: +40 %: 15 mins: Summer	46.21 6	44.71 6	44.733	0.017	0.9	0.003	0.000	0.9	0.407	OK
SWC-03	FEH: 30 years: +40 %: 15 mins: Summer	44.98 9	43.48 9	43.502	0.013	0.9	0.004	0.000	0.9	0.404	OK
SWC-04	FEH: 30 years: +40 %: 15 mins: Summer	44.67 3	43.07 3	43.470	0.397	11.4	0.112	0.000	10.0	4.498	Surcharged
SWC-05	FEH: 30 years: +40 %: 15 mins: Summer	44.67 3	42.92 3	43.470	0.547	2.1	0.155	0.000	1.0	1.291	Surcharged
SWC-06	FEH: 30 years: +40 %: 15 mins: Summer	42.72 9	40.92 9	40.951	0.022	1.0	0.006	0.000	1.0	1.235	OK
Ex. TW SW MH	FEH: 30 years: +40 %: 15 mins: Summer	42.10 0	40.63 0	40.651	0.021	1.0	0.000	0.000	1.0	1.235	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)				Date: 07/05/2026				
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase				Designed by: M.HAM	Checked by: S.L	Approved By: S.L		
				Kemp House: 124 City Road London EC1V 2NX				



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Blue Roof	FEH: 30 years: +40 %: 240 mins: Winter	56.783	56.783	0.067	0.067	3.0	13.265	0.000	0.000	0.5	9.756	275	33.806
Cellular Storage	FEH: 30 years: +40 %: 240 mins: Winter	43.906	43.906	0.933	0.933	6.0	23.939	0.000	0.000	1.3	29.812	180	23.469

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 40% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Status
OK
OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWC-01	Manhole	505863.405	183953.702	45.178	2.100	43.078	Circular	0.600
SWC-02	Manhole	505872.286	183989.266	46.216	1.500	44.716	Circular	0.450
SWC-03	Manhole	505853.381	183970.281	44.989	1.500	43.489	Circular	0.600
SWC-04	Manhole	505848.906	183962.840	44.673	1.600	43.073	Circular	0.600
SWC-05	Manhole	505847.641	183963.612	44.673	1.750	42.923	Circular	0.600
SWC-06	Manhole	505829.162	183945.751	42.729	1.800	40.929	Circular	0.600
Ex. TW SW MH	Manhole	505818.624	183941.207	42.100	1.470	40.630	Circular	0.600

Name	Lock
SWC-01	None
SWC-02	None
SWC-03	None
SWC-04	None
SWC-05	None
SWC-06	None
Ex. TW SW MH	None

Outlets			
Junction	Outlet Name	Outgoing Connection	Outlet Type
SWC-01	Outlet	SWP1	Free Discharge
SWC-02	Outlet	SWP2	Free Discharge
SWC-03	Outlet	SWP3	Free Discharge
SWC-04	Outlet	SWP5	Free Discharge
SWC-05	Outlet	SWP7	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	42.923	
SWC-06	Outlet	SWP8	Free Discharge

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Blue Roof

Type : Cellular Storage

Dimensions

Exceedance Level (m)	56.951
Depth (m)	0.100
Base Level (m)	56.716
Number of Crates Long	194
Number of Crates Wide	3
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.6
Crate Width (m)	0.6
Crate Height (m)	0.1
Total Volume (m³)	20.039



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	44.673
Depth (m)	1.200
Base Level (m)	42.973
Number of Crates Long	18
Number of Crates Wide	3
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	31.280

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-01	45.178 43.078	Diameter / Length: 0.600					Manhole
E:505863.405 N:183953.702	2.100						
			{a} SWP1	Pipe	43.078	Diam/Width:150	Not Applicable
SWC-02	46.216 44.716	Diameter / Length: 0.450					Manhole
E:505872.286 N:183989.266	1.500						
			{a} SWP2	Pipe	44.716	Diam/Width:150	Not Applicable
SWC-03	44.989 43.489	Diameter / Length: 0.600	{1} SWP2	Pipe	43.489	Diam/Width:150	Manhole
E:505853.381 N:183970.281	1.500						
			{a} SWP3	Pipe	43.489	Diam/Width:150	Not Applicable
SWC-04	44.673 43.073	Diameter / Length: 0.600					Manhole
E:505848.906 N:183962.840	1.600						
			{a} SWP5	Pipe	43.073	Diam/Width:150	Not Applicable
SWC-05	44.673 42.923	Diameter / Length: 0.600	{1} SWP6	Pipe	42.923	Diam/Width:150	Manhole
E:505847.641 N:183963.612	1.750						
			{a} SWP7	Pipe	42.923	Diam/Width:150	Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Manhole Schedule Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-06	42.729 40.929	Diameter / Length: 0.600	{1} SWP7	Pipe	40.929	Diam/Width: 150	Manhole
E:505829.162 N:183945.751	1.800		{a} SWP8	Pipe	40.929	Diam/Width: 100	Not Applicable
Ex. TW SW MH	42.100 40.630	Diameter / Length: 0.600	{1} SWP8	Pipe	40.630	Diam/Width: 100	Manhole
E:505818.624 N:183941.207	1.470						Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Inflow Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Blue/Green Roof	Blue Roof		Green Roof	0.035		0		0.035
Catchment Area	SWC-01		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (2)	SWC-04		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (3)	SWC-02		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.101				0.101

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Title: Rainfall Analysis Criteria	Kemp House: 124 City Road London EC1V 2NX		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 505883 183966 TQ 05883 83966
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
30.0	0.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		



Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWC-01	FEH: 30 years: +0 %: 15 mins: Summer	45.17 8	43.07 8	43.326	0.248	6.4	0.070	0.000	5.5	2.517	Surcharged
SWC-02	FEH: 30 years: +0 %: 15 mins: Summer	46.21 6	44.71 6	44.730	0.014	0.7	0.002	0.000	0.6	0.290	OK
SWC-03	FEH: 30 years: +0 %: 15 mins: Summer	44.98 9	43.48 9	43.500	0.011	0.6	0.003	0.000	0.6	0.287	OK
SWC-04	FEH: 30 years: +0 %: 15 mins: Summer	44.67 3	43.07 3	43.326	0.253	8.1	0.072	0.000	7.0	3.256	Surcharged
SWC-05	FEH: 30 years: +0 %: 15 mins: Summer	44.67 3	42.92 3	43.326	0.403	1.6	0.114	0.000	0.8	1.098	Surcharged
SWC-06	FEH: 30 years: +0 %: 15 mins: Summer	42.72 9	40.92 9	40.949	0.020	0.8	0.006	0.000	0.8	1.052	OK
Ex. TW SW MH	FEH: 30 years: +0 %: 15 mins: Summer	42.10 0	40.63 0	40.649	0.019	0.8	0.000	0.000	0.8	1.052	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Blue Roof	FEH: 30 years: +0 %: 360 mins: Summer	56.761	56.761	0.045	0.045	2.1	8.857	0.000	0.000	0.4	8.866	316	55.800
Cellular Storage	FEH: 30 years: +0 %: 180 mins: Winter	43.594	43.594	0.621	0.621	5.3	15.937	0.000	0.000	1.1	18.499	150	49.051

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:30 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Status
OK
OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWC-01	Manhole	505863.405	183953.702	45.178	2.100	43.078	Circular	0.600
SWC-02	Manhole	505872.286	183989.266	46.216	1.500	44.716	Circular	0.450
SWC-03	Manhole	505853.381	183970.281	44.989	1.500	43.489	Circular	0.600
SWC-04	Manhole	505848.906	183962.840	44.673	1.600	43.073	Circular	0.600
SWC-05	Manhole	505847.641	183963.612	44.673	1.750	42.923	Circular	0.600
SWC-06	Manhole	505829.162	183945.751	42.729	1.800	40.929	Circular	0.600
Ex. TW SW MH	Manhole	505818.624	183941.207	42.100	1.470	40.630	Circular	0.600

Name	Lock
SWC-01	None
SWC-02	None
SWC-03	None
SWC-04	None
SWC-05	None
SWC-06	None
Ex. TW SW MH	None

Outlets			
Junction	Outlet Name	Outgoing Connection	Outlet Type
SWC-01	Outlet	SWP1	Free Discharge
SWC-02	Outlet	SWP2	Free Discharge
SWC-03	Outlet	SWP3	Free Discharge
SWC-04	Outlet	SWP5	Free Discharge
SWC-05	Outlet	SWP7	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	42.923	
SWC-06	Outlet	SWP8	Free Discharge

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Blue Roof

Type : Cellular Storage

Dimensions

Exceedance Level (m)	56.951
Depth (m)	0.100
Base Level (m)	56.716
Number of Crates Long	194
Number of Crates Wide	3
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.6
Crate Width (m)	0.6
Crate Height (m)	0.1
Total Volume (m³)	20.039



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	44.673
Depth (m)	1.200
Base Level (m)	42.973
Number of Crates Long	18
Number of Crates Wide	3
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	31.280

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-01	45.178 43.078	Diameter / Length: 0.600					Manhole
E:505863.405 N:183953.702	2.100						
			{a} SWP1	Pipe	43.078	Diam/Width:150	Not Applicable
SWC-02	46.216 44.716	Diameter / Length: 0.450					Manhole
E:505872.286 N:183989.266	1.500						
			{a} SWP2	Pipe	44.716	Diam/Width:150	Not Applicable
SWC-03	44.989 43.489	Diameter / Length: 0.600	{1} SWP2	Pipe	43.489	Diam/Width:150	Manhole
E:505853.381 N:183970.281	1.500						
			{a} SWP3	Pipe	43.489	Diam/Width:150	Not Applicable
SWC-04	44.673 43.073	Diameter / Length: 0.600					Manhole
E:505848.906 N:183962.840	1.600						
			{a} SWP5	Pipe	43.073	Diam/Width:150	Not Applicable
SWC-05	44.673 42.923	Diameter / Length: 0.600	{1} SWP6	Pipe	42.923	Diam/Width:150	Manhole
E:505847.641 N:183963.612	1.750						
			{a} SWP7	Pipe	42.923	Diam/Width:150	Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Manhole Schedule Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWC-06	42.729 40.929	Diameter / Length: 0.600	{1} SWP7	Pipe	40.929	Diam/Width:150	Manhole
E:505829.162 N:183945.751	1.800		{a} SWP8	Pipe	40.929	Diam/Width:100	Not Applicable
Ex. TW SW MH	42.100 40.630	Diameter / Length: 0.600	{1} SWP8	Pipe	40.630	Diam/Width:100	Manhole
E:505818.624 N:183941.207	1.470						Not Applicable

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Blue/Green Roof	Blue Roof		Green Roof	0.035		0		0.035
Catchment Area	SWC-01		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (2)	SWC-04		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (3)	SWC-02		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.101				0.101

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Title: Rainfall Analysis Criteria	Kemp House: 124 City Road London EC1V 2NX		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 505883 183966 TQ 05883 83966
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: M.HAM	Checked by: S.L	
		Approved By: S.L		
		Kemp House: 124 City Road London EC1V 2NX		



Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWC-01	FEH: 2 years: +0 %: 15 mins: Summer	45.17 8	43.07 8	43.115	0.037	2.6	0.010	0.000	2.7	1.101	OK
SWC-02	FEH: 2 years: +0 %: 15 mins: Summer	46.21 6	44.71 6	44.725	0.009	0.3	0.001	0.000	0.3	0.116	OK
SWC-03	FEH: 2 years: +0 %: 15 mins: Summer	44.98 9	43.48 9	43.496	0.007	0.3	0.002	0.000	0.2	0.115	OK
SWC-04	FEH: 2 years: +0 %: 15 mins: Summer	44.67 3	43.07 3	43.115	0.042	3.3	0.012	0.000	3.3	1.402	OK
SWC-05	FEH: 2 years: +0 %: 15 mins: Summer	44.67 3	42.92 3	43.115	0.192	0.8	0.054	0.000	0.6	0.733	Surcharged
SWC-06	FEH: 2 years: +0 %: 15 mins: Summer	42.72 9	40.92 9	40.945	0.016	0.6	0.005	0.000	0.6	0.696	OK
Ex. TW SW MH	FEH: 2 years: +0 %: 15 mins: Summer	42.10 0	40.63 0	40.646	0.016	0.6	0.000	0.000	0.6	0.696	OK

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)		Date: 07/05/2026			
		Designed by: M.HAM	Checked by: S.L		Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Kemp House: 124 City Road London EC1V 2NX			



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Blue Roof	FEH: 2 years: +0 %: 600 mins: Summer	56.736	56.736	0.020	0.020	0.8	3.949	0.000	0.000	0.1	4.307	402	80.293
Cellular Storage	FEH: 2 years: +0 %: 240 mins: Summer	43.222	43.222	0.249	0.249	3.1	6.378	0.000	0.000	0.7	13.989	90	79.609

C3449 - Formal Regal Cinema, 233 High Street, UB8: Change of Use & New 4-Storey Hotel 1:2 Year Storm Event + 0% CC Restricted Flow Rate 1.7l/s (Qbar)	Date: 07/05/2026		
	Designed by: M.HAM	Checked by: S.L	Approved By: S.L
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Kemp House: 124 City Road London EC1V 2NX		



Status
OK
OK



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Job No.	C3783		
Sheet no.	1		
Date	07/05/26		
By	M.HAM	Checked	Reviewed
Title			

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Project **Former Regal Cinema, 233 High Street, Uxbridge, UB8**
Title **Pre & Post Development SW Runoff Calcs Prior to SuDS [Considered Area]**

Data:-

Hydrology (FSR):-

Location = UXBRIDGE

Long reference = 505183

M5-60 (mm) = 20

r = 0.43

Hyd. area = 6

Hydrograph = Winter

WRAP = 4

Grid reference = TQ0583

SAAR (mm/yr) = 675

Soil = 0.47

Hyd. zone = 8

Area = England & Wales

Site values used in design:-

Total site area = 0.1074 ha

Pre-dev area drained = 0.1074 ha

Imperm runoff factor = 100%

Climate change factor = 45%

Post-dev area drained = 0.1006 ha

Perm runoff factor = 20%

Pre-development

Area to soakaways = 0.0000 ha

Perv. area to SUDS = 0.0000 ha

Area to other SUDS = 0.0000 ha

Pre-dev flow to drain = 0.00 l/s

Post-development

Area to soakaways = 0.0000 ha

Perv. area to SUDS = 0.0000 ha

Area to other SUDS = 0.0000 ha

Post-dev flow to drain = 0.00 l/s

Calculations:-

Revised Post-dev Imperm. area = 0.101 ha

Equiv. Post-dev Imperm. area = 0.101 ha

Equiv. Post-dev Perm. area = 0.001 ha

Total Pre-dev equiv. area ha = 0.107 ha

Total Post-dev equiv. area ha = 0.102 ha

100 yr 6 hour mean intensity = 10.13mm/hr

Results:-

Pre-dev peakflow runoff (l/s) (m^3/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	23.8	15.6	9.5	5.9	3.6	2.7	2.2	1.8	23.8	N/A	23.8	1
30	58.1	37.4	23.0	13.7	8.0	5.8	4.6	3.9	58.1	N/A	58.1	30
100	75.5	48.9	30.2	18.0	10.5	7.6	6.0	5.0	75.5	N/A	75.5	100

Post-dev peakflow runoff (l/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	22.6	14.8	9.1	5.6	3.4	2.6	2.0	1.7	22.6	45	32.8	1
30	55.2	35.5	21.8	13.0	7.6	5.5	4.4	3.7	55.2	45	80.0	30
100	71.7	46.5	28.7	17.1	9.9	7.2	5.7	4.8	71.7	45	103.9	100

100 year 6 hour (x Climate Change Factor) storm gives:-

Pre-dev runoff volume m^3 = 65.3 m^3

Post-dev rainfall volume = 89.8 m^3

Post-dev volume m^3 (excess above SUDS) = 89.8 m^3

100 yr 6 hour mean intensity = 10.13mm/hr

Pre-dev volume to drain at 0 l/s = 0.0 m^3

Post-dev volume to drain at 0 l/s = 0.0 m^3

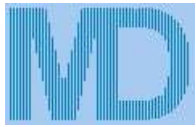
Post-dev storage volume = 89.8 m^3

Post-dev 5mm imperm volume = 5.0 m^3

Post-dev 5mm perm volume = 0.3 m^3

$Q_{BAR(rural)}$ = 0.497 l/s or 4.627 l/s/ha or 0.000 cumecs - from IoH 124.

The rainfall rates are calculated using the location specific values above in accordance with the Wallingford procedure.



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Job No. C3783		
Sheet no. 2		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project Former Regal Cinema, 233 High Street, Uxbridge, UB8	By M.HAM	Checked	Reviewed
Title Pre & Post Development SW Runoff Calcs Prior to SuDS [Considered Area]			

Data summary.

Use the data below for the SUR1 form

Site areas:-

Total site area	=	0.1074 ha ;1074.0 m ² [3A]
Pre-development impermeable area	=	0.1074 ha [3B]
Pre-development permeable area	=	0.0000 ha
Post-development impermeable area	=	0.1006 ha [3C]
Post-development permeable area	=	0.0068 ha

Peak runoff:-

Pre-development 1 year storm (15min)	=	23.8 l/s [6A]
Pre-development 100 year storm (15min)	=	75.5 l/s [6C]
Post-development 1 year storm (15min)	=	22.6 l/s [6B]
Post-development 100 year storm (15min)=		71.66 l/s [6D]

Greenfield runoff:-

$$Q_{\text{BAR(rural)}} = 0.497 \text{ l/s or } 4.627 \text{ l/s/ha or } 0.000 \text{ cumecs - from IoH 124.}$$

Climate change factor:-

$$\text{CCF} = 45\%$$

Volumes:-

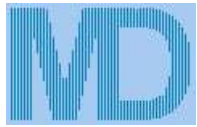
Pre-development 100 yr/6hr storm [12A]	=	94.6m ³
Post-development 100 yr/6hr storm (add. volume with no SUDS) [12B]	=	89.8m ³
Post-development 100 yr/6hr storm (add. volume with SUDS)	=	89.8m ³
Post-development add. predicted volume (No SUDS) [12C]	=	-4.8m ³

You may also require

Data relating to the infiltration test calculations (if applicable)
Evidence to show runoff reduction (if applicable)
Information on calculation methods (if applicable see next sheet)

Note

Numbers in square brackets relate to the
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Job No. C3783		
Sheet no. 3		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project Former Regal Cinema, 233 High Street, Uxbridge, UB8	By M.HAM	Checked	Reviewed
Title Pre & Post Development SW Runoff Calcs Prior to SuDS [Considered Area]			

Definitions and methods

Hydrology

The hydrological constants are derived from the Wallingford maps. They are used to calculate location specific rainfall figures.

Site values and factors

Areas of the site should be entered in hectares (10000 m²). If the Pre-development site is a green field, this box is blank.

Climate Change Factor is initially set at 20% - this may be changed as required.

Greenfield runoff is calculated using the method described in loH 124.

Runoff factors

The impermeable runoff factor is initially set at 98%

The permeable runoff factor is initially set at 20%

Note: the CCF and the runoff factors may be changed by the user to suit the development

The areas draining to soakaways and other SUDS are entered in the appropriate box (in hectares)

Calculations

The post-development area is reduced by subtracting the areas that drain to soakaways or other SUDS, to give a revised figure.

All areas are then multiplied by the appropriate runoff factor to give an equivalent area with 100% runoff.

These are then summated.

This gives a total pre-development equivalent area, and a similar figure for the post-development area.

The 'Post-dev volume to drain (no SUDS)' gives the total runoff to drain if no SUDS were used.

Results

The pre- and post-development areas are subjected to 1,30 and 100 year return period storms with a duration of 15 to 600 minutes.

The Revised Post-dev Imperm. area is the area (in ha) that is not going to SUDS x impervious runoff factor.

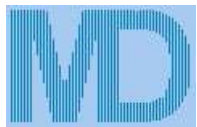
The runoff rates are calculated for the chosen hydrograph (Summer or Winter) as l/s. Figures in red indicate m³/s

The peak value is measured, multiplied by the CCF and the total maximum rate is shown.

The pre- and post-development volumes for a 100 year / 6 hour storm are calculated from the area under the hydrograph curve.

Post-dev volume (i.e. excess above SUDS) is that volume produced by the drained area that does not go to SUDS.

Qbar(rural) is calculated in accordance with the procedure laid down in loH 124



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Job No. C3783		
Sheet no. 1		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project Former Regal Cinema, 233 High Street, Uxbridge, UB8
Title Pre & Post Development SW Runoff Calcs Prior to SuDS [Full Site]

Data:-

Hydrology (FSR):-

Location = UXBRIDGE

Long reference = 505183

M5-60 (mm) = 20

r = 0.43

Hyd. area = 6

Hydrograph = Winter

WRAP = 4

Grid reference = TQ0583

SAAR (mm/yr) = 675

Soil = 0.47

Hyd. zone = 8

Area = England & Wales

Site values used in design:-

Total site area = 0.3224 ha

Pre-dev area drained = 0.3224 ha

Imperm runoff factor = 100%

Climate change factor = 45%

Post-dev area drained = 0.3156 ha

Perm runoff factor = 20%

Pre-development

Area to soakaways = 0.0000 ha

Perv. area to SU DS = 0.0000 ha

Area to other SU DS = 0.0000 ha

Pre-dev flow to drain = 0.00 l/s

Post-development

Area to soakaways = 0.0000 ha

Perv. area to SU DS = 0.0000 ha

Area to other SU DS = 0.0000 ha

Post-dev flow to drain = 0.00 l/s

Calculations:-

Revised Post-dev Imperm. area = 0.316 ha

Equiv. Post-dev Imperm. area = 0.316 ha

Equiv. Post-dev Perm. area = 0.001 ha

Total Pre-dev equiv. area ha = 0.322 ha

Total Post-dev equiv. area ha = 0.317 ha

100 yr 6 hour mean intensity = 10.13mm/hr

Results:-

Pre-dev peakflow runoff (l/s) (m^3/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	71.6	46.9	28.7	17.6	10.7	8.1	6.5	5.4	71.6	N/A	71.6	1
30	174.4	112.2	69.0	41.2	24.1	17.5	13.9	11.6	174.4	N/A	174.4	30
100	226.6	146.9	90.7	54.1	31.4	22.7	18.0	15.0	226.6	N/A	226.6	100

Post-dev peakflow runoff (l/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	70.4	46.1	28.2	17.3	10.5	7.9	6.4	5.4	70.4	45	102.0	1
30	171.5	110.3	67.8	40.5	23.7	17.2	13.7	11.4	171.5	45	248.7	30
100	222.8	144.5	89.2	53.2	30.9	22.3	17.7	14.8	222.8	45	323.0	100

100 year 6 hour (x Climate Change Factor) storm gives:-

Pre-dev runoff volume m^3 = 195.9 m^3

Post-dev rainfall volume = 279.2 m^3

Post-dev volume m^3 (excess above SU DS) = 279.2 m^3

100 yr 6 hour mean intensity = 10.13mm/hr

Pre-dev volume to drain at 0 l/s = 0.0 m^3

Post-dev volume to drain at 0 l/s = 0.0 m^3

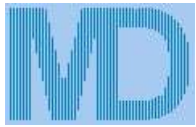
Post-dev storage volume = 279.2 m^3

Post-dev 5mm imperm volume = 15.8 m^3

Post-dev 5mm perm volume = 0.3 m^3

$Q_{\text{BAR(rural)}} = 1.492 \text{ l/s}$ or 4.627 l/s/ha or 0.001 cumecs - from IoH 124.

The rainfall rates are calculated using the location specific values above in accordance with the Wallingford procedure.



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Job No. C3783		
Sheet no. 2		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project **Former Regal Cinema, 233 High Street, Uxbridge, UB8**

Title **Pre & Post Development SW Runoff Calcs Prior to SuDS [Full Site]**

Data summary.

Use the data below for the SUR1 form

Site areas:-

Total site area	=	0.3224 ha ;3224.0 m ² [3A]
Pre-development impermeable area	=	0.3224 ha [3B]
Pre-development permeable area	=	0.0000 ha
Post-development impermeable area	=	0.3156 ha [3C]
Post-development permeable area	=	0.0068 ha

Peak runoff:-

Pre-development 1 year storm (15min)	=	71.6 l/s [6A]
Pre-development 100 year storm (15min)	=	226.6 l/s [6C]
Post-development 1 year storm (15min)	=	70.4 l/s [6B]
Post-development 100 year storm (15min)=		222.76 l/s [6D]

Greenfield runoff:-

$Q_{BAR(rural)} = 1.492 \text{ l/s}$ or 4.627 l/s/ha or 0.001 cumecs - from IoH 124.

Climate change factor:-

CCF = 45%

Volumes:-

Pre-development 100 yr/6hr storm [12A]	=	284.0m ³
Post-development 100 yr/6hr storm (add. volume with no SUDS) [12B]	=	279.2m ³
Post-development 100 yr/6hr storm (add. volume with SUDS)	=	279.2m ³
Post-development add. predicted volume (No SUDS) [12C]	=	-4.8m ³

You may also require

Data relating to the infiltration test calculations (if applicable)
Evidence to show runoff reduction (if applicable)
Information on calculation methods (if applicable see next sheet)

Note

Numbers in square brackets relate to the
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Date 07/05/26		
By M.HAM	Checked	Reviewed

Project **Former Regal Cinema, 233 High Street, Uxbridge, UB8**

Title **Pre & Post Development SW Runoff Calcs Prior to SuDS [Full Site]**

Definitions and methods

Hydrology

The hydrological constants are derived from the Wallingford maps. They are used to calculate location specific rainfall figures.

Site values and factors

Areas of the site should be entered in hectares (10000 m²). If the Pre-development site is a green field, this box is blank.

Climate Change Factor is initially set at 20% - this may be changed as required.

Greenfield runoff is calculated using the method described in loH 124.

Runoff factors

The impermeable runoff factor is initially set at 98%

The permeable runoff factor is initially set at 20%

Note: the CCF and the runoff factors may be changed by the user to suit the development

The areas draining to soakaways and other SUDS are entered in the appropriate box (in hectares)

Calculations

The post-development area is reduced by subtracting the areas that drain to soakaways or other SUDS, to give a revised figure.

All areas are then multiplied by the appropriate runoff factor to give an equivalent area with 100% runoff.

These are then summated.

This gives a total pre-development equivalent area, and a similar figure for the post-development area.

The 'Post-dev volume to drain (no SUDS)' gives the total runoff to drain if no SUDS were used.

Results

The pre- and post-development areas are subjected to 1,30 and 100 year return period storms with a duration of 15 to 600 minutes.

The Revised Post-dev Imperm. area is the area (in ha) that is not going to SUDS x impervious runoff factor.

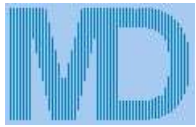
The runoff rates are calculated for the chosen hydrograph (Summer or Winter) as l/s. Figures in red indicate m³/s

The peak value is measured, multiplied by the CCF and the total maximum rate is shown.

The pre- and post-development volumes for a 100 year / 6 hour storm are calculated from the area under the hydrograph curve.

Post-dev volume (i.e. excess above SUDS) is that volume produced by the drained area that does not go to SUDS.

Qbar(rural) is calculated in accordance with the procedure laid down in loH 124



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Job No. C3783		
Sheet no. 1		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project **Former Regal Cinema, 233 High Street, Uxbridge, UB8**

Title **IoH 124 (Qbar(urban))Runoff Calcs [Considered Area]**

Hydrological Data:-

FSR Hydrology:-

Location = UXBRIDGE

M5-60 (mm) = 20

Soil runoff = 0.45

WRAP = 4

Hydrological area = 6

Grid reference = TQ0583

r = 0.43

SAAR (mm/yr) = 675

Area = England & Wales

Hydrological zone = 8

Soil classification for WRAP type 4

Clayey, or loamy over clayey soils with an impermeable layer at shallow depth.

Design data:-

Area = 0.001074 Km² - 0.107 Ha - 1074 m² % Urbanisation = 100.00%

Calculation method:-

Runoff is calculated from:-

$$Q_{\text{BAR(urban)}} = Q_{\text{BAR(rural)}} (1 + \text{URBAN})^{2\text{NC}} [1 + \text{URBAN} \{ (21/\text{CIND}) - 0.3 \}]$$

where:-

NC varies with the value of SAAR:-

for 500<SAAR<1100 mm then NC = 0.92 - 0.00024SAAR

for 1100<SAAR<3000 mm then NC = 0.74 - 0.000082SAAR

CIND = 102.4SOIL + 0.28 (CWI - 125)

CWI = Catchment Wetness Index

so

CIND = 31.046

CWI = 71.307

NC = 0.758

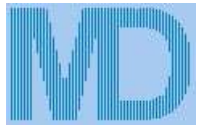
For areas less than 50Ha, a modified calculation which multiplies the 50Ha runoff value by the ratio of the site area to 50Ha is used

Reducing factor used for these calculations is 0.002

$$Q_{\text{BAR(rural)}} = 0.452 \text{ (l/s)}$$

$$Q_{\text{BAR(urban)}} = 1.780 \text{ (l/s)}$$

$Q_{\text{BAR(urban)}}$ is then multiplied by a growth factor - GC(T) - for different storm return periods derived from EA publication W5-074/A.



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Calculated data:-

Nimbus Engineering Consultants Ltd www.nimbusengineering.co.uk		Kemp House, 152 City Road, London, EC1V 2NX Mob:0772 339 3155 email: info@nimbusengineering.co.uk		Job No. C3783		
				Sheet no. 2		
				Date 07/05/26		
Project	Former Regal Cinema, 233 High Street, Uxbridge, UB8			By	Checked	Reviewed
Title				M.HAM		
IoH 124 (Qbar(urban))Runoff Calcs [Considered Area]						

Mean Annual Peak Flow $Q_{BAR(urban)} = 1.78 \text{ l/s}$

Values for $Q_{BAR(urban)}$

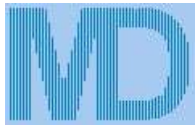
Ret. per.	m ³ /hr	l/s	l/s/ha	Ret. per.	m ³ /hr	l/s	l/s/ha
1yr	0.002	1.513	14.087	100yr	0.006	5.607	52.205
2yr	0.002	1.566	14.584	100yr+20%	0.007	6.728	62.646
5yr	0.002	2.278	21.214	100yr+30%	0.007	7.289	67.867
10yr	0.003	2.884	26.848	200yr	0.007	6.586	61.320
30yr	0.004	3.969	36.958	200yr + 30%	0.009	8.562	79.717
50yr	0.005	4.663	43.422	500yr	0.008	7.992	74.413
				1000yr	0.009	9.185	85.517

Growth factors -

1yr	2yr	5yr	10yr	30yr	50yr	100yr	200yr	500yr	1000yr
0.85	0.88	1.28	1.62	2.23	2.62	3.15	3.70	4.49	5.16

The above is based on the Institute of Hydrology Report 124 to which you are referred for further details (see Sect 7). Note that the 200 year growth curve was taken from W5-074/A.

For WRAP type 1 soils, CIND can become negative for lower values of SAAR. In this case the CIND value is multiplied by -1 to return a positive value (CIND is very small at this point).



MasterDrain
HY 10.01

Nimbus Engineering Consultants Ltd

www.nimbusengineering.co.uk

Kemp House,
152 City Road,
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Mob:0772 339 3155
email: info@nimbusengineering.co.uk

Job No. C3783		
Sheet no. 1		
Date 07/05/26		
By M.HAM	Checked	Reviewed

Project **Former Regal Cinema, 233 High Street, Uxbridge, UB8**

Title **IoH 124 (Qbar(urban))Runoff Calcs [Full Site]**

Hydrological Data:-

FSR Hydrology:-

Location = UXBRIDGE

M5-60 (mm) = 20

Soil runoff = 0.45

WRAP = 4

Hydrological area = 6

Grid reference = TQ0583

r = 0.43

SAAR (mm/yr) = 675

Area = England & Wales

Hydrological zone = 8

Soil classification for WRAP type 4

Clayey, or loamy over clayey soils with an impermeable layer at shallow depth.

Design data:-

Area = 0.003224 Km² - 0.322 Ha - 3224 m² % Urbanisation = 100.00%

Calculation method:-

Runoff is calculated from:-

$$Q_{\text{BAR(urban)}} = Q_{\text{BAR(rural)}} (1 + \text{URBAN})^{2\text{NC}} [1 + \text{URBAN} \{ (21/\text{CIND}) - 0.3 \}]$$

where:-

NC varies with the value of SAAR:-

for 500<SAAR<1100 mm then NC = 0.92 - 0.00024SAAR

for 1100<SAAR<3000 mm then NC = 0.74 - 0.000082SAAR

CIND = 102.4SOIL + 0.28 (CWI - 125)

CWI = Catchment Wetness Index

so

CIND = 31.046

CWI = 71.307

NC = 0.758

For areas less than 50Ha, a modified calculation which multiplies the 50Ha runoff value by the ratio of the site area to 50Ha is used

Reducing factor used for these calculations is 0.006

$$Q_{\text{BAR(rural)}} = 1.357 \text{ (l/s)}$$

$$Q_{\text{BAR(urban)}} = 5.343 \text{ (l/s)}$$

$Q_{\text{BAR(urban)}}$ is then multiplied by a growth factor - GC(T) - for different storm return periods derived from EA publication W5-074/A.



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Calculated data:-

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				Sheet no. 2		
				Date 07/05/26		
Project Former Regal Cinema, 233 High Street, Uxbridge, UB8				By M.HAM	Checked	Reviewed
Title IoH 124 (Qbar(urban))Runoff Calcs [Full Site]						

Mean Annual Peak Flow $Q_{BAR(urban)} = 5.34 \text{ l/s}$

Values for $Q_{BAR(urban)}$

Ret. per.	m ³ /hr	l/s	l/s/ha	Ret. per.	m ³ /hr	l/s	l/s/ha
1yr	0.005	4.542	14.087	100yr	0.017	16.831	52.205
2yr	0.005	4.702	14.584	100yr+20%	0.020	20.197	62.646
5yr	0.007	6.839	21.214	100yr+30%	0.022	21.880	67.867
10yr	0.009	8.656	26.848	200yr	0.020	19.770	61.320
30yr	0.012	11.915	36.958	200yr + 30%	0.026	25.701	79.717
50yr	0.014	13.999	43.422	500yr	0.024	23.991	74.413
				1000yr	0.028	27.571	85.517

Growth factors -

1yr	2yr	5yr	10yr	30yr	50yr	100yr	200yr	500yr	1000yr
0.85	0.88	1.28	1.62	2.23	2.62	3.15	3.70	4.49	5.16

The above is based on the Institute of Hydrology Report 124 to which you are referred for further details (see Sect 7). Note that the 200 year growth curve was taken from W5-074/A.

For WRAP type 1 soils, CIND can become negative for lower values of SAAR. In this case the CIND value is multiplied by -1 to return a positive value (CIND is very small at this point).

APPENDIX C – WATER AUTHORITY ASSET PLANS

Nimbus Engineering Consultants Limited
CAPITAL OFFICE LTD, GROUND FLO
LONDON
EC1V 2NX

Search address supplied Former Regal Cinema
233
High Street
Uxbridge
UB8 1LD

Your reference C3783

Our reference ALS/ALS Standard/2026_5325615

Search date 6 May 2026

Keeping you up-to-date

Notification of price changes

We're changing our report prices from 4th June 2025. The price will increase by 3.5% based on Retail Price Index (RPI).

Find our new prices on our website thameswater.co.uk/property-searches

Any Questions? We're happy to talk through the changes with you – give our Property Searches team a call on 0800 009 4540 .



Thames Water Utilities Ltd
Property Searches,
Clearwater Court, Vastern Road, Reading RG1 8DB



property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches



0800 009 4540

Search address supplied: Former Regal Cinema, 233, High Street, Uxbridge, UB8 1LD

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position and size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the contact details below:

Thames Water Utilities Ltd
Property Searches
Clearwater Court
Vastern Road
Reading
RG1 8DB

Email: property.searches@thameswater.co.uk

Web: thameswater.co.uk/propertysearches

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority. Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners. The public sewer map relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus. The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

With regard to the fresh water supply, this site falls within the boundary of another water company. For more information, please redirect your enquiry to the following address:

Affinity Water Ltd
Tamblin Way



Hatfield
AL10 9EZ
Tel: 0845 7823333

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. You can do this by emailing customer.feedback@thameswater.co.uk with the email subject header 'Enquiry – TWOSA', along with details of the request.

If you have any questions regarding sewer connections, budget estimates, diversions or building over issues please direct them to our service desk which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

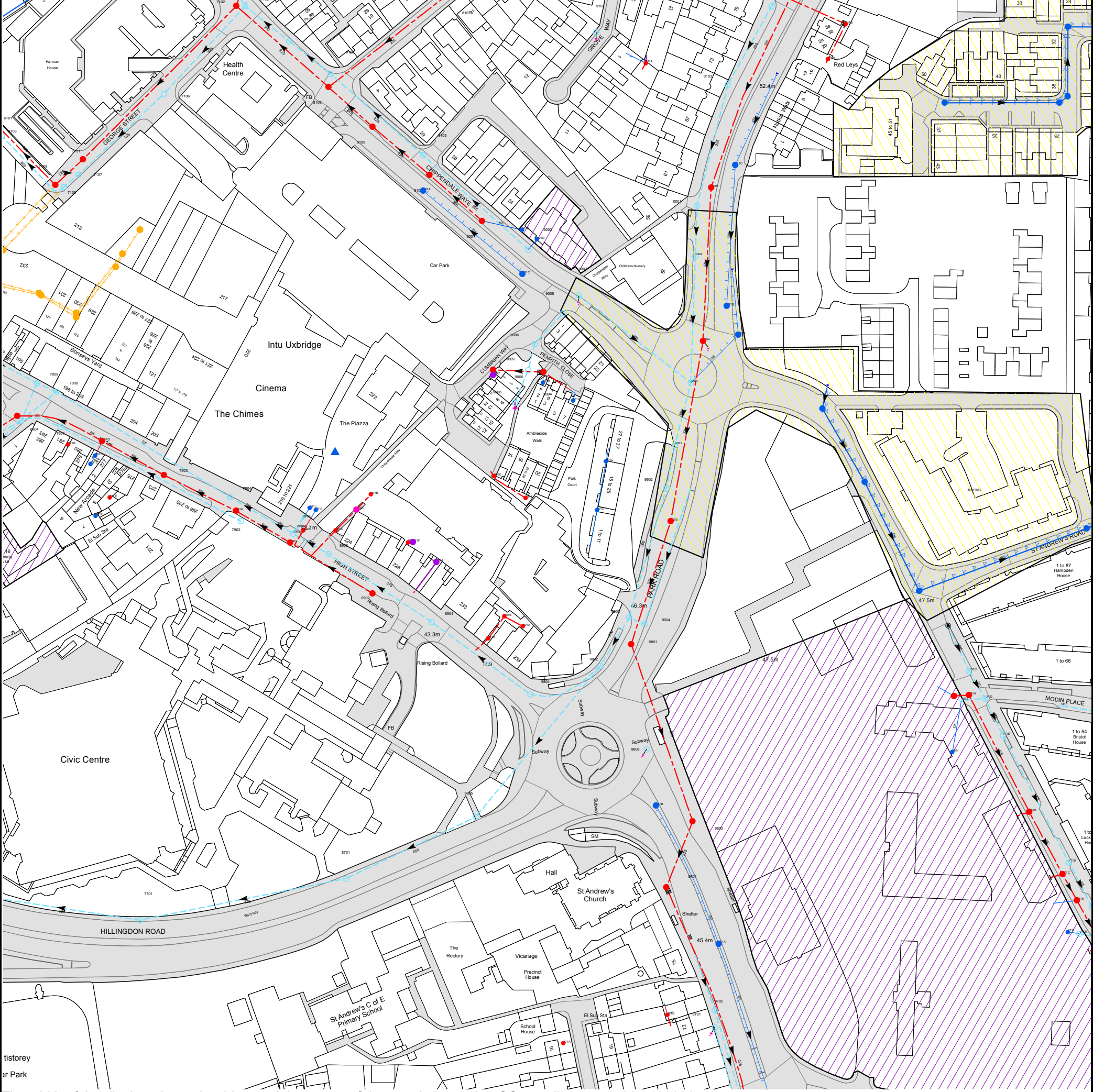
Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 505934,183939
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 (2024) with the Sanction of the controller of H.M. Stationery Office, License no. AC0000849556 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
181F	45.35	41.9
n/a	n/a	n/a
9002	49.25	48.45
901D	49.91	48.55
901E	49.4	47.75
9001	49.06	47.51
n/a	n/a	n/a
n/a	n/a	n/a
n/a	n/a	n/a
911A	n/a	n/a
n/a	n/a	n/a
171E	42.94	41.51
171C	43.95	42
171D	44.02	42.69
971B	n/a	n/a
171M	43	40.49
171L	n/a	n/a
171K	44.1	41.25
181I	n/a	n/a
181J	n/a	n/a
181D	46.4	44.83
181H	46.5	45.23
181A	46.6	44.78
n/a	n/a	n/a
n/a	n/a	n/a
991F	n/a	n/a
n/a	n/a	n/a
991E	n/a	n/a
791G	n/a	n/a
011A	n/a	n/a
9102	52.4	51.66
011B	n/a	n/a
0102	53.26	52.31
8105	48.34	46.77
7106	n/a	n/a
8106	47.96	46.06
8102	47.92	46.37
8101	47.4	45.74
7102	46.93	44
7105	46.9	45.19
8107	n/a	n/a
7109	43.14	40.41
7108	43.14	40.52
7107	43.58	40.64
6103	42.71	40.09
791B	n/a	n/a
7901	40.81	39.18
6904	40.69	38.34
6903	40.77	38.03
7008	n/a	n/a
7009	40.64	38.99
991D	n/a	n/a
9902	48.05	45.93
991C	n/a	n/a
9901	48.46	46.46
901A	n/a	n/a
0003	49.22	47.76
0004	50.26	47.63
001A	n/a	47.83
001B	n/a	n/a
9003	49.43	45.67
0002	49.8	48.45
0001	51.3	50.48
0105	51.27	48.87
011C	n/a	48.36
0103	52.48	51.33
7101	43.69	41.06
791C	n/a	n/a
791D	n/a	n/a
791F	n/a	n/a
791E	n/a	n/a
7903	41.3	38.9
7904	41.6	40.23
791A	n/a	n/a
7902	n/a	n/a
891G	n/a	n/a
891J	n/a	n/a
891I	n/a	n/a
891D	n/a	n/a
891B	n/a	n/a
8103	48.62	47.55
801A	n/a	n/a
8104	48.72	47.18
8907	n/a	n/a
9008	n/a	n/a
9000	n/a	n/a
901C	n/a	48.08
9009	n/a	n/a
9006	n/a	n/a
901B	n/a	n/a
9004	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
9005	n/a	n/a
891E	n/a	n/a
891F	n/a	n/a
8904	n/a	n/a
891A	n/a	n/a
9805	n/a	n/a
981A	n/a	n/a
991B	n/a	n/a
991A	n/a	n/a
9804	n/a	n/a
971A	n/a	n/a
9802	45.71	41.11
9903	46.32	44.12
9801	46.08	43.81
9904	46.76	45.19
9809	46.01	41.85
981B	n/a	44.58
9701	45.65	42.96
9905	47.62	45.02
9803	45.96	43.25
0701	45.17	44.1
0702	45.12	44.3
071A	n/a	44.15
181C	46.55	45.3
181E	46.32	44.55
181B	45.53	43
7701	n/a	n/a
8701	n/a	n/a
8902	42.3	40.3
8903	42.11	40.7
8901	42	39.89
8905	42.1	40.63
891K	42.27	40.12
891C	n/a	n/a
891H	n/a	n/a
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.		



Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

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

Other Sewer Types (Not operated and maintained by Thames Water)

	Sewer
	Culverted Watercourse
	Proposed
	Decommissioned Sewer
	Content of this drainage network is currently unknown
	Ownership of this drainage network is currently unknown

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plan are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

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		Meter
	Dam Chase		Vent
	Fitting		

Operational Controls

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

	Ancillary		Drop Pipe
	Control Valve		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.

	Inlet		Outfall
	Undefined End		

Other Symbols

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

	Change of Characteristic Indicator		Public / Private Pumping Station
	Invert Level		Summit

Areas

Lines denoting areas of underground surveys, etc.

	Agreement
	Chamber
	Operational Site

Ducts or Crossings

	Casement	Ducts may contain high voltage cables. Please check with Thames Water.
	Conduit Bridge	
	Subway	
	Tunnel	

5) 'na' or '0' on a manhole indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. 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, please contact Property Searches on 0800 009 4540.