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LIDL

New Hey Road, Huddersfield

SURFACE WATER MAINTENANCE PLAN

Final Report

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CONTENTS

APPENDICES

APPENDIX A – DRAINAGE DRAWINGS

1.0 INTRODUCTION

1.1 Brief

1.1.1 Cora IHT have been instructed by Lidl to prepare a Surface Water Maintenance Plan to support proposals for a new LIDL store located off New Hey Road in Huddersfield. **Figure 1.1** illustrates the site location.

Figure 1.1: Site Location

1.1.2 **Appendix A** provides the full drainage drawings.

1.1.3 The requirement for a Surface Water Maintenance Plan is based on the duty to ensure that surface water quality and quantity is managed and maintained throughout the construction and operational stages to mitigate impacts off site.

2.0 CONSTRUCTION SURFACE WATER MANAGEMENT PLAN

2.1 Site Activity Where Water Will Be Used

2.1.1 The table below identifies the key activities where water is required during the construction phase of the scheme.

2.1.2 Potable Sources – Where possible existing water connection to the site will be used. If this is not possible water will be supplied to the construction site by tanker.

2.1.3 The lists below are not exhaustive and should be added too as necessary by the nominated contractor.

Activity	Water Use (Obligatory to maintain operations)	Source: Potable or Non-Potable
Site Cabin Related Activities	Drinking, kitchen, canteen.	Potable
	Toilets and urinals, showers and hand washing.	Non-potable
Drainage	Flushing.	Both
General Cleaning	Tool rinsing, boot washing, plant and equipment washing.	Non-potable
Site Dust Suppression	Dampening (bowsers) and Misting	Non-potable
Drilling	Lubricant.	Potable (if pressure required)

2.2 Methods of Sustainable Management of Water sources

2.2.1 Efforts to reduce the use of water during construction could be achieved through the use of efficient technologies and practises for each key construction activity. Options to reduce the potable water demand would be considered and the most appropriate options to satisfy the requirements of the scheme.

Activity	Options to Reduce Potable Water Demand on Key Sources
Site Cabin Related Activities	Efficient showers, taps, toilets and urinal controls. Trigger control on catering taps and use of vessels for washing rather than under running taps. Rainwater capture for toilet flushing. Waterless urinals.
Drainage	Reuse water collected from activities, e.g. dewatering. Use water from attenuation tanks or rainwater harvest tanks, as outlined in the Initial CEMP (DCO Document Reference 7.3) and Energy Reduction Plan.
General Cleaning	Fill containers rather than use running taps or open hoses. Trigger operated spray guns. Use of a closed water recycling system.

Activity	Options to Reduce Potable Water Demand on Key Sources
Site Dust Suppression in relation to Soil Stripping	Use of control systems to allow damping activities to be altered for different applications and weather conditions. Use of water efficient road sweepers and dust suppression vehicles which recirculate water and/or have efficient spraying mechanisms such as a hydraulic spinning system. Use water collected elsewhere on site, such as from Sustainable Drainage Systems (SuDS), for dust suppression activities (may require on-site treatment).
Drilling	Inspect water hose lines for leakage and repair or replace as required. Watertight circulation tanks, rather than pits. Use of meters on supply lines/consumption monitoring for high demand activities.

2.3 Managing Surface Water During Construction

2.3.1 Contaminated water can arise from a number of sources including:

- direct disturbance of the riverbed or bank.
- de-watering of excavations.
- run-off from exposed ground and material stockpiles
- run-off from roads and haul routes and river crossings.
- plant washings.
- fuel and chemical storage/refuelling areas.
- leaking/vandalised equipment.

2.3.2 Flooding from surface water sources is a potential risk during short, intense rain storms or longer duration storms, when the capacity of the underlying soils and drainage systems is exceeded and rainfall runs overland to pond in natural or formed low points, it is therefore important that due consideration is given to the changes in surface water runoff.

2.3.3 The construction site would cause temporary increases in the coverage of impermeable surfaces, in particular the visitor parking spaces, material compound and site cabins. These areas have the potential to result in localised increases in the rates and volumes of runoff that are generated during storm events. If not appropriately managed this may present risks of flooding onsite or offsite in the wider catchment areas. In the absence of appropriate drainage management measures, this could also lead to an increase in flood levels across the site.

2.3.4 The following measures should be employed by the contractor to manage surface water:

- Vehicular traffic would be limited to designated routes through the site to avoid soil compaction and the associated increased likelihood of surface water runoff.
- SuDS measures within the scheme should include:

- Aggregates (permeable granular material) to reduce the areas of impermeable materials.

2.3.5 Locate areas of high risk away from watercourses and drainage paths. Areas of high risk include:

- fuel and chemical storage.
- refuelling areas.
- material stockpiles.
- vehicle and equipment washing areas.
- site compounds/parking areas.

2.3.6 Store fuel, oils and chemicals on an impervious base within a bund able to contain at least 110% of the volume stored.

2.3.7 If possible, use biodegradable oil in plant and machinery. Biodegradable oil is less toxic than most synthetic oil but should still be used and stored to the same standards as other oils.

2.3.8 Divert clean surface water away from exposed soils This can significantly reduce the volume of water contaminated with sediment on site thus reducing the risk of pollution and the costs associated with treating contaminated water before discharge.

- Diversion drains. Such diversion can be implemented on the upstream perimeter of the site or immediately upstream of areas of exposed soil on the site (e.g. excavations, embankments and stockpiles). Line drains with a non-erodible material such as turf/geotextiles.
- Bunds. These can be placed around exposed soils such as excavations/material stockpiles. This will prevent clean water entering the area and dirty water from leaving the area. Bunds should be made of non-erodible material such as straw bales/geotextiles.

2.3.9 Leave as much existing vegetation in place as possible and protect it with fences and signs where necessary. Only clear that part of the site which will be worked on in the near future. Consider phasing site clearance for different stages of the work.

2.3.10 There are many techniques and existing guidance to assist in minimising the mobilisation and loss of sediments in waters. In most cases this will involve collecting the polluted run-off and routing it to treatment by filtration, settlement or specialist techniques. As well as treatment immediately prior to discharge, polluted water can be treated at source and enroute to the discharge point – though this does not necessarily negate the need for further treatment before discharge. Widely used techniques include:

- diversion drains/ditches.
- silt fence.
- fibre roll.
- filter bund.
- Silt trap ;
- Haul routes and site entrances ; and
- Surface drainage protection.

3.0 SURFACE WATER MAINTENANCE PLAN

3.1 Maintenance Strategy

3.1.1 SuDS components require good maintenance including inspections to identify performance issues and plan appropriate maintenance needs, checks on the operation and maintenance of the drainage system and landscape management. Therefore, it is intended that those responsible for the drainage within a development will be provided with an Operation and Maintenance Manual as part of the documentation provided under the Construction (Design and Management) regulations 2015 at the end of the construction works. Maintenance requirements that would be appropriate for this development, to be included in the document are outlined below.

3.1.2 All maintenance necessary will be undertaken, appointed and/or suitably managed by Lidl Great Britain Limited

3.1.3 The Drainage network and inherent SuDS have been designed with minimal maintenance in mind. The maintenance is generally of a 'common sense' approach and is to comprise:

- Regular day to day care: - litter collection, grass cutting and checking the inlets and outlets where water enters or leaves a drainage feature.
- Occasional tasks: - managing vegetation in wet areas (ponds, swales, etc.) and removing any silt that builds up in the drainage features.
- Remedial work: -repairing damage when, and where, necessary.

Specific recommendations for each feature are provided in the following sections and should be referred to in the first instance if there are any issues.

3.2 Inlets, Outlets, Flow Control Device and Inspection Chambers

3.2.1 Inlets and outlets structures may be surface structures or conveyance pipes with guards or headwalls. They must be free from obstruction at all times.

3.2.2 The surface water flow off site is limited to the agreed rates as shown in the drawings in **Appendix A**. The flow is limited by a Hydrobrake. This is a proprietary system and will be installed in line with the manufacturers written instructions. Operation and Maintenance guidance is provided within the manufacturers' standard documentation.

Maintenance schedule	Required action	Frequency
Regular Maintenance	Inlets, outlets and surface control structures Inspect surface structures removing obstructions and silt as necessary. Check there is no physical damage. Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris	Monthly (or as required).
Occasional Maintenance	Check topsoil levels are 20mm above edges of baskets and chambers to avoid mower damage	As required.

Remedial Works	Unpack stone in basket features and unblock or repair and repack stone as design detail as necessary. As required Repair physical damage if necessary	As required.
Inspection chambers and below ground	Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in autumn	Every 6 months (or as required).

3.3 Attenuation Tank

3.3.1 Regular inspection of cellular storage tank systems is required to ensure effective long-term performance of the system. Maintenance needs of the system should be monitored, and schedules adjusted to suit the specific requirements of the Development.

3.3.2 The following maintenance regime is recommended as a minimum, but actions and frequencies should be adjusted to suit the specific requirements of the crematorium. Manufacturer´s specific recommendations should also be followed.

Maintenance schedule	Required action	Frequency
Regular Maintenance	• Inspect and identify incorrect operation. • Debris removal from catchment area using sweeping and vacuuming. • Removal of silt and debris from rainwater gutters. • Removal of sediment from pre-treatment components i.e. catchpits.	Monthly (or as required).

3.4 Spillage -Emergency Action

3.4.1 Most spillages on development sites are of compounds that do not pose a serious risk to the environment if they enter the drainage in a slow and controlled manner with time available for natural breakdown in a treatment system. Therefore, small spillages of oil, milk or other known organic substances should be removed where possible using soak mats as recommended by the Environment Agency with residual spillage allowed to bio-remediate in the drainage system.

3.4.2 In the event of a serious spillage, either by volume or of unknown or toxic compounds, then isolate the spillage with soil, turf or fabric and block outlet pipes from chamber(s) downstream of the spillage with a bung(s). (A bung for blocking pipes may be made by wrapping soil or turf in a plastic sheet or close woven fabric.) Contact the Environment Agency immediately.

APPENDICES

APPENDIX A – DRAINAGE DRAWINGS

ALL COVER AND INVERT LEVELS ARE SHOWN INDICATIVELY, BOTH LEVELS ARE TO BE CONFIRMED ONCE THE PROPOSED FFL LEVELS HAVE BEEN SET AND EXTERNAL CAR PARK GRADIENTS AGREED

DRAINAGE NOTES

1. ALL NON ADOPTABLE DRAINS UP TO 150 Dia. TO BE 'POLYPIPE uPVC UNDERGROUND DRAIN' MANUFACTURED IN ACCORDANCE WITH BS EN 1401-1OR EQUAL APPROVED.
2. ALL NON ADOPTABLE DRAINS WITH A PIPE Dia of 225 or 300 TO BE EITHER A PLAIN WALLED PLASTIC PIPE TO BS 1401-1 (POLYSEWER) OR A STRUCTURED WALL PLASTIC PIPE TO WIS-04-35-01"POLYSEWER'. OR EQUAL APPROVED
3. ALL ADOPTABLE DRAINS UP TO 300 Dia. TO BE 'POLYSEWER' BY 'POLYPIPE' AND MANUFACTURED IN ACCORDANCE WITH THE WATER INDUSTRY SPECIFICATION WIS-4-35-01.
4. DRAINAGE PIPEWORK 400mm to 600mm DIA TO BE 'RIDGIDRAIN' HDPE, BY POLYPIPE OR EQUAL APPROVED.
5. ALL PIPE LENGTHS NOT TO EXCEED 3m.
6. DRAINS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. NEW INSPECTION CHAMBERS (IC) TO BE A MINIMUM OF 450MM DIA. EXCEPT FOR MINI ACCESS CHAMBERS WHICH MAY BE SMALLER, REFER TO M.H. SCHEDULE FOR ACTUAL SIZES.
8. ALL EXTERNAL RAINWATER PIPES (RWP) TO BE TERMINATED AT RODDABLE GULLIES. INTERNAL RWP's TO ARCHITECTS DETAILS BUT SHOULD ALLOW FOR RODDABLE ACCESS.
9. FOR ALL DRAINAGE ABOVE GROUND FLOOR SLAB INCLUDING SETTING OUT FOR PENETRATIONS THROUGH THE GROUND FLOOR SLAB REFER TO ARCHITECTS DRAWING & SPECIFICATIONS
10. ANY DRAINS PASSING THROUGH SUBSTRUCTURE WALLS TO HAVE A MINIMUM 50mm CLEAR SPACE, RC LINTEL SUPPORT ABOVE & CEMENT FIBRE COLLARS EITHER SIDE TO PREVENT VERMIN ENTRY
11. ANY DRAINS CAST IN & PASSING THROUGH CONCRETE GROUND BEAMS TO HAVE A FLEXIBLE JOINT NOT MORE THAN 150mm FROM THE FACE OF THE GROUND BEAM. (FLEXIBLE JOINT TO MANUFACTURERS DETAILS) AND A MAXIMUM 600mm LONG ROCKER PIPER EITHER SIDE
12. ANY ALTERATIONS TO DRAINAGE PROPOSED BY CONTRACTOR TO BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK ON SITE. ANY REVISIONS ARE ALSO SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING INSPECTOR.
13. ALL DRAINS RUNNING UNDER BUILDINGS TO HAVE A MINIMUM FALL OF 1:40 TOWARDS THE BUILDING EXTERIOR. PIPE TO BE ENCASED IN 100MM GRANULAR FILL.
14. COVER LEVELS SHOWN ARE APPROXIMATE ONLY AND SHOULD BE ALTERED TO SUIT FINISHED SURFACE LEVELS.
15. THE BEDDING SPECIFICATION FOR ALL DRAINS WHERE COVER IS GREATER THAN 1200mm SHALL BE TYPE 'S'....WHERE COVER IS LESS THAN 1200mm TYPE '2' SHALL BE USED.
16. THE DEVELOPER/CONTRACTOR MUST SELF VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN 'SEWERS FOR ADOPTION 7TH EDITION'
17. PROPOSED COVER AND INVERT LEVELS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO ANY WORKS COMMENCING ONSITE
18. ALL PPIC'S LOCATED WITHIN VEHICLE AREAS TO RECEIVE A MINIMUM 150mm CONCRETE BED AND SURROUND

KEY

- PROPOSED SURFACE WATER SEWER
- PROPOSED 150mmØ FOUL WATER SEWER
- PROPOSED PUMP STATION AND RISING MAIN
- PROPOSED ROUTE OF DIVERTED CULVERT EXACT DEPTH TO BE CONFIRMED
- STORMBLOXX ATTENUATION SYSTEM BY ACO OR SIMILAR APPROVED DIMENSIONS SHOWN ON THE DRAWING
- NEW FOUL WATER INSPECTION CHAMBER 450mm DIAMETER
- NEW FOUL WATER MANHOLE 1200mm DIAMETER
- NEW SURFACE WATER MANHOLE 1200mm DIAMETER
- PROPOSED HYDROBRAKE FLOW CONTROL DEVICE
- NEW SURFACE WATER CATCHPIT 600mm DIAMETER
- EXISTING FOUL AND SURFACE WATER FEATURES TO BE INVESTIGATED TO IDENTIFY POTENTIAL EXISTING OUTFALLS
- PROPOSED GULLY

Rev	Date	Revision Details	By	Chkd	Appd
P1	AUG 24	FIRST ISSUE	GRE		

Coraiht

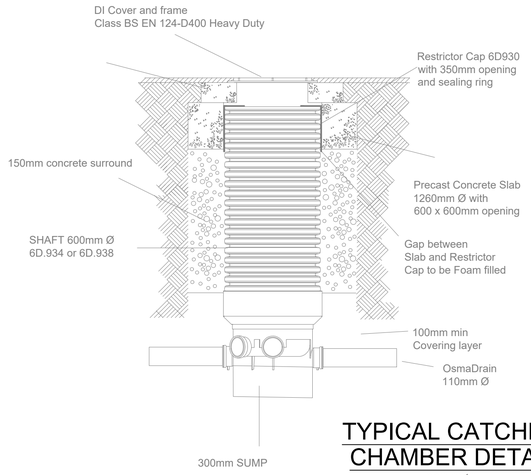
Client: LIDL GREAT BRITAIN Ltd

Project: NEW HEY ROAD

Title: DRAINAGE ARRANGEMENT SHEET 1 OF 2

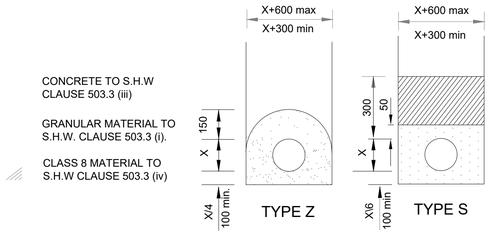
Drawing No.	Revision
16-3046-101	P1

Scale	1:250 @ A1	Date	AUGUST 2024
Drawn	GRE	Chk	App

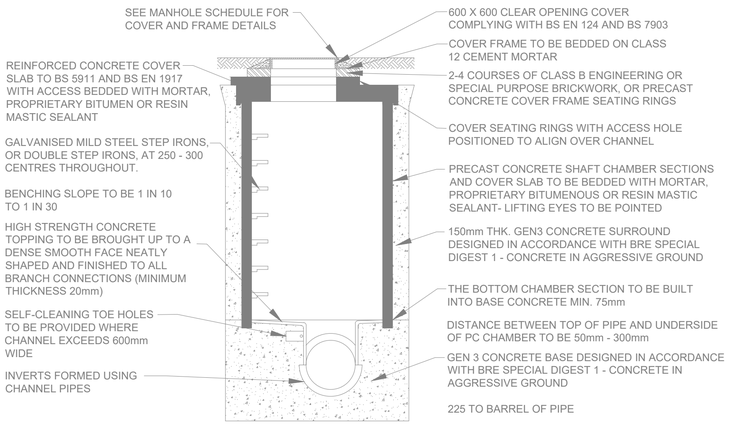


TYPICAL CATCHPIT CHAMBER DETAIL

non entry

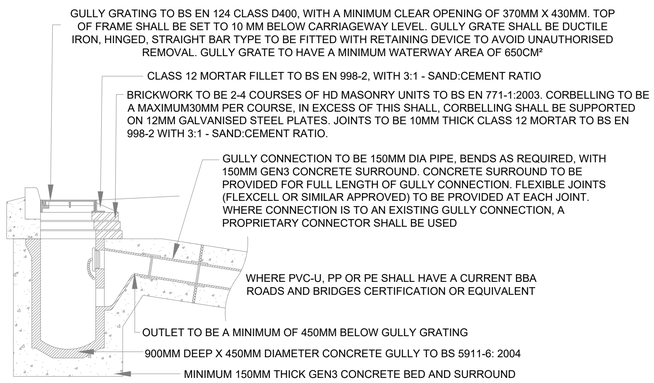


TYPICAL PIPE BED AND SURROUND DETAIL

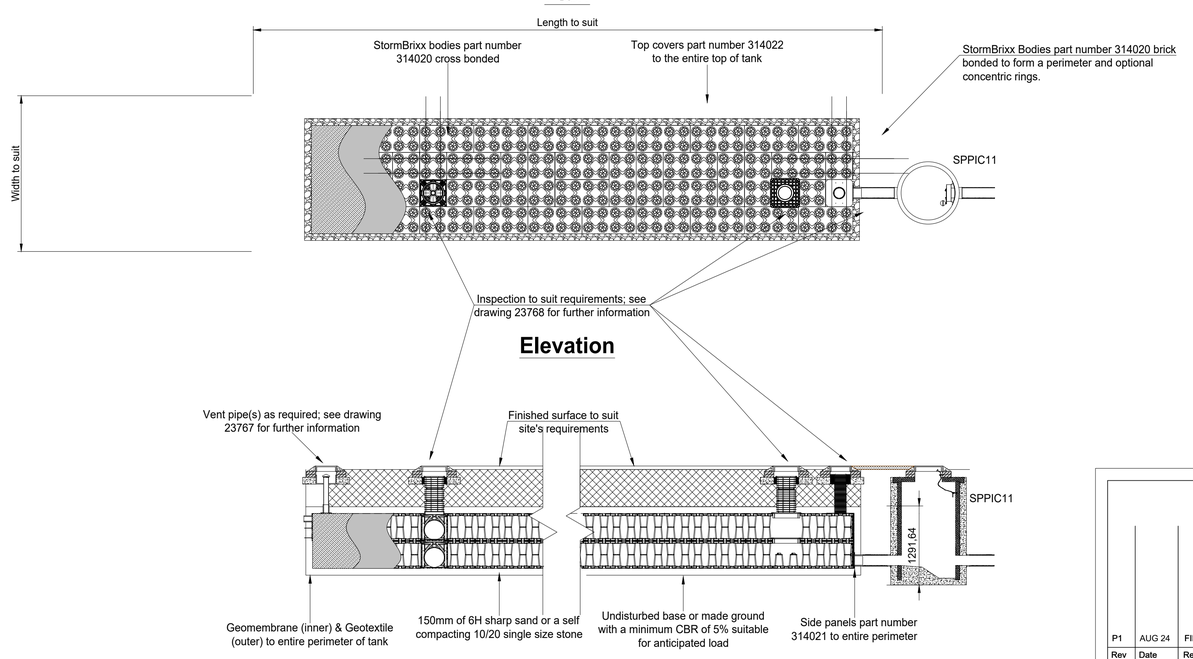


TYPICAL TYPE 2 CONCRETE MANHOLE (PCC) DETAIL

MAX DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 0m - 3m



ROAD GULLY DETAIL



TYPICAL STORMBLOXX ATTENUATION SYSTEM BY ACO OR SIMILAR APPROVED

Rev	Date	Revision Details	By	Chkd	Appd
P1	AUG 24	FIRST ISSUE	GRE		

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Client: LIDL GREAT BRITAIN Ltd

Project: NEW HEY ROAD

Title: DRAINAGE ARRANGEMENT SHEET 2 OF 2

Drawing No.	Revision
16-3046-101	P1

Scale	NTS	Date	AUGUST 2024
Drawn	GRE	Chk	App