



Operation and Maintenance Manual

Bowland Meadow, Chipping Lane, Longridge

BDW Trading Ltd (Trading as Barratt Homes Manchester)

Revision	Date	Prepared By	Revision Notes
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## INTRODUCTION

SUDS are a new environmentally friendly approach to managing rainfall that uses landscape features to deal with surface water. SuDS aim to:

- control the flow, volume and frequency of water leaving a development area
- prevent pollution by intercepting silt and cleaning runoff from hard surfaces
- provide attractive surroundings for the community
- create opportunities for wildlife.

This SUDS management plan has been prepared by Barratt Manchester to help provide a long term management plan for the Drainage and SUDS to the above development, as shown on the attached plans.

The surface water network includes all pipes, manholes, attenuation basins, surface water flow controls, inlets, outlets, and headwalls, which are coloured on the attached drawings.

The surface water network will be put forward for adoption under a Section 104 agreement with United Utilities. After issue of the drainage vesting declaration, pipes, manholes, surface water flow controls, inlets, outlets, and headwalls will be maintainable by United Utilities. Upon adoption, the surface water will be maintained in accordance with United Utilities maintenance regime. Prior to issue of the vesting declaration by United Utilities, the drainage will be maintainable by Barratt Manchester and at the expense of Barratt Manchester.

All areas of public open space, including the attenuation basins, will be transferred to the management company for adoption and maintenance. The management and maintenance will be funded by the purchasers/owners of the development by way of an annual fee levied on the owner. In order to ensure the long term operation of the swales, the maintenance contract will stipulate regular maintenance of the attenuation basins, in accordance with this management plan.

All highway gullies and highway drains on the attached plans will be put forward for adoption under a Section 38 agreement with Lancashire County Council. After issue of the highway final certificate, the highways along with the highway drains, gullies, and gully pipes (coloured green) on the attached plan, will be maintainable by Lancashire County Council at public expense. Upon adoption, the highways and highway drains will be maintained in accordance with Lancashire County Councils maintenance regime. Prior to issue of the final certificate by Lancashire County Council, the highway drains will be maintainable by Barratt Manchester and at the expense of Barratt Manchester.

All foul drainage on the attached plan will be put forward for adoption under a Section 104 agreement with United Utilities. Upon adoption, the surface water will be maintained in accordance with United Utilities maintenance regime. Prior to issue of the Vesting Declaration by United Utilities, the foul drainage shown on the included plans will be maintainable by Barratt Manchester and at the expense of Barratt Manchester.

The plan outlines the management principles and objectives and gives a frequency for the maintenance of the drainage and SUDS, only prior to adoption. Post adoption, the maintenance becomes the responsibility of the adopting authority.

## OBJECTIVES

The objectives for the Management Plan are:

- To ensure the successful maintenance and long-term performance of all SUDS and drainage elements for the benefits of the wider community.
- To protect the environment and residents from flooding caused by defects and blockage of the drainage network.
- To identify defects and performance issues as soon as possible in order to minimise any damage and rectify at the earliest opportunity.
- Improve the water quality of all surface water entering and leaving the SUDS network
- Provide an attractive, sustainable feature for the local landscape
- Improve ecological function and biodiversity
- To ensure best health & safety practices, and meeting user's and client's needs for safety, at all times.
- Inform waste management associated with contaminated silts and other waste materials resulting from maintenance.
- To allow the residents to understand the expectations of the required management, and to give them a point of contact if required.
- To allow the local authority satisfaction that the area will be managed appropriately.
- Ensure the proposed SUDS scheme does not impact on any other elements of the development, e.g. highway safety.

## DESIGN PRINCIPLES

The surface water network includes all pipes, manholes, attenuation basins, surface water flow controls, inlets, outlets, and headwalls, which are on the attached drawings.

The allowable discharge rate off the site, is controlled by flow controls near the outlet of each surface water network. Is designed to provide adequate SW storage for the 1:100 year event + 30% climate change allowance.

All finished floor levels are designed to be above the 1:100 year + 30% water levels.

Refer to Barratt Manchester's drainage strategy document for further information on the drainage design.

## PERFORMANCE RISKS

Inadequate or improper maintenance of the drainage network will cause a reduction in the networks ability to convey flow, as well as impact on the volume of water that can be attenuated, and infiltrated. These in turn could cause flooding to properties and risk to health and safety as well as endangering local wildlife and ecology.

## MANAGEMENT RESPONSIBILITIES GENERAL NOTES

All SUDS to be inspected at regular programmed intervals in accordance with this management plan.

All reports of defects and remedials to be repaired/reinstated as quick as practicable in accordance with this management plan.

All work must be carried out by appropriately skilled and experienced operatives for the specific type of work.

All materials and workmanship is to be of the highest possible standard in accordance with relevant good practice.

All materials and workmanship to be in accordance with the approved drawings, approved as part of the scheme, unless instructed otherwise, and in writing by the adopting authority.

All remedial works are to return the SUDS/drainage to their original approved condition as far as practicable to do so.

All works to be carried out in a professional and respectful manner, whilst minimising disruption and inconvenience to residents and the general public, and protecting the environment.

Work is only to be carried out whilst weather conditions are suitable, unless work is to be carried out under emergency scenario.

Only machinery and tools suitable for site conditions and the work to be carried out are to be used. Hand tools should be used around trees and in confined areas.

Surfacing, rubble, soil, stones and other waste debris to be removed from site, using skips where appropriate, and the area left in a clean and tidy condition after maintenance operations are complete.

## INSPECTIONS

Inspections are undertaken to identify defects that are causing a reduction in performance or risk of flooding, or risk to biodiversity. This includes defects that require urgent attention as well as those where the reduced level of severity is such that a longer response time is acceptable, or no repair is needed.

All drainage features are to be inspected in accordance with the below schedules by Barratt in-house engineers.

Inspections will also be carried out as necessary, where reports of defects are reported to Barratt Manchester. Where a defect is reported, an inspection will be completed within 2 weeks unless the defect is a high risk to flooding, a safety concern, or of an urgent nature.

Where a high risk or urgent defect is reported, an inspection will take place within 24 hours.

## DEFECT REPORTING

Prior to adoption of the highway drains, foul drains, and surface water drains, defects may be reported to Barratt Manchester by the local authority, local residents or members of the public.

All defects are to be reported to Barratt Manchester Customer Care Line using the following details:

Email: [manchester@newhomecare.co.uk](mailto:manchester@newhomecare.co.uk)

Phone number during office hours: 0161 447 5800 option 3

Phone number out-of-hours: 0345 6016084

The customer care line's normal working hours are Monday to Friday 9am to 5.30pm, excluding bank holidays. For reports of defects outside normal working hours, a 24 hours out of hours call centre is in operation.

After adoption, the following numbers may be useful.

Management Company:

POS Landcare Ltd

Hillhouse Business Park, Thornton Cleveleys, Lancs. FY5 4QD

Tel: 0300 123 6780 – Monday to Friday 8am to 5pm (excluding bank holidays)

Lancashire County Council

Highway Issues should be reported online at:

<https://www.sefton.gov.uk/parking,-roads-travel/street-maintenance/report-a-highway-issue.aspx>

Out of Hours Emergency Contact 0161 922 6107

United Utilities 0345 672 3723

Environment Agency 0800 80 70 60 (24 Hours)

## RESPONSE TIMES

All non-urgent defects will be repaired within 10 weeks of being reported.

All urgent defects will be made safe within 48 hours, or sooner if practicable. Any works to "Make Safe" may be of a temporary nature in order to protect the public, and allow sufficient time to procure the permanent remedial works. This may include temporary "fencing off" of the hazard until permanent remedials can be completed.

United Utilities, Lancashire County Council, EA and The Management Company may operate to alternative response times.

## ACTION PLAN

### Attenuation Basins

Regular inspection and maintenance are important for the continued effective operation of basins. Adequate access should be provided to all basin areas for inspection/maintenance.

Attenuation basins will be maintained for both functionality and as a habitat in their own right. Management will ensure basins are able to support a diverse and healthy population of small mammals, amphibians, insects and waterfowl.

Additional inspections may be necessary following major storm/flood events where silt deposits are likely to be extensive.

For grassed areas, the major maintenance requirement is mowing to retain grass lengths of 75-150mm across the treatment surface to assist in pollutant filtering and sediment retention.

The depth of silt that will trigger requirement for removal is to be 5% of the height of the basin.

All grass cutting machinery to be well maintained and correctly adjusted to give a clean and even cut. The machinery shall be suitable for the size area to be cut.

Grass shall not be cut in adverse weather and ground conditions. Cutting shall only recommence when it is safe to do so without danger of damaging the sward, surface levels or contours of the ground.

Where inclement weather conditions delay normal cutting programmes the Contractor is required to resume work as soon as practically possible and is required to restore works to the specified standard by regular, repeated cutting, as necessary.

Following delays occasioned by inclement weather where grass length exceeds the maximum specified height the Contractor shall collect and dispose to tip the arising of the first cut following the delay.

Where weather conditions inhibit grass growth the contractor may vary the minimum height of cut. During prolonged dry weather when grass growth is minimal, ensure all bents, flowers and seed heads are removed by rotary mowers.

All grass clippings falling on paths, roads and other paved surfaces shall be swept-up and removed before the contractor leaves site.

Vegetation removal will be undertaken in late September or early October after seed heads have dropped, and cut to no less than a height of 150mm in order to prevent any risk to amphibians that may be present. All cuttings must be removed to prevent a build-up of nutrients.

25-30% of basin vegetation will be removed annually with arisings removed from the site. Any scrub which develops on the bankside will be removed annually with arisings removed from the site.

Works will be carried out in an upstream direction and will leave at least one third of the basin bottom untouched retaining a dense fringe of marginal emergents alongside either bank. Works will progress upstream in order to permit dislodged plant propagules and invertebrates to re-colonise in the disturbed substrate downstream.

Any colonising trees or shrubs within 5m of the basin, outside the protected watercourse vegetation, should be removed to prevent shading, which in time will reduce the biodiversity value and access for maintenance.

Basins may require silt removal, however this will only be carried out if necessary to avoid disturbance of the microhabitats. The requirement to de-silt the basin will be reviewed after the first five years; it is unlikely that there will be a need for any clearance works at this point but it will indicate when the next appropriate review interval will be.

De-silting of basins will be undertaken from only one bank where possible and minimised to short stretches at certain problem areas along the length to ensure minimal interference to banks wherever possible.

Within the first five years of management it is unlikely that there will need to be any SuDS silt clearance works. Silt removal will only be carried out in limited areas at any one time of about 25-30% of the area every five years.

Any material that is removed from the SuDS will be left on the bank for approximately a week, to allow for any invertebrates or amphibians which may be in the silt to crawl back to their habitat before the material is disposed of or used sustainably elsewhere on site.

Herbicides should not be used within close proximity to the banks of the basins.

Drainage Element	Schedule	Maintenance Requirement	Frequency
Attenuation Basin	Regular	Remove litter and debris	Monthly, or as required
		Mow grass	Monthly
		Manage nuisance vegetation and other plants	Monthly, then as required
		Inspect inlets, outlets and overflows for blockages	Monthly
		Inspect inlets and facility surface for silt accumulation, ponding or compaction	Monthly, or as required
		Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
		Vegetation removal	25-30% Annually, or as required
		Silt removal	25-30% every 5 years, or as required
	Occasional	Reseed areas of poor growth	As required or if bare soil exposed over 10%+ of swale treatment area
	Remedial	<ul style="list-style-type: none"> <li>▪ Repair any damage or erosion</li> <li>▪ Relevel uneven surfaces and reinstate design levels</li> <li>▪ Remove build-up of sediment and oils/petrol residues</li> </ul>	As required

## Flow Controls

The flow controls are to be vortex flow controls in specific manholes.

The flow controls should be inspected regularly for blockages and silt/ debris removed as necessary.

Where a flow control is within a manhole, silt removal may be required by use of a JetVac unit from a specialist drainage contractor. Any waste removed from a flow control chamber to be removed from site and disposed in accordance with their own duty of care.

Where a flow control requires repair/replacement, they should be repaired/replaced with a flow control of the same specification as shown on the design drawings.

Drainage Element	Schedule	Maintenance Requirement	Frequency
Hydrobrake Flow Control	Regular	<ul style="list-style-type: none"> <li>▪ Inspect for accumulation of silt</li> <li>▪ Inspect inlets, outlets and overflows for blockages</li> <li>▪ Inspect for debris and litter</li> <li>▪ Test functionality of any bypass or penstocks</li> </ul>	Every six months, or after a major severe storm event.
	Occasional	<ul style="list-style-type: none"> <li>▪ Remove debris and litter</li> <li>▪ Remove silt</li> </ul>	As required

## Pipework/Inlets/Outlets/Chambers

It is not envisaged that silt build up within the pipework systems will require a rigorous maintenance regime as long as silt is removed from upstream catchpits, inlets, outlets and basins on a regular basis. Notwithstanding this, a suitable maintenance regime for the systems will comprise of routine inspection (every six months) and silt removal (as necessary).

The depth of silt that will trigger requirement for silt removal is 5% of the diameter of the pipe or depth of catchpit.

Where excessive or regular silt build up in pipes or inlets/outlets is identified, this is likely to be caused by inadequate flow due to defects in the pipes/inlets/outlets. Where this is suspected, a CCTV survey should be carried out of the affected area, and possibly the system at large. Any defect should be repaired/replaced to its original designed condition.

Additional inspections may be necessary following major storm/flood events where silt deposits are likely to be extensive.

Drainage Element	Schedule	Maintenance Requirement	Frequency
Pipework and Catchpits	Regular	<ul style="list-style-type: none"> <li>▪ Inspect for accumulation of silt</li> <li>▪ Inspect for debris and litter</li> <li>▪ Inspect inlets and outlets for blockages</li> </ul>	Every six months, or after a major severe storm event.
	Occasional	<ul style="list-style-type: none"> <li>▪ Remove debris and litter</li> <li>▪ Remove silt</li> <li>▪ CCTV Pipe work</li> </ul>	As required
	Remedial	<ul style="list-style-type: none"> <li>▪ Repair any damage, broken or cracked pipes, open joints, Blocked with Tree roots.</li> </ul>	As required

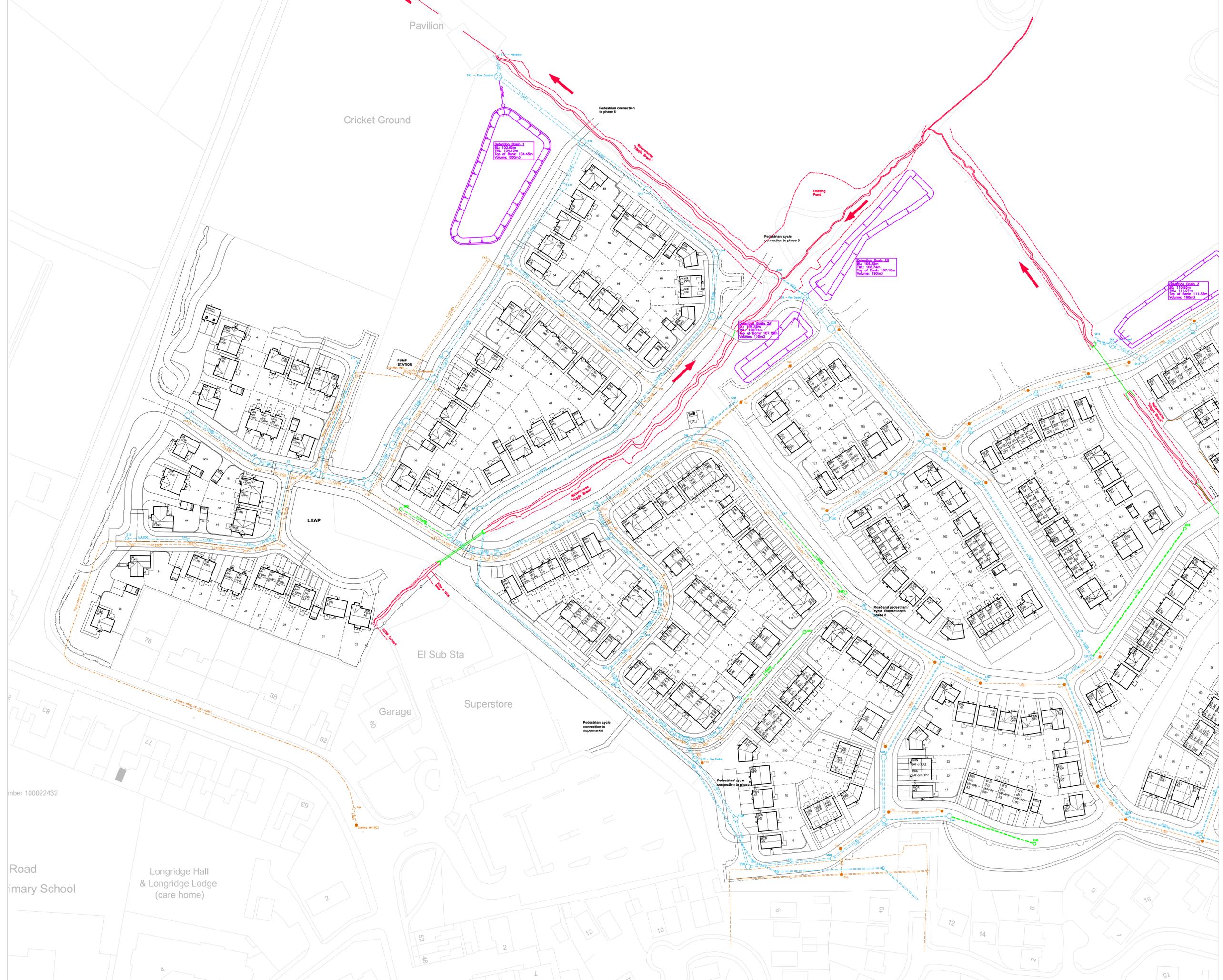
### Spillage – Emergency Action

Most spillages on development sites are within compounds and 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 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.

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. A bung for blocking pipes may be made by wrapping soil or turf in a plastic sheet or closely woven fabric. Contact the Environment Agency immediately.

**WARNING TO HOUSE-PURCHASERS**  
 Property Maintenance Act 1995  
 Buyers are warned that this is a working drawing and is not intended to be treated as descriptive material describing, in relation to any particular property or development, any of the specified matters mentioned by any Order made under the above Act. The contents of this drawing may be subject to change at any time and alterations and variations may occur during the progress of the works without revision of the drawing. Consequently the layout, form, content and dimensions of the finished construction may differ materially from those shown. Not do the contents of this drawing constitute a contract, part of any contract or warranty.

- Key**
- S15 United Utilities Surface Water
  - F23 United Utilities Foul Water
  - S307 Management Company
  - S402 Lancashire Council Highways
  - Lancashire Council Local Lead Flood Authority



REV	DESCRIPTION	DATE	DRAWN



**BARRATT HOMES**  
**MANCHESTER**

Barratt Homes Manchester  
 (A division of BOW Trading Ltd)  
 1st Floor, Adamson House  
 106 Wilmslow Road  
 Disbury  
 Manchester  
 M20 2YJ  
 Tel: 0161 447 5800

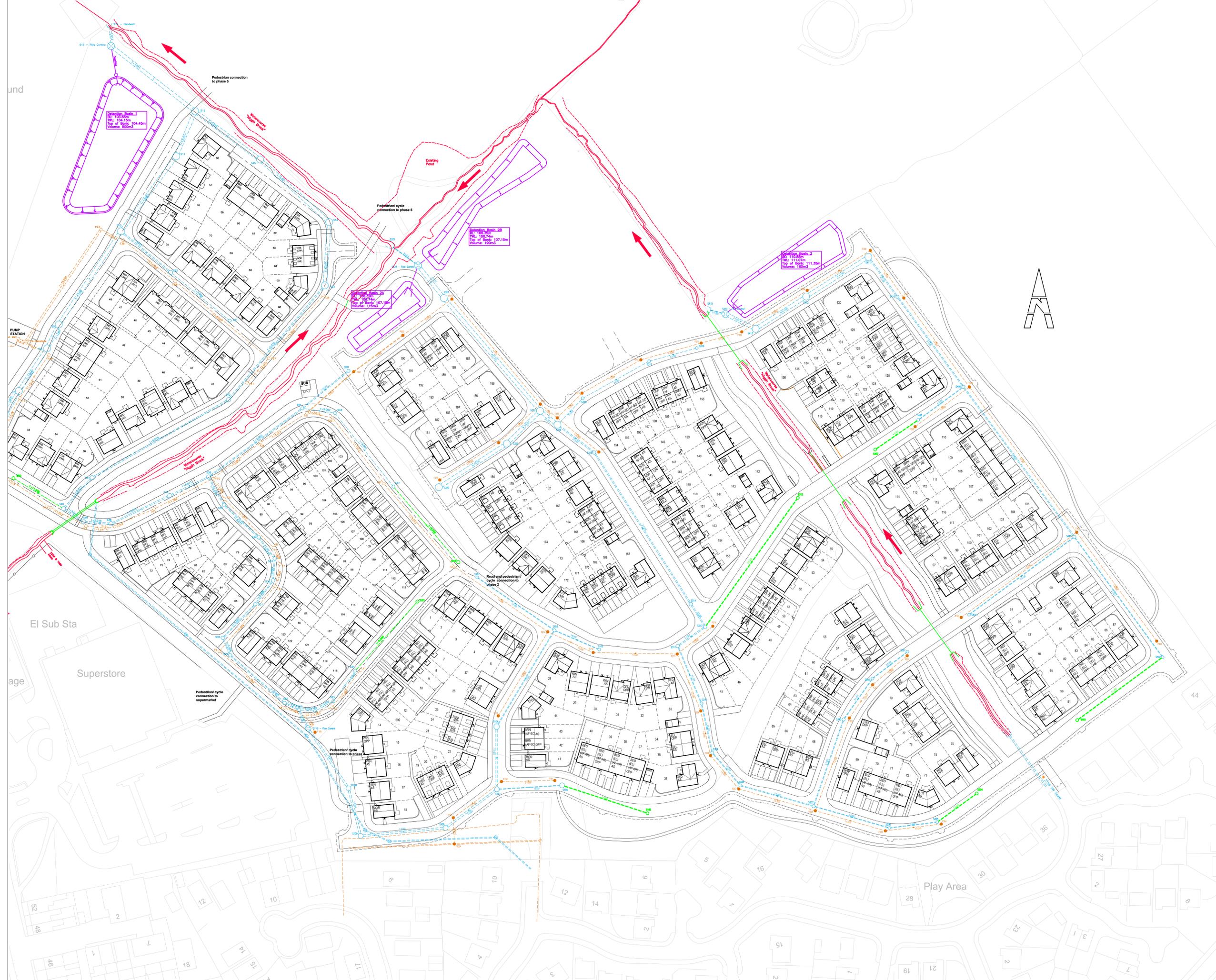
Job: Chipping Lane  
 Longridge  
 Full Site  
 Title: Drainage Maintenance Plan  
 Sheet 1

Design By	Date	Drawing Number	Rev
CD	Jan 2024	459/ED/208	-
C.A.D. By	Scale @ A0		
CD	1:500		

number 100022432

Road  
 Primary School

Longridge Hall  
 & Longridge Lodge  
 (care home)



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- Key
- S19 United Utilities Surface Water
  - F28 United Utilities Foul Water
  - S307 Management Company
  - S402 Lancashire Council Highways
  - Lancashire Council Local Lead Flood Authority



REV	DESCRIPTION	DATE	DRAWN



**BARRATT HOMES**  
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 Barratt Homes Manchester  
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Job Chipping Lane Longridge Full Site			
Title Drainage Maintenance Plan Sheet 2			
Design By CD	Date Jan 2024	Drawing Number 459/ED/209	Rev -
C.A.D. By CD	Scale @ A0 1:500		