

construction of a new flexihall building will result in the need to abandon and/or divert a number of the existing private and public sewers.

Any public sewer abandonments will require a Section 116 agreement with United Utilities and any sewer diversions will require a Section 185 agreement with United Utilities, prior to the commencement of any public sewer works.

6.3 Proposed Drainage Strategy

As outlined previously in Section 6.1, site-wide drainage systems are required to drain the foul and surface water flows arising from the proposed development. The proposed drainage systems must ensure that there is no increase in offsite flood risk that would otherwise impact downstream areas.

6.3.1 Surface Water Drainage

The Planning Policy Guidance and the CIRIA SuDS Manual detail that surface water runoff from a development should be disposed of as high up the following hierarchy as reasonable practicable:

- ◆ into the ground (infiltration);
- ◆ to a surface water body;
- ◆ to a surface water sewer, highway drain, or another drainage system;
- ◆ to a combined sewer.

Considering the hierarchy above, the surface water network for the retained area of the existing site should infiltrate where possible. The iD GeoEnvironmental Limited, Geoenvironmental Appraisal Report, did not undertake any BRE365 complaint infiltration tests but it has indicated that the site is underlain by large depths of made ground, up to 2.5mbgl. The made ground is then underlain by superficial deposits consisting of cohesive clays.

Even though no BRE 365 compliant soakaway tests were completed as part of the intrusive site investigation, it is envisaged that infiltration is not suitable across the proposed site. This is due to the potential for inundation settlement resulting from infiltration through the large depths of made ground and also due to the low permeability of the underlying cohesive clays.

As the possibility of infiltration has been ruled out by the site investigation, the intention for the development would be to discharge to watercourse. As indicated in Section 5.1, the nearest watercourse is the River Irwell, which is located approximately 820m to the west of the site. Given the distance through developed third-party land, it has been deemed impractical to discharge into a watercourse.

The United Utilities sewer maps, attached in Appendix F indicate that there is a culverted watercourse located within Angouleme Way (main Bury ring road) to the south-west corner of the site. As this is the main Bury ring road and a dual carriageway and is located right next to the single lane exit from Bury bus station, any traffic management in this area

would be extremely difficult and this is further exacerbated by the fact that current info suggests that the watercourse is around 6m deep.

As can be seen the watercourse is abandoned upstream of this location and given the watercourse discharges into Pyramid Park, which is completely dry, it is unclear whether the watercourse is actually still in use. Discussions with the LLFA should be undertaken to determine this but given the restrictions we do not believe discharge to this culverted watercourse will be feasible.

As such, the only practical solution for discharge of the surface water is discharge to public sewer. As indicated within Section 6.2, the only nearby public sewers are the combined water sewers located within the site and highways surrounding the proposed site. As such, it is envisaged that the surface water runoff from the proposed development will discharge to the surrounding public combined water sewers.

While every effort to use the existing systems should be made, the drainage systems should be designed to suit the proposed site layout and topography which aims to provide an efficient design.

In line with Sewers for Adoption (7th Edition), the requirements for the design of a new surface water drainage systems are as follows:

- ◆ Below ground piped drainage to be sized to accommodate the 1 in 2 year (50% AEP) design storm without surcharge.
- ◆ System to be designed not to flood any part of the site in a 1 in 30 year (3% AEP) design storm.
- ◆ For events in exceedance of the 1 in 30 year design storm and up to and including the 1 in 100 year event, site drainage and topography should be designed where practicable to route surface water run-off away from buildings to safe above-ground storage areas on site, thereby preventing this run-off from leaving the site and increasing flood risk elsewhere.

For each design case described above, the design storm is the critical storm duration for the site conditions. In the case of the 1 in 100 year design storm, a 40% increase in the peak rainfall intensity is applied to allow for the estimated worst case impacts of climate change. This is in accordance with advice, issued by the Environment Agency, which updates previous climate change allowances outlined in the National Planning Policy Framework.

Suitable systems of below ground drainage will be required to contain as a minimum requirement, the 1 in 30 year event. Additionally, any surface water run-off from events that exceed the design capacity of the new drainage system, up to and including the 1 in 100 year (+40%) event, will be retained on-site in safe storage areas.

In line with common practice, it is proposed the surface water discharge from the proposed development should mimic that from the existing site.