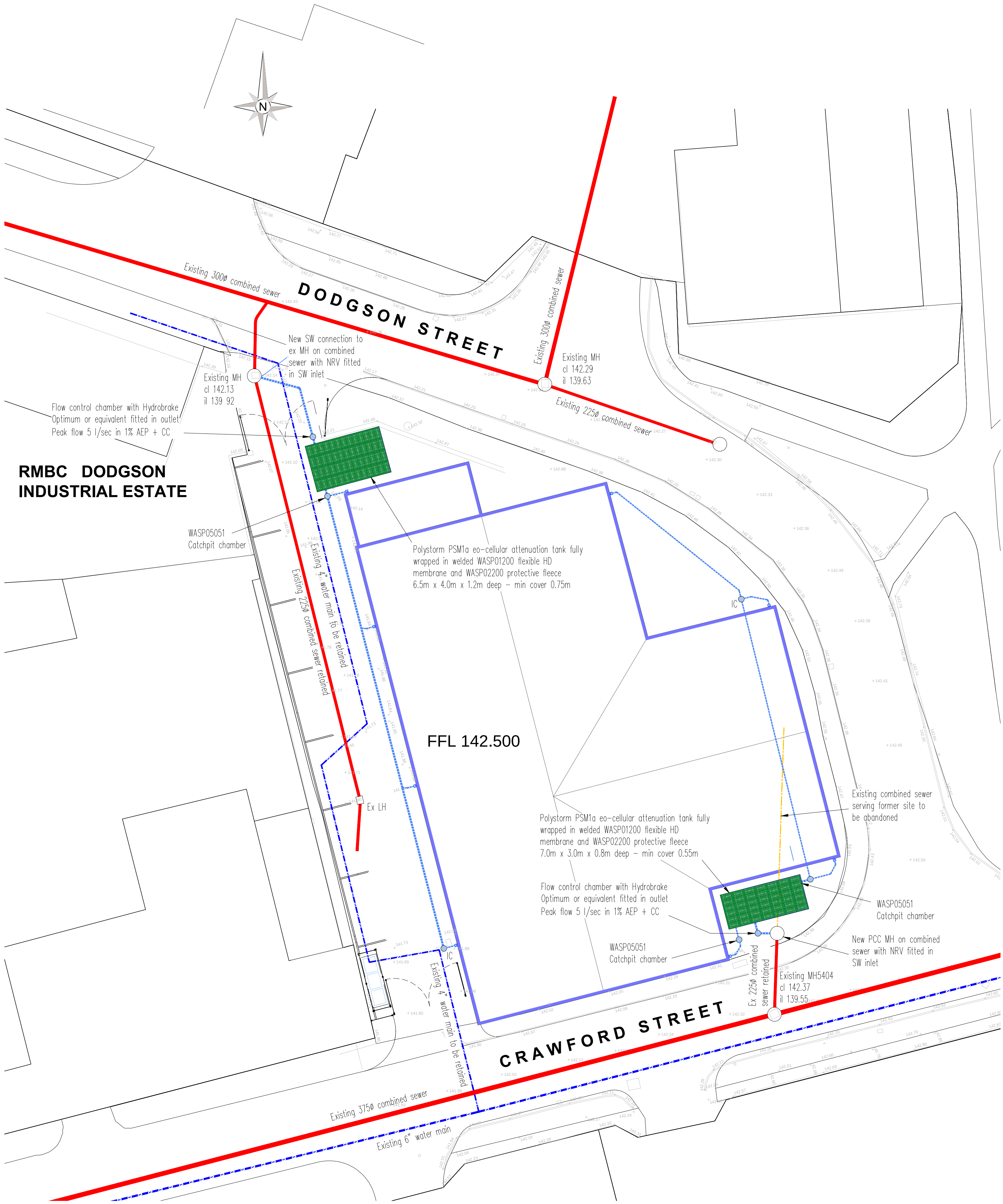




Notes

1. All dimensions are in millimetres unless stated otherwise.
2. Levels are in metres related to Ordnance Datum.
3. The locations and depths of all existing sewers and manholes to be used for new connections are to be accurately determined by the Developer prior to the commencement of all drainage works on the site and the information conveyed to CFA Civils.
4. All private drainage works are to be built generally in accordance with the recommendations of Building Regulations: Approved Document H 2015.
5. Unless stated otherwise, all private drains are to be 100 nominal diameter drainage pipes at minimum gradient of 1:80 for foul & 1:100 for surface water, bedded and backfilled to manufacturers' specification.
6. All SuDS fittings and membranes referenced are manufactured by SEL Environmental Ltd., Canal House, Bonsall Street, Blackburn, BB2 4DD.

DRAINAGE STRATEGY

In accordance with the National Planning Policy Framework and Building Regulations, the site should be drained on a separate system with foul water draining to the public sewer and surface water draining in the most sustainable way.

Surface Water

Planning Practice Guidance and the Building Regulations Approved Document H3 outline the hierarchy to be investigated when considering a surface water drainage strategy, in the following order of priority:

- Into the ground (infiltration);
- To a surface water body;
- To a surface water sewer, highway drain, or other drainage system;
- To a combined sewer.

Infiltration: An intrusive ground investigation has confirmed the presence of a deep layer of inconsistently compacted made ground overlying wet sand or peat. The nature of this made ground would be considered unsatisfactory for shallow infiltration and the presence of standing water at the top of the natural ground would preclude the use of deep soakaways.

Furthermore, the layout of the proposed site means that there are only very limited areas site more than 5m away from any building and 2.5m away from a site boundary or highway, and hence this level of the hierarchy is passed.

Surface water body: There are no watercourses or on or within close proximity of the site. Therefore, this is not an appropriate method of surface water disposal for the development and this level of the hierarchy is passed.

Surface water sewers: There are no surface water sewers indicated on the public sewer records in the accessible area of the development. Therefore, this is not an appropriate method of surface water disposal for the development and this level of the hierarchy is passed.

Combined sewers: An existing combined sewer network is indicated on the public sewer records with combined sewers within the site boundary and the adjoining roads. Therefore, it is proposed to discharge surface water from the new development into this existing system, thus complying with the drainage hierarchy.

Design

The site has been previously developed with existing connections into the combined public sewerage system. Therefore, it is proposed to attenuate all new surface water flows into this network limited to previous peak flow rates but incorporating a 50% betterment reduction on existing catchment areas where possible.

The site is considered as Brownfield land with an area of 0.202Ha. Based on the Rational Method assessment with a rainfall intensity of 25mm/hr, the Qbar flow rate of 12.6l/sec is estimated. Providing a 50% betterment would reduce this figure to 6.3 l/sec.

Due to the layout of the proposed building on the site, it is intended to make two separate discharges into the nearby public sewers. A peak discharge rate of 5 l/s is generally accepted as a minimum practical value using a vortex flow control, such that the outlet diameter of the flow control does not block.

Therefore, each of these will be limited to 5 l/s during the critical 1% AEP event plus 30% climate change.

Attenuation storage sizing has been calculated with Micro Drainage Source Control software based on the total contributing area of roof and hardstanding into each outfall.

The roof and any channel drains on the yard will discharge via appropriate trapped gullies and flow through catchpit chambers to prevent sediment and debris from passing into the attenuation system.

Foul Water

Foul water discharges from the new building will be connected to the existing public sewers.

Site Constraints

United Utilities records indicate the presence of a 4" water main & 225 diameter combined sewer along the western edge of the site. The route of these services coincide generally with the position of a former residential road [Burton Street] which formerly ran between Dodgson Street and Crawford Street.

The sewer records also show a 225 diameter combined sewer entering the south-eastern corner of the site.

It is intended to retain the sewer and water main along the western side of the site, as it is considered that these are well outside the footprint of the proposed building. However, if it is found that these services interfere with the new building, a S185 application can be made to United Utilities to have them diverted.

The sewer in the south eastern corner of the site is indicated as the head of a system, therefore most likely intended to serve previous site uses. As part of the proposed works, it is intended to apply to United Utilities for a sewer abandonment for the upstream length of existing pipe and to install a new manhole on the site boundary to act as an outfall for flows from that part of the site.

Recent discussions with the Area Engineer at United Utilities have confirmed his acceptance in principle to the above. He also confirmed that the site is not in a Critical Drainage Area and that their network model does not raise any concern regarding sewer surcharge affecting the site.

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rev	description	date	by
Project Lancashire Farm Dairies 1 Crawford Street, Rochdale			
Drawing Title Proposed New Warehouse Drainage Strategy Layout			
Date February 2024	Scale 1 : 200	Drawn by TMC	Checked by —
Job No. CFC 23061	Drawing No. 001	Revision A1 —	



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