

20200-CUR-NM110-XX-RP-C-0008 -P1

Drainage Statement MSCP& Eastern Car park

Existing Network Assessment

Curtins were commissioned to assess the existing drainage network to confirm flood risk and drainage capacity that may be available to connect the MSCP and eastern surface car park to it. Rather than the originally to connect into the proposed Carrier Drain that would eventually form part of the future site wide drainage system.

This assessment involved the review of the existing drainage survey as well as CCTV to confirm the pipe sizes etc . In addition, the recently installed temporary car park as well as the installed drainage around the Crumpsall Vale buildings were also added to complete a practical indicative representation of this section of the network for modelling. However due to the limits of the drainage survey information some assumptions have been made to complete the model. The existing networks has been assessed to current standard up to 1/100yr storm event with 40% climate change, indicates the existing network as well as the results of this assessment, please refer to the following drawings-

20200-CUR-NM110-XX-DR-C-7550-P01 MSCP Overall Existing Drainage and catchments

20200-CUR-NM110-XX-DR-C-7551-P01 MSCP Existing catchment

20200-CUR-NM110-XX-DR-C-7552-P01 MSCP Existing Flooding Issues

For ease also refer to the extracted table below that indicates the assessed Flood Risk-

	EXISTING DRAINAGE FLOODING m ³	
Manhole	MH596	MH534
flooding 1 in 30	15.8	7.4
flooding 1 in 100	28.0	22.1
flooding 1 in 100+40	54.6	63.6

As can be seen, the existing network when assess to current standards does have some flooding issues particularly MH596 and MH534 within the area of works. These represents the current flooding risk in this area if no works were to be undertaken.

Proposed Drainage

MSCP

The proposed drainage linked to the MSCP has been retained as currently designed with 5l/s discharge rate, connecting to with new manholes installed on the existing drainage, this is to allow for the future connection into the Carrier Drain.

Easter Car park

The drainage for the eastern surface car park as part of the original design had its attenuation remote to the car park, as part of this design the attenuation will need to be incorporated into the car park construction. Following discussions with Morgan Sindall and SEL, this attenuation will be incorporated into the construction build-up within the sub-base material. The proposed easter car park surface water rate will be limited to is 5l/s. The subbase calculation has been provided by SEL.



Existing Road& access road to sprinkler tank

The existing road will be raised to new levels to provide access to MSCP. The new access road to sprinkler tank is provided. The new gullies will be added for both roads, and discharge surface water without restriction. The gullies will be reconnected to Carrier drainage when it is built.

Assessment proposed drainage, connection from MSCP and Eastern Car park

The assessment of existing drainage has been undertaken with new connections from MSCP and eastern car park limited to 5l/s from each and road for 1 in 100+40% The table below, that is included on drawings 20200-CUR-NM110-XX-DR-C-7553-P02, indicates these assessments-

	MSCP 5l/s & car park 5l/s	
Manhole	MH596	MH534
flooding 1 in 30	10.2	none
flooding 1 in 100	23.3	6.8
flooding 1 in 100+40	45.1	36.5
water level near MSCP for 1 in 100	70.46	

The calculations indicates that connections with limited flow will significantly improve the risk of flooding over the inherent existing situation.

Assessment Summary

The existing drainage network when assessed to current requirements indicates areas of potential risk of flooding. When further assessed with the incorporation of the MSCP and eastern car park with limited flow rates of 5l/s each, the existing flooding risk is significantly reduced by approximately 18% around MH56 and 43% around MH534.

New manholes have been proposed on existing drainage to make future connections to the carrier drain being made easier.

The non-return valves have been added to surface and foul water to ensure backflow in to the MSCP and easter car park will not happen.

This significant reduction/mitigation in the inherent flooding risk within the hospital site due to the work being undertaken and confirmation that the overall discharge rate from the Hospital site into the UU sewer is maintained at the current agreed rate of discharge therefore not impacting direct on the existing adopted sewer beyond the Hospital site. Add to that the additional improvements over the coming years as the hospital is further developed.

22/11/22 HS/MW