

Link Engineering		Page 1
Lombard House 145 Great Charles Street Birmingham, B3 3LP	Knowsley Hub 50 Proposed Storm Drainage	
Date 15/08/2023	Designed by CH	
File Proposed Storm Drains.MDX	Checked by	
Innovyze	Network 2020.1.3	

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	30.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	1920
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	16

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.700	Storm Duration (mins)	960
Ratio R	0.389		

Summary of Results for 960 minute 100 year Winter (Storm) Margin for Flood Risk Warning (mm) 300.0 Analysis Timestep 2.5 Second Increment (Extended) DTS Status ON DVD Status OFF Inertia Status OFF WARNING: Half Drain Time has not been calculated as the structure is too full. <table> <tr> <th></th><th></th><th>Water</th><th>Surcharged</th><th>Flooded</th><th></th><th></th><th>Half Drain</th><th>Pipe</th><th></th></tr> <tr> <th></th><th>US/MH</th><th>Level</th><th>Depth</th><th>Volume</th><th>Flow /</th><th>Overflow</th><th>Time</th><th>Flow</th><th></th></tr> <tr> <th>PN</th><th>Name</th><th>(m)</th><th>(m)</th><th>(m³)</th><th>Cap.</th><th>(l/s)</th><th>(mins)</th><th>(l/s)</th><th>Status</th></tr> <tr> <td>S1.000</td><td>SMH1</td><td>44.555</td><td>1.141</td><td>2231.042</td><td>0.50</td><td></td><td></td><td>7.1</td><td>FLOOD</td></tr> <tr> <td>S1.001</td><td>SMH2</td><td>44.529</td><td>1.307</td><td>0.000</td><td>0.17</td><td></td><td></td><td>9.8</td><td>FLOOD RISK</td></tr> <tr> <td>S2.000</td><td>SMH3</td><td>44.523</td><td>1.192</td><td>0.000</td><td>0.03</td><td></td><td></td><td>1.6</td><td>FLOOD RISK</td></tr> <tr> <td>S1.002</td><td>SMH4</td><td>44.523</td><td>1.413</td><td>0.000</td><td>0.04</td><td></td><td></td><td>6.6</td><td>FLOOD RISK</td></tr> <tr> <td>S1.003</td><td>SMH5</td><td>44.521</td><td>1.512</td><td>0.000</td><td>0.04</td><td></td><td></td><td>5.0</td><td>SURCHARGED</td></tr> <tr> <td>S3.000</td><td>SMH6</td><td>44.519</td><td>0.699</td><td>0.000</td><td>0.02</td><td></td><td></td><td>5.1</td><td>SURCHARGED</td></tr> <tr> <td>S1.004</td><td>SMH7</td><td>44.519</td><td>1.888</td><td>0.000</td><td>0.30</td><td></td><td></td><td>4.6</td><td>SURCHARGED</td></tr> <tr> <td>S1.005</td><td>SMH8</td><td>41.889</td><td>-0.095</td><td>0.000</td><td>0.29</td><td></td><td></td><td>4.6</td><td>OK</td></tr> </table>												Water	Surcharged	Flooded			Half Drain	Pipe			US/MH	Level	Depth	Volume	Flow /	Overflow	Time	Flow		PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	Status	S1.000	SMH1	44.555	1.141	2231.042	0.50			7.1	FLOOD	S1.001	SMH2	44.529	1.307	0.000	0.17			9.8	FLOOD RISK	S2.000	SMH3	44.523	1.192	0.000	0.03			1.6	FLOOD RISK	S1.002	SMH4	44.523	1.413	0.000	0.04			6.6	FLOOD RISK	S1.003	SMH5	44.521	1.512	0.000	0.04			5.0	SURCHARGED	S3.000	SMH6	44.519	0.699	0.000	0.02			5.1	SURCHARGED	S1.004	SMH7	44.519	1.888	0.000	0.30			4.6	SURCHARGED	S1.005	SMH8	41.889	-0.095	0.000	0.29			4.6	OK
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