

Appendix B

Foul Water Calculations

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Foul Water Flows				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by	Date
Ref.	Calculations				Output
	The site is currently a Brownfield, however the existing buildings have been demolished since 1980s. Therefore Pre-Development flows have not been calculated. <u>Pre-Development Discharge</u> <u>Average Foul Flow =</u> <u>0.00 l/sec</u> <u>Peak Foul Flow =</u> <u>0.00 l/sec</u> <u>Post Development Discharge</u> Based on Flows and Loads 4, it is anticipated that there will be circa 200 staff working in this development. Unit 1 and 2 to have 50 employees each Unit 3 to 6 to have approx. 20 employees each Unit 7-16 to have approx. 3 employees each 200 Employees * 90 litres per day = 18000 Litres per day 18000 / (24 * 60 * 60) = 0.21 litres per second <u>Average Foul Flow =</u> <u>0.21 l/sec</u> <u>Peak foul discharge</u> Peak is calculated by multiplying the average by 2.5. 0.21 l/sec * 2.5 <u>Peak Foul Flow =</u> <u>0.52 l/sec</u>				

Appendix C

Water Demand Calculations

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Water Demand Calcs				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by	Date
Ref.	calculations				Output
	<u>Pre Development Water Demand</u> Post development peak water demand = 0.00 l/sec Post development average water demand = 0.00 l/sec				
	<u>Post Development Water Demand</u> 25% increase from the stated foul flows Stated post development foul flows: - Peak 0.52 l/sec - Average 0.21 l/sec Post development peak water demand $0.52 \times 125\% = 0.65 \text{ l/sec}$ Post development average water demand $0.21 \times 125\% = 0.27 \text{ l/sec}$				
	Post development peak water demand = 0.65 l/sec Post development average water demand = 0.27 l/sec				

Appendix D

Greenfield Runoff

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Surface Water Flows				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by	Date
Ref.	Calculations				Output
	The site is currently a Brownfield, however the existing buildings have been demolished since 1980s. Therefore Pre-Development flows have not been calculated. <u>Pre Development Surface Water Discharge</u> <u>0.00 l/sec</u> <u>Post Development Surface Water Discharge</u> It is proposed to treat and attenuate surface water runoff from the site prior to connection into the existing surface water sewer network located at the rear of the development. Surface water flow = greenfield runoff at 4.5 l/s/Ha Site area = 0.55 Ha $4.5 \times 0.55 = 2.48 \text{ l/sec}$ Therefore, <u>Total Surface Water Flow = 2.48 l/sec</u> <u>Post Development Pre-Attenuated Surface Water Discharge</u> Assume 40mm/h intensity rainfall Site Hard Standing = 0.53Ha = 5300m² $40 \times 5300 / 3600 \text{ (60mins/60secs)} = 58.89 \text{ l/s}$ <u>Total Surface Water Discharge = 58.89 l/sec</u>				

Appendix E

Storage Calculation

Quick Storage Estimate

Micro Drainage

Variables

FEH Rainfall

Return Period (years) 200

Version 2013 Catchment ...

Site GB 231700 639300 NS 31700 39300

Cv (Summer) 0.750

Cv (Winter) 0.840

Impervious Area (ha) 0.40

Maximum Allowable Discharge (l/s) 4.9

Infiltration Coefficient (m/hr) 0.00000

Safety Factor 2.0

Climate Change (%) 30

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999

Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 179 m³ and 281 m³.

These values are estimates only and should not be used for design purposes.

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999

Appendix F

Existing Service Information