Project:	**New City Court**
Address:	**London**

Project No:	**3948**
Date:	**26/04/21**
Calcs by:	**SP**
Page No:	**2**

Pre-development Peak Rates

Q_1 = 3.61 x 0.75 x 2,980 x 38.3 = ***30.9*** **litres/sec**

Q_{100} = 3.61 x 0.75 x 2,980 x 104.7 = ***84.4*** **litres/sec**

Post-development Peak Rates

Q_1 = 3.61 x 0.75 x 2,980 x 38.3 = ***30.9*** **litres/sec**

Q_{100} = 3.61 x 0.75 x 2,980 x 104.7 = ***84.4*** **litres/sec**

Post-development Peak Rates with Climate Change

Q_{1+CC} = ***43.3*** **litres/sec**

Q_{100+CC} = ***118.2*** **litres/sec**

Greenfield Rates

Q_{bar} = 0.00108 x $0.5^{0.89}$ x $600^{1.17}$ x $0.45^{2.17}$ = ***183.4*** **litres/sec (for 50ha)**

Q_{bar} = (183.4 x 0.298) / 50 = ***1.09*** **litres/sec (for site)**

Use growth factor for Region 6\7 - South East England

Therefore,

Q_1 =	***0.93***	**litres/sec**
Q_2 =	***0.96***	**litres/sec**
Q_5 =	***1.40***	**litres/sec**
Q_{10} =	***1.77***	**litres/sec**
Q_{25} =	***2.34***	**litres/sec**
Q_{30} =	***2.62***	**litres/sec**
Q_{50} =	***2.86***	**litres/sec**
Q_{100} =	***3.49***	**litres/sec**
Q_{500} =	***4.91***	**litres/sec**

Approximate Attenuation Volumes

Discharge Condition	Discharge Rate	Storage Volume Required
Mitigate climate change and hardstanding increase	***84.45*** **litres/sec**	***50*** **m^3**
Post-development Q_{100} reduced to 50% of existing Q_{100}	***42.22*** **litres/sec**	***80*** **m^3**
Post-development Q_{100} reduced to 1-year pre-development peak rate	***30.92*** **litres/sec**	***90*** **m^3**
Post-development Q_{100} reduced to 3 x Greenfield rate (i.e. 3 x Q_{bar})	***3.28*** **litres/sec**	***190*** **m^3**
Post-development Q_{100} reduced to Greenfield rate (i.e. Q_{bar})	***1.09*** **litres/sec**	***250*** **m^3**
Post-development Q_{100} reduced to 5 litres/sec (DEFRA/EA Guidance)	***5.00*** **litres/sec**	***170*** **m^3**
Post-development Q_{100} reduced to Greenfield Q_{100}	***3.49*** **litres/sec**	***190*** **m^3**