



Our Ref;1-046/TN/001  
18 December 2020

David Uncle  
Hertfordshire County Council  
Country Hall  
Pegs Lane  
Hertford  
SG13 8DN

**BY EMAIL ONLY**

Dear David,

**RE: NORTHAW HOUSE, HATFIELD – ATTENUATION POND HALF DRAIN DOWN TIME**

**SCOPE**

This technical note has been prepared to calculate the half drain down time of the attenuation basin provided as part of the proposed drainage design for Northaw House, Hatfield (drainage layout as shown on 1-046-CCE-XX-XX-DR-C-001, 002 & 003).

- Maximum attenuation pond required during critical storm event (the 100yr+40%cc, 960 minute winter event as of network model calculations) = 799m<sup>3</sup>
- Maximum discharge rate of attenuation pond (QBAR runoff rate) = 4.50 l/s (or 0.0045m<sup>3</sup> / s)

Therefore;

$$\frac{799m^3}{2} = 399.50m^3$$
$$\frac{399.50m^3}{0.0045} = 88,778 \text{ seconds (24.66 hours)}$$

Allowing for potential of 10% inefficiency of hydro-brake flow control due to low head;

$$88,778 \text{ seconds (24.66 hours)} \times 1.10 = 97,656 \text{ seconds (27.13 hours)}$$

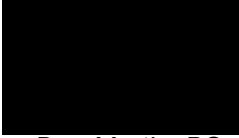


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**Specialists in Highway, Drainage & Utility Infrastructure**

If you have any queries regarding the above, please do not hesitate to contact us.

Yours Sincerely,



*Dan Martin, BSc, CEng MICE*



for **CIVILISTIX CONSULTING ENGINEERS LIMITED**