

APPENDIX P - OVERLAND FLOW CAPACITY CHECKS

THIS SHOULD BE READ IN CONJUNCTION WITH THE DRAINAGE STRATEGY AND PROPOSED SUSTAINABLE DRAINAGE ARRANGEMENT

East Hemel Masterplan

Overland flow corridor capacity/provision

Manning Eqn for flow assumptions

n (surface type = farmland, pre-dev) 0.035

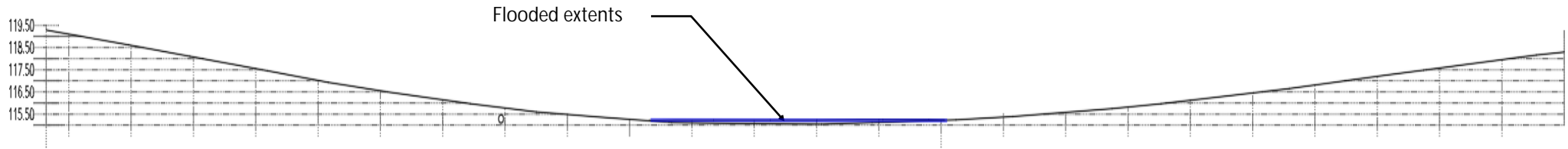
n (surface type = floodplain, post-dev) 0.05

Further assumptions

The overland flooded extents were determined using the DEFRA (updated February 2025) extents against the existing topography. Where the existing topography was lower than the topography, it was assumed in the 1:100+cc event it was flooded. A typical section was taken from the topographic model to determine the wetted perimeter, area, and maximum water depth.

Existing typical section - assume entire section full

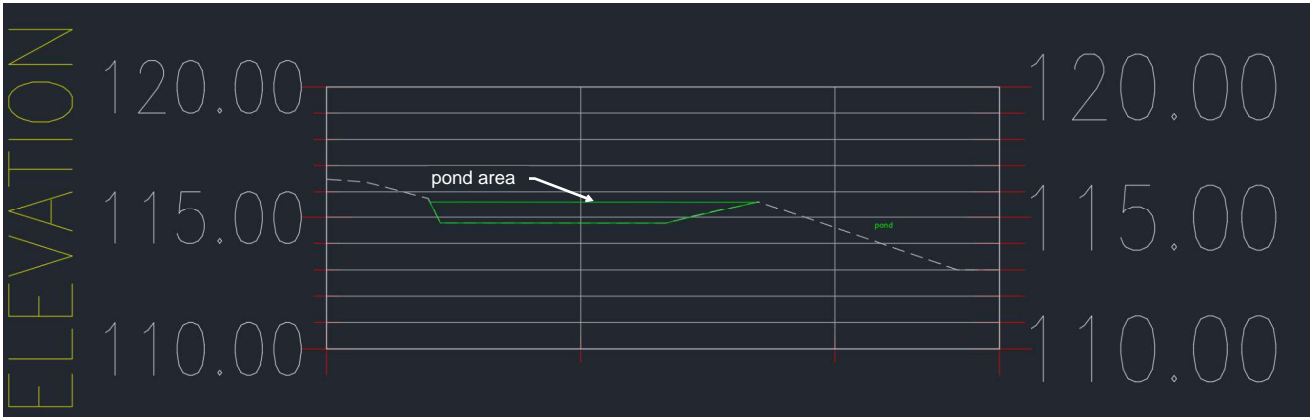
Long. Slope (S) [m/m]	P _{wet} [m]	A _{wet} [sqm]	R [m]	measured max depth [m]	Q [m ³ /s]	Q [l/s]
0.004	28.51	5.65	0.20	3.34	3.34	3,344.92



Section (indicative, NTS snapshot) above taken from existing topographic model with DEFRA risk of surface water flooded extents for 1:100+cc
Depth, wetted perimeter and area measured directly from CAD model

Proposed typical section - assume 2/3rds full

Long. Slope (S) [m/m]	P _{wet} [m]	A _{wet} [sqm]	R [m]	proposed avg depth [m]	Q [m ³ /s]	Q [l/s]
0.007	8.96	6.01	0.67	0.83	7.53	7,525.14
At full capacity						
0.007	13.44	9.02	0.67	0.83	11.29	11,287.71
<i>Therefore Proposed > Existing</i>						



Section (indicative, NTS snapshot) above taken from proposed surface model which includes drainage ponds and overland corridor
 Depth, wetted perimeter and area measured directly from CAD model