

H+H Drainage

Tremayne, Mortimer's Cross, Herefordshire HR6 9TG
Phone: 0845 2008421. Mobile: 07837 628764

Ground Water Risk Assessment

The proposed development at Castle Farm, Llangibby, Usk, Monmouthshire NP15 1NJ

Revision D: Minor changes

16th December 2022

Prepared by Alex Taysum-Hunter



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Proposed Discharge to Ground at North Range:

Llangibby Farm, Llangibby, Usk, Monmouthshire, NP15 1NJ

ST 36855 97452

X (Easting): 336855

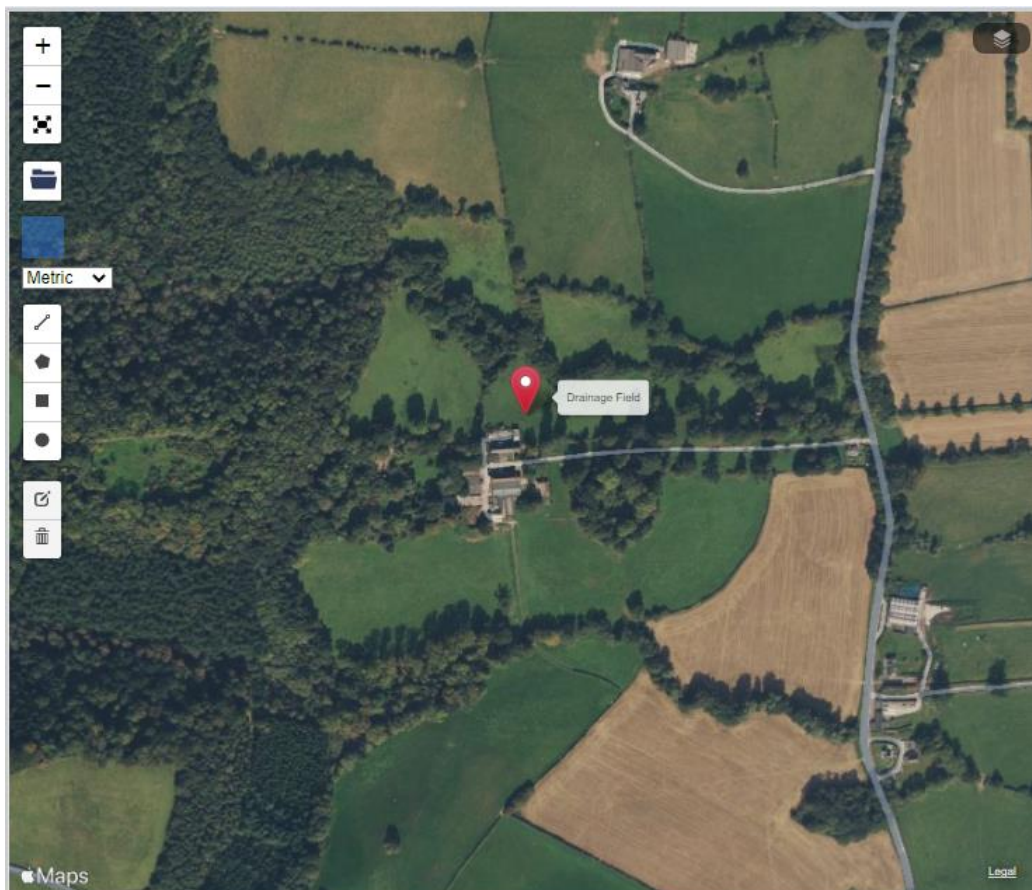
Y(Northing): 197452

Latitude: 51.672278

Longitude: -2.9145347

What3words: decisions.perused.century

Site Location:



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Proposed Discharge to Ground at South Range:

Llangibby Farm, Llangibby, Usk, Monmouthshire, NP15 1NJ

ST 36860 97260

X (Easting): 336860

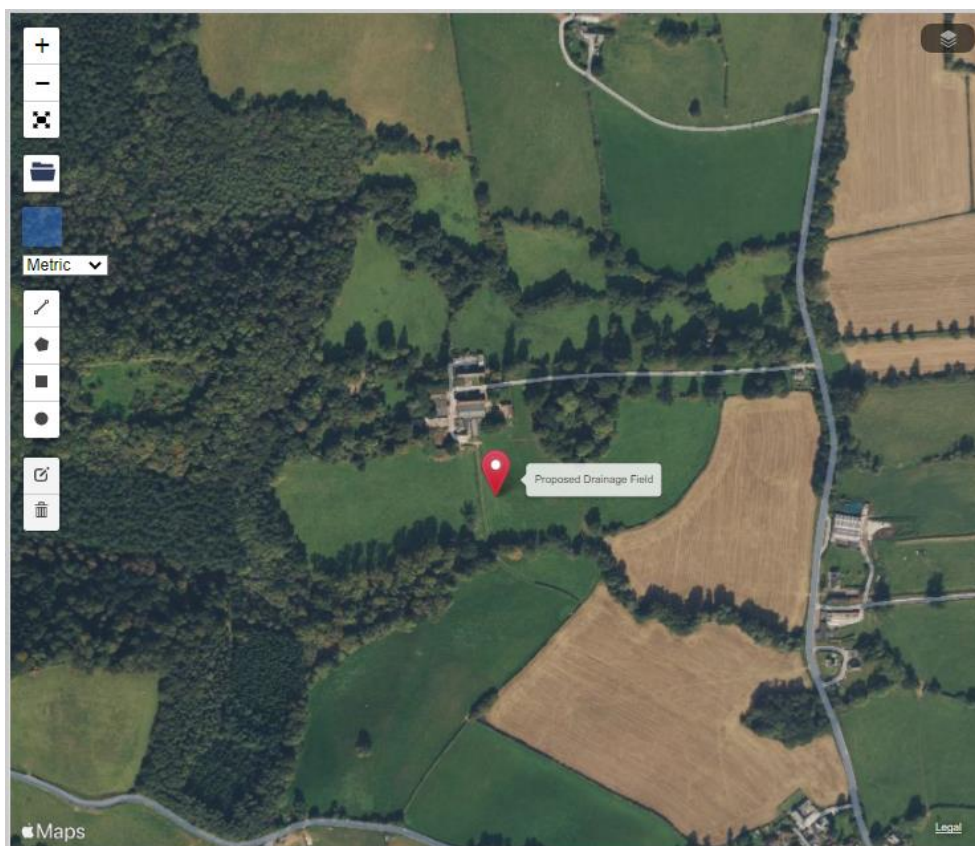
Y(Northing): 197260

Latitude: 51.670549

Longitude: -2.9144236

What3words: crossing.scoring.instructs

Site Location:



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Ground Testing and On-site Investigation:

Site investigations were undertaken on the 13th July 2022.

As can be seen below, percolation tests have been completed in the location of the proposed drainage fields. The percolation tests were completed at a depth of 1m below ground level in line with BS.6297.



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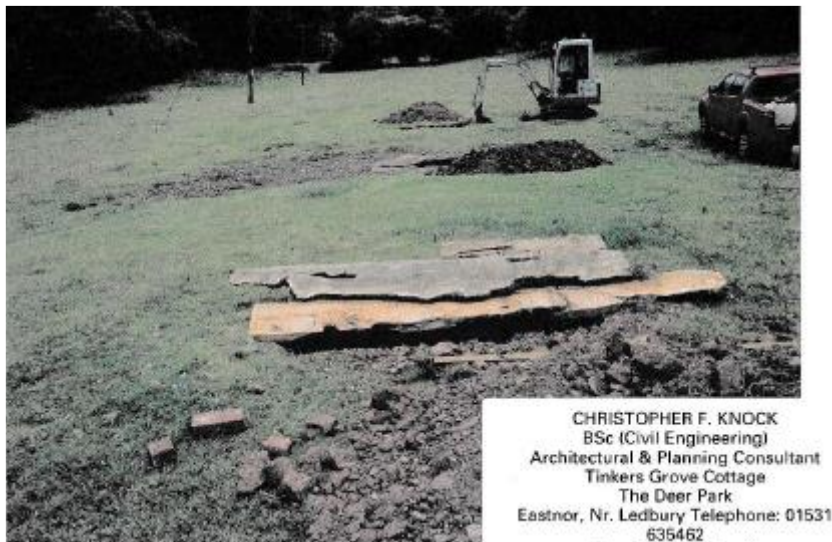
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As specified in Building Regulations, BS.6297 and Natural Resources Wales Guidance, a drainage field can only be installed in an area where ground water remains more than 1m below the infiltration field (drainage field).

This is referred to as the Unsaturated Zone.

Noting that the recent percolation tests were completed at a depth of 1m below ground level, Ground Water Level Assessment Trial Holes were also excavated. These trial holes were excavated to a depth of 2.1m below ground level in the location shown on the following plan.

We can confirm that there was no evidence of ground water at a depth of 2.1m below ground level.



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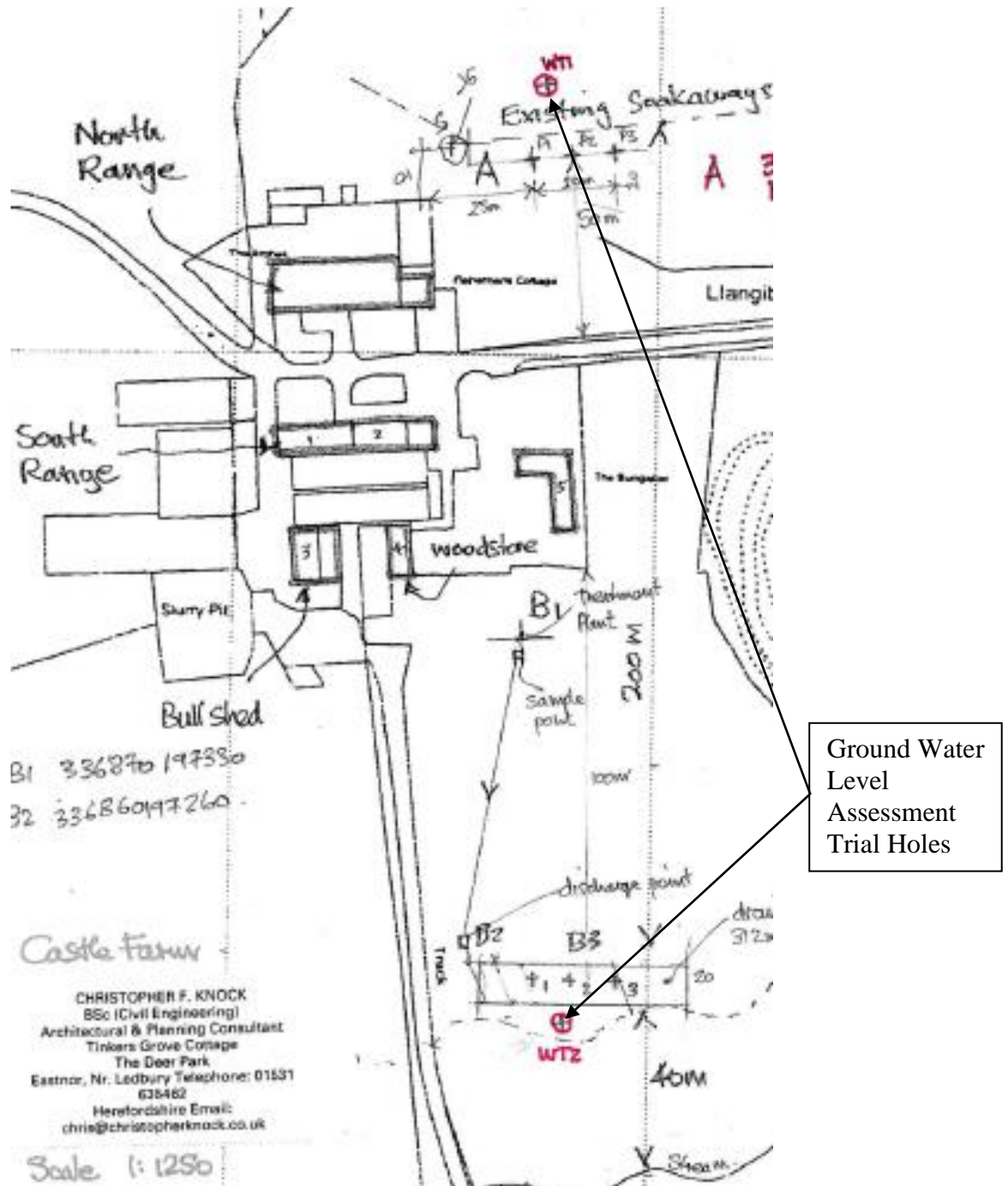
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Test Hole Locations:



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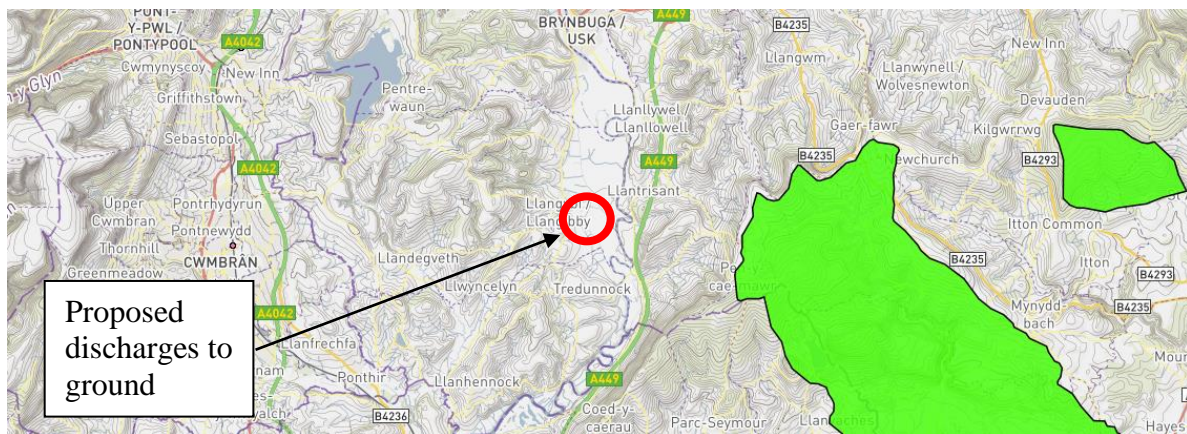
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As can be seen in the following map, there are no SPZ1 or SPZ2 (Special Protection Zones) areas highlighted within 5km of this site.



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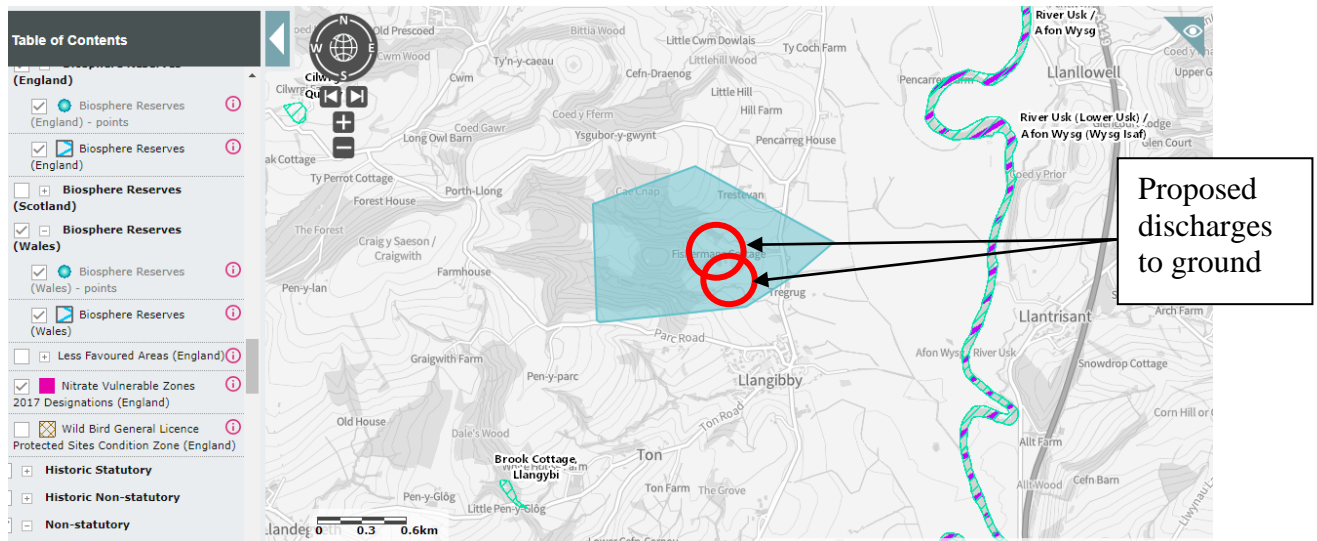
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The following map also shows that there are no Designated Sites such as SSSI's or SAC's within 200m of the test area.

The site is not within a Nitrate Vulnerable Zone (NVZ).



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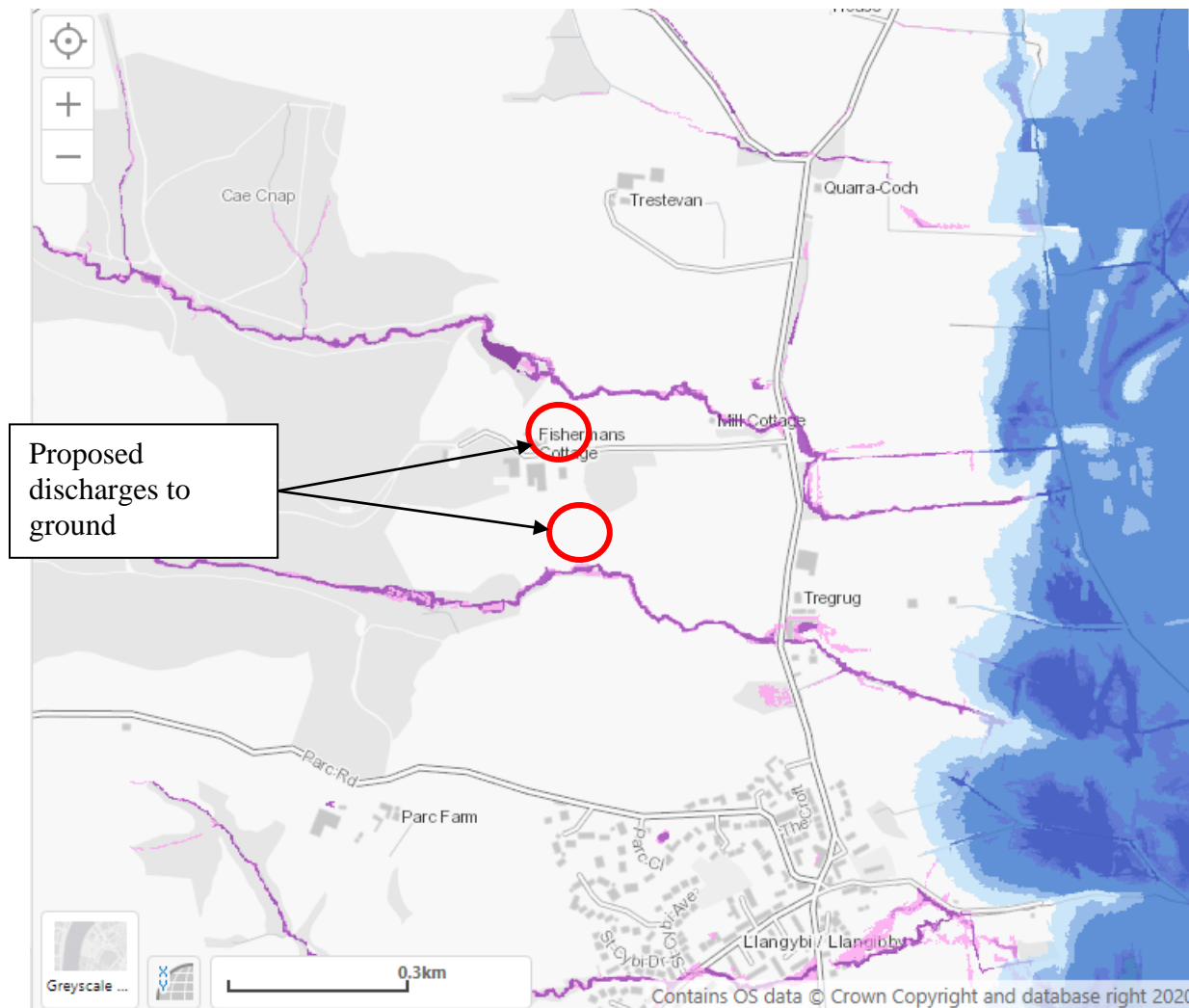


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As can be seen below, neither the fluvial nor surface water flooding affects the drainage field locations. The topography prevents fluvial flooding and surface water flooding of the site.



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Conclusion:

As demonstrated by this report, we can confirm that the local ground water in the drainage field locations is more than 2m below ground level. Therefore, in line with BS.6297 and Natural Resources Wales guidelines, it is highly unlikely that the discharge of secondary treated effluent will have an adverse effect on the local ground water.

In addition, this report demonstrates that there are no Designations or Special Protection Zones near to the drainage field locations.

As demonstrated by the recent percolation tests, the Vp for the soils in the test area was found to be 71 seconds/mm.

BS.6297 and Building Regulations Part H specifies that the Vp must be between 12 and 100. As such, we can see that the Vp for the tested area is sufficient.

In conclusion, the evidence contained within this report highlights that there is no ground water within 2m of the local ground level. As such there is at least 1m of unsaturated zone. In addition, there is no evidence to suggest that the local ground water is vulnerable.

Noting this evidence, it is highly unlikely that the drainage fields will have an adverse effect on the local ground water.



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