[redacted]

Sent: 19 July 2024 11:54
To: Planning
Subject: FW: 2024-08-08 - 482631 - - Ingfield Manor School, , Five Oaks, West Sussex RH14

[redacted]

Categories: Consultations

Dear Planning at Horsham,

Thank you for consulting with Natural England regarding the following consultation(s).

The proposed development(s)s fall within the Sussex North Water Supply Zone; As set out in Natural England's Advice Note regarding Water Neutrality within the Sussex North Water Supply Zone, the existing water supply in the Sussex North Water Supply Zone cannot be ruled out as contributing to the declines in wildlife within internationally protected sites in the Arun Valley SPA, SAC and Ramsar site. Achieving water neutrality is recognised as a suitable method to rule out potential adverse effects on the integrity of these sites arising from development.

Considering the supporting information provided by the applicant(s) and your authority's Habitats Regulation Assessment (HRA) our advice is as follows.

Our ref	LPA ref	Planning Consultation and Location	Natural England's advice
482631	DC/23/2280	**Planning Consultation**: - HRA/AA & WATER STATEMENT - Erect prefabricated, single-storey building to provide 2No. classrooms (F1), with associated works - **Location**: Ingfield Manor School, Ingfield Manor Drive, Five Oaks, West Sussex RH14 9AX	We concur with the conclusion of your authority's HRA appropriate assessment insofar that adverse effects on the integrity of the Arun Valley Designated sites cannot be ruled out, as such: Further information is required to determine the significance of impacts on designated sites and the scope for mitigation, chiefly: • That the issues highlighted in the HRA Re:missing and incorrect evidence for water neutrality must be addressed.

Further general advice on the protected species and other natural environment issues is provided in the attached Annex A.

If you have any queries relating to this advice please let us know.

Yours sincerely,

Connor Bush

From: planning@horsham.gov.uk <planning@horsham.gov.uk>
Sent: Thursday, July 18, 2024 9:00 AM
[redacted]
Subject: Planning Application Water Neutrality Consultation - DC/23/2280

Please see the attached consultation letter regarding Water Neutrality from Horsham District Council
Re:DC/23/2280

[redacted]

TECHNICAL NOTE

Project:	TE1609 New Classroom – Ingfield Manor School, Five Oaks
Client:	Ingfield Manor School
Date:	01/02/24 **(Revision 2 11/07/24)**
[redacted]	[redacted]
Title:	Water Neutrality Statement

Introduction

1. This Technical Note forms the Water Neutrality Statement prepared for a planning application for a new classroom at Ingfield Manor and in response to the Validation Letter from Horsham District Council Planning Department of 18th December 2023 in which it was stated:

    1. *Please provide a Water Neutrality Statement to support this application. Details of what is required can be found on the Horsham District Council website.*

2. It is our understanding that as the site is located within the Sussex North Water Supply Zone, and as an application that will create demand, a Water Neutrality Statement that sets out the existing and proposed consumption figures for the scheme and how water neutrality can be achieved is required.

Background

3. There are no changes proposed to the school as part of this application other than the installation of the new modular classroom to replace a demolished building.

4. The planning application for the site is to consist of a new modular class room which is located within the central area of the school (see Figure 1). This replaces an existing single storey building which has been demolished. The modular classroom was fabricated off-site and transport to the school for installation. The new classroom will provide additional capacity at the school for those students that are on the Woodview Pathway. This provides provision for children with social and communication special educational needs. The provision is currently for year 7 but the new classroom will also offer provision for year 8.

5. An elevation of the new classroom is shown in Figure 2 and a plan view in Figure 3.

Callidus Transport & Engineering Ltd 3 Princes Street, Bath, BA1 1HL
[redacted] **E** info@callidusgroup.co.uk **W** www.callidusgroup.co.uk

REGISTERED IN ENGLAND & WALES NO. 6719513



Figure 1: Location of new classroom

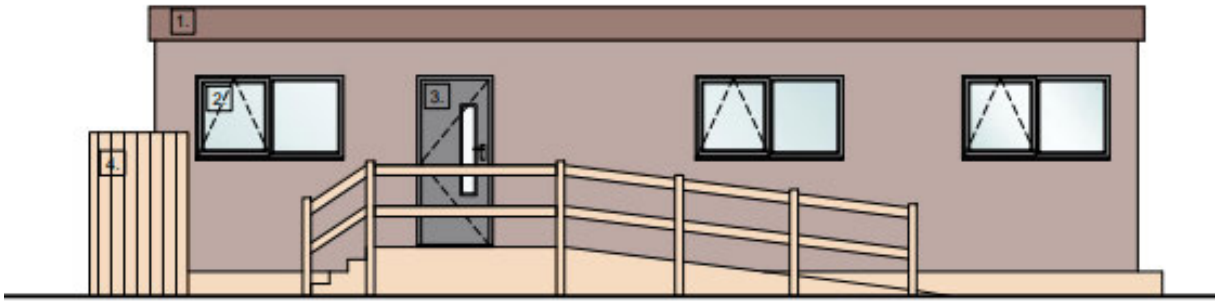

Figure 2: Image of proposed modular classroom

6. In plan view, the classroom layout shown in Figure 3 has been annotated to show those parts of the development that will consume water. These are two toilets and two wash basins.

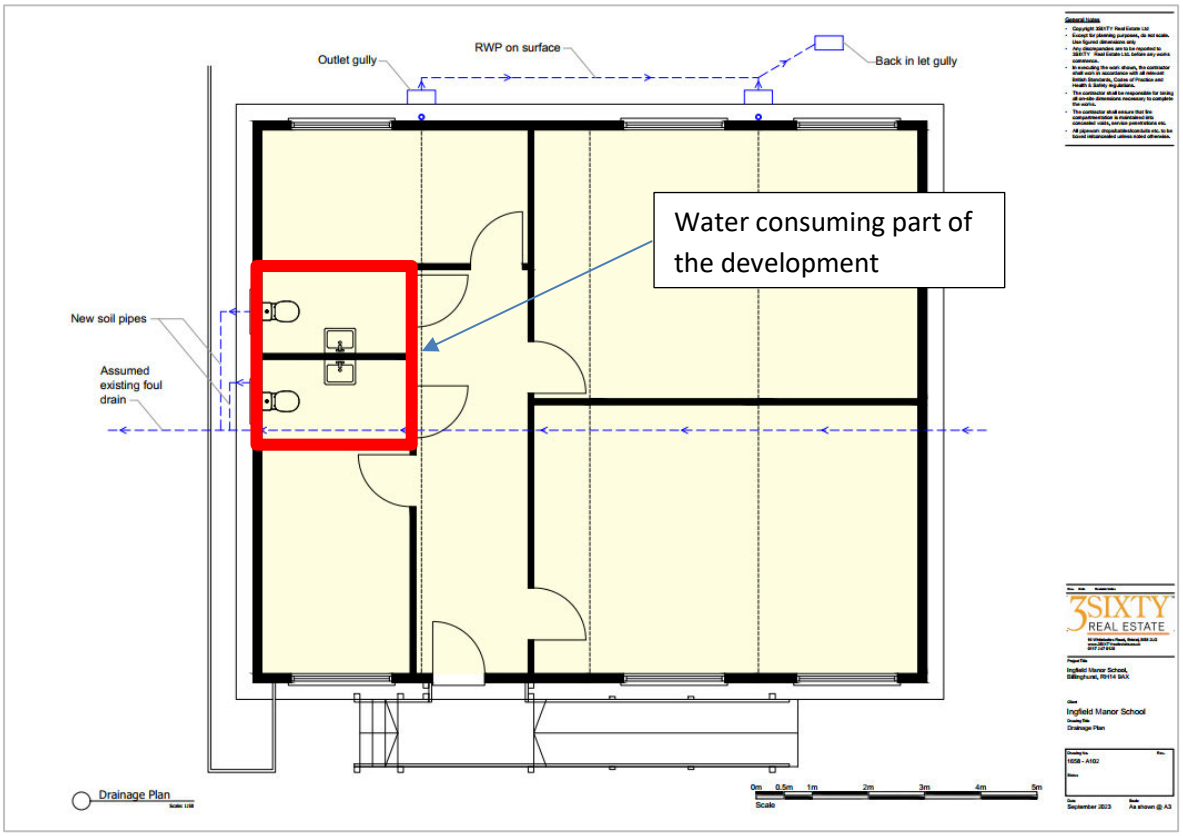

Figure 3: Classroom – plan view (source: 3Sixty Real Estate)

7. The difference between the current use and the proposed use is shown in Table 1. This shows that the proposed classroom represents a small increase in gross floor area (GFA) at the school overall.

Existing GFA (demolished)	Proposed GFA (modular)	Net Difference
Approx. 60sqm	120sqm	+60sqm

Table 1: Summary of GFA for existing and proposed use

Baseline Calculations

8. The approach to understanding water consumption is twofold; firstly the water bills have been obtained for the school from their utility service provider for the most recent 7 months from June to December 2023. Secondly, the BREEAM WAT 1 Water Efficiency Tool has been used and applied to the classroom description.

9. For the water bills that have been obtained, the usage has been recorded and is summarised in Table 2 below. Copies of the water bills can be provided on request.

10. The table under column 'Potable Water>Volume' shows the usage of water for the entire school between June and December. The new classroom did not come into operation until the Autumn term which began in September. So the water consumption for the new classroom is included in the water bills from September onwards. Furthermore, there were periods when the school was on holiday, the dates of which were:

- Spring term – ends 25th July
- Autumn Term:
    - 6th September to 23rd October
    - 27th October to 15th December

Date (2023)	Potable Water				Foul Water			
	Start Reading	End Reading	Volume(m^3)	Average daily (m^3)	Start Reading	End Reading	Volume(m^3)	Average daily (m^3)
June	79907	80268	361	12.03	79907	80268	361	12.03
July	80268	80641	373	12.03	80268	80641	373	12.03
August	80641	81014	373	12.03	80641	81014	373	12.03
September	81014	81375	361	12.03	81014	81375	361	12.03
October	81375	81748	373	12.03	81375	81748	373	12.03
November	81748	82109	361	12.03	81748	82109	361	12.03
December	82109	82482	373	12.03	82109	82482	373	12.03

Table 2: Summary of water bill usage records

11. It can be seen from the table that the volume of potable water used (in cubic metres) fluctuates between 361m^3 and 373m^3 (this is also shown graphically in Figure 4). Other than this there is no discernible difference between term time and school holidays. Also there is no discernible difference from when the new classroom was brought into operation in September.

12. The average daily volume of water usage is a fixed amount estimated by the utility service provider and is given at 12.03m^3 per day.

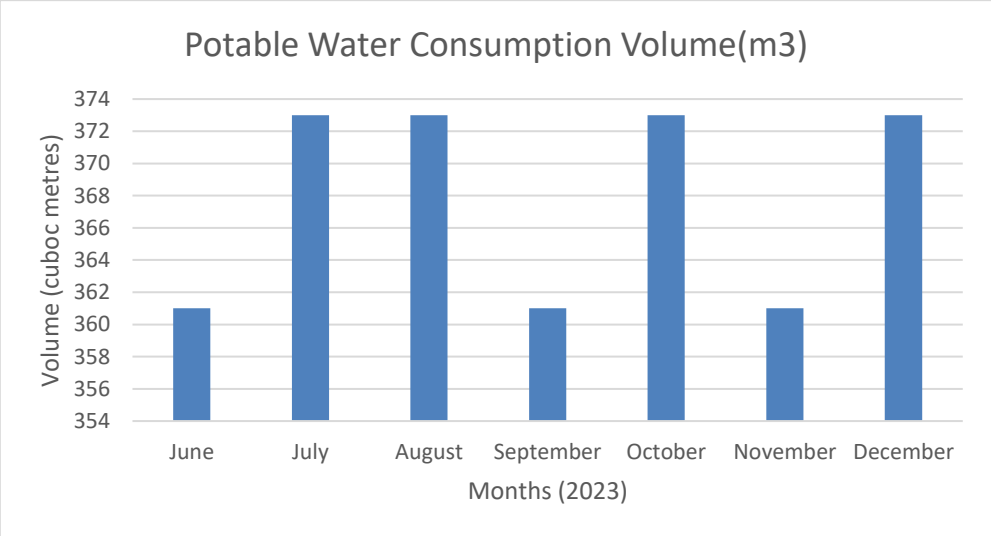

Figure 4: Ingfield Manor School monthly water consumption (source: WaterPlus Utility Provider)

13. Using the BREEAM Wat 1 Water Efficiency tool (see Appendix A), the predicted water usage has been calculated using the building type as 'Education' and accepting the default values for building occupancy, days and hours of operation. The tool forecasts that for the two toilets and wash basins, that 15.96 litres/ person/ day will be consumed, the equivalent

of 0.016m³ per person/ day. For a class of 25, this would represent 0.4m³/ day. Using the average daily usage provide by the service provider of 12.03 m³/ day, this represents 3% of the school's overall usage per day.

14. Overall, the water usage associated with the additional classroom is very small and likely to be less than the daily variation in water usage by the school as a whole. Therefore, the impact on the Sussex North Water Supply Zone would be considered unmeasurable.

Water Reduction Measures

15. The new classroom uses modern toilet and basin appliances. The toilets are type approved by the Water Regulations Approval Scheme (WRAS) to BS EN997, Class 2. This relates to the integral water trap and the cistern flushing volume.

16. The details of the package for all the washroom components are provided in Appendix B.

17. As a modular unit that was construction off-site, the classroom was not manufactured with any specific water re-use systems such as grey water harvesting. However, its relatively low usage combined with modern washroom components means that it will have an imperceptible impact on the water supply.

Rainwater reclamation

18. Rainwater reclamation involves collecting and storing rainwater from roofs and other catchment areas for various applications, including toilet flushing and irrigation. System types include indirectly pumped, directly pumped and gravity (source: National Building Specification)

19. Benefits include:

    - Reduces consumption of treated mains water.
    - Can help reduce surface water run-off and risk of flooding.

20. Limitations include:

    - Requires water filtration and treatment.
    - Roof materials may affect the quality of harvested water.
    - Regular cleaning and removal of debris is required to reduce the risk of water contamination.
    - A balance between water collection and usage is required.
    - Providing sufficient rainwater storage capacity may present a problem; large storage tanks may be required.

- Installation and ongoing costs may not justify savings.

21. Recognising the above benefits and limitations, it is proposed that a couple of water butts are installed (similar to that shown in Figure 5) on the rainwater pipe (RWPs) to the low rise building neighbouring the new classroom. These will provide grey water collection that can be used for irrigation as an alternative to using hosepipes connected to the potable water supply. This will help to offset water usage.



Figure 5: Example water butt (source: Water Butts Direct)

Cistern Displacement Device

22. In addition to the above, it is proposed that cistern displacement devices are placed in other toilets around the school. Examples include small bags filled with crystals that expand to reduce water usage by up to 1.2l for every large flush. These could be used at selected toilet blocks around the school, perhaps were current usage is very high and regular low volume flushes will still maintain the self-cleansing requirements of the system.

Conclusion

23. This Technical Note represents the Water Neutrality Report submitted in support of the planning application for a new modular classroom at Ingfield Manor School. The classroom replaces a previous building that was demolished, and represents a net increase in floor area of 60sqm.

24. Water bills obtained from the school's utility service provider show that the consumption of water did not change following the occupation of the new classroom thereby indicating that the new classroom represents only a fraction of the daily water usage of the school. As such, the usage is likely to be less than that of the daily variation in water usage for the whole of the school.

25. The BREEAM Wat 1 Water Efficiency tool has been used to forecast daily water usage for

the classroom. The forecast results indicate that the classroom represents approximately 3% of the usage of the rest of the school.

26. Whilst no specific water re-use systems were included with the new classroom, which is modular and was fabricated off site, the washrooms do use the latest components that are efficient and designed to modern manufacturing standards.

27. Overall, the water usage of the new classroom is very low and represents only a small fraction of the schools overall water usage. As a result, its impact in the Sussex North Water Supply Zone will be negligible.

Appendix A

BREEAM Wat 1 Tool Results

BREEAM 2018 Wat 01 Water consumption: Water efficiency calculator for new non domestic education buildings

BREEAM UK
Delivered by bre

Buildtne type	Description of buildtne type	Default buildtne occupancy	Default annual days/operation	Default daily hours of operation
Education - secondary school or academy	Non-residential secondary schools, academies and all-age range schools	32	195	10

Main buildtne activity areas	Description of activity area	Activity area present in buildtne?	Net Floor Area (m²)
Education - Classroom areas	Include basic classroom areas only. Exclude halls, specialist practical classrooms, i.e. ICT, and learning resource/library areas.	Yes	60
Education - Staff office and administration areas	Cellular or open plan office space, including staff rooms and staff kitchen where present/adjacent and reception areas (including library reception desk areas if present). Excludes meeting rooms, visitor waiting or circulation areas and other such spaces not permanently occupied.	No	
Education - Common room	Student common room.	No	
Education - dining area	Seated dining areas that accompany a permanently staffed kitchen preparing food for consumption on the premises (excludes small un-staffed kitchen's used by staff to re-heat food, make tea etc.)	No	
Education - Changing facilities with showers	Changing facility with showers to be used by pupils	No	

Water consumption - building microcomponent

WC component - all activity areas	units	Specification	Usage/person/day	Usage factor	Consumption (l)/person/day)
WC - male (no urinals installed)	Effective flush volume (Litres)	6.00	2.13	1.00	6.39
WC - female	Effective flush volume (Litres)	6.00	2.10	1.00	6.30

Urinal component - all activity areas	units	Specification	No. of cisterns	Flushtne frequency (flushes/hour)	Consumption (l)/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (l)/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (l)/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (l)/person/day)
Tap components (non-urinal fixtures) - all activity areas					
Wash hand basin taps	Flow rate (litres/min)	3.60	2.13	0.25	1.30
Shower use	Flow rate (litres/min)		0.002	5.60	0.00
Fixed use - vessel filling	Litres/person/day	-	-	-	1.97
Tap components (cleaning) - staff kitchenette					
Kitchen taps - kitchenette	Flow rate (litres/min)		0.0600	0.67	0.00
Dishwasher	Litres/cycle		0.0026	1.00	0.00
Tap components (cleaning and food preparation) - school canteen food preparation area					
Fixed use - food preparation		-		-	0.00
Fixed use - kitchen cleaning		-		-	0.00

	Microcomponent consumption (l)/person/day)
Total	15.96

Non potable water yield - greywater system

Has, or will, the greywater system be specified and installed in compliance with BSI8525-1:2010 Greywater Systems - Part 1 Code of Practice	No

Greywater source (buildtne components)		Greywater Collected	Proportion of components collected from (%)	Greywater yield (l/person/day)
Greywater source (other components)	Typical greywater yield (litres)	Frequency of yield (days)	Greywater yield (litres/day)	Greywater yield (l/person/day)

	Greywater yield (l/person/day)
Total	0.00

Minimum requirements according to EU taxonomy for sustainable finance

Do all the installed wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min?	Yes
Do all the installed showers have a maximum water flow of 8 litres/min?	System not specified
Do all WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres?	Yes
Do all urinals use a maximum of 2 litres/bowl/hour and flushing urinals have a maximum full flush volume of 1 litre?	System not specified
Is all the EU taxonomy requirements for sanitary equipment met?	Yes

Non potable water yield - rainwater system

Has, or will, the rainwater system be specified and installed in compliance with BS EN 16941-1:2018 Rainwater Harvesting Systems - Code of practice	System not specified
How has the storage capacity for the proposed system been calculated?	

Rainwater yield if basic approach:

Collection area (m2)	Rainfall (average mm/yr)	Hydraulic filter efficiency (%)	Yield co-efficient (%)	Annual rainwater yield (Litres)	Rainwater yield (l/person/day)

Rainwater yield if detailed:

Daily rainfall collection (litres)	Rainwater yield (l/person/day)

Non potable water demand - building components

	Greywater and/or rainwater yield (l/person/day)
Total	

Component	Greywater and/or rainwater utilised for component	Proportion of components using greywater and/or rainwater yield (%)	Maximum permissible demand (l/person/day)

	Demand met by yield (l/person/day)
Total	

Other permissible components

	Maximum permissible demand (l/day)

	Demand met by yield (l/person/day)
Total	

	Greywater and/or rainwater demand met by yield (l/person/day)
Total	

Water consumption calculation results

	Litres/person/day	m³/person/yr
Water consumption - modelled baseline performance benchmark (excludes fixed uses)	**16.30**	**3.18**
Microcomponent Water consumption - modelled performance (excludes fixed uses)	**13.99**	**2.73**
Modelled water demand met via greywater and rainwater sources	**0.00**	**0.00**
If greywater/rainwater systems specified has the minimum % efficiency improvement for component specifications been met	**System not specified**	
Net modelled water consumption (excludes fixed uses)	**13.99**	**2.73**
Percentage improvement	**14.15%**	
Total Wat 01 BREEAM credits achieved, before checking minimum requirements according to EU taxonomy for sustainable finance	**1 credit**	
Total Wat 01 BREEAM credits achieved	**1 credit**	
Total Wat 01 BREEAM Exemplary credits achieved	**Exemplary level not achieved**	
Key performance indicator - use of freshwater resource (excludes fixed uses)	**15.96**	**3.11**

Appendix B

Classroom Water Components







Compare | Compare variants

I.Care DOCM L/L Pack - WC Pack

Verified by manufacturer 3 months ago

1900R.L.L.B - i.Care DOCM L/L Lever Handle with Rimless WC Pan (Blue rail & Seat)

Variant:

1900R.L.L.B - i.Care...

Doc M WC pack with cistern and WC pan.

Jump to:

Specification data

BIM objects

Add to spec

Download BIM

NBS BIM

+44020 3697 1787

Website

Contact manufacturer

Welcome to NBS Source, the new home of the NBS National BIM Library!

Got it

WC seats	Polypropylene, blue.
Washbasins	-
Material	Ceramic.
Handrails	Steel, blue.
Water supply fittings	Lever-operated thermostatic mixer tap.
Water supply temperature (maximum)	90°C.
Integral accessories	1902.00 - Sink. 1924.B - Toilet roll holder. 1923.B.800 - Arm rest. 1918 - Tap. 1919/ 1920 - Trap and waste.
Automation	Manual, lever handle.
Cistern capacity	6 L.

BIM objects

NBS BIM object standard

This BIM object has been authored to meet the requirements of the NBS BIM object standard.

Find out more about the NBS BIM object standard.

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Cistern.

Width	365 mm

NBS Source UK Search NBS Source... All Sign in

Variant: 1900R.L.L.B - i.Care DOCM L/L Lever Handle with Rimless ...

Height	468 mm WC Pan. 367 mm Cistern.
Uniclass	Pr_40_20_60_02 Accessible WC equipment packages Primary
CAWS	N13/12 Unisex accessible WC equipment packages (Document M) N13/311 Unisex accessible WC equipment packages (Document M)

Specification data - Accessible WC equipment packages

Standards	To BS EN 997, Class 2.
Type approval certificate	Water Regulations Approval Scheme (WRAS)-approved.
Form	Complete accessible WC Doc M package and fittings.
Arrangement	Back-to-wall pack.
Material and colour	-
WC pans	Ceramic, white.

Welcome to NBS Source, the new home of the NBS National BIM Library! Got it

Annex A – Additional advice

Natural England offers the following additional advice:

Landscape
Paragraph 174 of the National Planning Policy Framework (NPPF) highlights the need to protect and enhance valued landscapes through the planning system. This application may present opportunities to protect and enhance locally valued landscapes, including any local landscape designations. You may want to consider whether any local landscape features or characteristics (such as ponds, woodland, or dry-stone walls) could be incorporated into the development to respond to and enhance local landscape character and distinctiveness, in line with any local landscape character assessments. Where the impacts of development are likely to be significant, a Landscape & Visual Impact Assessment should be provided with the proposal to inform decision making. We refer you to the Landscape Institute Guidelines for Landscape and Visual Impact Assessment for further guidance.

Best and most versatile agricultural land and soils
Local planning authorities are responsible for ensuring that they have sufficient detailed agricultural land classification (ALC) information to apply NPPF policies (Paragraphs 174 and 175). This is the case regardless of whether the proposed development is sufficiently large to consult Natural England. Further information is contained in GOV.UK guidance Agricultural Land Classification information is available on the Magic website on the Data.Gov.uk website. If you consider the proposal has significant implications for further loss of 'best and most versatile' agricultural land, we would be pleased to discuss the matter further.

Guidance on soil protection is available in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, and we recommend its use in the design and construction of development, including any planning conditions. For mineral working and landfilling separate guidance on soil protection for site restoration and aftercare is available on Gov.uk website. Detailed guidance on soil handling for mineral sites is contained in the Institute of Quarrying *Good Practice Guide for Handling Soils in Mineral Workings*.

Should the development proceed, we advise that the developer uses an appropriately experienced soil specialist to advise on, and supervise soil handling, including identifying when soils are dry enough to be handled and how to make the best use of soils on site.

Protected Species
Natural England has produced standing advice[1] to help planning authorities understand the impact of particular developments on protected species. We advise you to refer to this advice. Natural England will only provide bespoke advice on protected species where they form part of a Site of Special Scientific Interest or in exceptional circumstances.

Local sites and priority habitats and species
You should consider the impacts of the proposed development on any local wildlife or geodiversity sites, in line with paragraphs 175 and179 of the NPPF and any relevant development plan policy. There may also be opportunities to enhance local sites and improve their connectivity. Natural England does not hold locally specific information on local sites and recommends further information is obtained from appropriate bodies such as the local records centre, wildlife trust, geoconservation groups or recording societies.

Priority habitats and Species are of particular importance for nature conservation and are included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. List of priority habitats and species can be found on Gov.uk.
Natural England does not routinely hold species data, such data should be collected when impacts on priority habitats or species are considered likely. Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land, further information including links to the open mosaic habitats inventory can be found here.

[1] https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals

Annex A – Additional advice

Ancient woodland, ancient and veteran trees
You should consider any impacts on ancient woodland and ancient and veteran trees in line with paragraph 180 of the NPPF. Natural England maintains the Ancient Woodland Inventory which can help identify ancient woodland. Natural England and the Forestry Commission have produced standing advice for planning authorities in relation to ancient woodland and ancient and veteran trees. It should be taken into account by planning authorities when determining relevant planning applications. Natural England will only provide bespoke advice on ancient woodland, ancient and veteran trees where they form part of a Site of Special Scientific Interest or in exceptional circumstances.

Environmental gains
Development should provide net gains for biodiversity in line with the NPPF paragraphs 174(d), 179 and 180. Development also provides opportunities to secure wider environmental gains, as outlined in the NPPF (paragraphs 8, 73, 104, 120,174, 175 and 180). We advise you to follow the mitigation hierarchy as set out in paragraph 180 of the NPPF and firstly consider what existing environmental features on and around the site can be retained or enhanced or what new features could be incorporated into the development proposal. Where onsite measures are not possible, you should consider off site measures. Opportunities for enhancement might include:

- Restoring a neglected hedgerow.
- Creating a new pond as an attractive feature on the site.
- Planting trees characteristic to the local area to make a positive contribution to the local landscape.
- Using native plants in landscaping schemes for better nectar and seed sources for bees and birds.
- Incorporating swift boxes or bat boxes into the design of new buildings.
- Designing lighting to encourage wildlife.
- Adding a green roof to new buildings.

Natural England's Biodiversity Metric 4.0 may be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project. For small development sites the Small Sites Metric may be used. This is a simplified version of Biodiversity Metric 4.0 and is designed for use where certain criteria are met.

Natural England's Environmental Benefits from Nature tool may be used to identify opportunities to enhance wider benefits from nature and to avoid and minimise any negative impacts. It is designed to work alongside Biodiversity Metric 4.0 and is available as a beta test version.

Green Infrastructure
Natural England's Green Infrastructure Framework provides evidence-based advice and tools on how to design, deliver and manage green infrastructure (GI) . GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all. GI provision should enhance ecological networks, support ecosystems services and connect as a living network at local, regional and national scales.

Development should be designed to meet the 15 Green Infrastructure Principles. The Green Infrastructure Standards can be used to inform the quality, quantity and type of green infrastructure to be provided. Major development should have a GI plan including a long-term delivery and management plan. Relevant aspects of local authority green infrastructure strategies should be delivered where appropriate.

GI mapping resources are available here and here. These can be used to help assess deficiencies in greenspace provision and identify priority locations for new GI provision.

Access and Recreation
Natural England encourages any proposal to incorporate measures to help improve people's access to the natural environment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways should be considered. Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.

Annex A – Additional advice

Rights of Way, Access land, Coastal access and National Trails
Paragraphs 100 and 174 of the NPPF highlight the important of public rights of way and access. Development should consider potential impacts on access land, common land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the any nearby National Trails. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts.

Biodiversity duty
Your authority has a duty to have regard to conserving biodiversity as part of your decision making. Conserving biodiversity can also include restoration or enhancement to a population or habitat. Further information is available here.