

31<sup>st</sup> July 2024

Our ref: 0807241050MH

Your ref: PAN-024069 (EPR/AB3697CN/V004)



Natural Resources Wales c/o William Wallace  
Horizon House  
Deanery Road  
Bristol Avon  
BS1 5AH

Natural England  
Worcester County Hall  
Spetchley Road  
Worcester  
WR5 2NP  
T: 0208 026 1280

Dear Natural Resources Wales c/o William Wallace

**Advice of Natural England given under section 28I of the Wildlife and Countryside Act 1981 (as amended)**

**Application Reference No:** PAN-024069 (EPR/AB3697CN/V004)

**River Teme SSSI**

Thank you for your letter of notice of 2<sup>nd</sup> of July 2024 regarding the proposed authorisation by your Authority of operations that may damage any of the features by reason of which a Site of Special Scientific Interest (SSSI) is of special interest.

The application site lies within or may affect the River Teme Site of Special Scientific Interest (SSSI). Notified for [2000102 \(naturalengland.org.uk\)](https://2000102.naturalengland.org.uk) This reply therefore comprises our statutory consultation response under the provisions of Section 28I of the Wildlife and Countryside Act 1981 (as amended and substituted).

As a section 28G authority defined in the 1981 Wildlife and Countryside Act (as amended), your Authority has a duty to *'take reasonable steps, consistent with the proper exercise of the authority's functions to further conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest'*.

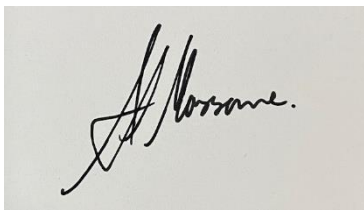
**Natural England's advice on the proposals**

Natural England is satisfied that the application, provided it is carried out in strict accordance with the proposals as submitted, is not likely to adversely affect the features of special interest for which the SSSI is notified.

We would also draw your attention to your duty under section 28G of the Wildlife and Countryside Act 1981 (as inserted by the Countryside and Rights of Way Act 2000), to take reasonable steps, consistent with the proper exercise of your functions, to further the conservation and enhancement of the SSSI.

Should you have any queries regarding the content of this letter, please do not hesitate to contact [west.midlandsenquiries@naturalengland.org.uk](mailto:west.midlandsenquiries@naturalengland.org.uk)

Yours sincerely

A handwritten signature in black ink, appearing to read 'A Massawe', on a light grey background.

Andrea Massawe  
Officer-Area Teams  
Area Team - West Midlands  
Tel: **02080261334**  
Email: [andrea.massawe@naturalengland.org.uk](mailto:andrea.massawe@naturalengland.org.uk)

CRoW Appendix 4 (140\_10\_SD02)



**Cyfoeth  
Naturiol  
Cymru  
Natural  
Resources  
Wales**

## CRoW Act 2000: Natural Resources Wales application for permission - Formal Notice

Natural Resources Wales Formal Notice.

Requirements of Section 28I of the Wildlife & Countryside Act 1981 as amended by the Countryside and Rights of Way Act (CRoW) 2000.

Duty in relation to granting any consent, licence or permit for activities likely to damage Sites of Special Scientific Interest (SSSI).

Guide to filling in this form for Natural Resources Wales staff:

To be completed by Permitting Officers for any applications for a permission which the Natural Resources Wales has considered under S28G duties to protect and enhance SSSIs. This applies to all proposed permissions within a SSSI, and to operations outside the SSSI boundary which are likely to damage its special features.

Refer to OI 140\_10 'Applying the Countryside and Rights of Way (CRoW) Act 2000 to applications for permits with potential for impact on Sites of Special Scientific Interest (SSSI)', including the flowchart in Appendix 2.

**Ensure you have completed all sections.**

<b>Natural Resources Wales area/region/NPS hub:</b>	Natural England NRW - for information only
<b>Name of SSSI:</b>	River Teme Brampton Bryan Park SITE REF: 15WNT
<b>Type of permission:</b>	Environmental Permit
<b>Date for Natural Resources Wales permit determination:</b>	16/08/2024
<b>Predicted 28 day date for response from NRW conservation/ecology (under S28 I(4)):</b>	31/07/2024
<b>Natural Resources Wales reference no:</b>	PAN-024069 (EPR/AB3697CN/V004)
<b>National grid reference:</b>	SO 34383 72493 (installation)
<b>Description of proposal:</b>	<p>Radnor Hills Mineral Water Company Limited have applied for a variation to allow the addition of a ferric chloride dosing system at their effluent treatment plant. The purpose of the ferric chloride dosing system is to reduce the phosphate through precipitation of the phosphate as a result of the reaction between with iron followed by the removal of the solid precipitate using an ultrafiltration membrane. The sludge/precipitate is disposed of using existing sludge disposal methods. This method of removing phosphorous is a recognised best available technique (BAT) reference document in the BAT conclusions for food, drink and milk industries (<a href="#">Best Available Techniques (BAT) Reference Document for the Food, Drink and Milk Industries (europa.eu)</a> Section 2.3.6.4.2 Precipitation</p> <p>The proposal would result in discharge of iron, chloride and lead (impurity in the ferric chloride) into the River Teme.</p> <p>As the variation could lead to a discharge of chloride to the water course as a result of the ferric chloride the applicant are required by BAT to monitor for chloride emission but there would be no ELV set.</p>

<b>Is the proposed activity within (wholly or partially) the SSSI boundary?</b>	Yes – Discharge point is at the SSSI River Teme
<b>Has there been any pre-application discussion or correspondence with NRW conservation/ecology</b>	No
<p><b>What aspect(s) of the proposed permission may damage the features which are of special interest for the SSSI?</b></p> <p>The following 'Operations Requiring Consent' (or other activities associated with the permission) that may cause damage) are relevant to the proposed permission.</p> <p><b>River Teme</b></p> <p>Information gathered from the following source: <a href="https://naturalengland.org.uk">SSSI detail (naturalengland.org.uk)</a> and <a href="#">2000102 (naturalengland.org.uk)</a></p> <p>Based on the operations that may cause damage (<a href="#">2000102.pdf (naturalengland.org.uk)</a>) the closed category would be:</p> <p>7. Dumping, spreading or discharge of any material</p> <p>The addition of ferric chloride will result in the potential increase discharge of iron and chloride from the site. In addition the ferric chloride solution may metal contain impurities . The applicant has stated (and shown) that most of these metal impurities are below the threshold of detection and would be insignificant, however lead would be at concentration high enough to be detected and as such the applicant has included this in their H1 assessment for the water discharge.</p> <p>The site is designated for the following features (source Natural England: <a href="#">Site feature condition (naturalengland.org.uk)</a> )</p> <ul style="list-style-type: none"> <li>• Invert. assemblage W114 stream &amp; river marginl</li> <li>• Invert. assemblage W122 riparian sand</li> <li>• Twaite shad, <i>Alosa fallax</i></li> <li>• Rivers and Streams</li> <li>• River supporting habitat</li> <li>• Population of Schedule 5 mollusc - <i>Margaritifera margaritifera</i>, Freshwater Pearl Mussel</li> <li>• Otter, <i>Lutra lutra</i></li> <li>• White-clawed (or Atlantic stream) crayfish, <i>Austropotamobius pallipes</i></li> </ul> <p>The following SSSI features listed in the citation and mechanisms of impact have been considered to assess the likelihood of damage:</p> <p>Flora: The site has variety of flora species are part the site's designation and could be impacted by the proposed changes. These include moss <i>Amblystegium tenax</i>, <i>Fontinalis squamosa</i>, iverwort <i>Marchantia polymorpha</i>, water crowfoots (<i>Ranunculus fluitans</i> and <i>R. penicillatus v psuedofluitans</i>) red alga <i>Hildenbrandia rivular</i> and reed canary grass, <i>Phalaris arundinacea</i> among others.</p> <p>Fish: The designated site following designated fish species could be impacted by the proposed discharge. These include Twaite shad <i>Alosa fallax</i>, Salmon <i>Salmar salmo</i>, Grayling <i>Thymallus thymallus</i>, Brook lamprey <i>Lampetra planeri</i> among others.</p> <p>Invertebrates: The site contains a verity of invertebrates including White-clawed (or Atlantic stream) crayfish, <i>Austropotamobius pallipes</i>, freshwater pearl mussel <i>Margaritifera margaritifera</i></p> <p>These could potentially be impacted by the increase in concentration of pollutants (iron, chloride and lead) into the watercourse from the proposal.</p>	

Mammals- otter *Lutra lutra* (reported strong between Knighton and Ludow. The discharge within this area) and Mink *Mustela vison*

Breeding Birds: the site designation overview also references a few breeding birds including kingfishers *Alcedo atthis* and sand martins *Riparia riparia*, and common sandpipers *Tringa hypoleucos*. While the bird species would not be directly impact there could be a potential indirect impact from impact mechanism to other features of the SSSI that could affect these species

#### Mechanism of impact

The main mechanism of damage is through toxic contamination from the discharge of iron and chloride (from the ferric chloride). The applicant also assessed for lead as this may be present (as impurities) within the discharge.

As part of the application the applicant has supplied a H1 assessment for substances that will be introduced into the watercourse as a result of the variation. The H1 tool has been done in line with the H1 guidance [Surface water pollution risk assessment for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit)

The pollutants, iron (dissolved) chloride and lead were assessed against the annual average environmental quality standard (EQS) and absolute maximum. The applicant had taken a conservative approach and used concentrations higher concentrations of lead, iron and chloride in the H1 assessment for both annual average and absolute maximum than would actually be present in the water discharge.

At stage 1 all of substances were more than 10% of the environment quality standard for annual average and as such did not screen out as insignificant but at stage 2 (assessment against the river flow).

At stage 2 the H1 assessment which takes into account dilution from river flow, the substances (lead, iron and chloride) had screened out with the process contribution being less than 4% of the environmental quality standard. As the substances screen out as not significant at stage 2 of the H1 assessment for surface water discharge (freshwater) it can be concluded that under worst case scenario, the emissions of substances would not pose a risk of impact to the features of the SSSI.

While there are no changes to the limits of any other substances, the purpose of using ferric chloride is to reduce the amount of phosphorus being discharge into the watercourse from the installation.

#### **Brampton Bryan Park**

No impact pathway – The only changes to the site is the addition of ferric chloride to the effluent treatment plant. The SSSI is not hydrologically connected to the discharge point therefore there is no impact pathway from the proposed variation that would cause any risk to the features this SSSI.

#### **Decision**

i) The proposed permission is **not likely to damage** any of the flora, fauna or geological or physiological features which are of special interest.

#### **Brampton Bryan Park**

No pathway to damage features.

#### **River Teme**

No mechanism of impact - the H1 screening tool showed that under worst case scenario using more conservative values (higher amount of lead, iron and chloride), the concentration of iron, chlorine and lead screened out as not significant at stage 2 and therefore the substances of iron, lead and chloride and would not be in high enough concentrations to cause any impact to the features of the watercourse.

**Natural Resources Wales is minded to:  
Issue the permission**

<b>Name and job title of Natural Resources Wales officer:</b>	William Wallace Senior Permitting Officer, Installation and RSR permitting
<b>Date form sent to NRW conservation/ecology</b>	02/07/2024
For Natural Resources Wales use only, once NRW conservation/ecology response received	
<b>NRW conservation/ecology comment on assessment:</b>	<p><i>Please delete as appropriate:</i></p> <p>i) NRW conservation/ecology advise the operation can go ahead</p> <p>ii) NRW conservation/ecology advise the operation can go ahead with conditions</p> <p>iii) NRW conservation/ecology advise against permitting the operation</p> <p>Please ensure that the NRW conservation/ecology response is attached to this Formal Notice.</p>
<b>Name and job title of NRW conservation/ecology officer:</b>	
<b>Date of receipt of NRW conservation/ecology response:</b>	

**From:** Wallace, William  
<[REDACTED]>  
**Sent:** 30 July 2024 10:46  
**To:** Massawe, Andrea  
**Subject:** RE: 0807241050MH-Consultation on SSSI River Teme for permit variation to Radnor Hills installation (PAN-024069, EPR/AB3697CN)

Good Morning Andrea

Thank you for the response

We can wait until Friday but will have to progress with no comments as no concerns if we do not hear anything by that date.

Kind Regards  
William

**From:** Massawe, Andrea <[REDACTED]>  
**Sent:** Tuesday, July 30, 2024 10:36 AM  
**To:** Wallace, William <[REDACTED]>  
**Subject:** RE: 0807241050MH-Consultation on SSSI River Teme for permit variation to Radnor Hills installation (PAN-024069, EPR/AB3697CN)

**Rhybudd:** Deilliodd yr e-bost hwn o'r tu allan i'r sefydliad. Peidiwch â chlicio dolenni, atodiadau agored nac sganio codau QR oni bai eich bod yn cydnabod yr anfonwr ac yn gwybod bod y cynnwys yn ddiogel.

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Good morning, William

Thank you for this, we are currently awaiting specialist input but due to staff leave this has been delayed.

The water team have requested an extension till Friday if possible.

We understand you are under your own deadlines and will try to get you a response earlier.

Kind regards

**Andrea Massawe**  
**Officer**  
**Area Delivery Team - West Midlands**  
**Natural England**  
**Tel: 020 8026 1334**

**Pronouns He/Him**



Natural England, Worcester County Hall, Spletchley Road, Worcester, WR5 2NP  
As an alternative contact you can call 0208 026 1280 to speak to another member of the Area Delivery Team, or contact [west.midlands.enquiries@naturalengland.org.uk](mailto:west.midlands.enquiries@naturalengland.org.uk)

**From:** Wallace, William <[REDACTED]>  
**Sent:** Thursday, July 25, 2024 9:29 AM  
**To:** Massawe, Andrea <[REDACTED]>  
**Subject:** RE: 0807241050MH-Consultation on SSSI River Teme for permit variation to Radnor Hills installation (PAN-024069, EPR/AB3697CN)

You don't often get email from [william.wallace@cyfoethnaturiolcymru.gov.uk](mailto:william.wallace@cyfoethnaturiolcymru.gov.uk). [Learn why this is important](#)

Good Morning Andrea

Thank you for the update.

As far as I am aware if they are issued a variation then they would start as soon as possible (after the issue date) but there are no exact dates. They had performed a trial run back in September but had to apply for a variation to carry it out long term.

The only part which would not be carried out is the volume of ferric chloride solution stored on site. Currently they plan on dosing from a 25 litres vessel but may expand to 1 m<sup>3</sup> intermediate bulk containers (IBCs). We had put a pre-operational condition for them to inform NRW two weeks prior to increase the storage of solution. This should not affect the impact as the H1 assessment took a conservative approach and assumed the worst case and highest possible volumes.

If you need more information please let me know

Kind Regards  
William

**From:** Massawe, Andrea <[REDACTED]>  
**Sent:** Thursday, July 25, 2024 9:00 AM  
**To:** Wallace, William <[REDACTED]>  
**Subject:** 0807241050MH-Consultation on SSSI River Teme for permit variation to Radnor Hills installation (PAN-024069, EPR/AB3697CN)

**Rhybudd:** Deilliodd yr e-bost hwn o'r tu allan i'r sefydliad. Peidiwch â chlicio dolenni, atodiadau agored nac sganio codau QR oni bai eich bod yn cydnabod yr anfonwr ac yn gwybod bod y cynnwys yn ddiogel.

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Good morning,

Thank you for your consultation with NE our water team is currently reviewing it.  
Do you know when they plan to start using the ferric chloride? I may have missed it but I couldn't see any start/end dates

Kind regards

**Andrea Massawe**  
**Officer**