



TECHNICAL NOTE

DATE	25 April 2024	CONFIDENTIALITY	Public
SUBJECT:	Kex Gill S96A NMA Ecological Impacts		
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INTRODUCTION

WSP UK is acting on behalf of North Yorkshire Council (NYC) regarding the submission of a Non-Material Amendment (NMA) to an extant planning permission for the following development (herein referred to as ‘the Project’):

“Application for full planning permission for the construction of a 3.9 km long two-way, single lane (with overtaking lanes) carriageway realignment on the A59 between the west of North Moor Road and Blubberhouses. The realignment is located north of the existing A59 and incorporates modifications to the junctions at North Moor Road, Hall Lane and Church Hill.

The existing road from Bubberhouses to Botham's Farm and Paradise will be downgraded, reduced in width and will function as a private access and public right of way for part of the length; the existing road from Paradise to where Footpath 15.14/4/1 (UUR U8057/9/30) joins the existing A59 will be removed and returned to moorland habitat as part of the Special Areas of Conservation and Special Protection Areas.

Associated works include the diversion of Hall Beck watercourse, landscaping, environmental mitigation, new culverts, 100m long retaining wall, SuDs drainage including two attenuation basins, replacement signage, construction of two underpasses, diversions to, and increase of 1,526m of Bridleways and Public Right of Ways.”

These above road improvements are authorised by the planning permission reference NY/2019/0191/ENV, which was Granted with Conditions on 27th April 2021.

The changes that are being requested have been necessitated by the advancing of construction works that have revealed the need for minor modifications in order to build the highway in a viable and sustainable manner, whilst continuing to ensure high quality landscaping to the standard NYC expect of the contractor and the area.

This document serves to review those changes in line with the resulting positive or negative impacts that those changes might have, with reference to the Environmental Statement (ES) and relevant ecological appendices, Construction Environmental Management Plan (CEMP) and associated Species Protection Plans (SPP) and Detail Landscape Ecological Mitigation, Monitoring and Management Plan (DLEMMMP).



NMA changes proposed and Ecological Implications

All proposed changes will occur within the existing red line boundary. The effects of the NMA on ecological receptors has been discussed within Table 1 below.

Table 1. NMA and associated effects on ecological receptors

NMA	Effects on ecology
<p>1. Watercourse Realignment</p> <p>As a result of further design work, the need to ensure stable slopes and embankments for both the highway and watercourse - coupled with the need to ensure works remain within the scheme boundary - the diversion has been realigned to provide better scheme buildability and maintenance access.</p> <p>The watercourse itself would remain approximately the same overall length, with the same flow characteristics and of the same sinuosity, providing a comparable solution in terms of Biodiversity Net Gain, and habitat creation. The watercourse would continue to comply with the condition 32.</p> <p>For ease of reference, and for information only, an overlay of the changed areas of watercourse is shown in drawing General Arrangement Plan - Sheet 5 of 6 - Condition 17 (NYKGDD-WSP-HGN-SG-DR-CH-01005-C01) and extends over a length of around 500m, from chainage 5670 to 6200.</p>	<p>Disturbance activities to Hall Beck in the form of realignment had previously been evaluated in the Environmental Statement (ES), further design work has resulted in an additional change. However, as stated within NMA 1., the resultant solution of the realigned watercourse would remain approximately the same for the ecological receptors.</p> <p>The Riparian Mammal surveys identified signs of commuting and foraging otter <i>Lutra lutra</i>. Survey results show that otter activity within the Survey Area is concentrated along the wooded section of Hall Beck, where the realignment is proposed. No breeding dens or resting sites/couches were identified here, however the potential for future dens or resting sites was not discounted. Pre-construction surveys, as previously recommended, will be carried out to ascertain the requirement of a European Protected Species Licence (EPSL).</p> <p>As identified within the ES, realignment of Hall Beck may have the potential to kill or injure brook lamprey <i>Lampetra planeri</i> and brown trout <i>Salmo trutta</i>. Physical in-stream works may lead to barrier effects to migrating fish, causing temporary fragmentation of habitat through reduction in fish passage.</p> <p>The Principal Contractor's Environmental Clerk of Works (EnvCoW) will be responsible for ensuring compliance with commitments stated in this assessment during construction. This will include adherence to the CEMP documents (including Aquatic Ecology SPP, Pollution Prevention Plan (PPP) and Noise and Vibration Management Plan (NVMP)) and the standard</p>

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	<p>mitigation commitments set out in the ES. Compliance will be monitored by the Employer's ECoW.</p> <p>The watercourse realignment is therefore not considered to result in any further effects to the ecological receptors in addition to those previously identified within the ES and no additional mitigation is required.</p>
<p>2. Culvert Changes</p> <p>Further to the proposed design changes to culvert 10 and culvert 12, it is considered that the change in fluvial flood risk due to the changes in culvert lengths will be negligible. This is based on a qualitative review of the proposed changes, based on the overall reduction in culvert length and no other changes in the designs of these culverts. In addition, the culverts discharge into fundamentally unchanged channels from previously submitted.</p> <ul style="list-style-type: none"> • Culvert 8 has been moved 13m south and 25m east to accommodate the proposed changes to the watercourse alignment (as shown in document references: NYKGDD-WSP-SMN-ST008-DR-CB-0001-C01 and NYKGDD-WSP-SMN-ST008-DR-CB-0002-C01); • Culvert 10 has been moved 4m north and has reduced in length by 6m (as shown in document references: NYKGDD-WSP-SMN-ST010-DR-CB-0001-C01 and NYKGDD-WSP-SMN-ST010-DR-CB-0002-C01) ; and • Culvert 12 has been extended by 1m (from 49m to 50m). 	<p>The re-siting of culverts 8, 10 and 12 are not considered to directly impact any ecological receptors within the red line boundary which have not already been discussed within the ES.</p> <p>The updated culvert dimensions are not considered to result in any effects to ecological receptors in addition to those identified within the ES and no additional mitigation is required.</p>
<p>3. Interceptor Drains</p> <p>Approximately one third of drains have been changed to use 'filter' type drains. These are of benefit in reducing the impacts on trees (enabling greater tree retention and/or lessening impacts on root zones), dry stone walls, and creating increased space to maintain the drains away from the scheme boundary.</p> <p>While redesigning key areas, a full review of the highway drainage design was undertaken, identifying further minor opportunities for improvement:</p>	<p>The use of 'filter' type drains on approximately one third of the drains to be implemented will reduce the impact of the scheme on wildlife species and habitat features. Protected wildlife will therefore not be at risk of falling within the drainage channel at these sites and the greater tree retention rate will be of benefit to ecological receptors.</p> <p>Baffle/dissipation blocks may be used by smaller aquatic species when water velocity rates are high, as the dissipation in water force will reduce the likelihood that the organism will be involuntarily swept downstream at peak flow times. This may</p>

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<ul style="list-style-type: none"> • Baffle/dissipation blocks have been included in all headwalls in order to reduce the velocities entering channels/watercourses; • Pollution control devices have been moved in order to provide easier access for construction and maintenance; and • All pipe crossings of the carriageway have been set to a maximum diameter of 375mm in accordance with NYC guidance. 	<p>therefore, provide a very small benefit to aquatic ecological receptors.</p> <p>The Precautionary Working Method Statement (PWMS) and CEMP reports provide appropriate measures to reduce the risk of sensitive habitats, designated sites and species associated with the design from becoming adversely impacted by the Project. The PWMS covers vegetation clearance, site preparation and construction in relation to the important sites and sensitive habitats as defined within the ES.</p> <p>The movement of pollution control devices is considered to have a neutral effect upon ecological receptors.</p> <p>An increase of pipe diameter to the maximum of 375mm in accordance with NYC guidance is considered to have a neutral impact on ecological receptors.</p> <p>The updated change of use for these drains is therefore not considered to result in any material effects to ecological receptors in addition to those identified in the ES and no additional mitigation is required.</p>
<p>4. Bridleway Adjustments</p> <p>The bridleway earthworks close to culvert 5 and culvert 7 are being amended to ensure that the level of the bridleway is consistent with the new culvert levels, illustrated in Point 2 above. There are no proposed changes to the length, width, function or design of the bridleway itself, just the earthwork levels.</p>	<p>Changes to earthwork levels are not considered to result in any effects to ecological receptors further to those identified within the ES and no additional mitigation is required.</p>
<p>5. Ponds 1 & 2</p> <p>As a result of further surveys - including detailed information of ground water levels - the size and shape of the ponds has been slightly modified to provide adequate capacity whilst avoiding potential problems from ground water pressure. These are:</p> <ul style="list-style-type: none"> • The overall footprint of Pond 1 has increased in length by just 4m, from 47m to 51m, parallel to the bridleway (shown in drawing ref: NYKGDD-WSP-HDG-SG-DR-CD-0500_014 & 025-C01); and 	<p>An increase of 4m in size to Pond 1 may have a very small benefit to ecological receptors, as it is slightly deeper (and therefore provides a greater volume of habitat at depths which could support different species and slightly more cover from predators) than Pond 2. However, as Pond 2 is also being reduced in size, the resulting effect is only slightly beneficial.</p> <p>It is considered that minor changes to the size and shape of Ponds 1 and 2 will not result in any significant effects to</p>

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<ul style="list-style-type: none"> Pond 2, as a result of being shallower has decreased in length by 4m, from 92m to 88m (shown in drawings ref: NYKGDD-WSP-HDG-SG-DR-CD-0500_015-C01 and NYKGDD-WSP-HDG-SG-DR-CD-0500_016-C01) <p>Collectively, these are considered no-material changes to the overall scheme, which noted that the SuDs drainage would include two attenuation basins – or ponds.</p>	<p>ecological receptors further to those identified within the ES and no additional mitigation is required.</p>
<p>6. Localised Changes to Earthworks Profile</p> <p>As a result of the above changes, there have been a number of localised changes to the size and profile of the earthworks associated with supporting these structures.</p> <p>The most significant of these changes is the road embankment, which has been locally steepened. This mainline north embankment has been steepened from 1 in 3 to 1 in 2.5 between chainages 5940 and 6230 (either side of Hall Lane), and between chainages 5310 to 5550.</p>	<p>Steepening of the road embankment is not considered to result in any effects to ecological receptors further to those identified within the ES and no additional mitigation is required.</p>
<p>7. Modification of the Tie-In with Hall Lane and Church Hill</p> <p>The width of the roads has been reduced slightly to 5.5m, to comply with Rural Design Guides. The drainage of Church Hill has been amended to include over edge filter drains, to reduce the impact in this location. The tie-in (where the proposed road joins the existing road horizontally and vertically) with Hall Lane has been moved approximately 30m to the east, and localised modifications made to the drainage design in this location (submitted separately under Condition 29), to facilitate the retention of no. 3 trees following discussions with consultees. This revised arrangement for Hall Lane was included in the plans submitted to discharge Condition 29 and is already agreed with consultees.</p> <p>This is shown in drawings ref: NYKGDD-WSP-HDG-SG-DR-CD-0500_012-C01, NYKGDD-WSP-HDG-SG-DR-CD-0500_013-C01, and NYKGDD-WSP-HDG-SG-DR-CD-0500_013-C02.</p>	<p>Reducing the width of the roads is not considered to result in any effects to ecological receptors. The inclusion of over edge filter drains will not affect ecological receptors and appropriate measures to reduce risks to sensitive habitats, designated sites and species is included within the PWMS and CEMP.</p> <p>The movement of the tie-in to Hall Lane by 30m to the east is unlikely to negatively affect any ecological receptors within the localised area. The retained trees (numbered 564, 565 and 566 in the Bat Roost Inspection and Activity Surveys – Tree Report, WSP 2019) are common beech <i>Fagus sylvatica</i>, which were assessed as offering moderate suitability for roosting bats, therefore the retention of these features benefits the local bat population and the Project from an ecological perspective. No additional mitigation is required.</p>
<p>8. Soft Landscaping</p>	<p>These soft landscaping amendments, which support the changes discussed above, do not pose any additional constraints on</p>

NMA

As a consequence of the above changes, alterations to soft landscape arrangement are required. These are shown in Landscape Ecology Mitigation Monitoring and Management Plans (Sheets 1 to 10 (inclusive) (NYKGDD-WSP-ELS-SG-DR-LE-00027 to 00036 (inclusive)-C03) and Soft Landscape: Planting Plans (Sheets 1 to 16 (inclusive) (NYKGDD-WSP-ELS-SG-DR-LE-00011 to 00025 (inclusive)-C03). The following changes are proposed:

- Amendments to the design at Church Hill (minor amendments to the boundary treatments to allow for the road reconfiguration, and gates altered at church car park);
- Amendments to the design at Hall Lane (minor amendments to the boundary treatments to allow for the road reconfiguration);
- Diversion of Hall Beck (alteration to watercourse alignment and design);
- Soft landscaping around drainage areas including Attenuation Ponds (refer to Point 6);
- Siting of interceptor channels and filter drains (soft landscaping around changes in Point 3);
- Variation in slope angle on certain sections (change in type of planting in certain areas due to underlying geotechnical feature placement associated with soil stability);
- Inclusion of reinstatement works for areas used as temporary construction compounds;
- Areas of woodland and scrub planting are to be reconfigured, following recent tree clearances; and

Effects on ecology

ecological receptors further to those identified within the ES and no additional mitigation is required.

NMA	Effects on ecology
<ul style="list-style-type: none"><li data-bbox="192 204 1016 268">• No. 8 additional tree guards will be provided within livestock fields near Blubberhouses Hall to protect growing trees.	



Conclusion

The eight NMAs proposed within the S96 have been reviewed in accordance with the relevant ecological documents required to support the Project, specifically the ES.

Overall, it was considered that the NMAs will not result in any material effects to ecological receptors in addition to those identified in the ES and no additional mitigation is required. Small ecological benefits were identified in the form of using filter drains and baffle/dissipation blocks (NMA 3), increasing the size of Pond 1 (which is deeper than Pond 2, which is being reduced in size) (NMA 5) and the retention of three common beech trees near Hall Lane (NMA 7).

REFERENCES

- RSK (2023) A59 Kex Gill Diversion. Designated Sites and Sensitive Habitats Precautionary Working Method Statement
- SISK (2023) Construction Environmental Management Plan A59 Kex Gill Diversion Scheme
- WSP (2023) A59 Kex Gill Diversion. Detail Landscape and Ecology Mitigation, Monitoring and Management Plan: Volume 1: Onsite Measures.
- WSP (2020) A59 Kex Gill Diversion. Environmental Statement Volume 1 Main Text and Figures
- WSP (2019) A59 Kex Gill Diversion. Appendix 6O – Bat Roost Inspection and Activity Surveys – Trees – Survey Report