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# Protocol for Delivering Biodiversity Enhancement

**The Yorkshire and Humber (CCS Cross Country  
Pipeline) Development Consent Order**

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# 1 Introduction

- 1.0.1 Overarching National Policy Statement EN-1 states *that ‘the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests’*. The purpose of the policy in EN-1 is to encourage applicants to take opportunities to enhance biodiversity, where such opportunities arise as part of a proposed development.
- 1.0.2 For the Yorkshire and Humber CCS Cross Country Pipeline (the Onshore Scheme) opportunities for biodiversity enhancement are considered to arise on land that is subject to restoration following the installation of the pipeline and associated apparatus. There are two broad categories of 'opportunities': opportunities for enhancement on land that is within the operational control of National Grid, and potential opportunities for enhancement on land that is outside of the operational control of National Grid.

## 2 Opportunities for enhancement on land in the operational control of National Grid: Above Ground Installations

- 2.0.1 When constructed, National Grid will retain control of the land acquired for the installation of the Above Ground Installations (AGIs), comprising: Drax PIG trap, Camblesforth Multi-Junction, Tollingham Block Valve, Dalton Block Valve, Skerne Block Valve and Barmston Pumping Station.
- 2.0.2 Around each AGI an area for landscape planting is included in the application for a Development Consent Order. The primary purpose of planting is to screen the development and facilitate integration with the surrounding landscape so as to minimise the landscape and visual effect of the development. In addition to serving this function as landscape and visual mitigation, National Grid will manage planting to facilitate biodiversity enhancement. This approach is consistent with paragraph 5.3.18 of EN-1 that states: *...the applicant should demonstrate that....: opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals.*
- 2.0.3 As this land will fall within the operational control of National Grid, it is able to ensure that the long term management of the land will benefit biodiversity and accordingly maintain the biodiversity value of these enhancements. The measures for enhancement of biodiversity that will be delivered at each AGI site are set out in the table below:

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Drax PIG Trap biodiversity enhancements</b>			
<b>Dead wood / log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.	1 No. 1m <sup>2</sup> areas	Saproxyllic Invertebrates Birds Amphibians Grass snake	Must not be located close to paths and must be marked to ensure there is no increased risk to site personnel
<b>Native scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	362m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat, meadow pipit	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.
<b>Native Tree and Scrub Areas</b> such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	1477 m <sup>2</sup>	Farmland Birds Foraging Bats	Thinning will be required to ensure trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Wildflower Grassland.</b> to include flowering species such as yarrow, wild carrot, oxeye daisy, bladder campion.	1207m <sup>2</sup>	Invertebrates	Annual cutting of species-rich grassland areas, with all cuttings removed from site. No fertiliser is to be applied (either organic or inorganic) to the grassland areas of the site.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Camblesforth Multi-junction biodiversity enhancements</b>			
<b>Dead wood / Log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.	2 No. 1m <sup>2</sup> areas	Saproxylic Invertebrates Birds Amphibians Grass snake	Must not be located close to paths and must be marked to ensure there is no increased risk to site personnel
<b>Wildflower Grassland.</b> to include flowering species such as yarrow, wild carrot, oxeye daisy, bladder campion.	7304m <sup>2</sup>	Ground nesting birds such as skylark. Invertebrates Small mammals	Annual cutting of species-rich grassland areas, with all cuttings removed from site. No fertiliser is to be applied (either organic or inorganic) to the grassland areas of the site.
<b>Native Tree and Scrub Areas</b> such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	7760 m <sup>2</sup> 27 standard trees to be planted.	Farmland Birds Foraging Bats	Thinning will be required to trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	6240 m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat,	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
		meadow pipit	
<b>Species Rich Hedgerow.</b> Species planted to create hedgerows will include hawthorn, blackthorn, hazel, field maple, crab apple, dogwood, guilder rose and holly. Hedgerow trees (pedunculate oak) to be planted at intervals of 20m.	c. 575m	Farmland birds including whitethroat, dunnock and yellowhammer.  Bats (commuting/foraging routes)  Barn owl	Standard trees to be planted as bare rooted stock.
<b>Tollingham Block Valve biodiversity enhancements</b>			
<b>Dead wood / Log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.	2 No. 1m <sup>2</sup> areas	Saproxyllic Invertebrates  Birds  Amphibians  Grass snake	Must not be located close to paths and must be marked to ensure there is no increased risk to site personnel
<b>Scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	c. 275m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat, meadow pipit	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Native Tree and Scrub Areas</b> such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	7760 m <sup>2</sup> 27 standard trees to be planted.	Farmland Birds Foraging Bats	Thinning will be required to trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Species Rich Hedgerow.</b> Species planted to create hedgerows will include hawthorn, blackthorn, hazel, field maple, crab apple, dogwood, guilder rose and holly. Hedgerow trees (pedunculate oak) to be planted at intervals of 20m.	c. 200m of new hedgerow	Farmland birds including whitethroat, dunnock and yellowhammer.  Bats (commuting/foraging routes)  Barn owl	Standard trees to be planted as bare rooted stock.
<b>Dalton Block Valve biodiversity enhancements</b>			
<b>Dead wood / log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.	2 No. 1m <sup>2</sup> areas	Saproxyllic Invertebrates Birds Amphibians Grass snake	Must not be located close to paths and must be marked to ensure there is no increased risk to site personnel



Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	343 m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat, meadow pipit	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.
<b>Native Tree and Scrub Areas</b> such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	2154 m <sup>2</sup>	Farmland Birds Foraging Bats	Thinning will be required to trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Species Rich Hedgerow.</b> Species planted to create hedgerows will include hawthorn, blackthorn, hazel, field maple, crab apple, dogwood, guelder rose and holly. Hedgerow trees (pedunculate oak) to be planted at intervals of 20m.	265 m of new hedgerow	Farmland birds including whitethroat, dunnock and yellowhammer.  Bats (commuting/foraging routes)  Barn owl	Standard trees to be planted as bare rooted stock.
<b>Skerne Block Valve biodiversity enhancements</b>			
<b>Dead wood / log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or	2 No. 1m <sup>2</sup> areas	Saproxyllic Invertebrates Birds	Must not be located close to paths and must be marked to ensure there is no increased risk to site

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.		Amphibians Grass snake	personnel
<b>Native Tree and Scrub Areas</b> such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	2594 m <sup>2</sup>	Farmland Birds Foraging Bats	Thinning will be required to trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	445 m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat, meadow pipit	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.
<b>Species Rich Hedgerow.</b> Species planted to create hedgerows will include hawthorn, blackthorn, hazel, field maple, crab apple, dogwood, guelder rose and holly. Hedgerow trees (pedunculate oak) to be planted at intervals of 20m.	c. 300m of new hedgerow	Farmland birds including whitethroat, dunnock and yellowhammer.  Bats (commuting/foraging routes)  Barn owl	Standard trees to be planted as bare rooted stock.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Barmston Pumping Station biodiversity enhancements</b>			
<b>Dead wood / log pile habitat</b> – logs and heavy branches to be used that are derived from construction here, or elsewhere along the pipeline. Cuts to be made in the logs/branches to encourage fungi to colonise.	2 No. 1m <sup>2</sup> areas	Saproxyllic Invertebrates Birds Amphibians Grass snake	Must not be located close to paths and must be marked to ensure there is no increased risk to site personnel
<b>Species Rich Grassland.</b> Grassland should ideally be created using green hay from a nearby donor site.	c. 9 ha	Ground nesting birds such as skylark. Barn owl Small mammals	Annual cutting as part of the routine general site maintenance of species-rich grassland areas, with all cuttings removed from site. No fertiliser is to be applied (either organic or inorganic) to the grassland areas of the site.
<b>Woodland belt</b> to include native species such as pedunculate oak, field maple, alder, silver birch, sycamore, crab apple and whitebeam.	800 m	Woodland birds	Thinning will be required to trees remain healthy in the long term. To be undertaken as part of routine site maintenance.
<b>Scrub/shrub belt</b> ecotone to include native fruit bearing species such as hawthorn, blackthorn, hazel, field maple, dogwood, guelder rose, privet and holly.	1000 m <sup>2</sup>	Farmland birds e.g. linnet, yellowhammer, willow warbler, dunnock, stonechat, whinchat,	Monitor scrub encroachment into grassland areas – manage any encroachment as part of routine annual site maintenance.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
		meadow pipit	
<b>Species Rich Hedgerow.</b> Species planted to create hedgerows will include hawthorn, blackthorn, hazel, field maple, crab apple, dogwood, guilder rose and holly. Hedgerow trees (pedunculate oak) to be planted at intervals of 20m.	c. 1500 m of new hedgerow c. 300 m of gapping up c. 300 m of laying of existing hedgerow	Farmland birds including whitethroat, dunnock and yellowhammer.  Bats (commuting/foraging routes)  Barn owl	Standard trees to be planted as bare rooted stock.
<b>Bat Boxes</b> are to be provided and erected in two locations. The first box will be at location (TBC) and the second box at location (TBC). These will be south facing.	2 No. Bat boxes	Bats	Boxes will need to be of the self cleaning type, or else will need to be regularly maintained.
<b>Barn Owl Boxes</b> will be erected at two locations on the site. The first pair will be at location (TBC) and the second pair at location (TBC).	2 No. pairs of boxes to be erected	Barn owl	Boxes and mounting poles will need to be regularly maintained to ensure they are structurally sound.

Enhancement feature and description	Approximate area/amount proposed	Species benefitting	Management Requirements (including any health and safety issues)
<b>Installation of pre-cast nest cups for swallows and house martins</b>	10 No. Around the site	Swallows and house martins.	
<b>Artificial sand martin habitat</b> - Built into the sculptural landscape bunds.	1 No. Site.	Sand martin	
<b>South facing banks</b> with a mixture of grass and bare earth.	20m of bank in total, split down as necessary.	Beetles Solitary bees and wasps. Reptiles (for basking)	
<b>Pond habitat</b> including reed bed will be created as part of the design of a fire pond for the site	1 No fire pond/ wildlife pond.	Amphibians Water vole Aquatic invertebrates Dragonflies Damselflies Bats (foraging)	The drain running through the site will be managed to keep it functioning as a drain, however management will be staggered in a way that ensures only half of the drain is affected at any one time, providing a suitable refuge for wetland fauna.  The pond will be cleared in sections as necessary to set back successional stages, thus ensuring it remains of value to a wide range of species.

### 3 Potential opportunities for enhancement on land outside of the operational control of National Grid: Pipeline

- 3.0.1 Secondly, it is possible that opportunities for enhancement may emerge on land that is subject to restoration following the installation of the pipeline. National Grid is only seeking an easement over the pipeline route for the purposes of facilitating the ongoing operation, maintenance and protection of the pipeline, and will hand the land back to the landowner, once it has been reinstated. In most cases the land is expected to be reinstated so as to allow for the previous agricultural practices to continue.
- 3.0.2 As National Grid will not retain operational control over this land, and it will often be desirable for the previous agricultural use to be resumed, there may be no opportunity to achieve lasting biodiversity enhancements in the same way as it is possible for the land surrounding AGI sites. Opportunities to implement biodiversity enhancement measures as part of the restoration of this land must therefore be subject to agreement with the land owner, who would be responsible for land stewardship and therefore the retention and maintenance of any enhancement features in the longer term.
- 3.0.3 Measures that could be introduced for the benefit of biodiversity are likely to be restricted to field margins rather than by taking existing agricultural land out of production. By way of an example, and given the predominant agricultural land use along the pipeline route, biodiversity enhancement measures could be linked to existing Environmental Stewardship commitments such as:

Entry Level Stewardship Measures:

- EB14 Hedgerow restoration
- EC23 Establishment of hedgerow trees by tagging
- EF7 Beetle Banks

Higher Level Stewardship Measures:

- HC13 Restoration of wood pasture and parkland
- HC14 Creation of wood pasture
- HC8 Restoration of woodland

- HC10 Creation of woodland outside Severely Disadvantaged areas
- HD11 Restoration of traditional water meadows
- HE10 Floristically enhanced grass buffer strips (non-rotational)
- HF12 Enhanced wild bird seed mix plots (rotational or non-rotational)
- HK7 Restoration of species-rich, semi-natural grassland
- HK8 Creation of species-rich, semi-natural grassland
- HK11 Restoration of wet grassland for breeding waders
- HK12 Restoration of wet grassland for wintering waders and wildfowl
- HK13 Creation of wet grassland for breeding waders
- HK14 Creation of wet grassland for wintering waders and wildfowl
- HK16 Restoration of grassland for target features
- HK17 Creation of grassland for target features
- HE11 Enhanced strips for target species on intensive grassland
- HQ4 Restoration of reedbeds
- HQ5 Creation of reedbeds

3.0.4 The installation of biodiversity enhancement on land that would be outside the operational control of National Grid is subject to further investigation and the potential for enhancement measure is necessarily dependent on the nature of land use and priorities of the landowner at the time when works are to be undertaken. These measures cannot therefore be defined at present.

3.0.5 In order to identify opportunities for further enhancement National Grid will implement the following protocol:

1. Steps to engage landowners

National Grid will contact in writing all land owners affected by the Onshore Scheme to ascertain any potential interest in biodiversity enhancement not less than 6 months before the start of construction activities. To this end, National Grid shall write to each landowner at least twice in the event that a response is not received to its first letter.

2. The identification of feasible enhancement measures on land of interested landowners

A suitably qualified ecologist (chartered member of the Chartered Institute of Ecology and Environmental Management (CIEEM) or full member of CIEEM and Chartered Environmentalist) shall be appointed by National Grid (at its cost) to visit land parcels affected by the Onshore Scheme, where a land owner has expressed an interest in the inclusion of biodiversity enhancement measures and identify

opportunities for biodiversity enhancement within those parcels of land that reflect the requirements of the local environment.

3. The drafting of an enhancement implementation strategy

The appointed ecologist shall, once the opportunity for enhancement has been agreed with the landowner, produce an enhancement implementation strategy (EIS) describing the works, their location and the proposed programme for their implementation. The content of any draft EIS prepared by the appointed ecologist, and the carrying out of any proposed enhancement itself, would be subject to four tests:

- i) it must not require any third party approvals;
- ii) it must be able to be carried out on land within the order limits and with the consent of the affected landowner;
- iii) it must not give rise to any likely significant adverse environmental effects; and
- iv) National Grid considers the EIS to be practicable and commercially prudent to implement.

4. Notification and agreement with land owner of detail of works and the proposed programme for implementation

In the event that an EIS is agreed with the landowner and National Grid, National Grid shall implement the relevant enhancement to a specification and programme in accordance with the EIS. Once the works are complete then the relevant enhancement shall be “handed over” to the landowner to be retained at the landowner's discretion and maintained at the landowner's cost. There shall be no residual liability on the part of National Grid.