

Spen Valley Ecological Mitigation and Enhancement Proposals

The following information is being provided to demonstrate that appropriate ecological mitigation and enhancements will be implemented as part of the resurfacing works of the Spen Valley Greenway by Sustrans.

The ecological improvements will be undertaken and completed during the first planting season following the operational start of the approved works.

The ecological enhancements will involve the following:

- **Grassland Enhancements**

Approximately 4028sqm of other neutral grassland will be enhanced from poor to moderate condition. This will be undertaken along the entire length of the route to be re-surfaced. An average width of 1m on both sides of the path will be improved by cutting, collecting arisings, scarifying and over-seeding with a suitable native wildflower mix. Sustrans will then undertake annual management of these grasslands in the form of 2 cuts per year (spring and autumn). These ecological enhancements will be implemented upon completion of the resurfacing works.

- **Mixed native hedge**

A new mixed native hedgerow will be planted along a section of the Greenway approximately 330m in length. This land is owned and maintained by Sustrans and is shown in fig. 1 below. These works are outside the red-line boundary and therefore do not form part of the application for planning permission. These works are an extra enhancement to be implemented by Sustrans to improve the route for biodiversity.

- **Native hedgerow trees**

Twelve native trees will be planted within the new hedgerow. Once again, these works do not form part of the planning approval and are additional biodiversity enhancements. The tree and hedge planting will be undertaken in the first planting season prior to or during the operational stage.

Further details for the enhanced grassland are provided fig. 2 below and in drawings 14048-N-DR-04-8000 to 8003.

Biodiversity Net Gain (BNG)

These grassland enhancements will achieve a positive BNG of 16.46% within the area of proposed resurfacing (red-line boundary). A BNG calculation has been undertaken and 'Final Results' table is shown in fig. 3. The full Biodiversity Metric 4.0 Calculation for Spen Valley Greenway resurfacing scheme has also been submitted separately as part of the proposals.

The additional native hedgerow with trees will provide an extra 3.14 hedgerow units along this section of the Spen Valley Greenway. It is recognised that this does not form part of the planning application but demonstrates Sustrans commitment to enhancing the route for biodiversity.

Fig 1: Location Plan for Proposed Hedge and Tree Planting on Spen Valley Greenway.

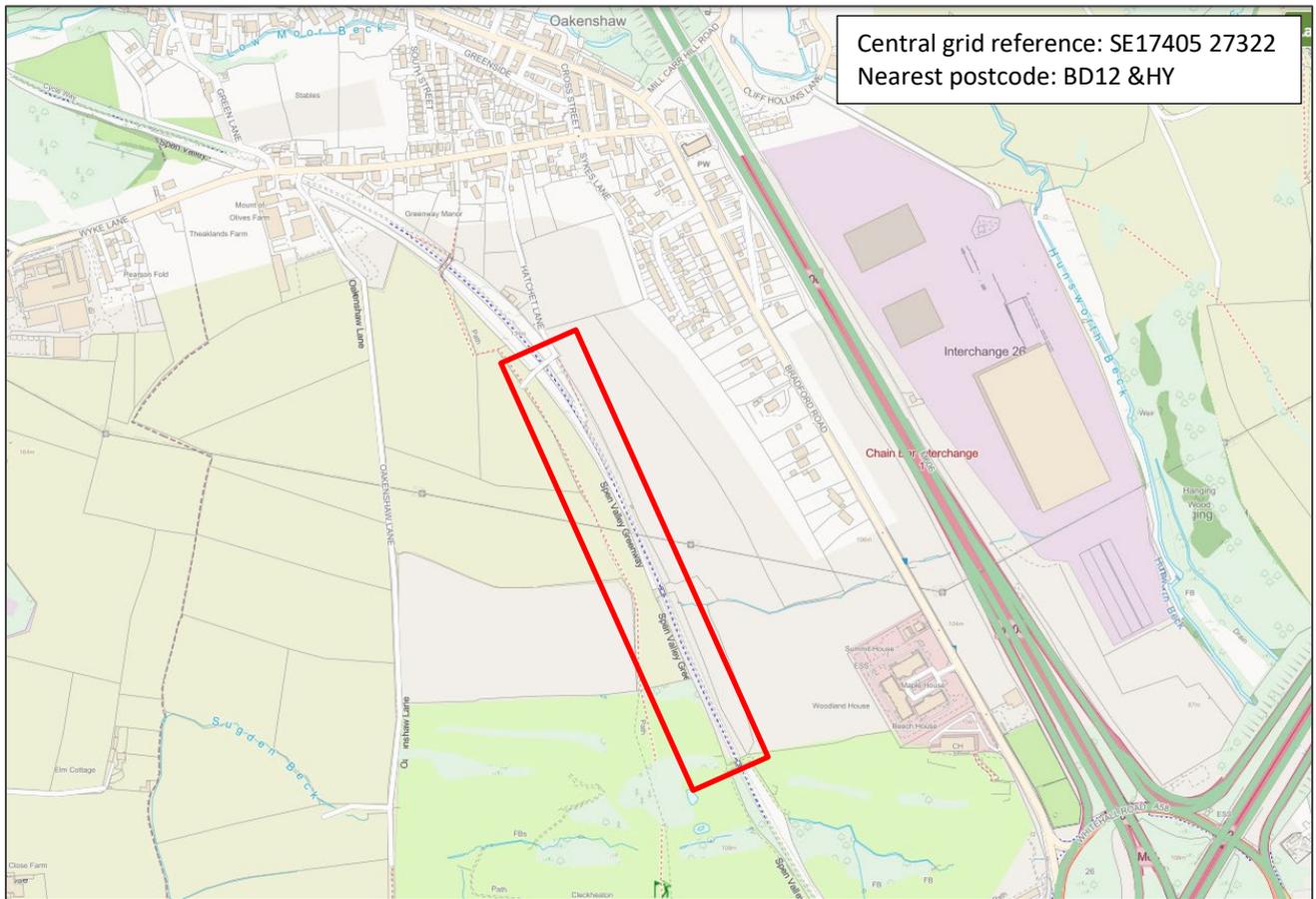
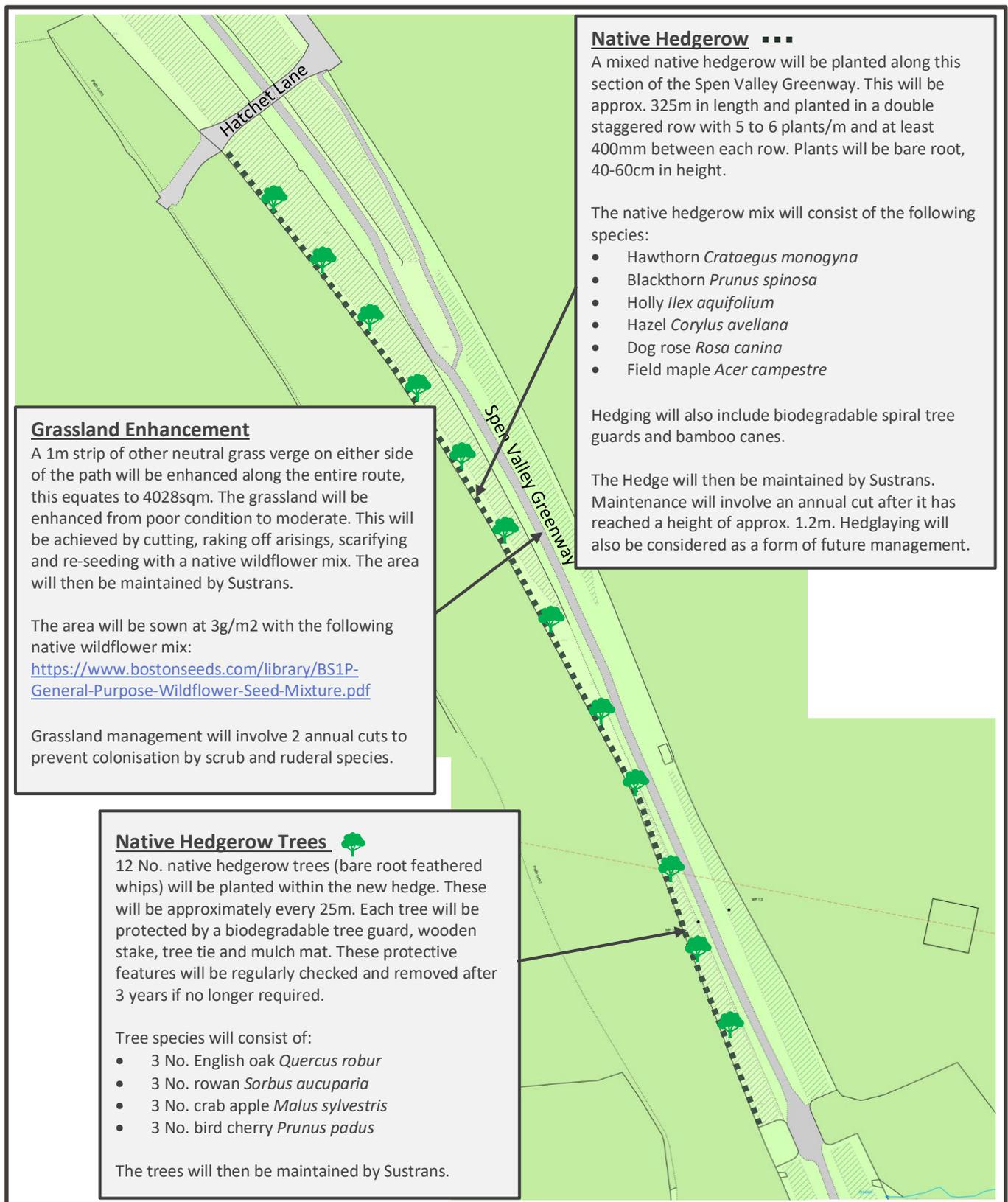


Fig 2: Spen Valley Greenway Ecological Mitigation Proposals



Grassland Enhancement

A 1m strip of other neutral grass verge on either side of the path will be enhanced along the entire route, this equates to 4028sqm. The grassland will be enhanced from poor condition to moderate. This will be achieved by cutting, raking off arisings, scarifying and re-seeding with a native wildflower mix. The area will then be maintained by Sustrans.

The area will be sown at 3g/m2 with the following native wildflower mix:
<https://www.bostonseeds.com/library/BS1P-General-Purpose-Wildflower-Seed-Mixture.pdf>

Grassland management will involve 2 annual cuts to prevent colonisation by scrub and ruderal species.

Native Hedgerow ■■■

A mixed native hedgerow will be planted along this section of the Spen Valley Greenway. This will be approx. 325m in length and planted in a double staggered row with 5 to 6 plants/m and at least 400mm between each row. Plants will be bare root, 40-60cm in height.

The native hedgerow mix will consist of the following species:

- Hawthorn *Crataegus monogyna*
- Blackthorn *Prunus spinosa*
- Holly *Ilex aquifolium*
- Hazel *Corylus avellana*
- Dog rose *Rosa canina*
- Field maple *Acer campestre*

Hedging will also include biodegradable spiral tree guards and bamboo canes.

The Hedge will then be maintained by Sustrans. Maintenance will involve an annual cut after it has reached a height of approx. 1.2m. Hedglaying will also be considered as a form of future management.

Native Hedgerow Trees 🌳

12 No. native hedgerow trees (bare root feathered whips) will be planted within the new hedge. These will be approximately every 25m. Each tree will be protected by a biodegradable tree guard, wooden stake, tree tie and mulch mat. These protective features will be regularly checked and removed after 3 years if no longer required.

Tree species will consist of:

- 3 No. English oak *Quercus robur*
- 3 No. rowan *Sorbus aucuparia*
- 3 No. crab apple *Malus sylvestris*
- 3 No. bird cherry *Prunus padus*

The trees will then be maintained by Sustrans.

Fig 3: BNG Final Results Table from Biodiversity Metric 4.0 Calculation for Spen Valley Greenway

FINAL RESULTS				
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>			0.84
	<i>Hedgerow units</i>			3.14
	<i>Watercourse units</i>			0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>			16.46%
	<i>Hedgerow units</i>			N/A
	<i>Watercourse units</i>			0.00%
Trading rules satisfied?		Yes ✓		
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
<i>Habitat units</i>	10.00%	5.09	5.60	0.00
<i>Hedgerow units</i>	10.00%	0.00	0.00	0.00
<i>Watercourse units</i>	10.00%	0.00	0.00	0.00

0 baseline units - % cannot be calculated

Unit requirement met or surpassed ✓
 Unit requirement met or surpassed ✓
 Unit requirement met or surpassed ✓