

A38 Derby Junctions

TR010022

Volume 6

**6.3 Environmental Statement
Appendices**

**Appendix 8.4a: Botanical Survey in
2018**

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

April 2019

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009**

A38 Derby Junctions
Development Consent Order 202[]

**6.3 Environmental Statement Appendices
Appendix 8.4a: Botanical Survey in 2018**

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Planning Inspectorate Scheme Reference	TR010022
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TECHNICAL NOTE

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Title:	Grassland Vegetation Assessment Update 2018				
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P01	6 December 2018	Mark Hampton	Jane Southey	Paul Benyon
P02	9 December 2018	Mark Hampton	Simon Wild	Andy Wilson

1 Introduction

- 1.1 AECOM Infrastructure & Environment UK Limited (AECOM) has been commissioned by Highways England to provide design services with regards to the A38 Derby Junctions Scheme (referred to herein as “the Scheme”).
- 1.2 The Scheme concerns the grade separation of three junctions on the A38 in Derby, namely:
 - A38/ A61 Little Eaton junction
 - A38/ A52 Markeaton junction
 - A38/ A5111 Kingsway junction
- 1.3 These three junctions are located along an approximate 5.5km length of the A38 national trunk road, to the west and north of Derby.
- 1.4 To assist with the assessment of the potential environmental effects of the Scheme, a range of environmental surveys have been undertaken to define prevailing baseline conditions.
- 1.5 Detailed vegetation surveys were carried out on a sub-set of sites highlighted during the initial Phase 1 Habitat Surveys (see report 47071319-URS-05-RP-EN-003) as potentially having higher quality communities that may require further mitigation if lost to the Scheme.
- 1.6 In June and July 2015, 17 sites were surveyed and the findings reported (see report 47071319-URS-05-RP-EN-011 March 2016). A repeat survey of 8 grassland sites was carried out in July 2017 to assess change and to survey new areas due to Scheme boundary changes (see report HE514503-ACM-EBD-A38_SW_PR_ZZ-RP-EG-0007)
- 1.7 The purpose of this Technical Note is to provide the findings of further vegetation survey data collected in 2018 for a subset of the sites previously visited in 2015 and 2017.

2 Methodology

- 2.1 A total of 6 semi-improved grassland areas were identified for re-survey in 2018, although two sites had other areas assessed whilst on site (as shown in brackets). The location of these areas is shown on Figures 1 and 2 in Appendix A as follows:

- Areas 1B (+1H), 1D and 1F at Kingsway and Markeaton junctions, respectively (see Figure 1, Appendix A)
 - Areas 2E (+2F), 2K and 2Q at Little Eaton junction (see Figure 2, Appendix B)
- 2.2 Each of the 6 (+2) grassland areas was visited by a suitably experienced ecologist.
- 2.3 Previous species lists from 2015 and 2017 for the sites were utilised as a baseline to assess any differences and changes seen.
- 2.4 Photographs were taken of the grassland swards and notes taken on the grassland species composition including an indication of abundance for each species based on the DAFOR scale (given below):
- D: Dominant
A: Abundant
F: Frequent
O: Occasional
R: Rare
- 2.5 In addition, three watercourses were visited to assess presence of aquatic vegetation in the watercourses, namely Bramble Brook (Kingsway junction), Dam Brook (Little Eaton junction) and a ditch along the railway cutting at Kingsway junction to the north of the A38.

Grassland Assessment

- 2.6 The grasslands were assessed using criteria taken from the Derbyshire Wildlife Trust (DWT) (2003, revised 2011) Local Wildlife Assessment Guidance. The criteria used are based on scoring the number of grassland indicator species in a habitat stand and if a score of 8 or more is attained, then the grassland is worthy of consideration for local wildlife status. Further details are given in Appendix B. The indicator species are indicated in the table in Appendix B.

Survey Limitations

- 2.7 The surveys were undertaken on 13 and 14 June 2018, which is a suitable time of year and no survey constraints were identified.

3 Survey Results

- 3.1 Descriptions of the 6 grassland areas and the three watercourses surveyed are given below, with the locations of these areas shown on Figures 1 and 2 in Appendix A. Appendix C provides the Grassland Species list and Appendix D comprises site photographs. The grassland Local Wildlife Sites indicator species (see Appendix B) are highlighted in the grassland species list given in Appendix C.

Area 1B (+1H)

- 3.2 Areas 1B (and 1H) were previously surveyed in 2015 only. This area is within the A38 roundabout at Kingsway junction and is a Local Wildlife Site. This physically isolated, area lying between the A38 carriageways was previously recorded as an unmanaged area of neutral grassland which is suffering from extensive scrub encroachment due to lack of management. This remains the case and the site is becoming overgrown.
- 3.3 As recorded previously the grassland is drier at the eastern edge of the site where open herb-rich patches occur, and this is replaced in the western half by a damper sward which is typically dominated by species such as meadowsweet *Filipendula*

- ulmaria*, with other damp indicators such as soft-rush *Juncus effusus* and wild angelica *Angelica sylvestris* being present.
- 3.4 Red fescue *Festuca rubra* is prevalent in much of the open sward, along with varying amounts of crested dog's-tail *Cynosurus cristatus*, false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*, Yorkshire-fog *Holcus lanatus* and smooth meadow-grass *Poa pratensis*.
- 3.5 Herbs recorded include black knapweed *Centaurea nigra*, meadow vetchling *Lathyrus pratensis*, zigzag clover *Trifolium medium*, common sorrel *Rumex acetosa*, ragwort *Senecio jacobaea*, selfheal *Prunella vulgaris*, oxeye daisy *Leucanthemum vulgare*, wild strawberry *Fragaria vesca*, common spotted-orchid *Dactylorhiza fuchsii*, ribwort plantain *Plantago lanceolata*, bush vetch *Vicia sepium*, meadow buttercup *Ranunculus acris*, goat's-beard *Tragopogon pratensis*, hairy tare *Vicia hirsuta* and narrow leaved vetch *Vicia sativa ssp nigra*.
- 3.6 As previously, hoary ragwort *Senecio erucifolius* remains a frequent part of the sward and weed species such as dandelion (*Taraxacum officinale* agg.) also remain locally frequent.
- 3.7 Scrub encroachment is at least 50% cover, comprising largely dog-rose *Rosa canina* agg., bramble *Rubus fruticosus* agg, willow species *Salix* spp. and hawthorn *Crataegus monogyna*.
- 3.8 This area supported eleven grassland indicator species (nine were previously recorded): common knapweed, common spotted orchid, meadowsweet, wild strawberry, goat's-beard, hoary ragwort, meadow vetchling, oxeye daisy, selfheal, zigzag clover and narrow-leaved vetch.

Area 1D

- 3.9 Area 1D was previously surveyed in 2015 only. As recorded in 2015, this is an area of tall unmanaged grassland, which occurs by the Kingsway junction roundabout. The grassland remains dominated by false oat-grass with abundant red clover *Trifolium pratense* and frequent cow parsley *Anthriscus sylvestris*, red fescue, timothy *Phleum pratense*, hogweed *Heracleum sphondylium* and Yorkshire-fog, with lesser amounts of common mouse-ear *Cerastium fontanum*, creeping thistle *Cirsium arvense*, cock's-foot, smooth hawksbeard *Crepis capillaris*, ribwort plantain and smooth meadow-grass. It supports a herb component typical of neutral grassland, including meadow buttercup, creeping buttercup *Ranunculus repens*, goat's-beard, yarrow *Achillea millefolium*, common knapweed, oxeye daisy and tufted vetch *Vicia cracca*.
- 3.10 This area supported six grassland indicator species (four were previously recorded): smooth hawksbeard, goat's-beard, common and tufted vetches, common knapweed and oxeye daisy.

Area 1F

- 3.11 Area 1F was previously surveyed in 2015 only. This is an area of mown amenity grassland at Derby University, which has headlands, of in places 5 – 6 m width, where the sward grows tall. It should be noted that there is a habitat management plan written for the overall site, which encourages nature conservation enhancement. The University may implement this once the works associated with the Scheme have been completed, but this is unknown at this stage.
- 3.12 The mown grassland has low to moderate species diversity and is dominated by perennial rye-grass *Lolium perenne* with lesser amounts of grasses such as cock's-foot, Yorkshire-fog and smooth meadow-grass along with herbs such as hogweed, selfheal, creeping buttercup, white clover *Trifolium repens*, silverweed *Potentilla*

anserina, black medick *Medicago lupulina* and creeping cinquefoil *Potentilla reptans* present.

- 3.13 In the taller grassland areas, herbs identified include black medick, hogweed, creeping cinquefoil, meadow buttercup, creeping buttercup, dandelion, red clover, teasel *Dipsacus fullonum*, lesser stitchwort *Stellaria graminea*, couch grass *Elytrigia repens*, curled dock *Rumex crispus*, common vetch *Vicia sativa ssp sativa*, cut-leaved cranesbill *Geranium dissectum*, bird's-foot trefoil *Lotus corniculatus*, hairy tare, hedge woundwort *Stachys sylvatica*, selfheal, cow parsley and spear thistle *Cirsium vulgare*. At times the areas near the tree line became a taller ruderal community with species such as hogweed, great willowherb *Epilobium hirsutum*, bramble, cleavers *Galium aparine*, broad-leaved dock *Rumex obtusifolius* and red campion *Silene dioica* more prevalent.
- 3.14 The area was surrounded by areas of scrub (hawthorn and bramble prevalent) and mature woodland with species such as beech *Fagus sylvatica*, ash *Fraxinus excelsior*, cherry *Prunus* sp, hawthorn and oak *Quercus robur*, an apple *Malus* sp, alder *Alnus glutinosa* and silver birch *Betula pendula* present.
- 3.15 This area supported seven grassland indicator species (no species were recorded previously): lesser stitchwort, silverweed, common vetch, selfheal, bird's-foot trefoil, black medick and creeping cinquefoil.

Area 2E (+2F)

- 3.16 Area 2E was surveyed in both 2015 and 2017; Area 2F was only surveyed in 2015. This area is a Local Wildlife Site (Alfreton Road Rough Grassland LWS) and is designated under the Stw4 (a standing water site that supports seasonal drawdown zones and vegetation of open habitat) LWS selection criteria of inundation/ drawdown grassland (designated in 2007, see Derbyshire Wildlife Trust (2007) Alfreton Road Rough Grassland – Local Wildlife Site ER002 Ecological Survey & Local Wildlife Site Designation Assessment 2007).
- 3.17 As previously recorded, this is a horse-grazed field by the A38. In general, the area had similar species as recorded previously with local stands of perennial weeds such as common nettle, creeping thistle and spear thistle being present. In general, there are tall ruderal and scrubby areas, overgrazed grassland and large areas of New-Zealand pigmyweed *Crassula helmsii*. New Zealand pigmyweed was not recorded on site when the area was designated an LWS in 2007.
- 3.18 The field is variously inundated through the seasons and the invasive New-Zealand pigmyweed is locally dominant as seen during the previous survey in 2017. There is an area of open water with a draw down zone at the southern end of the field which is described separately in the notes for Area 2F below.
- 3.19 Creeping bent *Agrostis stolonifera* and red fescue often dominate the grasses, with lesser amounts of marsh foxtail *Alopecurus geniculatus*, Yorkshire-fog, cock's-foot and smooth meadow-grass; perennial rye-grass was a minor grass component.
- 3.20 Similar to previous surveys, the effects of heavy horse-grazing were manifested in the frequent occurrence of daisy *Bellis perennis*, silverweed, common ragwort and creeping buttercup. Buttercups appeared quite dominant across the site although the fact that they were in full flower may have exaggerated their dominance.
- 3.21 In addition, meadow buttercup, ribwort plantain, meadowsweet, meadow crane's-bill *Geranium pratense*, red clover, toad rush *Juncus bufonius*, sharp-flowered rush *Juncus acutiflorus*, gypsywort *Lycopus europaeus*, rat's tail plantain *Plantago major*, rib-wort plantain, mugwort *Artemisia vulgare*, water forget-me-not *Myostis scorpioides* and selfheal were also identified, along with small amounts of more diminutive herbs,

such as procumbent pearlwort *Sagina procumbens*, common mouse-ear, lesser stitchwort, cut-leaved crane's-bill and dove's-foot crane's-bill *Geranium molle*.

- 3.22 The area 2F was a large waterbody, which took up most of the southern part of the site. Species seen around the edges of the water included toad rush, floating sweet grass *Glyceria fluitans*, marsh foxtail, yellow flag *Iris pseudacorus*, water forget-me-not, an alga, New Zealand pigmyweed and gypsywort.
- 3.23 This area supported seven grassland indicator species (three were previously recorded): water forget-me-not, lesser stitchwort, meadowsweet, sharp-flowered rush, silverweed, selfheal and meadow crane's bill. The site also had 5 inundation/drawdown grassland indicator species: water forget-me-not, marsh foxtail, silverweed, floating sweet grass and creeping bent.

Area 2K

- 3.24 As with previous surveys carried out in 2015 and 2017, Area 2K is an unmanaged species-rich grassland sward, which occurs on a steep slope local to sewage works on the A38. Extensive scrub and encroachment from trees including ash and common hawthorn was still a feature of the site. The area was dominated by tall grasses with species such as stinging nettle locally frequent, but the grassland still supports a range of indicator species. Evidence of ash dieback was noted on ash saplings within area 2K in 2017, although this was not assessed in 2018.
- 3.25 The grassland was still dominated by false oat-grass, with frequent Yorkshire-fog. Other grasses recorded included cock's-foot, red fescue, smooth meadow-grass, common bent *Agrostis capillaris* although yellow oat-grass *Trisetum flavescens* was not recorded in 2018.
- 3.26 In terms of herb species, the sward remains similar to previous surveys with locally frequent oxeye daisy, scattered meadow vetchling, common bird's-foot-trefoil *Lotus corniculatus*, lupin *Lupinus* sp., burnet-saxifrage *Pimpinella saxifraga*, salad burnet *Poterium sanguisorba*, meadow buttercup, yarrow, common sorrel *Rumex acetosa*, selfheal, goat's-beard, common knapweed, ribwort plantain and bush vetch and smooth tare *Vicia tetrasperma*.
- 3.27 In 2018, it was noted that cleavers *Galium aparine* was frequent and hogweed appeared to be more abundant in the sward than previously recorded. Without management, it is likely that over time the area will degrade in quality.
- 3.28 Also not seen in 2018, but recorded previously, were species such as bladder campion *Silene vulgaris*, germander speedwell *Veronica chamaedrys* and zig-zag clover.
- 3.29 Additional species recorded in 2018 included red campion *Silene dioica*, cow parsley and hedge woundwort.
- 3.30 In 2018, ten grassland indicator species (10 were recorded in 2017) were recorded: oxeye daisy, goat's-beard, common knapweed, burnet-saxifrage, creeping cinquefoil, selfheal, common bird's-foot-trefoil, common vetch, and meadow vetchling and salad burnet.

Area 2Q

- 3.31 This area was surveyed in 2017 survey only. In 2017, Area 2Q was recorded as a very disturbed area of grassland established on a restored landfill site. Some areas were open, short rabbit grazed herb dominated and other areas were taller and grass dominated. The grassland surrounded a hard-standing area used for storage of old shipping containers. There was evidence of off-road biking and vehicle movements across much of the area especially the western half.

- 3.32 In 2018, overall and in terms of grassland, the site had a mix of short rabbit grazed/ disturbed grassland and more established tall grassland, which in places is extensive (central section has scattered scrub present also) but in others are smaller sections dispersed within scrub, scattered trees and tall ruderal areas (often as rides/ footpaths around site). The grassland areas have tall herbs scattered throughout, including teasel, hard rush *Juncus inflexus* and willowherbs *Epilobium* spp.)
- 3.33 In addition to the grassland areas, the site has extensive areas of dense and scattered scrub, areas of more mature trees (woodland/ treelines) and large areas of tall ruderals (particularly east/ south-east of the site). The area of storage containers remains quite extensive south of the site.
- 3.34 Grassland species recorded included false oat grass, common couch, red fescue, smooth meadow grass, Yorkshire fog and creeping bent, which were typical of the grasses recorded and herbs included black knapweed, ox eye daisy, black medick, hop trefoil *Trifolium campestre*, bird's-foot trefoil, tufted vetch, germander speedwell, white clover, perforate St-John's-wort *Hypericum perforatum*, meadow cranesbill, ribwort plantain, selfheal, creeping thistle, red bartsia *Odontites vernus*, silverweed, meadow vetchling, common spotted orchid, bee orchid *Ophrys apifera*, smooth hawk's-beard, lesser stitchwort and yarrow.
- 3.35 Stands of scrub including bramble, rose *Rosa* spp., hawthorn, willows and plantation woodland were found within the grassland areas, the tall ruderal areas and along the site boundary.
- 3.36 The large stands of tall ruderals included species such as rosebay willow herb *Chamerion angustifolium*, hogweed, stinging nettle, angelica and wild teasel. The eastern section of tall ruderal community appeared more like a marshy area and contained species such as hairy sedge *Carex hirta*, false fox sedge *Carex otrubae*, pendulous sedge *Carex pendula*, soft rush, hard rush, angelica, marsh thistle, common figwort *Scrophularia nodosa*, great hairy willowherb and tufted hair grass *Deschampsia cespitosa* along with scattered scrub.
- 3.37 Marsh woundwort *Stachys palustris*, a grassland indicator species, was recorded within areas of impeded drainage in 2017, but was not found in 2018.
- 3.38 The invasive non-native Japanese knotweed *Fallopia japonica* was found in various locations across the site, most of which have been previously recorded including along the western boundary and towards the north. A large stand not previously recorded was found to the north-east of the site (20m x 5m). Himalayan balsam *impatiens glandulifera* was also recorded at various locations across the site.
- 3.39 Additional species recorded (not seen in 2017) included bush vetch, cocksfoot, meadow cranesbill, smooth hawk's-beard, lupin, hogweed and perforate St-John's-wort.
- 3.40 A total of 17 grassland indicator species were recorded (10 were recorded previously); self-heal, oxeye daisy, common knapweed, black medick, bird's foot trefoil, hop trefoil, smooth hawksbeard, meadow cranesbill, perforate St-John's-wort, lesser stitchwort, creeping cinquefoil, meadow vetchling, silverweed, germander speedwell, common spotted orchid, bee orchid and tufted vetch *Vicia cracca*.

Bramble Brook

- 3.41 This was a shallow watercourse, which appeared be very silty. Much of the brook is covered by tall trees and woodland. No aquatic or marginal species were seen in the brook in the areas surveyed. Not all areas could be accessed because of dense vegetation. The main areas seen were within the Kingsway junction roundabout bounded by the A38.

Dam Brook

- 3.42 This watercourse was more like a large ditch that had quite steep sides and appeared silty. Part of the brook was open with herb and grass species dominating the sward. Pendulous sedge was occasional along the edge and soft rush was also noted; however, there were no aquatic species within the water itself.

Railway cutting ditch (Kingsway junction)

- 3.43 The ditch/ watercourse along the railway cutting near Kingsway junction roundabout and the north of the A38 was very shallow and had a variable base substrate being silty in some areas and a quite stony (old railway ballast possibly) substrate in others. The watercourse was covered by woodland with species scrub as ash and sycamore *Acer pseudoplatanus* present. Herbaceous species recorded on the banks of the brook included male fern *Dryopteris filix-mas*, herb bennet *Geum urbanum*, wood dock *Rumex sanguineus*, creeping buttercup, bramble, nettles, hedge woundwort, hogweed, cow parsley and great willowherb. An abundance of fly-tipped rubbish was present along one-side of the brook.
- 3.44 Only brooklime *Veronica beccabunga* (along with yellow flag as a marginal species) was recorded as a true aquatic species, but there were areas that had species typical of damper areas such as horsetail *Equisetum* sp, meadowsweet and water figwort *Scrophularia auriculata*.

4 Discussion and Recommendations

- 4.1 Botanical surveys were carried out on 6 areas of grassland (plus two other areas on two of the sites) and three watercourses, on the 13 and 14 June 2018.
- 4.2 The nature conservation assessment of the grassland used the criteria devised by DWT (2003, revised 2011 – see Appendix B). Each of the grassland indicator species recorded during the surveys was only worth 1 point in the assessment system. No species valued at 2 points were recorded.
- 4.3 Of the grasslands surveyed, Areas 1B, 2K and 2Q had 11, 8 and 17 indicator species recorded respectively, which satisfies the minimum species requirement of 8 for consideration to be taken forward for Local Wildlife Site (LWS) assessment. As neutral grasslands it is unlikely that they qualify as target habitats under Section 41 of the NERC Act; although with management the quality of the grasslands could potentially improve to come closer to priority habitat status. Area 2Q has over twice the minimum species requirement for LWS status, but other factors such as whether the grassland is a semi-natural grassland or in this case a secondary grassland would also be taken into consideration and disqualify it from selection.
- 4.4 Area 1B is already notified as a LWS and has nature conservation interest given the array of species found. However, this site is becoming overgrown and scrub and tall herbs are coming to dominate through a lack of management and this poses a threat to its LWS status.
- 4.5 Area 2E has tall ruderal and scrubby areas, overgrazed grassland and large areas of New-Zealand pigmyweed. New Zealand pigmyweed was not recorded on site when the area was designated a LWS in 2007. Any habitat improvements to the site to try to improve the botanical quality of the grassland could be compromised by the presence of the New Zealand pygmyweed as it favours a more open sward. There would also be biosecurity issues with trying to work in this area as this species is very easily spread by small plant fragments and could be spread to other sites. As it is listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended), spreading of the species could result in an offence.

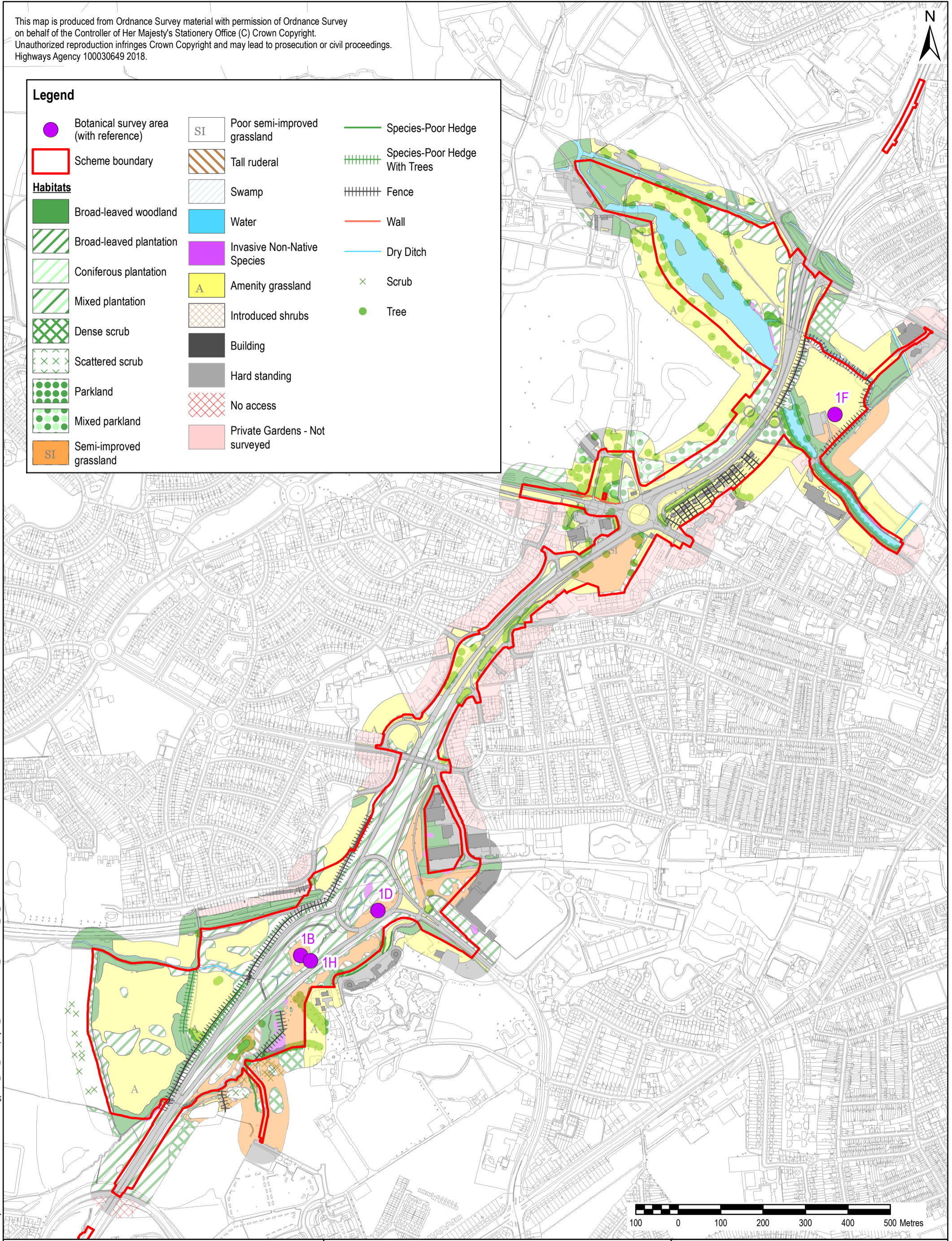
-
- 4.6 Area 2K is a small, steep, unmanaged slope with grassland, succeeding to scrub. If left unmanaged this grassland area would become covered by scrub within five to ten years, leading to a reduction and subsequent loss of grassland including the indicator species. However, given the number of indicator species found, with appropriate management this could potentially become a site of relatively high conservation value. The ash trees showed signs of ash dieback in 2017, which could slow down the development of the woody community, but could also have implications for translocation of plant material.
- 4.7 Area 2Q is a relatively large disturbed grassland mosaic which has developed on restored landfill. The grassland areas were found in the central areas of the site and then in sections under scrub and within areas of tall ruderal dominated communities. The areas of grassland were relatively diverse, and the site as a whole was considered to be of nature conservation interest and with management could potentially become a high-quality site of nature conservation value.
- 4.8 The three watercourses, Bramble Brook, Dam Brook and the stream within the old railway cutting at Kingsway junction roundabout were assessed for the presence of aquatic macrophyte species and in general few species were present, with only one brook having one aquatic species present. However, with careful management (tree and debris clearance and in-stream works), the brook to the north of the A38 at Kingsway junction (within the old railway cutting) could be improved for macrophyte value.
- 4.9 Recommendations for mitigation and/ or enhancement of grasslands as part of the Scheme will be considered and reported in the Environmental Statement.

Appendix A Figures

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Legend

- Botanical survey area (with reference)
- Scheme boundary
- Habitats**
- Broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Mixed plantation
- Dense scrub
- Scattered scrub
- Parkland
- Mixed parkland
- SI Semi-improved grassland
- SI Poor semi-improved grassland
- Tall ruderal
- Swamp
- Water
- Invasive Non-Native Species
- A Amenity grassland
- Introduced shrubs
- Building
- Hard standing
- No access
- Private Gardens - Not surveyed
- Species-Poor Hedge
- Species-Poor Hedge With Trees
- Fence
- Wall
- Dry Ditch
- × Scrub
- Tree



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<p>Project Title/Drawing Title</p> <h2 style="margin: 0;">A38 DERBY JUNCTIONS BOTANICAL SURVEYS 2018 KINGSWAY MARKEATON</h2>		<p>AECOM Internal Project Number 60533462</p>		<p>A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN</p>	
<p>Drawn GSB</p>	<p>Checked .</p>	<p>Approved .</p>		<p>AECOM Royal Court Basil Close, Chesterfield Derbyshire, S41 7SL +44 (0) 1246 209221 +44 (0) 1246 209229 www.aecom.com</p>	
<p>Date 17/09/2018</p>	<p>Scale @ A3 1:8,000</p>	<p>Purpose of issue FINAL</p>			
<p>Drawing Number Figure 1</p>		<p>Rev 0</p>			

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Legend

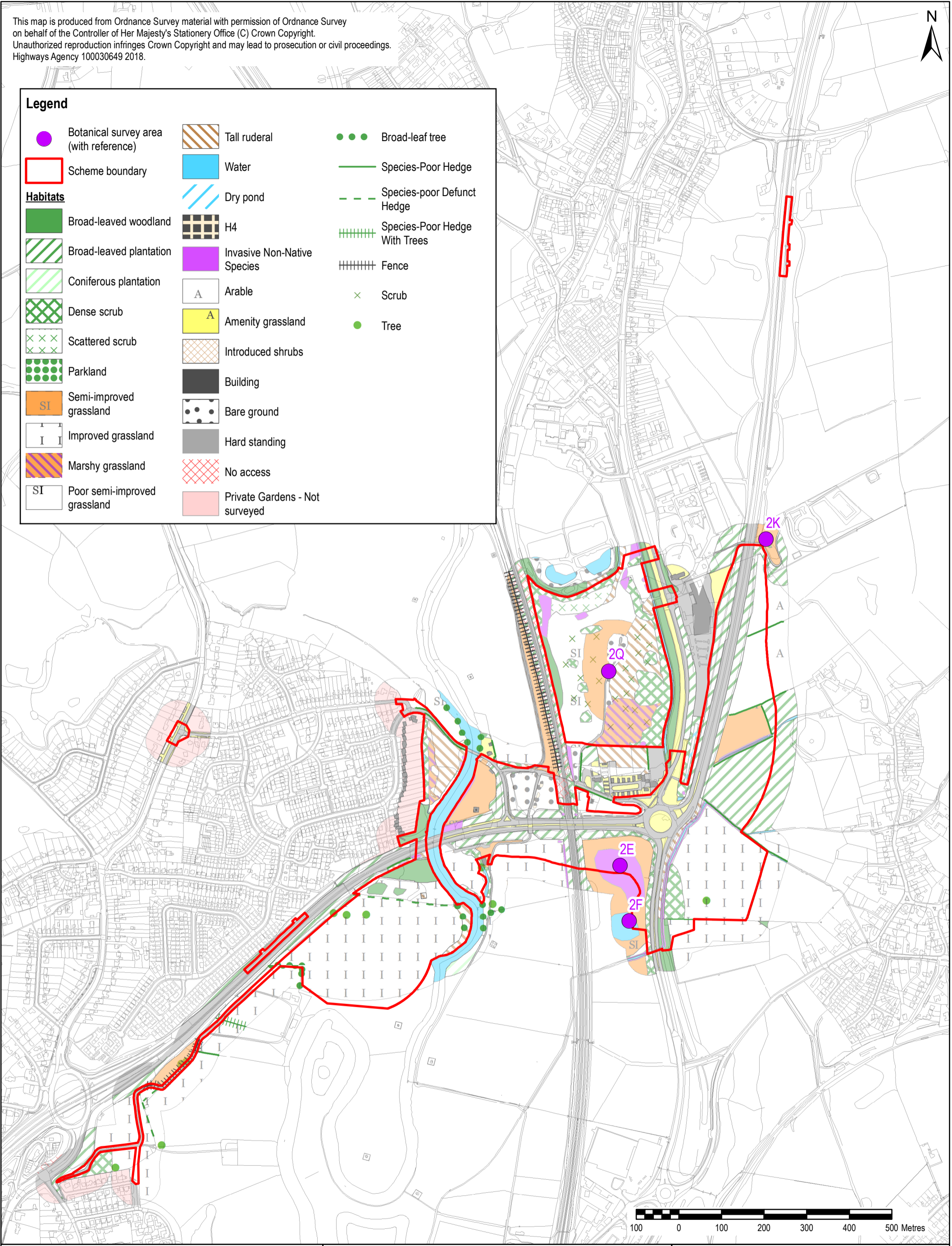
- Botanical survey area (with reference)
- Scheme boundary

Habitats

- Broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Dense scrub
- Scattered scrub
- Parkland
- Semi-improved grassland
- Improved grassland
- Marshy grassland
- Poor semi-improved grassland

- Tall ruderal
- Water
- Dry pond
- H4
- Invasive Non-Native Species
- Arable
- Amenity grassland
- Introduced shrubs
- Building
- Bare ground
- Hard standing
- No access
- Private Gardens - Not surveyed

- Broad-leaf tree
- Species-Poor Hedge
- - - Species-poor Defunct Hedge
- + + + + + Species-Poor Hedge With Trees
- + + + + + Fence
- x Scrub
- Tree



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<p>Project Title/Drawing Title</p> <p style="text-align: center;">A38 DERBY JUNCTIONS BOTANICAL SURVEYS 2018 LITTLE EATON</p>		<p>AECOM Internal Project Number 60533462</p>		<p>A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN</p>	
<p>Drawn GSB</p>	<p>Checked .</p>	<p>Approved .</p>		<p>AECOM Royal Court Basil Close, Chesterfield Derbyshire, S41 7SL +44 (0) 1246 209221 +44 (0) 1246 209229 www.aecom.com</p>	
<p>Date 17/09/2018</p>	<p>Scale @ A3 1:8,000</p>	<p>Purpose of issue FINAL</p>		<p>Rev 0</p>	
<p>Drawing Number Figure 2</p>					

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Appendix B Grassland Criteria

Grassland Assessment Criteria

The following grassland assessment is taken from DWT (2003, revised 2011).

“Gr2 Areas of semi-natural grassland including grassland mosaics that score the following values from the plant species within Table 2 (see below):

8 or more if in the following National Character Areas or in the Derby area:

- Needwood and South Derbyshire Claylands
- Potteries and Churnet Valley
- Mease/Sence Lowlands
- Melbourne Parklands
- Trent Valley Washlands
- Leicestershire & South Derbyshire Coalfield
- Nottinghamshire, Derbyshire & Yorkshire Coalfield (the survey area)”

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)	
All species score 1 with the exception of those species in bold which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009	
Scientific Name	Common Name
<i>Antennaria dioica</i>	Mountain everlasting
<i>Anthyllis vulneraria</i>	Kidney Vetch
<i>Aphanes australis</i>	Slender Parsley-piert
<i>Aquilegia vulgaris</i>	Columbine
<i>Arabis hirsuta</i>	Hairy Rock-cress
<i>Arenaria serpyllifolia</i>	Thyme-leaved Sandwort
<i>Astragalus glycyphyllos</i>	Wild Liquorice
<i>Betonica officinalis</i>	Betony
<i>Blackstonia perfoliata</i>	Yellow-wort
<i>Blysmus compressus</i>	Flat Sedge
<i>Botrychium lunaria</i>	Moonwort
<i>Briza media</i>	Quaking Grass
<i>Bromopsis erectus</i>	Upright Brome
<i>Bromus racemosus</i>	Smooth Brome
<i>Calluna vulgaris</i>	Heather
<i>Caltha palustris</i>	Marsh Marigold
<i>Campanula glomerata</i>	Clustered Bellflower
<i>Campanula rotundifolia</i>	Harebell
<i>Cardamine pratensis</i>	Cuckoo Flower
<i>Carduus nutans</i>	Musk Thistle

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)

All species score 1 with the exception of those species in **bold** which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009

<i>Carex acutiformis</i>	Lesser Pond-sedge
<i>Carex binervis</i>	Green-ribbed sedge
<i>Carex caryophyllea</i>	Spring Sedge
<i>Carex demissa</i>	Common Yellow Sedge
<i>Carex disticha</i>	Brown Sedge
<i>Carex echinata</i>	Star Sedge
<i>Carex ericetorum</i>	Rare Spring-sedge
<i>Carex flacca</i>	Glaucous Sedge
<i>Carex hostiana</i>	Tawny Sedge
<i>Carex laevigata</i>	Smooth-stalked Sedge
<i>Carex leporina</i>	Oval Sedge
<i>Carex montana</i>	Soft-leaved Sedge
<i>Carex muricata ssp. lamprocarpa</i>	Prickly Sedge
<i>Carex nigra</i>	Common Sedge
<i>Carex panicea</i>	Carnation Sedge
<i>Carex pilulifera</i>	Pill Sedge
<i>Carex pulicaris</i>	Flea Sedge
<i>Carex spicata</i>	Spiked Sedge
<i>Carlina vulgaris</i>	Carlina Thistle
<i>Catapodium rigidum</i>	Fern Grass
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Centaureum erythraea</i>	Common Centaury
<i>Cerastium arvense</i>	Field Mouse-ear
<i>Cirsium acaule</i>	Dwarf Thistle
<i>Cirsium dissectum</i>	Meadow Thistle
<i>Cirsium eriophorum</i>	Woolly Thistle
<i>Cirsium heterophyllum</i>	Melancholy Thistle
<i>Clinopodium acinos</i>	Basil Thyme
<i>Clinopodium vulgare</i>	Wild Basil
<i>Coeloglossum viride</i>	Frog Orchid
<i>Colchicum autumnale</i>	Meadow Saffron
<i>Conopodium majus</i>	Pignut
<i>Crepis capillaris</i>	Smooth Hawk's-beard
<i>Crepis paludosa</i>	Marsh Hawk's-beard
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
<i>Dactylorhiza hybrids</i>	Hybrid orchids
<i>Dactylorhiza incarnata</i>	Early Marsh-orchid
<i>Dactylorhiza maculata</i>	Heath-spotted-orchid
<i>Dactylorhiza praetermissa</i>	Southern Marsh-orchid
<i>Dactylorhiza purpurella</i>	Northern Marsh-orchid
<i>Danthonia decumbens</i>	Heath-grass
<i>Daucus carota</i>	Wild Carrot
<i>Deschampsia flexuosa</i>	Wavy Hair-grass

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)

All species score 1 with the exception of those species in **bold** which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009

<i>Dianthus deltoides</i>	Maiden Pink
<i>Digitalis purpurea</i>	Foxglove
<i>Eleocharis palustris</i>	Common Spike-rush
<i>Epilobium palustre</i>	Marsh Willowherb
<i>Epilobium parviflorum</i>	Hoary Willowherb
<i>Epipactis atrorubens</i>	Dark-red Helleborine
<i>Epipactis palustris</i>	Marsh Helleborine
<i>Equisetum palustre</i>	Marsh Horsetail
<i>Equisetum sylvaticum</i>	Wood Horsetail
<i>Erica cinerea</i>	Bell-heather
<i>Erica tetralix</i>	Cross-leaved Heather
<i>Erigeron acris</i>	Blue Fleabane
<i>Erodium cicutarium</i>	Common Stork's-bill
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Euphrasia anglica</i>	Eyebright
<i>Euphrasia confusa</i>	Eyebright
<i>Euphrasia nemorosa</i>	Eyebright
<i>Euphrasia officinalis ssp. pratensis</i>	Eyebright
<i>Festuca ovina</i>	Sheep's fescue
<i>Ficaria verna</i>	Lesser Celandine
<i>Filago vulgaris</i>	Common Cudweed
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Filipendula vulgaris</i>	Dropwort
<i>Fragaria vesca</i>	Wild Strawberry
<i>Galeopsis angustifolia</i>	Red Hemp-nettle
<i>Galium cruciata</i>	Crosswort
<i>Galium palustre</i>	Common Marsh-bedstraw
<i>Galium saxatile</i>	Heath Bedstraw
<i>Galium sternerii</i>	Limestone Bedstraw
<i>Galium uliginosum</i>	Fen Bedstraw
<i>Galium verum</i>	Lady's Bedstraw
<i>Genista anglica</i>	Petty Whin
<i>Genista tinctoria</i>	Dyer's Greenweed
<i>Gentianella amarella</i>	Autumn Gentian
<i>Gentianella campestris</i>	Field Gentian
<i>Geranium columbinum</i>	Long-stalked Crane's-bill
<i>Geranium pratense</i>	Meadow Crane's-bill
<i>Geranium pusillum</i>	Small-flowered Crane's-bill
<i>Geranium sanguineum</i>	Bloody Crane's-bill
<i>Geum rivale</i>	Water Avens
<i>Gnaphalium sylvaticum</i>	Heath Cudweed
<i>Gymnadenia conopsea</i>	Fragrant Orchid
<i>Helianthemum nummularium</i>	Common Rock-rose
<i>Helictotrichon pratensis</i>	Meadow Oat-grass

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)

All species score 1 with the exception of those species in **bold** which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009

<i>Helictotrichon pubescens</i>	Downy Oat-grass
<i>Hieracium</i> spp.	any Hawkweed
<i>Hippocrepis comosa</i>	Horseshoe Vetch
<i>Hordeum secalinum</i>	Meadow Barley
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Hypericum hirsutum</i>	Hairy St John's-wort
<i>Hypericum humifusum</i>	Trailing St John's-wort
<i>Hypericum maculatum</i>	Imperforate St John's-wort
<i>Hypericum montanum</i>	Pale St John's-wort
<i>Hypericum perforatum</i>	Perforate St John's-wort
<i>Hypericum pulchrum</i>	Slender St John's-wort
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Inula conyza</i>	Ploughman's Spikenard
<i>Isolepis setacea</i>	Bristle Club-rush
<i>Jasione montana</i>	Sheep's-bit
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus bulbosus</i>	Bulbous Rush
<i>Juncus compressus</i>	Round-fruited Rush
<i>Leontodon saxatilis</i>	Lesser Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Linum catharticum</i>	Fairy Flax
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Lotus pedunculatus</i>	Large Bird's-foot-trefoil
<i>Lotus tenuis</i>	Narrow-leaved Bird's-foot-trefoil
<i>Luzula campestris</i>	Field Wood-rush
<i>Luzula multiflora</i>	Heath Wood-rush
<i>Lysimachia nummularia</i>	Creeping Jenny
<i>Malva moschata</i>	Musk Mallow
<i>Medicago lupulina</i>	Black Medick
<i>Mentha aquatica</i>	Water Mint
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Myosotis discolor</i>	Changing Forget-me-not
<i>Myosotis ramosissima</i>	Early Forget-me-not
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Myosotis secunda</i>	Creeping Forget-me-not
<i>Narcissus pseudonarcissus</i>	Daffodil
<i>Nardus stricta</i>	Mat-grass
<i>Neotina ustulata</i>	Burnt Orchid
<i>Neottia ovata</i>	Common Twayblade
<i>Ononis repens</i>	Common Restharrow
<i>Ononis spinosa</i>	Spiny Restharrow
<i>Ophioglossum vulgatum</i>	Adder's-tongue Fern

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)

All species score 1 with the exception of those species in **bold** which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009

<i>Ophrys apifera</i>	Bee Orchid
<i>Ophrys insectifera</i>	Fly Orchid
<i>Pilosella officinarum</i> agg.	Mouse-ear Hawkweed
<i>Pimpinella major</i>	Greater Burnet-saxifrage
<i>Pimpinella saxifraga</i>	Burnet-saxifrage
<i>Plantago media</i>	Hoary Plantain
<i>Platanthera chlorantha</i>	Greater Butterfly Orchid
<i>Poa compressa</i>	Flattened Meadow-grass
<i>Poa humilis</i>	Spreading Meadow-grass
<i>Polemonium caeruleum</i>	Jacob's-ladder
<i>Polygala serpyllifolia</i>	Heath Milkwort
<i>Polygala vulgaris</i>	Common Milkwort
<i>Potentilla anglica</i>	Trailing Tormentil
<i>Potentilla anserina</i>	Silverweed
<i>Potentilla argentea</i>	Hoary Cinquefoil
<i>Potentilla crantzii</i>	Alpine Cinquefoil
<i>Potentilla erecta</i>	Tormentil
<i>Potentilla neumanniana</i>	Spring Cinquefoil
<i>Potentilla reptans</i>	Creeping Cinquefoil
<i>Potentilla sterilis</i>	Barren Strawberry
<i>Poterium sanguisorba</i>	Salad Burnet
<i>Primula veris</i>	Cowslip
<i>Primula vulgaris</i>	Primrose
<i>Prunella vulgaris</i>	Selfheal
<i>Pulicaria dysenterica</i>	Common Fleabane
<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Rhinanthus minor</i>	Hay Rattle
<i>Rumex acetosella</i>	Sheep's sorrel
<i>Sagina nodosa</i>	Knotted Pearlwort
<i>Sanguisorba officinalis</i>	Great Burnet
<i>Saxifraga granulata</i>	Meadow Saxifrage
<i>Saxifraga tridactylites</i>	Rue-leaved saxifrage
<i>Scabiosa columbaria</i>	Small Scabious
<i>Scorzoneroides autumnalis</i>	Autumn Hawkbit
<i>Scutellaria galericulata</i>	Skullcap
<i>Sedum acre</i>	Biting Stonecrop
<i>Sedum anglicum</i>	English Stonecrop
<i>Senecio aquaticus</i>	Marsh Ragwort
<i>Senecio erucifolius</i>	Hoary Ragwort
<i>Serratula tinctoria</i>	Saw-wort
<i>Silaum silaus</i>	Pepper-saxifrage
<i>Silene flos-cuculi</i>	Ragged Robin
<i>Solidago virgaurea</i>	Goldenrod

Table 2. Vascular Plant species of semi-natural grasslands in Derbyshire taken from DWT (2003, revised 2011)

All species score 1 with the exception of those species in **bold** which score 2; these species are listed in Derbyshire Vascular Plant Red Data List Species - 2009

<i>Stachys palustris</i>	Marsh Woundwort
<i>Stellaria alsine</i>	Bog Stitchwort
<i>Stellaria graminea</i>	Lesser Stitchwort
<i>Stellaria palustris</i>	Marsh Stitchwort
<i>Succissa pratensis</i>	Devil's-bit Scabious
<i>Teucrium scorodonia</i>	Wood Sage
<i>Thalictrum flavum</i>	Common Meadow-rue
<i>Thalictrum minus</i>	Lesser Meadow-rue
<i>Thymus polytrichus</i>	Wild Thyme
<i>Tragopogon pratensis</i>	Goat's-beard
<i>Trifolium arvense</i>	Hare's-foot Clover
<i>Trifolium campestre</i>	Hop Trefoil
<i>Trifolium medium</i>	Zigzag Clover
<i>Trifolium micranthum</i>	Slender Trefoil
<i>Trifolium striatum</i>	Knotted Clover
<i>Trifolium subterranean</i>	Subterranean Clover
<i>Triglochin palustris</i>	Marsh Arrowgrass
<i>Trisetum flavescens</i>	Yellow Oat Grass
<i>Trollius europaeus</i>	Globe Flower
<i>Vaccinium myrtillus</i>	Bilberry
<i>Valeriana officinalis</i>	Common Valerian
<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Veronica officinalis</i>	Heath Speedwell
<i>Veronica scutellata</i>	Marsh Speedwell
<i>Vicia cracca</i>	Tufted Vetch
<i>Vicia sativa ssp. sativa</i>	Common Vetch
<i>Vicia sativa subsp. nigra</i>	Narrow-leaved Vetch
<i>Viola canina</i>	Heath Dog-violet
<i>Viola hirta</i>	Hairy Violet
<i>Viola lutea</i>	Mountain Pansy
<i>Viola reichenbachiana</i>	Early Dog-violet
<i>Viola riviniana</i>	Common Dog-violet




Appendix C Grassland Species List

Scientific name	English name	1B	1D	1F	2E	2K	2Q
<i>Achillea millefolium</i>	Yarrow		R			O	O
<i>Agrostis capillaris</i>	Common Bent			O	F	O	R
<i>Agrostis stolonifera</i>	Creeping Bent				LA		LD
<i>Alchemilla sp</i>	Lady's Mantle						LF
<i>Alliaria petiolata</i>	Garlic Mustard			O			R
<i>Alopecurus geniculatus</i>	Marsh Foxtail				F		
<i>Alopecurus pratensis</i>	Meadow Foxtail		O	O			
<i>Angelica sylvestris</i>	Angelica	R					LO
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass					R	
<i>Anthriscus sylvestris</i>	Cow Parsley		F	LF		O	
<i>Arctium lappa</i>	Greater Burdock						R
<i>Armoracia rusticana</i>	Horse-radish				R		LF
<i>Arrhenatherum elatius</i>	False Oat-grass	F	A	A		D	F-LD
<i>Artemisia vulgaris</i>	Mugwort				O		O
<i>Bellis perennis</i>	Daisy		O		F		O/LF
<i>Bromus hordeaceus</i>	Soft-Brome			O			
<i>Cardamine flexuosa</i>	Wavy Bitter-cress						
<i>Carex hirta</i>	Hairy sedge						LF
<i>Carex otrubae</i>	False fox Sedge						O
<i>Carex pendula</i>	Pendulous sedge						R
<i>Centaurea nigra</i>	Common Knapweed	R	R			F	O-LF
<i>Cerastium fontanum</i>	Common Mouse-ear	R	O		R	R	R
<i>Chamerion angustifolium</i>	Rosebay Willowherb						LA
<i>Cirsium arvense</i>	Creeping Thistle		O	LF	F/LD	O	LA
<i>Cirsium palustre</i>	Marsh Thistle						LF
<i>Cirsium vulgare</i>	Spear Thistle	R		O	F/LD		R
<i>Conium maculatum</i>	Hemlock						
<i>Convolvulus arvensis</i>	Field Bindweed	O				LF	
<i>Crassula helmsii</i>	New Zealand Pigmyweed				LD		
<i>Crataegus monogyna</i>	Hawthorn	F		LF		F	F
<i>Crepis capillaris</i>	Smooth hawksbeard		F				O
<i>Cynosurus cristatus</i>	Crested Dog's-tail	LF	LF				
<i>Dactylis glomerata</i>	Cock's-foot	O	O	F	O	LF	
<i>Dactylorhiza fuchsii</i>	Common spotted orchid	LF					O
<i>Deschampsia caespitosa</i>	Tufted Hair-Grass						R
<i>Dipsacus fullonum</i>	Wild Teasel	O	R	LF			LF
<i>Elymus repens</i>	Couch grass		O	O			O
<i>Epilobium hirsutum</i>	Great Willowherb				LF		LF
<i>Epilobium parvifolius</i>	Hoary Willowherb						LF
<i>Equisetum arvense</i>	Field horsetail						R
<i>Fallopia japonica</i>	Japanese Knotweed						LA
<i>Festuca rubra</i>	Red Fescue	LF	F	F	LF	F	LF

Scientific name	English name	1B	1D	1F	2E	2K	2Q
Filipendula ulmaria	Meadowsweet	LD			LD		
Fragaria vesca	Strawberry	R					
<i>Fraxinus excelsior</i>	Ash					O	O
<i>Galium aparine</i>	Cleavers			O			LF
<i>Galium verum</i>	Ladies bedstraw					R	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill		LF	LF			O
<i>Geranium molle</i>	Dove's-foot Crane's-bill				R		
Geranium pratense	Meadow Crane's-bill				O		O
<i>Geranium robertianum</i>	Herb Robert			R			
<i>Geum urbanum</i>	Wood avens	R					O
<i>Glyceria fluitans</i>	Floating sweet-grass				LF		
<i>Heracleum sphondylium</i>	Hogweed		F	O/LF	F	F	LF
<i>Holcus lanatus</i>	Yorkshire-fog	O	F	LA	F	F	F
<i>Hypericum perforatum</i>	Perforate St John's-wort					R	LF
<i>Hypochaeris radicata</i>	Cat's ear	R					
<i>Impatiens glandulifera</i>	Himalayan Balsam						O/LA
<i>Iris pseudocorus</i>	Yellow Flag				O		
Juncus acutiflorus	Sharp-flowered rush				LF		
<i>Juncus bufonius</i>	Toad rush				LA		
<i>Juncus effusus</i>	Soft-rush	O					O
<i>Juncus inflexus</i>	Hard Rush			O			O
Lathyrus pratensis	Meadow Vetchling	O				LO	R
Leucanthemum vulgare	Oxeye Daisy	LF	R			LF	LF
<i>Lolium perenne</i>	Perennial rye-grass	R	O	A/LD	R	R	O
Lotus corniculatus	Common Bird's-foot-trefoil			LF		O	LF
<i>Lupinus sp.</i>	Lupin sp.					O	O
<i>Lycopus europaeus</i>	Gypsywort				R		
<i>Lysamachia vulgaris</i>	Yellow loosestrife						
<i>Lythrum salicaria</i>	Purple-loosestrife						
Medicago lupulina	Black Medick			LF			O-LF
<i>Melilotus officinalis</i>	Common mellilot						LF
Myosotis scorpioides	Water forget-me-not				O/LF		
Ophrys apifera	Bee Orchid						R
<i>Odonites verna</i>	Red bartsia						R
<i>Phleum pratense</i>	Timothy		R				
<i>Helminthotheca echioides</i>	Bristly Oxtongue			R			O
<i>Pilosella aurantiaca</i>	Fox and Cubs			R			R
<i>Pilosella officinarum</i>	mouse-ear hawkweed						R
Pimpinella saxifraga	Burnet-saxifrage					R	
<i>Phalaris arundinacea</i>	Reed canary grass						LF
<i>Phleum pratense</i>	Timothy		R				
<i>Plantago lanceolata</i>	Ribwort Plantain	LF	F	LF	O-F	O	O
<i>Polygonum amphibium</i>	Amphibious bistort						LF
<i>Poa annua</i>	Annual Meadow-grass						R
<i>Poa pratensis</i>	Smooth Meadow-grass	O	O	F	O-F	O	O
<i>Poa trivialis</i>	Rough Meadow-grass		O				O
Potentilla anserina	Silverweed			O/LF	LF		LF

Scientific name	English name	1B	1D	1F	2E	2K	2Q
<i>Potentilla reptans</i>	Creeping Cinquefoil			O		R	LF
<i>Poterium sanguisorba</i>	Salad burnet					R	
<i>Prunella vulgaris</i>	Selfheal	O		O/LF	O	O	O
<i>Prunus sp.</i>	Cherry			LF			
<i>Ranunculus acris</i>	Meadow Buttercup	LF	O	LF	A	O	
<i>Ranunculus repens</i>	Creeping Buttercup		O	F	A		LF
<i>Reseda luteola</i>	Weld			R			R
<i>Rosa canina agg.</i>	Dog-rose	LF		LF			LA
<i>Rubus fruticosus agg.</i>	Bramble	LF		LA			LA-F
<i>Rumex acetosa</i>	Common Sorrel	R	O			O	O
<i>Rumex crispus</i>	Curled Dock		R	O	O		O
<i>Rumex obtusifolius</i>	Broad-leaved Dock		O	O			O
<i>Sagina procumbens</i>	Procumbent pearlwort				O		
<i>Salix sp.</i>	Willow spp.			O			LF
<i>Senecio erucifolius</i>	Hoary ragwort	F					
<i>Senecio jacobaea</i>	Common Ragwort	O	LF	LF	F		O-LF
<i>Senecio vulgaris</i>	Groundsel						O
<i>Scorophularia auriculata</i>	Water figwort	R					R
<i>Silene dioica</i>	Red Campion			O			O
<i>Silene latifolia</i>	White Campion			R			
<i>Silene vulgaris</i>	Bladder Campion						
<i>Stachys palustris</i>	Marsh woundwort						
<i>Stachys sylvatica</i>	Hedge Woundwort			O			R
<i>Stellaria graminea</i>	Lesser Stitchwort			O	R		O
<i>Tanacetum vulgare</i>	Tansy				R		R
<i>Taraxacum officinale agg.</i>	Dandelion	LF		O	O	R	O
<i>Tragopogon pratensis</i>	Goat's-beard	O	O			O	
<i>Trifolium dubium</i>	Lesser trefoil						R
<i>Trifolium medium</i>	Zigzag Clover	LD					
<i>Trifolium pratense</i>	Red Clover		A		O		LF
<i>Trifolium repens</i>	White Clover			F	F		LF
<i>Trisetum flavescens</i>	Yellow Oat-grass						
<i>Tussilago farfara</i>	Colt's-foot						O
<i>Urtica dioica</i>	Common Nettle			O	LFD	LF	LD
<i>Veronica chamaedrys</i>	Germander Speedwell						LF
<i>Vicia cracca</i>	Tufted Vetch		R				O-LF
<i>Vicia hirsuta</i>	Hairy Tare	O		F		R	
<i>Vicia sativa ssp nigra</i>	Narrow leaved vetch	O					
<i>Vicia sativa ssp sativa</i>	Common Vetch		R	O		R	O
<i>Vicia sepium</i>	Bush Vetch		O			R	LF
<i>Vicia tetrasperma</i>	Smooth Tare	O				O	O
TOTAL NUMBER OF LOCAL WILDLIFE SITE GRASSLAND INDICATOR SPECIES (all score 1 in Table 2 in Derbyshire Wildlife Trust 2003 rev 2011) (i.e. Species shown in red in the table)		11	6	7	7	10	10

Appendix D Photographs

<p>1B grassland area by A38 within Kingsway junction roundabout (LWS)</p>	
<p>1D Area of tall unmanaged grassland near Kingsway junction roundabout</p>	
<p>1F Amenity Grassland with headlands around edge near Markeaton junction</p>	

2E grazed grassland at
Alfreton Road Rough
Grassland LWS, Little Eaton
junction



2K grassland area on steep
slope (near sewage works)
with extensive scrub
encroachment at Little Eaton
junction



2Q grassland on restored
landfill site with scattered
scrub at Little Eaton
junction

