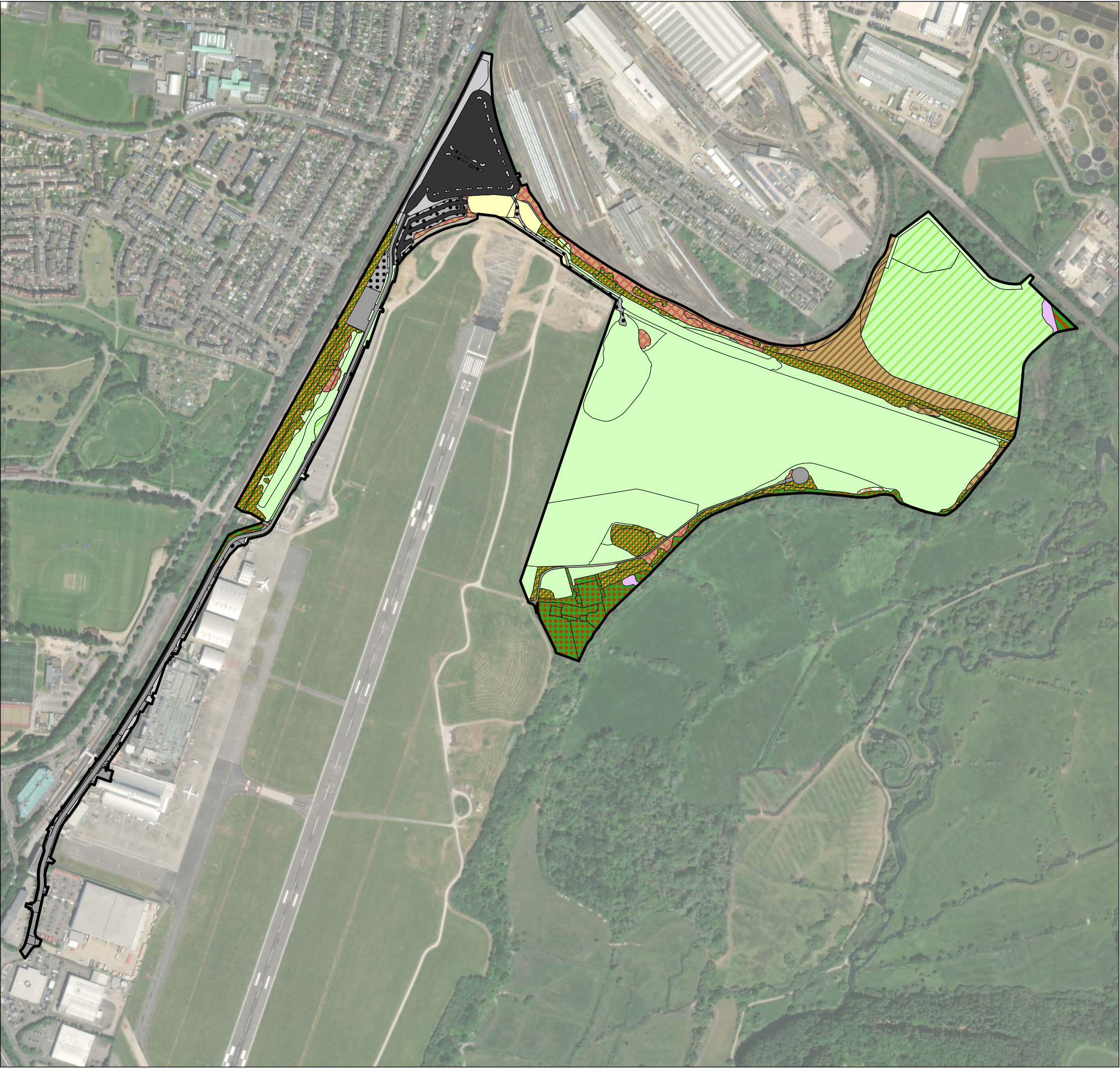
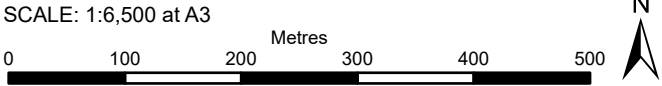




MAP 4a UK Habitat Classification for Survey Area

KEY

-  Survey area
-  f2f - Other wetlands
-  g1c - Bracken
-  g3c - Other neutral grassland
-  g3c5 - Arrhenatherum neutral grassland
-  g4 - Modified grassland
-  h3a - Blackthorn scrub
-  h3a6 - Other blackthorn scrub
-  h3d - Bramble scrub
-  h3f - Hawthorn scrub
-  h3h - Mixed scrub
-  u1 - Built-up areas and gardens
-  u1b - Developed land, sealed surface
-  u1b5 - Buildings
-  u1b6 - Other developed land
-  u1c - Artificial unvegetated, unsealed surface
-  w1d - Wet woodland
-  w1g - Other broadleaved woodland



CLIENT: Bloc Works

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DATE: 22 May 2025



MAP 4b UK Habitat Classification for Site Boundary

- KEY
- Site boundary
 - f2f - Other wetlands
 - g1c - Bracken
 - g3c - Other neutral grassland
 - g3c5 - Arrhenatherum neutral grassland
 - g4 - Modified grassland
 - h3a - Blackthorn scrub
 - h3a6 - Other blackthorn scrub
 - h3d - Bramble scrub
 - h3f - Hawthorn scrub
 - h3h - Mixed scrub
 - u1 - Built-up areas and gardens
 - u1b - Developed land, sealed surface
 - u1b6 - Other developed land
 - u1c - Artificial unvegetated, unsealed surface
 - w1d - Wet woodland
 - w1g - Other broadleaved woodland



CLIENT: Bloc Works

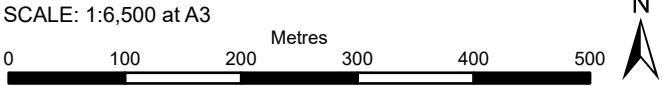
PROJECT: Southampton Airport - Navigator Quarter

DATE: 22 May 2025



MAP 5 Species of Conservation Interest

- KEY
-  Site boundary
 -  *Rosa spinosissima*
 -  *Rosa stylosa*
 -  *Teloschistes chrysophthalmos*



CLIENT: Bloc Works

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DATE: 22 May 2025

Annex 1

Flora of Survey Area

Table A1: Flora recorded from Survey Area – all Survey Compartments

Species	Species	Comments
Trees and tall shrubs		
<i>Acer campestre</i>	Maple	
<i>Acer pseudoplatanus</i>	Sycamore	
<i>Cornus sanguinea</i>	Dogwood	
<i>Corylus avellana</i>	Hazel	
<i>Crataegus monogyna</i>	Hawthorn	
<i>Fagus sylvatica</i>	Beech	
<i>Fraxinus excelsior</i>	Ash	
<i>Ilex aquifolium</i>	Holly	
<i>Ligustrum cf vulgare</i>	[Wild] Privet	
<i>Malus cf pumila</i>	Apple	
<i>Prunus spinosa</i>	Sloe	
<i>Prunus lusitanica</i>	Portugal Laurel	
<i>Quercus robur</i>	Pedunculate Oak	
<i>Rosa canina</i> agg	Dog Rose	
<i>Rosa rubiginosa</i>	Sweet Briar	
<i>Rosa</i> sp.	Rose species	
<i>Rosa stylosa/Rosa canina x stylosa</i> = <i>R. x andegavensis</i>	Short-styled Field-rose or hybrid with Dog Rose	County Responsibility species. Rare in Survey Area. Recorded from edge of scrub in North Stoneham Farm area (SC1) and scrub on northern edge of SC2.
<i>Salix cinerea oleifolia</i>	Sallow or Rusty Willow	
<i>Sambucus nigra</i>	Elder	
<i>Symphoricarpos alba</i>	Snowberry	
<i>Tilia x europaea</i>	Lime	
<i>Ulmus minor</i> agg.	Small-leaved Elm	
Woody Climbers		
<i>Solanum dulcamara</i>	Bittersweet	
Under Shrubs		
<i>Rosa spinosissima</i>	Burnet Rose	
Grasses		
<i>Agrostis capillaris</i>	Common Bent	
<i>Agrostis stolonifera</i>	Creeping Bent	
<i>Alopecurus pratensis</i>	Meadow Foxtail	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	
<i>Arrhenatherum elatius</i>	False Oat-grass	
<i>Brachypodium sylvaticum</i>	False Wood-brome	
<i>Bromus hordeaceus</i>	Soft Brome	

Species	Species	Comments
<i>Cynosurus cristatus</i>	Crested Dog's-tail	
<i>Dactylis glomerata</i>	Cocksfoot	
<i>Elymus repens</i>	Common Couch	
<i>Festuca rubra</i>	Red Fescue	
<i>Holcus lanatus</i>	Meadow Soft-grass	
<i>Lolium perenne</i>	Perennial Rye-grass	
<i>Poa annua</i>	Annual Meadow-grass	
<i>Poa pratensis</i> agg	Meadow-grass	
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	
<i>Schedonorus arundinaceus</i>	Tall Fescue	
Ferns		
<i>Asplenium scolopendrium</i>	Harts tongue fern	
<i>Dryopteris filix-mas</i>	Male-fern	
<i>Pteridium aquilinum</i>	Bracken	
Other Vascular Plants		
<i>Achillea millefolium</i>	Yarrow	
<i>Agrimonia eupatoria</i>	Agrimony	
<i>Anthriscus sylvestris</i>	Cow Parsley	
<i>Arctium minus</i> s.l.	Lesser Burdock	
<i>Bellis perennis</i>	Daisy	
<i>Carex hirta</i>	Hairy Sedge	
<i>Centaurea nigra</i>	Black Knapweed	
<i>Cerastium fontanum</i>	Common Mouse-ear	
<i>Cerastium glomeratum</i>	Sticky Mouse-ear	
<i>Cirsium arvense</i>	Creeping Thistle	
<i>Cirsium vulgare</i>	Spear Thistle	
<i>Clinopodium vulgare</i>	Wild Basil	
<i>Convolvulus arvensis</i>	Field Bindweed	
<i>Crepis capillaris</i>	Smooth Hawk's-beard	
<i>Daucus carota</i>	Wild Carrot	
<i>Dipsacus fullonum</i>	Teasel	
<i>Erigeron</i> sp.	Fleabane species	
<i>Ervilla hirsuta</i>	Hairy Tare	
<i>Ervum tetraspermum</i>	Smooth Tare	
<i>Eupatorium cannabinum</i>	Hemp-agrimony	
<i>Galium aparine</i>	Cleavers	
<i>Galium verum</i>	Lady's Bedstraw	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	
<i>Geranium molle</i>	Dove's-foot Crane's-bill	
<i>Geranium robertianum</i>	Herb Robert	
<i>Glechoma hederacea</i>	Ground Ivy	

Species	Species	Comments
<i>Helminthotheca echioides</i>	Bristly Oxtongue	
<i>Heracleum sphondylium</i>	Hogweed	
<i>Hypericum hirsutum</i>	Hairy St John's-wort	
<i>Hypericum perforatum</i>	Perforate St John's-wort	
<i>Hypochaeris radicata</i>	Cat's-ear	
<i>Iris foetidissima</i>	Stinking Iris	
<i>Jacobaea erucifolia</i>	Hoary Ragwort	
<i>Jacobaea vulgaris</i>	Ragwort	
<i>Lamium album</i>	White Dead-nettle	
<i>Lathyrus nissolia</i>	Grass Vetchling	
<i>Lathyrus pratensis</i>	Meadow vetchling	
<i>Leontodon saxatilis</i>	Lesser Hawkbit	
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	
<i>Lysimachia arvensis</i>	Scarlet Pimpernel	
<i>Medicago lupulina</i>	Black Medick	
<i>Myosotis arvensis</i>	Field Forget-me-not	
<i>Ophrys apifera</i>	Bee Orchid	
<i>Plantago lanceolata</i>	Ribwort Plantain	
<i>Plantago major</i>	Greater Plantain	
<i>Potentilla reptans</i>	Creeping Cinquefoil	
<i>Potentilla x mixta s.l</i>	Potentilla hybrid	
<i>Poterium sanguisorba</i>	Salad Burnet	
<i>Prunella vulgaris</i>	Selfheal	
<i>Pulicaria dysenterica</i>	Fleabane	
<i>Ranunculus acris</i>	Meadow Buttercup	
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	
<i>Ranunculus repens</i>	Creeping Buttercup	
<i>Reseda luteola</i>	Weld	
<i>Rubus fruticosus</i>	Blackberry	
<i>Rumex acetosa</i>	Common Sorrel	
<i>Rumex crispus</i>	Curled Dock	
<i>Rumex obtusifolius</i>	Broad-leaved Dock	
<i>Scorzoneroidea autumnalis</i>	Autumn Hawkbit	
<i>Sonchus asper</i>	Prickly Sow-thistle	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	
<i>Stellaria graminea</i>	Lesser Stitchwort	
<i>Taraxacum sp.</i>	Dandelion	
<i>Torilis japonica</i>	Upright Hedge-parsley	
<i>Trifolium dubium</i>	Lesser Trefoil	
<i>Trifolium pratense</i>	Red Clover	
<i>Trifolium repens</i>	White Clover	

Species	Species	Comments
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	
<i>Urtica dioica</i>	Stinging Nettle	
<i>Veronica chamaedrys</i>	Germander Speedwell	
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	
<i>Viola odorata</i>	Sweet Violet	
Lichens		
<i>Teloschistes chrysophthalmus</i>	Golden Eye	Rare in Survey Area. Two thalli in scrub on edge of North Stoneham Farm area (SC1)
Total No. of Species	118	

Annex 2

Grassland Flora and Vegetation in Survey Compartment 1: North Stoneham Farmstead

Flora of Grasslands in Survey Compartment 1: North Stoneham Farmstead

Key to Table A2.1:

RA – Relative Abundance: A subjective estimate of the relative abundance of a species recorded under the DAFOR scale where D – Dominant; A – Abundant; F – Frequent; O – Occasional; and R – Rare. The prefix L – Local for species that appear to have localised abundances.

Comment: Field observation on abundance of SINC grassland indicator species,

SINC LM: Species listed in the Hampshire SINC selection guidelines for Lowland Meadow (HBIC, 2021)

Table A2.1: Flora recorded from grassland areas in Survey Compartment 1

Species		RA	Comment	SINC LM
Grasses				
<i>Agrostis capillaris</i>	Common Bent	F/LA		
<i>Alopecurus pratensis</i>	Meadow Foxtail	R		
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	LO		
<i>Arrhenatherum elatius</i>	False Oat-grass	A/D		
<i>Dactylis glomerata</i>	Cocksfoot	LF		
<i>Festuca rubra</i>	Red Fescue	LO		
<i>Holcus lanatus</i>	Meadow Soft-grass	O		
<i>Schedonorus arundinaceus</i>	Tall Fescue	O/LA		
Other herbaceous species				
<i>Achillea millefolium</i>	Yarrow	LF		
<i>Agrimonia eupatoria</i>	Agrimony	VLO		1
<i>Anthriscus sylvestris</i>	Cow Parsley	R		
<i>Carex hirta</i>	Hairy Sedge	LO		
<i>Centaurea nigra</i>	Black Knapweed	VLF	Restricted to one area of grassland on the grounds of the former North Stoneham Farm	1
<i>Cerastium fontanum</i>	Common Mouse-ear	LO		
<i>Cirsium arvense</i>	Creeping Thistle	LO		
<i>Cirsium vulgare</i>	Spear Thistle	R		
<i>Clinopodium vulgare</i>	Wild Basil	VLA		
<i>Convolvulus arvensis</i>	Field Bindweed	R		
<i>Crepis capillaris</i>	Smooth Hawk's-beard	R		
<i>Dipsacus fullonum</i>	Teasel	R		

Species		RA	Comment	SINC LM
<i>Eupatorium cannabinum</i>	Hemp Agrimony	R		
<i>Galium verum</i>	Lady's Bedstraw	R		1
<i>Glechoma hederacea</i>	Ground Ivy	VLF		
<i>Hypericum perforatum</i>	Perforate St John's-wort	LO		
<i>Jacobaea vulgaris</i>	Ragwort	LA		
<i>Lamium album</i>	White Dead-nettle	R		
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	LA		
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	R		1
<i>Medicago lupulina</i>	Black Medick	LO		
<i>Plantago lanceolata</i>	Ribwort Plantain	LO		
<i>Potentilla reptans</i>	Creeping Cinquefoil	R		
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	R		
<i>Rubus fruticosus</i>	Blackberry	LF		
<i>Rumex acetosa</i>	Common Sorrel	R		
<i>Stellaria graminea</i>	Lesser Stitchwort	LF		
<i>Torilis japonica</i>	Upright Hedge-parsley	R		
<i>Urtica dioica</i>	Stinging Nettle	LF		
<i>Veronica chamaedrys</i>	Germander Speedwell	LF		
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	R		
Mosses				
<i>Pseudoscleropodium purum</i>	Neat Feathermoss	VLF		
Total No. of Species	39			4

Table A2.2: Quadrat samples of grassland vegetation in Survey Compartment 1. All these grasslands are on areas formerly in close association with North Stoneham Farm. All are now rank grassland, some managed occasionally. All have scrub encroaching on them.

Species		Cover (Domin)		
<i>Arrhenatherum elatius</i>	False Oat-grass	4	5	8
<i>Agrostis capillaris</i>	Common Bent	8	4	
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	5	6	4
<i>Jacobaea vulgaris</i>	Ragwort	4	1	5
<i>Dactylis glomerata</i>	Cocksfoot	3	1	1
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	3		
<i>Veronica chamaedrys</i>	Germander Speedwell	2	1	
<i>Stellaria graminea</i>	Lesser Stitchwort	2		
<i>Rumex acetosa</i>	Common Sorrel	1		
<i>Rosa rubiginosa</i>	Sweet Briar	1 (seedling)		
<i>Festuca rubra</i>	Red Fescue		5	2
<i>Pseudoscleropodium purum</i>	Neat Feathermoss		5	
<i>Achillea millefolium</i>	Yarrow		4	2
<i>Clinopodium vulgare</i>	Wild Basil		4	
<i>Schedonorus arundinaceus</i>	Tall Fescue		3	2
<i>Hypericum perforatum</i>	Perforate St John's-wort		1	
<i>Cirsium arvense</i>	Creeping Thistle			3
<i>Holcus lanatus</i>	Meadow Soft-grass			2
<i>Torilis japonica</i>	Upright Hedge-parsley			2
<i>Anthriscus sylvestris</i>	Cow Parsley			1
<i>Convolvulus arvensis</i>	Field Bindweed			1
No. of species		10	12	12
Grid Reference		SU 45773 17393	SU 45755 17365	SU 45666 17341
Quadrat Number		Q18	Q19	Q20
Quadrat size		2m x 2m		
Date		11/09/2024	11/09/2024	11/09/2024
Surveyor		AMC		
TN		Recently topped, herb-poor MG1	NVC Quadrat sample from uncut MG1 verge	Rank MG1 in old farmstead

Annex 3

Grassland Flora and Vegetation in Survey Compartment 2: North Stoneham Farm Field

Flora of Grasslands in Survey Compartment 2: North Stoneham Farm Field

Key to Table A3.1:

RA – Relative Abundance. A subjective estimate of the relative abundance of a species recorded under the DAFOR scale where D – Dominant; A – Abundant; F – Frequent; O – Occasional; and R – Rare. The prefix L – Local for species that appear to have localised abundances and V – Very for species with very few individuals.

Comment: Field observation on abundance of SINC grassland indicator species,

SINC LM: Species listed in the Hampshire SINC selection guidelines for Lowland Meadow (HBIC, 2021)

Table A3.1: Flora recorded from grassland area in Survey Compartment 2.

Species		RA	Comment	SINC LM
Grasses				
<i>Agrostis capillaris</i>	Common Bent	A		
<i>Agrostis stolonifera</i>	Creeping Bent	R		
<i>Alopecurus pratensis</i>	Meadow Foxtail	R		
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	F		
<i>Arrhenatherum elatius</i>	False Oat-grass	LA		
<i>Cynosurus cristatus</i>	Crested Dog's-tail	R		
<i>Dactylis glomerata</i>	Cocksfoot	F		
<i>Festuca rubra</i>	Red Fescue	F		
<i>Holcus lanatus</i>	Meadow Soft-grass	F		
<i>Lolium perenne</i>	Perennial Rye-grass	R		
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	R		
<i>Schedonorus arundinaceus</i>	Tall Fescue	LD		
Other Vascular Plants				
<i>Achillea millefolium</i>	Yarrow	R/O		
<i>Anthriscus sylvestris</i>	Cow Parsley	R		
<i>Carex hirta</i>	Hairy Sedge	R		
<i>Centaurea nigra</i>	Knapweed	VR	One plant seen	1
<i>Cerastium fontanum</i>	Common Mouse-ear	LO		
<i>Cirsium arvense</i>	Creeping Thistle	R		
<i>Convolvulus arvensis</i>	Field Bindweed	O		
<i>Crepis capillaris</i>	Smooth Hawk's-beard	R		
<i>Ervilla hirsuta</i>	Hairy Tare	R		
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	R		

Species		RA	Comment	SINC LM
<i>Geranium molle</i>	Dove's-foot Cranesbill	R		
<i>Glechoma hederacea</i>	Ground Ivy	R		
<i>Heracleum sphondylium</i>	Hogweed	R		
<i>Hypericum perforatum</i>	Perforate St John's-wort	R		
<i>Hypochaeris radicata</i>	Cat's-ear	LO		
<i>Jacobaea vulgaris</i>	Ragwort	LO		
<i>Lamium album</i>	White Dead-nettle	R		
<i>Lathyrus nissolia</i>	Grass Vetchling	R		
<i>Lathyrus pratensis</i>	Meadow vetchling	R	Only recorded in small numbers on the edges of the field.	1
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	O	Thinly scattered	1
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	LO	Scattered in eastern end of field and along disturbed soils of pipeline route	1
<i>Plantago lanceolata</i>	Ribwort Plantain	R		
<i>Potentilla reptans</i>	Creeping Cinquefoil	LO		
<i>Prunella vulgaris</i>	Selfheal	R		
<i>Pulicaria dysenterica</i>	Fleabane	VR	One small patch in NE corner	1
<i>Ranunculus acris</i>	Meadow Buttercup	O		
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	LF		
<i>Ranunculus repens</i>	Creeping Buttercup	R		
<i>Rubus fruticosus</i>	Blackberry	R		
<i>Rumex acetosa</i>	Common Sorrel	F		
<i>Rumex crispus</i>	Curled Dock	R		
<i>Scorzoneroide autumnalis</i>	Autumn Hawkbit	R		
<i>Stellaria graminea</i>	Lesser Stitchwort	LF		
<i>Taraxacum sp.</i>	Dandelion	R		
<i>Trifolium dubium</i>	Lesser Trefoil	R		
<i>Trifolium pratense</i>	Red Clover	LO		
<i>Trifolium repens</i>	White Clover	LO		
<i>Veronica chamaedrys</i>	Germander Speedwell	LO		
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	R		
Total No. of Species		55		5

Table A3.2: Quadrat data from 17 quadrats from the herb-poor mesic grassland in Survey Compartment 2. The grassland vegetation is here is referred to as a lightly-managed form of the grassland MG6 Festuca rubra - Holcus lanatus - Anthoxanthum odoratum grassland described in the review of the NVC (Rodwell et al., 2000).

Species		Constancy	No. of Quadrats	Cover (Domin)
<i>Rumex acetosa</i>	Common Sorrel	V	16	1-3
<i>Agrostis capillaris</i>	Common Bent	V	16	1-9
<i>Festuca rubra</i>	Red Fescue	V	15	2-7
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	V	15	1-3
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	V	14	1-5
<i>Holcus lanatus</i>	Meadow Soft-grass	IV	13	1-6
<i>Stellaria graminea</i>	Lesser Stitchwort	III	8	1-2
<i>Dactylis glomerata</i>	Cocksfoot	III	7	1-4
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	II	6	2-6
<i>Ranunculus acris</i>	Meadow Buttercup	II	6	1-5
<i>Convolvulus arvensis</i>	Field Bindweed	II	5	1-3
<i>Schedonorus arundinaceus</i>	Tall Fescue	II	5	6-10
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	II	4	1-4
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	II	4	1-2
<i>Jacobaea vulgaris</i>	Ragwort	II	4	1-4
<i>Trifolium repens</i>	White Clover	I	3	1-3
<i>Veronica chamaedrys</i>	Germander Speedwell	I	3	2-3
<i>Hypochaeris radicata</i>	Cat's-ear	I	3	1-3
<i>Arrhenatherum elatius</i>	False Oat-grass	I	2	1
<i>Cerastium fontanum</i>	Common Mouse-ear	I	2	1-3
<i>Lolium perenne</i>	Perennial Rye-grass	I	2	1-2
<i>Taraxacum sp.</i>	Dandelion	I	2	1
<i>Trifolium pratense</i>	Red Clover	I	2	1
<i>Lathyrus pratensis</i>	Meadow vetchling	I	2	3
<i>Achillea millefolium</i>	Yarrow	I	1	3
<i>Anthriscus sylvestris</i>	Cow Parsley	I	1	1
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	I	1	2
<i>Jacobaea erucifolia</i>	Hoary Ragwort	I	1	1
<i>Potentilla reptans</i>	Creeping Cinquefoil	I	1	3
<i>Trifolium dubium</i>	Lesser Trefoil	I	1	3
<i>Agrostis stolonifera</i>	Creeping Bent	I	1	6
<i>Cynosurus cristatus</i>	Crested Dog's-tail	I	1	1
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	I	1	3
<i>Carex hirta</i>	Hairy Sedge	I	1	1
<i>Ranunculus repens</i>	Creeping Buttercup	I	1	2
<i>Rumex crispus</i>	Curled Dock	I	1	1
Total No. of Species	36			
Average No. of spp. per quadrat (total of 17 quadrats)	11.5 (7-21)			

This grassland varies across the area and is subdivided into the following types:

- MG6 grassland from main area of field. – see **Table A3.3**
- MG6 grassland from main area of field but with abundant *Schedonorus arundinaceus* - see **Table A3.4**
- MG6 Damp, rank variation and less actively managed on the southern part of the field adjacent to navigation building - see **Table A3.5**
- MG6 grassland on the northern edge of the field over a buried pipeline route. Modified, disturbed soils, and less actively managed. See **Table A3.6**
- MG6 – grassland vegetation re-establishing on an area on the western edge used as a works compound. This was, before the works, part of the grassland types on the main area of the field. See **Table A3.7**

Quadrat samples for each of the variants above have been used to compile the grassland constancy table in **Table A3.2** above.

Table A3.3: Quadrat data from herb-poor mesic grassland across the main area of the field.

Quadrat Number		Q1	Q2	Q3	Q6	Q10	Q12	Q13	Q21	Q23	
Species		Cover/abundance Domin									Constancy
<i>Agrostis capillaris</i>	Common Bent	6	7	8	9	9	8	7	9	9	V
<i>Festuca rubra</i>	Red Fescue	6	7	6	4	3	3	4	2	5	V
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	2	2	3	3	1	3	3	1	1	V
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	5		5	5	2	5	3	4	4	V
<i>Rumex acetosa</i>	Common Sorrel	4	1	3	3	3		3	1	3	V
<i>Holcus lanatus</i>	Meadow Soft-grass	6	3		2	3	1	7		1	IV
<i>Dactylis glomerata</i>	Cocksfoot		3		1	4			3		III
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	3			2	3				6	III
<i>Ranunculus acris</i>	Meadow Buttercup	5	2			1		1			III
<i>Hypochaeris radicata</i>	Cat's-ear			1			[4]		3		II
<i>Convolvulus arvensis</i>	Field Bindweed	1							2		II
<i>Jacobaea vulgaris</i>	Ragwort						1		4		II
<i>Leucanthemum vulgare</i>	Ox-eye Daisy					3			4		II
<i>Stellaria graminea</i>	Lesser Stitchwort	2				1					II
<i>Trifolium repens</i>	White Clover	1						3			II
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	1						2			II
<i>Arrhenatherum elatius</i>	False Oat-grass						1				I
<i>Lolium perenne</i>	Perennial Rye-grass				2						I
<i>Achillea millefolium</i>	Yarrow					3					I
<i>Cerastium fontanum</i>	Common Mouse-ear								3		I
<i>Potentilla reptans</i>	Creeping Cinquefoil									3	I
<i>Taraxacum sp.</i>	Dandelion				1						I
<i>Trifolium dubium</i>	Lesser Trefoil						3				I
<i>Trifolium pratense</i>	Red Clover			1							I
<i>Veronica chamaedrys</i>	Germander Speedwell									3	I
Total No. of Species	25	12	7	7	10	12	9	9	11	9	25

Average No. of Species per quadrat	9.6 (9 quadrats)										
NVC Type		MG6x									
Quadrat Size		2m x 2m									
Quadrat Number		Q1	Q2	Q3	Q6	Q10	Q12	Q13	Q21	Q23	
Grid Reference		SU 45842 17704	SU 45903 17685	SU 45973 17668	SU 46354 17566	SU 46297 17488	SU 46033 17543	SU 45760 17591	SU 46050 17522	SU 46328 17540	
Survey Compartment		2. North Stoneham Farm Field									
Date		01/11/2023				09/11/20 23	09/11/20 23	15/11/20 23	11/09/20 24	11/09/2 024	
Surveyor		AMC									
TN		Herb-poor grassland cut once a year and cuttings removed.									
Management		Mown once a year at 10-15cm height to minimise use by birds (airfield control)									

This grassland is here referred to the NVC grassland type MG6x (Rodwell et al., 2000).

Table A3.4: Quadrat data from mesic grassland NVC: MG6x with abundant Tall Fescue *Schedonorus arundinaceus*

Species		Cover/abundance Domin		
<i>Agrostis capillaris</i>	Common Bent	5	1	5
<i>Festuca rubra</i>	Red Fescue	5	5	4
<i>Schedonorus arundinaceus</i>	Tall Fescue	6	8	5
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass		3	4
<i>Holcus lanatus</i>	Meadow Soft-grass	5	3	
<i>Dactylis glomerata</i>	Cocksfoot			4
<i>Lolium perenne</i>	Perennial Rye-grass	1		
<i>Poa trivialis</i>	Rough-stalked Meadow-grass			3
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	3	3	1
<i>Rumex acetosa</i>	Common Sorrel	3	1	3
<i>Stellaria graminea</i>	Lesser Stitchwort	1		2
<i>Vicia sativa subsp. segetalis</i>	Common Vetch	2	1	
<i>Leucanthemum vulgare</i>	Ox-eye Daisy			1
<i>Ranunculus acris</i>	Meadow Buttercup		1	
<i>Taraxacum sp.</i>	Dandelion			1
No. of Species	15	9	9	11
Average No. of sp. per quadrat	10			
NVC Type		MG6x with Sa	MG6x with Sa	MG6x with Sa
Quadrat No.		Q14	Q15	Q16
Quadrat Size		2m x 2m		
Grid Reference		SU 45771 17558	SU 45783 17498	SU 45745 17437
Survey Compartment Name		North Stoneham Farm Field		
Date		15/11/2023		
Surveyor		AMC		
Field Note		Mesic grassland with <i>S. arundinaceus</i> locally abundant.		
Quadrat size		2m x 2m		

**Table A3.5 Quadrats from the southern area of the field adjacent to the navigation building.
This area is damp and mown less frequently than the main area of grassland**

Species	Species	Cover/abundance Domin	
Grasses			
<i>Schedonorus arundinaceus</i>	Tall Fescue	9	10
<i>Agrostis capillaris</i>	Common Bent		3
<i>Holcus lanatus</i>	Meadow Soft-grass		3
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass		1
<i>Dactylis glomerata</i>	Cocksfoot	3	
<i>Arrhenatherum elatius</i>	False Oat-grass	1	
Other herbaceous species			
<i>Rumex acetosa</i>	Common Sorrel	3	2
<i>Stellaria graminea</i>	Lesser Stitchwort	1	2
<i>Jacobaea vulgaris</i>	Ragwort	3	3
<i>Lotus corniculatus</i>	Bird's-foot Trefoil		4
<i>Convolvulus arvensis</i>	Field Bindweed		3
<i>Lathyrus pratensis</i>	Meadow vetchling		3
<i>Leucanthemum vulgare</i>	Ox-eye Daisy		3
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill		2
<i>Ranunculus repens</i>	Creeping Buttercup		2
<i>Carex hirta</i>	Hairy Sedge		1
<i>Cerastium fontanum</i>	Common Mouse-ear		1
<i>Anthriscus sylvestris</i>	Cow Parsley	1	
<i>Rumex crispus</i>	Curled Dock	1	
No. of Species		8	15
NVC Type		Mesic grassland (MG6x) with Tall Fescue Mesic grassland with Tall Fescue	
Quadrat No. NVC		Q11	Q22
Quadrat Size		2m x 2m	
Grid Reference		SU 46207 17509	SU 46188 17523
Survey Compartment Name		North Stoneham Farm Field	
Survey Compartment Area		Southern edge around tower	Southern edge around tower
Date		09/11/2023	11/09/2024
Surveyor		AMC	
TN		Mown infrequently. Rank and with Rubus establishing	

Table A3.6 Quadrats from the eastern part of presumed route of pipeline on northern edge of field

Species		Cover/abundance Domin	
<i>Agrostis capillaris</i>	Common Bent	9	10
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	4	2
<i>Cynosurus cristatus</i>	Crested Dog's-tail		1
<i>Dactylis glomerata</i>	Cocksfoot		2
<i>Festuca rubra</i>	Red Fescue	4	4
<i>Holcus lanatus</i>	Meadow Soft-grass	3	1
<i>Convolvulus arvensis</i>	Field Bindweed		3
<i>Jacobaea erucifolia</i>	Hoary Ragwort		1
<i>Lathyrus pratensis</i>	Meadow vetchling		1
<i>Lotus corniculatus</i>	Bird's-foot Trefoil		4
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	3	2
<i>Rumex acetosa</i>	Common Sorrel	3	3
<i>Stellaria graminea</i>	Lesser Stitchwort	1	1
<i>Trifolium pratense</i>	Red Clover		1
<i>Trifolium repens</i>	White Clover		2
<i>Veronica chamaedrys</i>	Germander Speedwell	3	2
Total No. of Species	16	8	16
NVC Type		MG6x	MG6x transitional to MG5
Quadrat No. NVC		Q5	Q24
Quadrat Size		2m x 2m	
Grid Reference		SU 46351 17609	SU 46358 17604
Survey Compartment Name		North Stoneham Farm Field	
Survey Compartment Area		Pipeline: Eastern half	
Date		01/11/2023	11/09/2024
Surveyor		AMC	AMC
TN		Herb-poor grassland on pipeline easement	Grassland on pipeline easement.
Field Note		Less intensively mown than main area of field. Cut to c. 15cm height.	

Table A3.7: Quadrat from the western edge of the field that was recently a works compound area. This area probably lost most of its vegetation cover during the work and is now becoming recolonised by vegetation. Possible that the area has been sown following end of work

Species		Cover/abundance Domin
<i>Agrostis</i> sp.	Bent sp.	6
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	6
<i>Holcus lanatus</i>	Meadow Soft-grass	5
<i>Ranunculus acris</i>	Meadow Buttercup	5
<i>Convolvulus arvensis</i>	Field Bindweed	3
<i>Rumex acetosa</i>	Common Sorrel	3
<i>Festuca rubra</i>	Red Fescue	2
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	1
No. of Species		8
NVC Type		Grassland establishing – originally part of the main area of MG6x before works clearance.
Quadrat No. NVC		Q17
Quadrat size		2m x 2m
Grid Reference		SU 45789 17649
Survey Compartment Name		North Stoneham Farm Field
Survey Compartment Area		Former Works Area
Date		15/11/2023
Surveyor		AMC
TN		Mown area of spoil storage/works area.
Field Note		Early stage of establishment. <i>Agrostis</i> sp. ID not confirmed

Table A3.8: Quadrats from rank, unmanaged grassland with abundant False Oat-grass *Arrhenatherum elatius* on the northern edge of the field. This grassland is being invaded by scrub

Species	Species	Relative abundance (Domin)	
<i>Arrhenatherum elatius</i>	False Oat-grass	9	8
<i>Agrostis capillaris</i>	Common Bent	3	5
<i>Festuca rubra</i>	Red Fescue	2	5
<u><i>Dactylis glomerata</i></u>	<u>Cocksfoot</u>	1	4
<i>Trifolium repens</i>	White Clover	4	3
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	3	4
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	2	3
<i>Stellaria graminea</i>	Lesser Stitchwort	2	2
<i>Vicia sativa</i> subsp. <i>segetalis</i>	Common Vetch	2	2
<i>Cerastium fontanum</i>	Common Mouse-ear	2	2
<i>Achillea millefolium</i>	Yarrow	2	
<i>Veronica chamaedrys</i>	Germander Speedwell	2	
<i>Convolvulus arvensis</i>	Field Bindweed	1	
<i>Rumex acetosa</i>	Common Sorrel		1
<i>Jacobaea vulgaris</i>	Ragwort		1
No. of Species in quadrat		13	12
Grid Reference		SU 45850 17810	SU 45994 17749
Date		01/11/2023	09/11/2023
Surveyor		AMC	AMC
Quadrat No.		Q4	Q7
Quadrat size		2 x 2	2 x 2
NVC Type		MG1	MG1
Field Note	Rank False-Oat Grassland at northern edge of field. Unmanaged. Being Invaded by scrub		

Annex 4

Flora and vegetation data from Compartment 4: Northern Field

Table A4.1: Flora recorded from grassland in Survey Compartment 4. This is mostly a rank grassland with abundant False Oat-grass *Arrhenatherum elatius*. Parts of the northern and northwestern edge are grazed by rabbits that have produced a shorter, more diverse sward

Species		Abundance	Comment
Shrubs			
<i>Crataegus monogyna</i>	Hawthorn	R (Seedling)	
<i>Rosa sp.</i>	Rose species	R (Seedling)	
Grasses			
<i>Agrostis capillaris</i>	Common Bent	LA	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	R	
<i>Arrhenatherum elatius</i>	False Oat-grass	D	
<i>Brachypodium sylvaticum</i>	False Wood-brome	VLF	
<i>Bromus hordeaceus</i>	Soft Brome	R	
<i>Dactylis glomerata</i>	Cocksfoot	O	
<i>Festuca rubra</i>	Red Fescue	O	
<i>Holcus lanatus</i>	Meadow Soft-grass	LF/LA	
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	R?	
Ferns			
<i>Pteridium aquilinum</i>	Bracken	R	
Other herbaceous species			
<i>Arctium minus nemorosum</i>	Lesser Burdock	R	
<i>Centaurea nigra</i>	Knapweed	R	A couple of plants seen in the south eastern corner
<i>Cerastium fontanum</i>	Common Mouse-ear	LF	
<i>Cirsium arvense</i>	Creeping Thistle	LA	Locally abundant, especially in damper hollows across the field.
<i>Cirsium vulgare</i>	Spear Thistle	R-LO	
<i>Convolvulus arvensis</i>	Field Bindweed	R	
<i>Crepis capillaris</i>	Smooth Hawk's-beard	R	
<i>Erigeron sp. (E. ?canadensis)</i>	Canadian Fleabane	VLO	
<i>Ervum tetraspermum</i>	Smooth Tare	O	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	LO	
<i>Geranium molle</i>	Dove's-foot Cranesbill	LO	
<i>Glechoma hederacea</i>	Ground Ivy	LF	
<i>Hypericum perforatum</i>	Perforate St John's-wort	R	
<i>Iris foetidissima</i>	Stinking Iris	R	On the northern edge close to railway ballast
<i>Jacobaea vulgaris</i>	Ragwort	LO	
<i>Leontodon saxatilis</i>	Lesser Hawkbit	R	
<i>Lysimachia arvensis</i>	Scarlet Pimpernel	R	

Species		Abundance	Comment
<i>Myosotis arvensis</i>	Field Forget-me-not	R	
<i>Plantago major</i>	Greater Plantain	R	
<i>Potentilla reptans</i>	Creeping Cinquefoil	LO	
<i>Potentilla x mixta s.l</i>	Potentilla hybrid	R	
<i>Prunella vulgaris</i>	Selfheal	R	
<i>Ranunculus repens</i>	Creeping Buttercup	LF	
<i>Rubus fruticosus</i>	Blackberry	R	
<i>Rumex crispus</i>	Curled Dock	R	
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	R	
<i>Trifolium repens</i>	White Clover	LF	
<i>Urtica dioica</i>	Stinging Nettle	LA	Locally abundant, especially in damper hollows across the field.
<i>Veronica chamaedrys</i>	Germander Speedwell	LF	
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	R	
Mosses			
<i>Brachythecium rutabulum</i>	Moss	R	
<i>Kindbergia praelongum</i>	Moss	R	
Total No. of species recorded from grassland	45		

Table A4.2: Quadrats from rank, unmanaged grassland with abundant False Oat-grass *Arrhenatherum elatius* (NVC:MG1) forming the main part of the field and the rabbit-grazed grassland fringe the northern edge of the field (MG6)

Species		Q8	Q9
		Abundance (Domin)	
<i>Arrhenatherum elatius</i>	False Oat-grass	9	1
<i>Veronica chamaedrys</i>	Germander Speedwell	5	
<i>Agrostis capillaris</i>	Common Bent	4	9
<i>Dactylis glomerata</i>	Cocksfoot	4	
<i>Jacobaea vulgaris</i>	Ragwort	2	1
<i>Ervum tetraspermum</i>	Smooth Tare	2	
<i>Ranunculus repens</i>	Creeping Buttercup	1	4
<i>Cerastium fontanum</i>	Common Mouse-ear	1	2
<i>Centaurea nigra</i>	Knapweed	1	
<i>Holcus lanatus</i>	Meadow Soft-grass		4
<i>Glechoma hederacea</i>	Ground Ivy		3
<i>Trifolium repens</i>	White Clover		3
<i>Erigeron</i> sp. (<i>E. ?canadensis</i>)	(Canadian?) Fleabane		1
<i>Geranium molle</i>	Dove's-foot Crane's-bill		1
<i>Hypericum perforatum</i>	Perforate St John's-wort		1
<i>Potentilla reptans</i>	Creeping Cinquefoil		1
<i>Prunella vulgaris</i>	Selfheal		1
<i>Rubus fruticosus</i>	Blackberry		1
<i>Sonchus oleraceus</i>	Smooth Sow-thistle		1
<i>Brachythecium rutabulum</i>	Moss		1
No. of species		9	16
Grid Reference		SU 46465 17670	SU 46263 17911
Date		09/11/2023	09/11/2023
Surveyor		AMC	AMC
TN		Rank False-Oat Grassland	Herb-poor pasture. Rabbit-grazed edge of field. MG6x



NAVIGATOR QUARTER, SOUTHAMPTON AIRPORT: MITCHELL WAY LINK ROAD

Breeding Bird Survey

Report for: Southampton International Airport Limited

Ref. 84004775

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Customer:

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Customer reference:

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Appendices

APPENDIX 1 BREEDING BIRD SURVEY DATA

APPENDIX 2 BREEDING BIRD TERRITORY MAPS

1. INTRODUCTION

1.1 BACKGROUND

Ricardo Energy & Environment were commissioned by Southampton International Airport Limited to undertake breeding bird surveys in relation to proposals for a freeport development in the Southampton Navigator Quarter area and submit a planning application. The requirement for the breeding bird surveys in the Navigator Quarter is driven by the presence of suitable supporting habitat for breeding birds which includes scrub, woodland and grassland.

This breeding bird survey report has focussed on Mitchell Way link road present at the Navigator Quarter only and the potential impact of the proposed development on breeding birds.

1.2 SURVEY AREA AND LOCATION

Mitchell Way link road is located on the north-west side of Southampton Airport, centred roughly at Ordnance Survey National Grid Reference (NGR) SU 45824 17830 and is shown in **Figure 1.1**. The survey area consists of semi-improved grassland, scrub, scrub woodland, broadleaved woodland and hard standing. The site is also adjacent to the River Itchen Special Area of Conservation (SAC) and River Itchen Site of Special Scientific Interest (SSSI).

1.3 OBJECTIVES

The objectives of the breeding bird survey were to:

- Identify any legally protected species using habitat of the Mitchell Way link road of the Navigator Quarter;
- Identify any nationally, regionally or locally significant species using habitat of the Mitchell Way link road of the Navigator Quarter, including Local Biodiversity Action Plan Species and Species of Principle Importance (priority species);
- Identify key habitat areas for feeding and roosting for those species recorded; and
- Assess the potential impact of the proposed development on breeding birds using habitat of the Mitchell Way link road of the Navigator Quarter (if present).

1.4 LEGISLATION AND GUIDANCE

There are several different acts of legislation and guidance with particular relevance to birds, which are outlined below. This is a short summary of relevant legislation and guidance, that should not be considered a definitive legal opinion.

1.4.1 Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations), as amended, provides for the designation and protection of a network of 'European sites' (also termed national site network), including Special Areas of Conservation (SACs) and SPAs.

Regulation 43 creates the following offences relating to European Protected Species (EPS):

- deliberately capture, injure or kill any wild animal of a European Protected Species;
- deliberately disturb animals of any such species in such a way as to be likely to:
 - impair their ability to survive, breed, rear or nurture their young, hibernate or migrate, or
 - significantly affect the local distribution or abundance of the species to which they belong;
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.



Figure 1.1 Survey area at the Mitchell Way link road (red line).

1.4.2 The Wildlife and Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) provides for designation and protection of SSSIs, which are areas that represent the most valuable habitats in the United Kingdom (UK) for nature conservation. In addition, it is the principal legislation affording protection to UK wild birds.

The Act creates the following offences in relation to wild bird:

- To intentionally kill, injure, or take any wild bird or their eggs or nests (with exception to species listed in Schedule 2).
- To intentionally disturb species listed on Schedule 1 of the Act whilst building or occupying a nest or intentionally disturb their dependent young.

It also provides a mechanism of making any of the above offences legal, through the granting of licences by the appropriate authorities.

1.4.3 Natural Environment and Rural Communities Act 2006

A number of birds feature on the Natural Environment and Rural Communities (NERC) Act 2006¹, Section 41 (S41), as species which are of principal importance for the conservation of biodiversity in England. The Section 41 list is used to guide decision-makers, such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

1.4.4 Birds of Conservation Concern

The Birds of Conservation Concern (BoCC) is a review of the conservation status of all birds occurring regularly in the UK. Bird species are classified into the following categories:

- Red list (high conservation concern) species are those that are globally threatened according to International Union for the Conservation of Nature (IUCN) criteria. These include those whose population or range has declined rapidly ($\geq 50\%$) in recent years and those that have declined historically and not shown a substantial recent recovery;
- Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe. These include those whose population or range has declined moderately (between 25% and 49%) in recent years, has declined historically but made a substantial recent recovery, rare breeders and those with internationally important or localised populations; and
- Green list (low conservation concern) species that fulfil none of the above criteria.

1.4.5 Local Biodiversity Action Plans

Some bird species are afforded local protection through Local Biodiversity Action Plans (LBAP), which lists species of importance in the local area. In relation to the Mitchell Way link road of the Navigator Quarter, the conservation of habitats supporting any species listed in the Southampton LBAP and also recorded on site should be encouraged in accordance with the LBAP.

1.5 LIMITATIONS

The survey visits at Mitchell Way link road were undertaken from 1st April 2022 - 6th July 2022. Due to mist present across the site on 14th April, visibility was categorised as moderate which may have impacted on species detection, particularly for fly overs.

It is noted that this report deals with matters of legal significance but does not constitute professional legal advice. The Client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document, which is summarised in **Section 1.4**.

¹ [Natural Environment and Rural Communities Act 2006 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2006/30/section/41) Accessed July 2021.

2. METHODOLOGY

2.1 DESK STUDY

Prior to site visits a data search was undertaken to compile existing bird data from Hampshire Biodiversity Information Centre. This gave an indication of potential species using Mitchell Way link road.

2.2 FIELD SURVEY

Prior to starting the breeding bird survey, the date, start time, time of sunrise, temperature (°C), wind speed and direction, percentage cloud cover and possibility of rain were all recorded. The end time and weather conditions at the end of the survey were also noted. Each survey was undertaken during suitable weather conditions. The breeding bird survey broadly followed the BTO territory mapping method², recording and mapping all the bird species either seen or heard using the standard BTO species codes on a large-scale field map and taking note of sex and age where appropriate. In addition, any signs of breeding activity were noted.

The following approach was adopted:

- A survey transect was walked at a slow, ambling pace, stopping to scan priority habitat/ features where appropriate, with a minimum distance of 50 m between each transect route.
- All birds encountered (either observed or heard) at the Mitchell Way link road, on adjacent land or flying over were recorded on a site map, using BTO codes. Notes were taken on bird behaviour, sex and age where appropriate. In addition, any signs of breeding activity were noted.

Six transect surveys were undertaken from 1st April 2022 - 6th July 2022, led by Jess Ware (BSc, MSc, PhD) and supported by Carys Jones (BSc), Matt Longshaw (BSc) and Jess Turner (BSc). Each survey covered the entirety of site the site, via transects, a minimum distance of 50 m apart. Survey visits were at least 10 days apart and approximately three hours with varying start times between sunrise and 11:30. One evening visit was also undertaken in June, in order to record nocturnal bird species. The results from the survey will be used to estimate the breeding status of each bird species recorded and the number of territories or pairs likely to be breeding within the site.

The weather conditions recorded during each survey are provided below in **Table 2.1**.

Table 2.1 General information on the six breeding bird survey visits completed 1st April 2022 - 6th July 2022 at Mitchell Way link road.

Surveyor(s)	Date	Sunrise/ Sunset	Start	End	Weather (air temperature, cloud cover, Beaufort scale (BF) wind speed, wind direction, precipitation, visibility)
Jess Ware Jess Turner	01/04/22	06:42	06:25		1°C, Okta 2, BF 1, south-east, dry, good visibility
				09:25	4°C, Okta 2, BF 2, south-east, dry, good visibility
Jess Ware Matt Longshaw	14/04/22	06:13	05:50		8°C, Okta 8, BF 0, dry, moderate visibility due to mist
				08:50	9°C, Okta 8, BF 0, dry, good visibility
Jess Ware Matt Longshaw	10/05/22	05:20	05:10		13°C, Okta 8, BF 1, north-east, dry, good visibility
				08:10	13°C, Okta 8, BF 1, north-east, dry, good visibility
Jess Ware Jess Turner	16/06/22	04:51	04:20		13°C, Okta 1, BF 0, dry, good visibility
				07:20	13°C, Okta 1, BF 0, dry, good visibility
Jess Ware Carys Jones	31/06/22	21:07	19:10		15°C, Okta 2, BF 2, west-north-west, dry, good visibility
				22:10	13°C, Okta 1, BF 1, west-north-west, dry, good visibility
Jess Ware	06/07/22	05:00	05:10		12°C, Okta 3, BF 0, dry, good visibility

² Gilbert, G., Gibbons, D. W. and Evans, J., (1998). Bird Monitoring Methods. RSPB.

Surveyor(s)	Date	Sunrise/ Sunset	Start	End	Weather (air temperature, cloud cover, Beaufort scale (BF) wind speed, wind direction, precipitation, visibility)
Carys Jones				08:10	15°C, Okta 2, BF 0, dry, good visibility

2.3 DATA ANALYSIS

2.3.1 Conservation value

The conservation value of bird populations has been measured using two separate approaches: conservation status and nature conservation value within a geographical context³. Firstly, birds recorded during the surveys listed under either WCA Schedule 1, NERC S41 and/or BoCC Red or Amber listed species in the UK are likely to be vulnerable to population decline and are herein, referred to as 'notable species'. The conservation value for each species recorded has been reviewed based on its international, national and regional conservation value. The criteria has been outlined in **Table 2.2** below.

Table 2.2 Selection criteria for determining the natura conservation value of birds recorded during the breeding bird surveys at Mitchell Way link road.

Nature Conservation Value	Selection Criteria
International	- Qualifying feature of an Special Protection Area (SPA). - A species present in internationally important numbers (>1% of international population).
National	- Cited species of a Site of Special Scientific Interest (SSSI). - A species present in nationally important numbers (>1% UK population).
Regional	- Species listed as Natural Environment and Rural Communities (NERC) Section 41 (S41) which are not covered above. - Priority species of Hampshire in Biodiversity Action Plan. - Species on UK Birds of Conservation Concern (BoCC) Red and Amber List and which regularly occurs in regionally important numbers.

2.3.2 Breeding bird status

Once the six breeding bird surveys were complete, the data was collated to determine the BTO breeding status of each species. The re-occurrence of individuals displaying territorial and/ or breeding activity in the same location during the survey period allows for certain assumptions to be made about the breeding status of each species. Breeding evidence will be based on the standard BTO criteria⁴ assigned to the following four categories:

- Confirmed: distraction display or injury feigning, used nest or eggshells found, recently fledged young or downy young, adults entering or leaving nest site, adult observed incubating, adult carrying faecal sac or food for young, nest containing eggs and nest with young seen or heard;
- Probable: pair observed in suitable nesting habitat during the breeding season, permeant territory presumed through registration of territorial behaviour, courtship and display, visiting a probable nest site, agitated behaviour or anxiety calls from adults, brood patch on adult examined in hand and nest building or excavating nest-hole.
- Possible: species observed in possible nesting habitat and singing male(s) present and/or heard during the breeding season.
- Non-breeding.

³ CIEEM (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

⁴ [Breeding evidence | BTO - British Trust for Ornithology](#), Accessed July 2021.

The conservation status of each species was also reviewed in accordance with the Wildlife & Countryside Act (WCA) Schedule 1 species, NERC Section 41 species, BoCC Red or Amber listed species and Hampshire priority species⁵.

Information gained on the conservation and breeding status of bird species recorded within the survey area will be used to aid recommendations on habitat enhancement in order to support 'notable' species. The assessment considered bird species associated with coastal and floodplain marsh/ wetland, arable and pastoral land, and woodland and scrub separately.

⁵ Hampshire Biodiversity Partnership (2020). Biodiversity Action Plan for Hampshire, Volume Two. Hampshire County Council. 1 – 31.

3. RESULTS

3.1 DESK STUDY

3.1.1 Hampshire Biodiversity Information Centre data

No breeding bird records were received by Hampshire Biodiversity Information Centre within the boundary of Mitchell Way link road.

A total of 71 bird species were recorded within 1 km of the site from 2010 - 2019. These include but are not limited to; black redstart *Phoenicurus ochruros*, cuckoo *Cuculus canorus*, hen harrier *Circus cyaneus*, kingfisher *Alcedo atthis*, and yellow wagtail *Motacilla flava*.

3.2 FIELD SURVEY

A total of 31 bird species were recorded during the breeding bird surveys within the boundary of Mitchell Way link road (see **Appendix 1**). Of the 31 species recorded, 13 were 'notable' species which included five BoCC Red listed species (greenfinch *Chloris chloris*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, house martin *Delichon urbicum* and starling *Sturnus vulgaris*) and eight BoCC Amber listed, five NERC S41 species (dunnock *Prunella modularis*, herring gull, song thrush *Turdus philomelos*, house sparrow and starling) and two are Hampshire priority species (bullfinch *Pyrrhula pyrrhula* and song thrush). These are nationally and/or regionally important species. Of the 'notable' species recorded, dunnock was a confirmed breeder and six species were probable breeders (see **Table 3.1**). Long-tailed tit and blue tit were also confirmed breeders within the boundary of Mitchell Way Link Road.

Based on overlaying survey data, approximately five dunnock territories, seven blackcap territories, three whitethroat and song thrush territories were identified within the boundary of Mitchell Way link road (see **Appendix 2**). In addition, approximately eight wren territories and two territories per species were identified for greenfinch, woodpigeon *Columba livia domestica* and house sparrow.

Table 3.1 Notable species recorded during six breeding bird surveys undertaken from 1st April 2022 - 6th July 2022 at Mitchell Way link road, Navigator Quarter in Southampton Airport, including their conservation status (national and regional), British Trust of Ornithology (BTO) breeding status, location of recording and additional notes.

Species	UK and Regional Conservation Status	BTO Breeding status	Recorded within and/ or adjacent to survey area?	Notes
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber, Hampshire priority species	Possible	Within survey area	Female recorded on 14/04 in scrub habitat present on the embankment adjacent to Mitchell Way and a male in scrub habitat adjacent to north-east field.
Dunnock <i>Prunella modularis</i>	Amber, NERC S41	Confirmed	Within survey area	Recorded during each survey throughout the site singing and calling (displaying territorial behaviour). On 06/07 two fledglings were recorded feeding on the gravel path into the north-east field and a group were recorded in the scrub. Five territories in total were identified.
Greenfinch <i>Chloris chloris</i>	Red	Probable	Within survey area	Pairs and individuals recorded singing during surveys on 10/05, 31/06, 16/06 and 06/07 in trees present on the embankment adjacent to Mitchell Way. Two territories were identified.
Herring gull <i>Larus argentatus</i>	Red, NERC S41	Non-breeder	Within survey area	Individual fly over on 16/06.
Lesser black-backed gull <i>Larus fuscus</i>	Amber	Non-breeder	Within survey area	Individual fly over on 01/04 and 31/06.
Meadow pipit <i>Anthus pratensis</i>	Amber	Non-breeder	Within survey area	Individual fly over on 14/04.
Song thrush <i>Turdus philomelos</i>	Amber, NERC S41, Hampshire priority species	Probable	Within survey area	Individuals recorded singing on 14/04, 10/05, 16/06 and 31/06 in scrub habitat on the embankment and adjacent to north-east field. Three territories were identified.
Whitethroat <i>Curruca communis</i>	Amber	Probable	Within survey area	Individuals and pairs recorded singing and calling (displaying territorial behaviour) on 14/04, 10/05, 16/06, 31/06 and 06/07 within scrub habitat on the embankment adjacent to Mitchell Way and scrub habitat adjacent to the gravel path leading to north-east field. Three territories were identified.

Wood pigeon <i>Columba livia domestica</i>	Amber	Probable	Within survey area	Individual recorded singing within same area of woodland adjacent to north-east field on 14/04, 10/05, 06/07 and 31/06. Two territories were identified.
Wren <i>Troglodytes troglodytes</i>	Amber	Probable	Within survey area	Individuals and pairs recorded throughout the site on each survey singing and calling (displaying territorial behaviour) within scrub habitat.
House sparrow <i>Passer domesticus</i>	Red, NERC S41	Probable	Within survey area	Groups recorded singing in scrub habitat present on embankment adjacent to Mitchell Way and scrub habitat adjacent to gravel path on to north-east field 01/04, 16/06, 31/06 and 06/07. Two territories were identified.
House martin <i>Delichon urbicum</i>	Red	Non-breeder	Within survey area	Group of approximately 10 individuals feeding over north-east field and gravel path on 31/06.
Starling <i>Sturnus vulgaris</i>	Red, NERC S41	Probable	Within and adjacent to survey area	Five recorded in scrub adjacent to north-east field on 06/07. 16/06 approximately 30 starlings were recorded east of Mitchell Way (within airport boundary) on grassland.

4. DISCUSSION AND CONCLUSION

During the six breeding bird surveys conducted from 1st April – 6th July 2022 at Mitchell Way link road, in the Navigator Quarter at Southampton Airport, a number of confirmed and probable breeding birds were identified with varying numbers of territories. This included 'notable' species such as dunnock (confirmed), greenfinch, song thrush, whitethroat, wood pigeon, wren, house sparrow and starling (probable). Additionally, blue tit and long-tailed tit were confirmed breeders at the site. No WCA Schedule 1 species were identified during the surveys and no bird records were received within the boundary of Mitchell Way link road from Hampshire Biodiversity Information Centre.

Breeding activity was concentrated within scrub, scrub woodland, dense scrub and woodland habitat. Proposed construction works that require the removal of scrub and woodland habitat will result in the loss of potential bird breeding habitat. Due to Biodiversity Net Gain legislation, the permanent loss of suitable breeding habitat due to the proposed freeport development will need to be compensated, via a minimum of 10 % biodiversity net gain. This may involve the identification of a suitable site for enhancement/ restoration. In addition, under the WCA (as amended), it is an offence to intentionally kill, injure, or take any wild bird or their eggs or nests. Therefore, the following mitigation measures will need to be implemented during construction works:

- Where possible, construction works that require scrub and woodland removal should be undertaken outside of the breeding season (March – early August inclusive);
- If construction works are undertaken during the breeding season, a suitably experienced ecologist must conduct a nest check at least 24 hours prior to the removal of scrub and woodland;
- If an active birds nest is identified, works may be suspended and a suitable work exclusion buffer installed around the nest (buffer size is species dependent); and
- Works may only re-commence once the chicks have fledged and the supervising ecologist confirms that is nest is no longer in use.

In conclusion, Mitchell Way link road supports both nationally and regionally protected breeding birds. Proposed construction works to facilitate the freeport development will result in the loss of suitable bird breeding habitat. Appropriate mitigation measures will need to be implemented during construction works to prevent adverse impacts on birds present. In addition, the permanent loss of suitable breeding habitat may also require compensation via Biodiversity Net Gain in order to prevent potential localised and long-term impacts on population abundance and resilience.

APPENDICES

APPENDIX 1 BREEDING BIRD SURVEY DATA

Appendix 1 Total bird species recorded during six breeding bird surveys undertaken from 1st April – 6th July 2022 at Mitchell Way link road, including their conservation status (national and regional), British Trust of Ornithology (BTO) breeding status and location of recording.

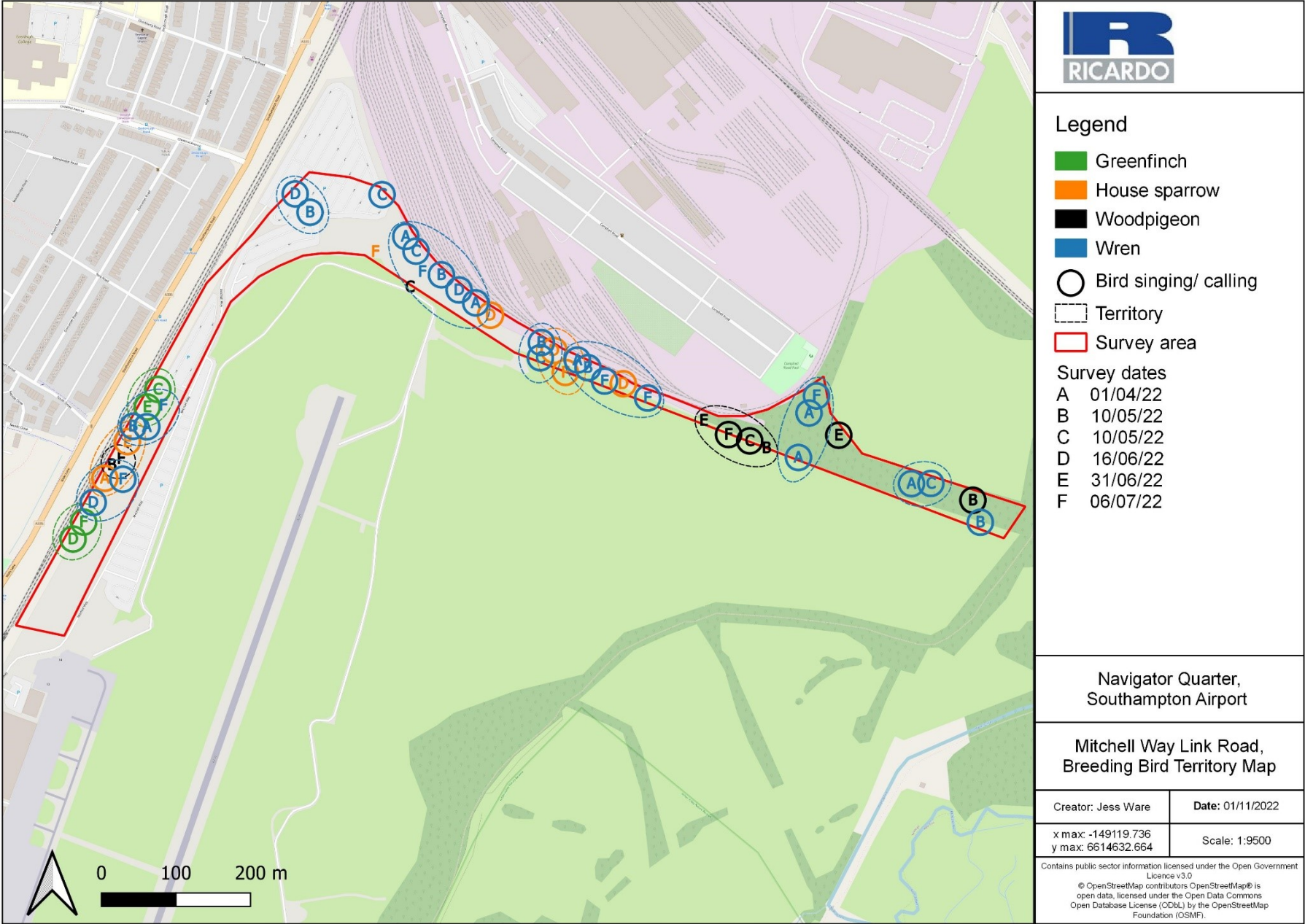
Species	UK and Regional Conservation Status	BTO Breeding status	Recorded within and/ or adjacent to survey area?	Notes
Blackbird <i>Turdus merula</i>	Green	Probable	Within survey area	Individuals recorded singing and calling (displaying territorial behaviour) within scrub and woodland habitat on 01/04, 14/04, 10/05, 16/06, 31/06 and 06/07.
Blackcap <i>Sylvia atricapilla</i>	Green	Probable	Within survey area	Pairs and individuals recorded singing and calling (displaying territorial behaviour) within scrub and woodland habitat on 01/04, 14/04, 10/05, 16/06 and 31/06.
Blue tit <i>Cyanistes caeruleus</i>	Green	Confirmed	Within survey area	Pairs and individuals recorded singing and calling (displaying territorial behaviour) on 01/04, 14/04, 10/05, 16/06, 31/06 and 06/07. Location of nest confirmed due to adults carrying food to the nest on the north-east extent of the embankment adjacent to Mitchell Way.
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber, Hampshire priority species	Possible	Within survey area	Female recorded on 14/04 in scrub habitat present on the embankment adjacent to Mitchell Way and a male in scrub habitat adjacent to north-east field.
Chaffinch <i>Fringilla coelebs</i>	Green	Probable	Within survey area	Pairs and individuals recorded singing and calling (displaying territorial behaviour) within scrub and woodland habitat on 01/04, 14/04, 10/05 and 16/06.
Chiffchaff <i>Phylloscopus collybita</i>	Green	Probable	Within survey area	Individuals recorded singing within scrub and woodland habitat on 01/04, 14/04, 10/05, 16/06, 31/06 and 06/07.
Dunnock <i>Prunella modularis</i>	Amber, NERC S41	Confirmed	Within survey area	Recorded during each survey throughout the site singing and calling. On 06/07 two fledglings were recorded feeding on the gravel path into the north-east field and a group were recorded in the scrub. Five territories in total were identified.
Goldfinch <i>Carduelis carduelis</i>	Green	Probable	Within survey area	Groups and individuals recorded singing and calling (displaying territorial behaviour) within scrub and

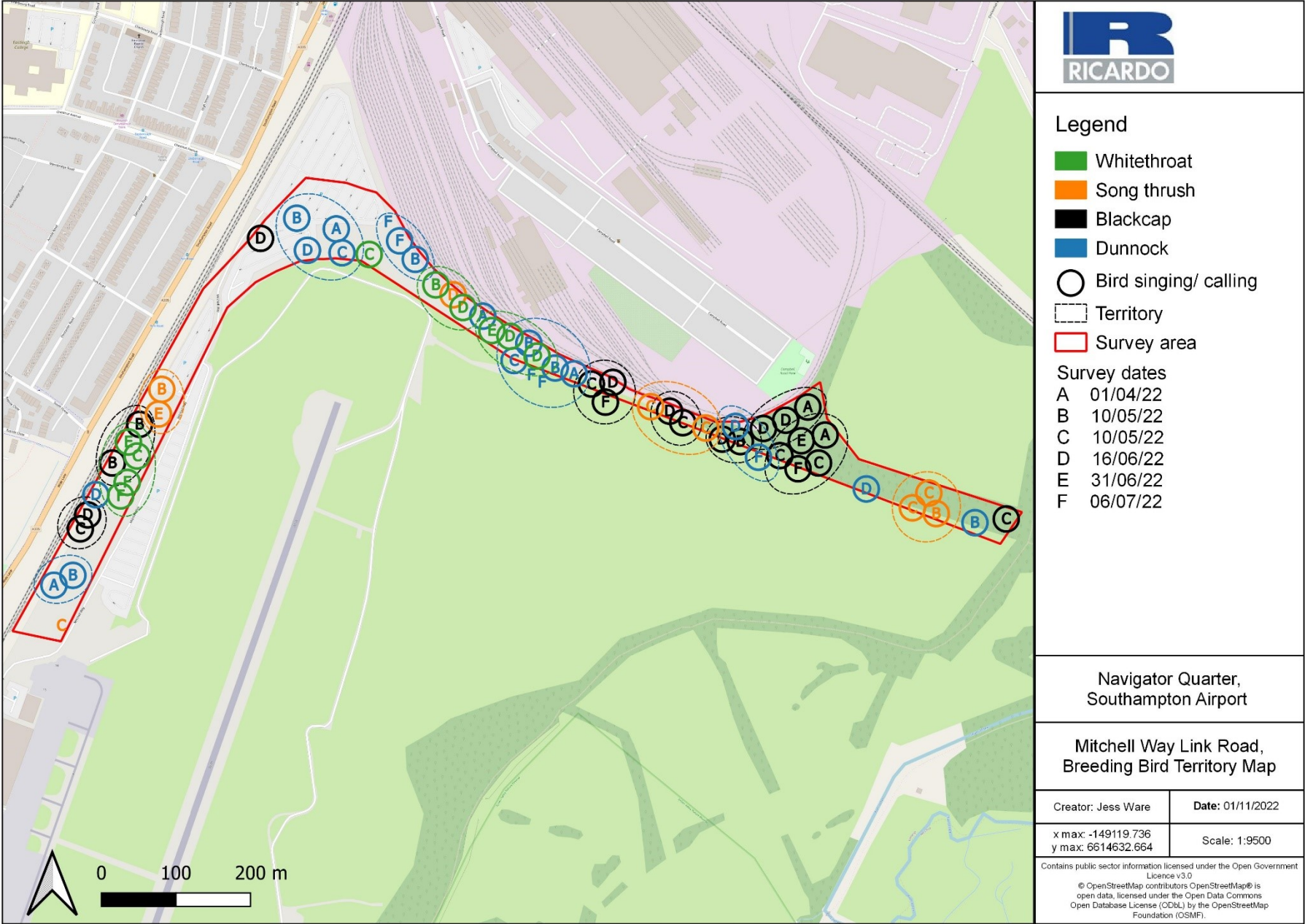
Species	UK and Regional Conservation Status	BTO Breeding status	Recorded within and/ or adjacent to survey area?	Notes
				woodland habitat, with activity concentrated within scrub adjacent to the long stay carpark in the north-west extent of the survey area. Recorded on 01/04, 10/05, 16/06, 31/06 and 06/07.
Great tit <i>Parus major</i>	Green	Probable	Within survey area	Individuals recorded singing and calling (displaying territorial behaviour) within scrub and woodland habitat on 14/04, 10/05, 16/06 and 06/07.
Greenfinch <i>Chloris chloris</i>	Red	Probable	Within survey area	Pairs and individuals recorded singing during surveys on 10/05, 31/06, 16/06 and 06/07 in trees present on the embankment adjacent to Mitchell Way. Two territories were identified.
Herring gull <i>Larus argentatus</i>	Red, NERC S41	Non-breeder	Within survey area	Individual fly over on 16/06.
Lesser black-backed gull <i>Larus fuscus</i>	Amber	Non-breeder	Within survey area	Individual fly over on 01/04 and 31/06.
Lesser whitethroat <i>Sylvia curruca</i>	Green	Non-breeder	Within survey area	Individual recorded singing in scrub habitat adjacent to north-east field on 10/05.
Meadow pipit <i>Anthus pratensis</i>	Amber	Non-breeder	Within survey area	Individual fly over on 14/04.
Robin <i>Erithacus rubecula</i>	Green	Probable	Within survey area	Individuals recorded singing and calling (displaying territorial behaviour) within scrub and woodland habitat on 01/04, 14/04, 10/05, 16/06 and 06/07.
Sedge warbler <i>Acrocephalus schoenobaenus</i>	Green	Non-breeder	Within survey area	Individual recorded singing in scrub habitat adjacent to north-east field on 06/07.
Song thrush <i>Turdus philomelos</i>	Amber, NERC S41, Hampshire priority species	Probable	Within survey area	Individuals recorded singing on 14/04, 10/05, 16/06 and 31/06 in scrub habitat on the embankment and adjacent to north-east field. Three territories were identified.
Whitethroat <i>Curruca communis</i>	Amber	Probable	Within survey area	Individuals and pairs recorded singing and calling on 14/04, 10/05, 16/06, 31/06 and 06/07 within scrub habitat on the embankment adjacent to Mitchell Way and scrub habitat adjacent to the gravel path leading to north-east field. Three territories were identified.

Species	UK and Regional Conservation Status	BTO Breeding status	Recorded within and/ or adjacent to survey area?	Notes
Woodpigeon <i>Columba livia domestica</i>	Amber	Probable	Within survey area	Individual recorded singing within same area of woodland adjacent to north-east field on 14/04, 10/05, 06/07 and 31/06. Two territories were identified.
Wren <i>Troglodytes troglodytes</i>	Amber	Probable	Within survey area	Individuals and pairs recorded throughout the site on each survey singing and calling within scrub habitat.
Carrion crow <i>Corvus corone</i>	Green	Non-breeder	Within survey area	Pair flew over survey area on 14/04 and individual recorded in woodland on 06/07.
Pheasant <i>Phasianus colchicus</i>	No status	Non-breeder	Within survey area	Individual recorded within woodland on 01/04.
Goldcrest <i>Regulus regulus</i>	Green	Possible	Within survey area	Individual heard calling in woodland on 14/04.
Jackdaw <i>Corvus monedula</i>	Green	Non-breeder	Within survey area	Individual sat on fence on 16/06.
House sparrow <i>Passer domesticus</i>	Red, NERC S41	Probable	Within survey area	Groups recorded singing in scrub habitat present on embankment adjacent to Mitchell Way and scrub habitat adjacent to gravel path on to north-east field 01/04, 16/06, 31/06 and 06/07. Two territories were identified.
Long-tailed tit <i>Aegithalos caudatus</i>	Green	Confirmed	Within survey area	Groups recorded singing and calling in scrub and woodland habitat. Individual recorded carrying nest material within scrub habitat adjacent to the long stay carpark in the north-west extent of the survey area, on 01/04. Also recorded on 14/04, 31/06 and 06/07.
Green woodpecker <i>Picus viridis</i>	Green	Possible	Within survey area	Individual heard singing in woodland on 14/04.
Collared dove <i>Streptopelia decaocto</i>	Green	Non-breeder	Within survey area	Individual sat on fencing on 01/04 and individual fly over on 06/07.
House martin <i>Delichon urbicum</i>	Red	Non-breeder	Within survey area	Group of approximately 10 individuals feeding over north-east field and gravel path on 31/06.
Starling <i>Sturnus vulgaris</i>	Red, NERC S41	Probable	Within survey area	Five recorded in scrub adjacent to north-east field on 06/07. 16/06 approximately 30 starlings were recorded east of Mitchell Way (within airport boundary) on grassland.

Species	UK and Regional Conservation Status	BTO Breeding status	Recorded within and/ or adjacent to survey area?	Notes
Stonechat <i>Saxicola rubicola</i>	Green	Probable	Within survey area	Male recorded on fencing on 10/05 and pair singing within scrub habitat adjacent to gravel path into the site on 06/07. Stonechats recorded consistently in the same area during breeding and wintering bird surveys.

Appendix 2 Breeding bird territory maps







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