2020 Phase 1 Habitat Survey Target Notes

1. **Arable field** - arable field recently sown with a cereal/ grassland ley crop at the time of survey with a mature Oak tree (*Quercus robur*) present in the south-west of the field. A public footpath runs along the southern field boundary and a line of sewer inspection points runs east-west through the field. Weed species within the crop include Annual Meadow-grass *Poa annua* and Broadleaved Dock *Rumex obtusifolius*.

2. **Defunct, species-rich hedgerow** - Western boundary hedge adjacent to Brundall Memorial Hall. Species within the hedgerow include Dogwood *Cornus sanguinea*, Field Maple *Acer campestris*, Guelder Rose *Viburnum opulus*, Hazel *Corylus avellana*, Dog Rose *Rosa canina*, Wayfaring Tree *Viburnum lantana*, Prunus sp. and Hawthorn *Crataegus monogyna*. Vegetation along the narrow hedgerow margin includes Broadleaved Dock, Cleavers *Galium aparine*, Common Nettle *Urtica dioica*, Hogweed *Heracleum sphondylium*, Germander Speedwell *Veronica chamaedrys*, Cocksfoot *Dactylis glomerata*, Dandelion *Taraxacum officinale agg*, Bracken *Pteridium aquilinum* and Cow Parsley *Anthriscus sylvestris*.

3. **Intact, species-rich hedgerow with a dry ditch** – A generally intact, species-rich hedge with a dry ditch at the base, one large gap is present in the hedgerow along its western section which is infilled with scattered Bramble and Hazel scrub with Common Nettle. Species within the hedgerow include Hawthorn, Dog Rose, Elder *Sambucus nigra*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus*, Turkey Oak *Quercus cerris*, English Elm *Ulmus procera*, Holly *Ilex aquifolium* and Hazel with Common Ivy *Hedera helix*. Bare ground is present beneath the hedge with a post and wire fence and a 1m wide field margin separates the hedgerow from the arable field to the south. Species within the field margin include Cow Parsley, Common Nettle, Cocksfoot, Cleavers, Creeping Thistle *Cirsium arvense*, White Dead-nettle *Lamium album*, Germander Speedwell, Hogweed, Field Horsetail *Equisetum arvensis*, Bracken, Hedge Bindweed *Calystegia sepium*, Cuckoo Pint *Arum maculatum*, Broadleaved Dock and Ground Ivy *Glechoma hederacea*. Along the eastern section are four mature English Oaks *Quercus robur*.

4. **Intact, species-poor hedgerow with a relict dry ditch** - An intact species-poor hedge with a relic dry ditch comprising Hawthorn, Blackthorn, Bramble and Ivy. The ground flora is similar to TN3 but Bracken is more prevalent at the northern end. Other species present include Red Campion *Silene dioica*, Barren Brome *Anisantha sterilis*, Hogweed *Heracleum sphondylium* and Annual Mercury *Mercurialis annua*.

5. **Broken field drain** - A small wet flush with Greater Willow-herb *Epilobium hirsutum* and Rosebay Willow-herb *Chamerion angustifolium*.

6. **Intact, species-rich hedgerow** – An intact, species-rich hedgerow with a narrow c.1-2m field margin to the south. Woody species present include Hawthorn, Holly, Elder, Blackthorn, Ash *Fraxinus excelsior*, Bramble and two mature English Oaks with Common Ivy growing throughout. The ground flora is similar to TN3 with the addition of Barren Brome *Anisantha sterilis*. Fallen deadwood from an Ash tree is present at the eastern end.

7. **Eastern field boundary** – The eastern field boundary comprises wooden close-board fences where the site meets gardens of adjacent residential properties along with occasional sections of hedge. There is tipped garden waste along the c.1-2m wide field margin. Species present along the boundary fences include Apple *Malus* sp., Bramble, Ornamental Clematis, Elder, Garden Privet *Ligustrum ovalifolium* and Beech *Fagus sylvatica*. Where short sections of hedgerow remain these
The ground flora is dominated by Cleavers, Cow Parsley, Common Nettle, Shining Crane’s-bill *Geranium lucidum*, Clematis, Hedge Bindweed, Dandelion, Broadleaved Dock, Barren Brome, Garden Comfrey *Symphytum officinale*, Garden Forget-me-not *Myosotis* sp., Garlic Mustard *Alliaria petiolata*, Mugwort *Artemisia vulgaris* and Prickly Lettuce *Lactuca serriola*.

8. **Intact, species-poor hedgerow** – The intact, species-poor native hedgerow resumes from the domestic boundaries to the north-east with one mature, coppiced English Oak tree and three early mature English Oak trees. The hedge comprises Hawthorn, *Prunus* sp. and Blackthorn. The field margin is c. 1m wide with a species composition similar to TN3.

9. **Intact, species-poor hedgerow** - An intact species-poor hedgerow on the site boundary with domestic gardens beyond. The hedgerow comprises Hawthorn, Blackthorn and Garden Privet. The field margin is c.1m wide and comprises Cocksfoot, Creeping Thistle, Dandelion, Germander Speedwell, Wild Radish *Raphanus raphanistrum*, Broadleaved Dock, Coltsfoot *Tussilago farfara*, Field Madder *Sherardia arvensis*, Prickly Lettuce, Mouse-ear *Cerastium* sp., Mayweed sp. *Triplospermum* sp., Bittercress *Cardamine* sp., Annual Meadow-grass, Smooth Sow-thistle *Sonchus oleraceus*, Field Speedwell *Veronica persica* and Common Poppy *Papaver rhoeas*. A recently dug shallow dry ditch, approximately 50cm wide and 30cm deep is present below the western side of the hedgerow.

10. **Low-lying damp grassland** – A field of damp grassland, with signs of occasional cattle grazing and tyre rub. The grassland is of highest interest in the northern part of the field where it becomes increasingly damp as it approaches a ditch and includes patches of Reed Canary-grass *Phalaris arundinacea* and areas of marshy grassland / rush pasture. Other grass species present include Meadow Brome *Bromus commutatus*, Sweet Vernal-grass *Anthoxanthum odoratum*, Meadow Foxtail *Alopecurus pratensis*, Soft Brome *Bromus hordeaceus*, Cocksfoot, Yorkshire Fog *Holcus lanatus* and Marsh Horsetail *Equisetum palustre* which is abundant in the lower lying areas. Hairy Sedge *Carex hirsuta*, Hard Rush *Juncus inflexus* and Soft Rush *Juncus effusus* are also present. Herb species present include Creeping Buttercup *Ranunculus repens*, Broadleaved Dock, Amphibious Bistort *Persicaria amphibia*, Water Chickweed *Myosoton aquaticum*, Hogweed, Meadow Sweet *Filipendula ulmaria*, Red Campion, Tufted Vetch *Vicia cracca*, Ribwort Plantain *Plantago lanceolata*, Common Field Speedwell *Veronica persica*, Common Mouse-ear *Cerastium fontanum* and Field Horsetail *Equisetum Arvense*. Patches of ruderal vegetation including Common Nettle, Hogweed and Cow Parsley are present throughout the field.

11. **Ditch** - A c.1-2m wide, c.1m deep ditch with up to 20cm depth of clear water at the time of survey. The ditch is heavily shaded in places due to overhanging Goat Willow *Salix caprea*, Alder *Alnus glutinosus*, Hawthorn, Elder and Ash trees. The ditch channel is fairly choked with vegetation where water levels allow. Species within the channel include Water Starwort *Callitriche* sp., Reed Sweet-grass *Glyceria maxima*, Water Horsetail *Equisetum fluviatile*, Greater Willow-herb, Creeping Buttercup, Meadowsweet, Fools Water Cress *Apium nodiflorum*, Bittersweet *Solanus dulcamara*, Water Mint *Mentha aquatica*, Way Bittercress *Cardamine flexuosa*, Soft Rush and Small Duckweed *Lemna minuta*.

12. **Northern section of western site boundary** - Comprising a post and wire fence with the relic of a hedgerow. Beyond the ditch is a line of mature Beech, Ash and English Oak trees with a footpath beneath. The relic of hedgerow comprises Blackthorn, Dog Rose, English Elm, Elder and Hawthorn with Common Ivy growing throughout. The ground flora is dominated by Cleavers, Cow Parsley, Green Alkanet *Pentaglottis sempervirens*, Bracken and Common Nettle.
13. Ditch – A continuation of the ditch line described under TN 11 with a barbed wire fence choked with Greater Willow-herb and Common Nettle at time of survey although some Reed Sweet-grass is present at the eastern end where some standing water (c.1m deep, 70cm wide and 1-2cm depth of water) is present. Further species within the ditch include Hard Rush, Water Mint, Fools Watercress and Common Reed. There is scattered Goat Willow, Elder, Bramble and English Elm scrub present along the banks with Meadowsweet, Creeping Thistle and White Dead-nettle below.

14. Fen meadow - A low-lying field located between a ditch and the Run Dike. It appears nutrient rich with Cleavers, Common Nettle and Common Reed Phragmites australis which form a mosaic over the area in varied dominance. Other species include Creeping Thistle, Greater Willow-herb, Reed Sweet-grass, Greater Pond Sedge Carex riparia, Ground Ivy Glechoma hederacea, Broadleaved Dock, Creeping Buttercup, Hogweed, Wavy Bittercress, Meadowsweet and White Dead-nettle. There is scattered Goat Willow, Elder and English Elm scrub present throughout.

15. Run Dike - A c.3m wide and 20cm deep stream with a silt base and clear water with an easterly flow. The emergent vegetation includes Bulrush Schoenoplectus lacustris and the marginal vegetation includes Common Nettle, Common Reed, Reed Canary-grass, Greater Willow-herb, Cleavers, Germander Speedwell, Hogweed and Creeping Thistle. Algae and Lesser Duckweed are present on the stream surface.

16. Western section of northern site boundary - Boundary comprising post and barbed wire fence with scattered Bramble and Hawthorn scrub. There is a ditch comprising Common Reed, Common Nettle, Meadowsweet and Greater Willow-herb. There was no water in the ditch at the time of survey.

17. North-west of the site - Continuation of TN14.

18. Overhead power cables.

19. South-west of the site – Brundall Memorial Hall, amenity grassland, a playground and skate park.

20. Outfall – An outfall reinforced with breeze blocks flows into the Run Dike.

21. Woodland copse - A copse of Crack Willow Salix fragilis to the west of the pond. The understorey comprises Elder scrub and ground layer is dominated by Common Nettle with Cleavers. Other species present include Hogweed, Ground Ivy, Male Fern Dryopteris filix-mas, Ivy and Bramble. A wet ditch c.1m wide and 10cm deep, holding approximately 1cm of water, leads from the Run Dike to the pond. Flytipping of items including barrels and a lawnmower are present within the woodland.

22. Pond - A u-shaped pond with 50cm depth of clear water and a width of c.4-5m. Aquatic vegetation was absent with the exception of duckweed Lemna sp.. Marginal vegetation comprises a narrow band of Soft Rush, Greater Pond Sedge, Meadowsweet, Reedmace, Greater Willowherb and Marsh Thistle, some of which had been recently managed and cropped short at the time of survey. Spoil heaps arising from pond excavation are located to the west of the woodland edge and along the northern and eastern pond margins which have become overgrown with Bramble scrub. Four male Mallard ducks were present on the pond.

23. Fen meadow - An open area dominated by Pond Sedges, Common Nettle and Marsh Thistle with occasional Wild Angelica Angelica Sylvestris, Soft Rush, Red Campion, Wavy Bittercress, Ground Ivy, Common Reed, Meadowsweet, Meadow Vetchling Lathyrus pratensis, Cleavers, Creeping Thistle and occasional stands of Reed Canary-grass. Scatted Alder trees are also present.
24. **Run Dike** - To the east the Run Dike has an increased abundance of Reed Sweet-grass in the channel. Mature Alder trees are present along the channel and the older trees show signs of coppicing.

25. **Fen meadow** - As for TN23 but with increased Common Reed. Brooklime *Veronica beccabunga* and Celery-leaved Buttercup *Ranunculus sceleratus* are also present.

26. **Drain** - Dry drain heavily scrubbed over with Alder and Goat Willow.

27. **Fen meadow** - A low-lying wet grassland dominated by Reed Sweet Grass with Cleavers, Common Nettle, Greater Willow-herb, Angelica, Marsh Thistle, Brooklime, Charlock *Sinapis arvensis*, Creeping Thistle, Red Campion, Amphibious Bistort, Common Reed and Reedmace. The eastern end is dominated by tall ruderal vegetation with species including Common Nettle, Cleavers, Hogweed, Greater Willowerb, Creeping Thistle, Lesser Burdock, White Dead-nettle and Bramble.


29. **Run Dike** – As for TN24. At this location the Run Dike is c.4m in width, 30cm in depth and has a steady easterly flow. Aquatic vegetation is limited to occasional Water Starwort. Emergent vegetation includes Reed Sweet-grass and Reed Canary-grass. Bankside trees include scattered Alder and Goat Willow.

30. **Buildings** - Collection of four buildings comprising open-sided single-skin structures in varying states of disrepair. The buildings housed cattle, sheep, farm machinery and a boat workshop at the time of survey. Vegetation surrounding buildings comprises small areas of tall ruderal vegetation and bare ground, grassland and scrub. Areas of farm waste are frequent including dung and hay and discarded tin and timbers.


32. **Grassland (Off-site)** - Low lying off-site grassland / fen meadow similar to that to south, beyond which is heavily managed grassland associated with a golf course.

33. **Intact, species-poor hedgerow** - Leylandii *Cupressus x leylandii* hedgerow forming the boundary between site and residential properties to north. The hedgerow is c.6m high with Bramble scrub and tall ruderal habitats beneath with species including Common Nettle, Broadleaved Dock, Greater Wildowerb, Red Campion, Mugwort and White Dead-nettle.

34. **Bare ground** - Bare ground and areas of tall ruderal vegetation forming access routes in and around the agricultural buildings. Piles of rubble, timber and soil occur throughout the area.

35. **Disturbed ground** - Area of disturbed ground dominated by Bramble scrub around the edge of the farmyard. Species scattered within and along the edges of the Bramble include Cocksfoot, Soft Brome, Tall Fescue, Comfrey, Forget-me-not, Red Campion, Tansy *Tanacetum vulgare*, Hard Rush, Fennel, Common Nettle, Bramble, Hogweed, Germander Speedwell, Creeping Thistle, Green Alkanet, Forget-me-not *Myosotis sp.*, Creeping Cinquefoil *Potentilla reptans* and Dandelion.

36. **Intact, species-rich hedgerow** - Intact species-rich hedge c.10 years old along a post and wire fence. Dominated by Hawthorn with Field Maple, Blackthorn, Oak, Hazel and Dogwood. The adjacent roadside verge is dominated by Cocksfoot and False Oat Grass with Barren Brome, Green Alkanet, Red Fescue *Festuca rubra*, Dandelion, Common Vetch, Dove’s-foot Crane’s-bill, White
Dead-nettle, Cow Parsley, Common Nettle, Alexanders *Smyrnium olusatrum* and Broadleaved Dock.

37. **Electrical substation** - An electrical substation with a chain-link fence with dumped timber and construction waste beneath. There is an area of scrub to the east, north and west of the area including Goat Willow, Ash, Hazel, Willow, Bramble and Hawthorn.

38. **Section of eastern site boundary facing south** - Site boundary comprising a tree line of c.4 English Oak, with an Ivy clad Hawthorn, Ash, Bramble and a Leylandii hedge beneath. A chain-link fence is present where the site abuts an off-site services building. Garden waste has been tipped along the boundary within the site.

39. **Tall ruderals** – Cock’s Foot dominated grassland with Barren Brome and Common Bent. There is a dominance of tall ruderal vegetation with scattered Bramble scrub throughout the grassland with species including Common Nettle, Green Alkanet, Hogweed, Comfrey, Cleavers, Groundsel, Creeping Thistle, Cut-leaved Cranesbill, Common Mouse-ear, Common Chickweed, Teasel, Bristly Ox-tongue, Red Campion, Good King Henry, Bush Vetch, Greater Burdock, Cleavers, and White Dead-nettle.

40. **Southern site boundary** – The southern site boundary abuts residential dwellings in the north of Brundall. A 4.5m arable field margin is present along the boundary which contains a footpath adjacent to the field edge and tall ruderal / patchy scrub up against the boundary. Two English Oak standards are present. Scrub species include Bramble, Elder, Blackthorn, Holly, Cherry Laurel, Leylandii and Wild Cherry *Prunus avium*. The ground flora includes Common Nettle, Broadleaved Dock, Clematis, White Dead-nettle, Mugwort *Artemisia vulgaris*, Creeping Thistle and Rosebay Willowherb *Chamerion angustifolium*, Annual Meadow-grass, Cow parsley, Cocksfoot, Greater Plantain, False Oat-grass and Spanish Bluebell *Hyacinthoides hispanica*.

41. **Intact, species-rich hedgerow** - Short section of intact species-rich hedgerow heavily influenced by introductions from adjacent gardens. Species present include Dog Rose, Blackthorn, Hawthorn, Lilac, Silver Birch, Leylandii, Cherry Laurel *Prunus laurocerasus*, Elder and an Ash standard.