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Date: 16th March 2020

Our ref: 2093

Greater Norwich Local Plan

Sent via email to: GNLP@norfolk.gov.uk

Dear Sirs,

Greater Norwich Local Plan Regulation 18 Draft Plan ref: GNLP0492 Land south of Harbord Road, Frettenham

This representation is made on behalf of the landowner of the above site to the current Regulation 18 consultation. The site has been considered by the Greater Norwich Local Plan (GNLP) as "unreasonable".

Background

In December 2017 the GNLP published their Housing and Economic Land Availability Land Assessment (HELAA).

As part of this process, the site (GNLP0492) was submitted and assessed under the traffic light system. For the purposes of the HELAA capacity assessment this site was considered to be 'unsuitable.' The site is made up of 6.37 ha of brownfield and greenfield land located off Harbord Road in Frettenham adjacent to the settlement boundary.

As can be seen from the traffic light assessment the site is split between amber, green and red. This site suitability concludes that there are highway constraints and issues with connectivity to services, Tree Preservation Order (TPO) on the site and part of the site is a County Wildlife Site (CWS).

Since this time, the site (GNLP0492) has been considered to be "unreasonable" as part of the new allocations of the Village Cluster strategy, as proposed under the emerging GNLP.

The reasons give for the site to be considered unreasonable:

- Ecological and landscape issues including CWS and TPO trees;
- Highway issues with Harbord Road; and
- Planning history of the site.

It is noted that the GNLP is not proposing to cluster Frettenham with any other settlements, as the school catchment does not extend to adjoining villages. The Council considers that the village could accommodate development of 50-60 additional homes, but they have not proposed any new allocations. Therefore, are currently proposing any development to come forward as windfall i.e not planned. The reliance on this scale of windfall is not considered appropriate in a village context such as Frettenham. The impact of 50-60 dwellings on the village needs to be properly planned and the numbers identified on appropriate sites in the same way sites are being identified in other settlements in the village cluster strategy.

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Site and Development Opportunities

The site area in total is 6.37 ha with 1.64 ha of brownfield land which was the former gas storage area and the remaining area is made up of woodland which is part of the CWS and the area subject to the TPO.

The part of the site which is proposed for development is the site of a former gas storage works site which is acknowledged by Broadland District Council (BDC) as being previously developed land (PDL). There are a number of buildings and structures left on the site with areas of hardstanding. The site has a B8 storage and distribution use (again acknowledged by BDC). Prior to gas storage use, the site was used as a lime quarry which consisted of four lime pits. The gas storage use ceased in 2007.

The CWS does not cover the whole of the site and the PDL is not covered by the CWS. The CWS is in the same ownership as the former depot site and is not publicly accessible and never has been.

As part of this representation, the total site area put forward by the landowner is all of the land within their control but the quantum of development is flexible to the appropriateness of the site and can fall within the scope set out by the Council for village clusters which is between 12-25 dwellings.

The concept of public access/use of the CWS and woodland area is something that the landowner would be open to explore with the appropriate parties at the necessary time.

The site is located adjacent to residential development to the north and is served by an adopted highway. The site is located within easy and safe walking distance of Frettenham Primary School which is a 6/7 min walk and can be reached via footpaths.

Assessment

The following section will review the reasons that GNLP have provided for considering the site as unreasonable.

- **Ecological issues**

The site area partly includes a CWS and the scrub woodland is covered by a TPO. The development proposals do not require any land take of the land subject to the CWS or the area of trees which are covered by the TPO.

As noted previously one of the reasons that has been used to consider the site as 'unreasonable' is the planning history of the site. In summary a planning appeal was dismissed in 2011 (ref: APP/K2610/A/10/2133334) for development of the site for approxiamtly 35 dwellings which proposed the same area for built development as included within this representation and no development in the CWS or the area of the TPO. Impacts on either of these designations was not included as reasons for refusal on the BDC decision notice and neither did the Inspector raise the it in his decision. During planning appeals, Inspectors assess all aspects of the scheme and not just the reasons for refusal as stated by the Council on the decision notice. Therefore, it cannot logically be

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determined that development of the PDL part of the site would have significant impacts on the CWS or the TPO's when two decision makers have not found this to be the case.

As with the previous development proposal, no development would be undertaken beyond the bounds of the PDL and therefore there would be screening of any development from public viewpoints by the existing woodland.

As has been highlighted previously by the landowner, the CWS is currently unmanaged and this will continue. Development of the site would allow proper management of the area to be enforced and controlled. The landowner has previously submitted documents to set out how the woodland area can be managed to the Council for consideration. It is acknowledged that these documents were prepared several years ago, and they will be updated to reflect the current condition of the site as proposals are developed in due course. These documents are intended as background information to the site. It is noted in the Woodland Appraisal and Ecological Assessment that if the area is left unmanaged then it the range of habitats in the area are likely to decline as the site becomes densely tree covered.

- **Highway Issues**

The site has two potential access points, one from Harbord Road and a second from a track which connects to Pound Hill. It is stated that there are "*visibility constraints*", although not explicitly stated but it is assumed that this references the junction of Harbord Road with Post Office Road. Again, through the previous work that has been carried out on this site for planning submission, work has been undertaken to show how junction improvements could be made to improve visibility, if it is still deemed necessary.

The second access option is via track which connects to Pound Hill west of the site. This would require part of the track to be surfaced from the site access point to Pound Hill. This can be further investigated in due course subject to the level of development.

Access was not a reason for refusal by BDC and the Planning Inspector did not mention the access or raise any concerns with visibility splays in his decision.

- **Planning History**

As noted previously there is planning history on this site. A planning appeal was dismissed in 2011 (ref: APP/K2610/A/10/2133334) for development of the site for approxiamtly 35 dwellings which proposed the same area for built development as included within this representation. The reasons for the dismissal were related to the adopted National and Local Plan policy at the time which restricted development in villages like Frettenham and encroachment into the countryside and was therefore not considered to be sustainable.

Whilst points raised by the Inspector should be considered, it should be noted that the planning policy framework at the time of the appeal determination has changed. The provision of small sites is promoted by the current National Planning Policy Framework under paragraph 68 which emphasises the important contribution that small and medium sized sites can make to meeting the requirements of an area. Paragraph 78 also goes on to state that "*housing should be located where it*

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will enhance or maintain the vitality of rural communities…. Where there are groups of smaller settlements, development in one village may support services in a village nearby."

Greater Norwich have set out in the Strategy Document that development in village clusters is a key part of their growth strategy and Frettenham is one of the clusters. This is the same as many other villages across the Greater Norwich area which have previously been considered inappropriate for development and are now having sites allocated in them. This means sites and villages need to be considered afresh and previous planning history should not be a key determining factor.

Summary

Taking the above into consideration site GNLP0492 is considered to be suitable for residential development, and should be assessed in the context of GNLP identifying that Frettenham is suitable for growth of 50-60 dwellings and the others sites put forward for consideration are acknowledged as being remote from the primary school which this site isn't (and acknowledged by the GNLP). The site can be developed by just using the PDL and not impact the CWS and TPO's. The impact of a larger development on this site has already been tested through an appeal and the Inspector did not identify any impacts on either of these designations. It is therefore considered that this site should be reassessed in light of Frettenham being identified for growth but not having any sites.

Yours sincerely

Jane Crichton MRTPI
Senior Associate Planner

Enc Schematic Site Arrangement GNLP Reg 18 Consultation
Woodland Appraisal and Ecological Assessment

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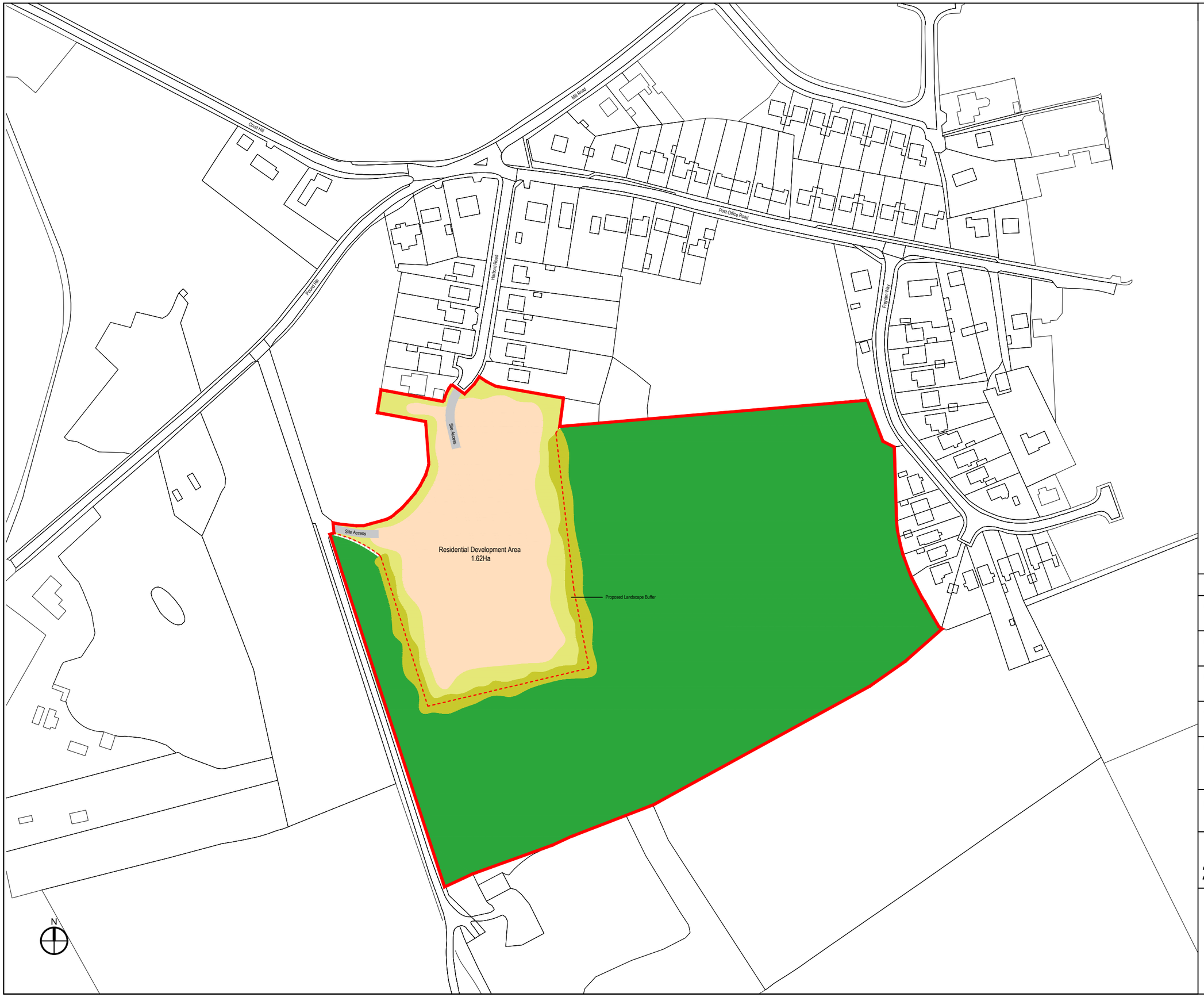

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---- Extent of built development

-	-			
	REVISED BY: -	DATE: -	CHECKED BY: -	DATE: -

PURPOSE OF ISSUE: IN - For Information

RIBA STAGE: -

DRAWING STATUS: SO - Initial Status

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CLIENT: Mr R Derham

DRAWING TITLE: Schematic Site Arrangement GNLP Reg 18C Consultation

SCALE: 1:2000@A3

DATE	DRAWN BY	CHECKED BY	APPROVED BY
MAR 20	TH	DO	JC

DRAWING NUMBER

PROJECT NO	TYPE	UNIQUE NO	REVISION
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WOODLAND APPRAISAL AND ECOLOGICAL ASSSESSMENT
FRETTENHAM PIT FRETTENHAM NORFOLK

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TREE SURVEYS

Contents

1.0 Terms of Reference

1.1 Raven Developments wish to utilise part of the disused Frettenham Pit for a residential development. Some management and partial clearance has been carried out. However this has been halted due to the serving of a woodland Tree Preservation Order on the area by Broadland District Council (ref TPO 2007No 6) on the 11th April 2007. The site is also designated a County Wildlife Site by the Norfolk Wildlife Trust.

1.2 The aim of this appraisal is to assess the condition of the woodland, identify areas worthy of preservation and areas that may be suitable for development also to suggest possible long term management strategies for the retained woodland. The appraisal includes as Appendix 3 an ecological assessment of the area prepared by Karen Buckley. All management proposals have been prepared with regard to the ecological findings.

2.0 Site Description

2.1 The boundaries of the site are shown by a green solid line on the site plan that forms Appendix 1. The area extends to approximately 5.7 ha (14.2 acres). The plan also shows compartments or management areas delineated by green dot dash lines. These areas have different characteristics and require different management techniques. Shading shows the extent of woodland on the site, there are scattered trees on the open areas including naturally regenerated Oak.

2.2 Soils include sands and gravels with some pockets of chalky clay.

2.3 The predominant tree species is Goat Willow in mixture with Silver Birch and some Sycamore. Hawthorn forms dense thickets in some areas. All these species are pioneer species colonising bare ground left after mineral working. There is generally an under story of young regenerating Oak and Ash that will slowly gain dominance forming high forest.

2.4 The site is situated to the south of Frettenham village. While close to residential housing it is largely situated in the bottom of a worked out pit. Most of the site is not visible from the village. On Post Office Road there is a group of mainly Oak trees growing on the steep side of the pit wall which do form part of the street scene. These are shown on Figure 1.

Fig. 1

Fig. 2

2.5 The southern boundary of the site is edged by woodland as shown in Figure 2. Access to the site is off the non metalled lane running along the western boundary.

2.6 An industrial site or depot encroaches into the area on the north western corner. The area has a range of industrial buildings and is surrounded by chain link fencing that detracts from the landscape amenity of the site. The southern end of the depot site is shown in Fig. 3.

Fig. 3

Fig. 4

2.7 The central area of the site has a pond which is shown in Figure 4. Woodland has been retained around the pond and at the southern end some planting of ornamental species has been carried out near a bench.

2.8 The northern section of the wood has already been subject to some management in the form of thinning the end result is shown in Figure 5. The quality of the retained trees is poor. However the overall effect is beneficial approximately half the semi mature Goat Willow and Birch in this area have been thinned.

Fig. 5

Fig. 6

The new ride made along the eastern boundary is shown in figure 6, as this matures it will provide woodland edge habitats and could form part of a new footpath around the site.

3.0 History of the Site

3.1 No information was provided on the history of the site or when working ceased. The trees on site range from 20 to 35 years old approximately suggesting work stopped in the late 1960's or early 1970's. Research on the Norfolk County Council E-map explorer web site has shown that the north eastern corner of the site was marked as an Old gravel pit on the first OS series in the mid 19th century. A 1988 aerial photograph of the site shows a substantial area from the central pond to the eastern boundary largely devoid of trees, this is reflected in the current stocking in this area which is likely to have grown since 1988.

4.0 Individual Compartment Notes

4.1 Notes on the tree cover in each compartment are given below together with provision management recommendations for the next 20 years.

Cpt No	Details	Provisional Management Recommendations
1	Semi-mature Oak growing on a steep bank. Generally in good condition and forming a landscape feature in Post Office Road.	No immediate work other than carrying out a health and safety check on the trees. Selective thin Year 10 and again at year 20.
2	Silver Birch and Goat Willow. Part of the area has been thinned. The Birch that have been retained are in poor condition with shallow crowns Some young natural regeneration of Oak and Ash.	Thin remaining area by coppicing the Goat willow. Form small clearances to allow natural re-generating Oak and Ash to develop. Work to be completed in four stages in years 5, 10, 15 and year 20.
3	Large strip of naturally regenerated Hawthorn around 2m to 3m in height. Ground flora under Hawthorn is largely grass sward browsed by rabbits. Some naturally regenerated Oak and Ash are present. On the eastern edge larger growth of Silver Birch and Goat Willow has been partially cleared and a new ride approximately 5m wide made along the boundary. At one point Japanese Knot weed is growing through the fence.	Allow natural regeneration to enrich the edge supplemented by planting of Oak, Ash and Hawthorn as required. Maintain the ride by mowing 50% each year. Thin hawthorn as necessary to favour Oak and Ash. Eradicate Japanese knot weed.

4	Largely clear of tree cover other than retained naturally regenerated Oak and semi mature Silver Birch, Goat Willow and White Willow around the Pond. Ornamental trees planted on the southern edge of the pond including Cornus alba, Prunus Amangowa and Whitebeam. To the west of the depot is an area of dense Elder, Birch and Goat Willow.	Maintain and protect as necessary naturally regenerated Oak. Thin trees around the pond coppicing Goat willow favouring Silver Birch and natural regeneration of Ash and Hawthorn. Remove ornamental species. Clean out rubbish from pond and consider ways to prevent seasonal drying up. Leave dense area to the west of the depot for screening.
5	Largely clear of trees with dense cropped grass and leguminous species.	Maintain as sward. Control regeneration of tree species.
6	Semi mature woodland with Silver Birch and Goat Willow. One area near the southern end of the depot has a group of Sycamore. Some regenerating Oak and Ash. A ride has been pushed through the area but not cleared up.	Coppice Goat Willow forming small clearances with a light Silver Birch canopy. Favour natural regeneration of Oak and Ash. Finish ride formation using a mulching machine. Once formed mow as for Cpt. 3.
7	Way leave for electricity poles. A Hawthorn Hedge marks boundary.	Maintain hedge by annual trimming allow hedgerow tree to develop at approximately 20 m centres.

5.0 Future Conservation Management

5.1 The Ecological Assessment prepared by Karen Buckley highlights the range of habitats on the site and suggests that future plans for the site ensure that this diversity is maintained. Maintaining grass, woodland edge flora and ponds and depressions are of equal importance.

5.2 With careful management there is scope to considerably improve the diversity of the woodlands. Using a continuous cover management technique of group regeneration the copious oak and ash regeneration can be allowed to develop. Non native ornamental planting and Sycamore will be removed.

6.0 Stakeholder Involvement

6.1 The woodland, although close to the village, has no public access and is not widely accessible or visible other than from a small number of private gardens. The network of rides created through the fringe woodland offer an opportunity for making a new footpath around the site and giving the community a new and

attractive recreational facility.

6.2 The very best way of ensuring the future of the woodland would be to get community involvement in its management. If possible setting up community ownership of part of the area with the aid of organisations such as the Forestry Commission, Woodland Trust or Norfolk Wildlife Trust.

7.0 Grants and Funding

7.1 The area would qualify for grant aid via the Forestry Commissions English Woodland Grant Scheme, in particular the Woodland Planning Grant, Woodland Improvement Grant, Woodland Regeneration Grant and Woodland Management Grant. However funds are limited.

7.2 Other help may be forthcoming from the Green Light Trust, Woodland Trust and Natural England.

7.3 To regenerate this former industrial site into a well managed and sustainable community woodland and wildlife reserve will require substantial funding. Combining this work with sensitive development will offer sufficient funds both to carry out initial works and support ongoing management with a commuted sum.

8.0 Potential for Residential Development

8.1 Retaining woodland and existing vegetation in compartments 1, 2, 3, 5 and 6 would both screen any development and form the basis of a community woodland/wildlife reserve project. Compartment 4 is largely clear of trees other than those around the pond and scattered Oak regeneration, and it would seem that this area would be the most suitable. The Oak regeneration in this area could be retained where appropriate or re-sited with a tree spade. The Hawthorn re-growth in compartment 3 is an important conservation feature. However a section could be removed and still retain substantial edge hawthorn woodland.

8.2 The trees around the pond could be thinned and the open areas seeded to form a centre piece of a development. Roof water from any dwellings could be used to keep up the water level in the pond.

8.3 If the Depot area was to be developed this combined with the central section of the site would form a logical placement of a small development on a former industrial site but within a woodland setting.

8.4 The site plan which forms Appendix 3 shows the possible boundaries of a community woodland/wildlife site and the possible development areas. The potential development area is approximately 2.4 ha (6.1 acres) this represents 42% of the total area. The proposed community woodland area is 3.3 ha (8.1 acres) which is 58% of the area. Also shown is an improved network of paths and two new access points from the village.

9.0 Consequences of Leaving the Area Unmanaged

9.1 If left unmanaged or subject to sporadic unfocused management the range of habitats in the area are likely to decline as the site becomes densely tree covered.

9.2 Un-managed woodland may become subject to unauthorised use, trespass or fly tipping.

9.3 There will be no public access and the recreational potential of the area will remain unrealised.

10.0 Summary and Conclusions

10.1 There is considerable potential to use part of the site as a community woodland and wildlife reserve maintaining and improving the diverse habitats that exist.

10.2 Development of the central part of the area will not impact on any rare or protected species.

10.3 Any development in the central part of the site would be screened from the village and be within its own woodland setting.

10.4 To implement these suggestions will require consultations with all the stakeholders including Norfolk Wildlife Trust. The Frettenham Parish Council, local residents and neighbours, The Local Planning Authority and other local organisations such as Schools. Out of these consultations the views and opinions of these stakeholders will be as far as is practicable incorporated into a detailed management plan for the site to be presented with detailed planning application for the development area. In addition an Arboricultural Implications Assessment will be required for the area to conform to BS 5837:2005 showing how retained tree and woodland will be protected during construction.

10.5 The proposed development of part of the site presents an opportunity to transform this area to the long term benefit of the local wildlife and the community. The proposals are deserving of careful consideration by all parties.

A.T. Coombes 11th June 2007

APPENDIX 1 - SITE PLAN SHOWING COMPARTMENT BOUNDARIES

KEY

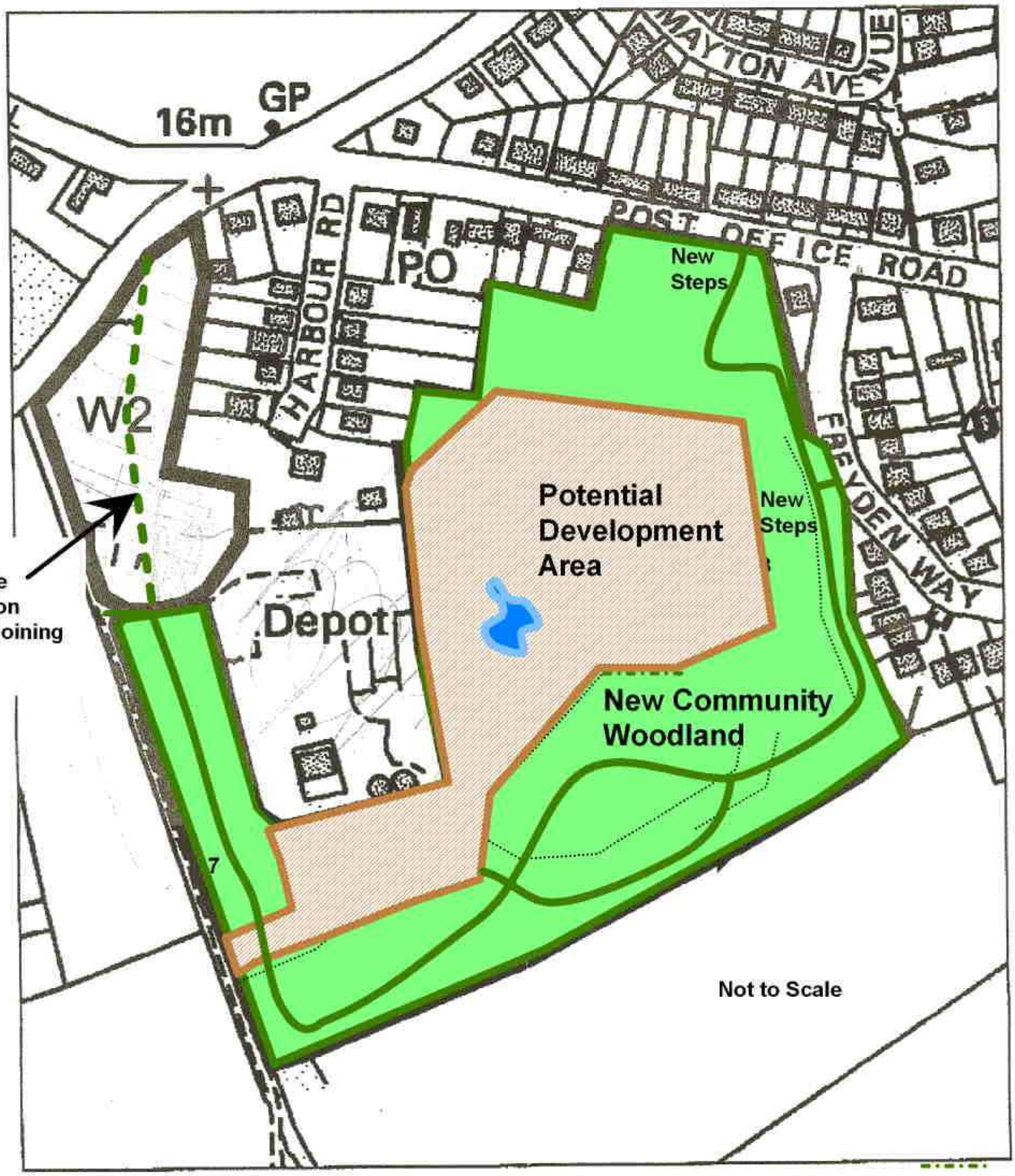
Mainly Woodland

Compartment Boundaries

Mainly Open Ground

Pond

APPENDIX 2 - SITE PLAN SHOWING PROPOSED ZONES AND ACCESS IMPROVEMENTS



APPENDIX 3

ECOLOGICAL ASSESSMENT

Frettenham Old Lime Pit
Norfolk

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FRETTENHAM OLD LIME PIT
NORFOLK
Ecological Assessment
4 June 2007

Contents

FRETTENHAM OLD LIME PIT
NORFOLK

EXECUTIVE SUMMARY

Statutory and non-statutory designations

- The scrub woodland is covered by a Tree Preservation Order (TPO)
- The site is designated a 'County Wildlife Site' by the Norfolk Wildlife Trust

Flora and habitat types

- No plants listed in Schedule 8 of the WCA 1981 were recorded on the site
- Scrub woodland
- Grassland
- Open water
- Disturbed ground
- There is a small patch of Japanese Knotweed, *Reynoutria japonica*, which is a weed species under Schedule 9 part II of the Wildlife and Countryside Act 1981
- The weed Himalayan balsam, *Impatiens glandulifera*, has established in one small area probably from garden waste
- The alien water-weed, *Crassula helmsii*, has been introduced into the pond.

Fauna

- The trees were mostly too small for bat roosts. However it is possible that there are bat roosts in the vicinity and those animals would feed over the study site.
- Badgers were not found occupying the site and no sign was found that they foraged over it.
- No especially sensitive bird species are known to have territories within the study site.
- No reptiles were seen on the site but their status needs to be confirmed
- There is standing water on the site which is used by frogs for breeding

FRETTENHAM OLD LIME PIT
NORFOLK

ECOLOGICAL ASSESSMENT

1. SITE DESCRIPTION

The site is a pit used for the extraction of chalk to be used as lime. It is on a south-facing slope. The site is situated on the southern edge of the small village of Frettenham just north of Norwich. Access is from an un-metalled farm access lane on the southern boundary.

The rock horizon above the chalk is a gravely sand described as Norwich crag.

The pit has walls to the north and east, 3-5metres in height. The topography is very uneven with different levels and deeper areas now filled with water. There are piles of vegetated waste of two types, free draining gravely sand with large flint nodules and chalky clay with impeded drainage. Many areas are an intimate mix of the two types of soil.

The site has had management in the past. Stands of trees have been thinned, footpaths maintained through the scrub, bench seats located at strategic intervals and decorative shrubs and trees planted.

2. METHODOLOGY

The field survey involved walking over the study area to search for species of both plants and animals and to assess the habitat types. This included identifying plant species, looking for signs of animals such as footprints, droppings and burrows. The field survey was conducted on the 4th June 2007

3. STATUTORY AND NON-STATUTORY WILDLIFE DESIGNATIONS

The site forms part of a larger area with a Tree Preservation Order (TPO) put on by Norfolk County Council. It has also been identified as a 'County Wildlife Site' (CWS) by the Norfolk Wildlife Trust. **See Appendix 3.** This is a non-statutory designation but is taken into consideration for planning purposes under the wildlife policies of the County and District structure plans.

The site does not have protection under international legislation such as 'The Habitats Directive' embodied in *The Conservation (Natural Habitats, &c.) Regulations 1994.* No plant or animal was recorded on the site that is identified under the *U K's Biodiversity: Action Plans* or locally under *The Norfolk Biodiversity Action Plan* (BAP). These list species of concern, which do not necessarily have statutory protection at present, but which are regarded as requiring positive management to enhance populations. **See Appendix 4.**

4. FLORA - HABITAT SUMMARY

The walk-over survey has allowed for a broad characterisation of the habitat types found within the study area. The following notes summarise the main habitat types. Plants follow Clapham, Tutin and Moore, 1987. **See Appendix 2 for plant lists.**

4.1 Woodland

All the woodland on the site appears to post-date the active working of the pit. It has developed in more than one phase and covers approximately 60% of the site. There are semi-mature trees of ash, oak and sycamore near the entrance to the site near the SW boundary on what may have

been the original land level. The slope of the hill would have been cut away to the north, the sandy gravel overburden cleared away and dumped to one side and the chalk extracted from the centre. Scrub woodland, dominated by goat willow, developed on the wetter calcareous clay with poor drainage and a mix of bramble, oak, hawthorn, rose and goat willow on the drier, better drained soils. Some of the trees on the northern part (mainly goat willow and ash) are tall, 10-14metres, and there has been local management to thin the trees to give an open woodland.

The goat willows on the southern, central portion are also tall, but thin, due to competition for light, 10-12m high with diameters of 10-30cm. Ivy is dominant on the floor of this damper woodland as well as growing up most of the trees. Hawthorn is local abundant as an understorey shrub. The scrub woodland here is dense, species poor and relatively recent in origin.

The sloping sides to the pit support a wider range of shrubs and trees, probably as a result of seeds being distributed by birds feeding in the gardens at the top or from material dumped as garden waste. On the floor of the pit garden shrubs have been planted to decorate the area.

4.2 Open areas – grassland and bramble

In the centre of the pit, there is open grassland, kept short by rabbit grazing. The grassland is dominated by bird's foot trefoil and other broad-leaved herbs with a scattering of grass species. Footpaths have been cut through the hawthorn and rose scrub to the east of the grassland. These paths are dominated by grass and herbs and are maintained by rabbit grazing.

The grassland is not as diverse botanically as might be expected for a basic site, probably due the surface geology being more acid and there not being the seed bank available to colonise. Nevertheless it has a number of attractive broad-leaved herbs such as bird's-foot trefoil and wild carrot and one spike of common spotted orchid was in flower. The grassland adds to the mix of habitats present and is likely to support its own invertebrate fauna.

The presence of a stand of c. 25 Norway spruce 1-3m high, suggests that someone once tried to create a Christmas tree nursery. In addition, oak trees, purple plum, white beam and cedar have been planted in the grassland.

There is some low bramble, mainly on the piles of gravely overburden east of the central grassland which is used by the rabbits for their holes. The main access track enters from the un-metalled road on the south-western boundary and runs along the western boundary of the site connecting with the open area around the main pond.

4.3 Water bodies

To the west of the central grassland is a deep part of the pit in which surface water collects. It forms is a large pond approximately 9-20m wide and c. 50m long. Water levels fluctuate according to rainfall but on the day of the survey water depths were up to 2m in the centre. The margins had a scattered fringe of water mint plus the alien New Zealand pygmy weed probably introduced from a garden pond. Mosquito larvae were abundant in the water. Much of the pond is overhung with goat willow but the northern end has recently been opened up. A moorhen and a mallard with chicks were noted. A bench seat at the southern end is set in an arc of well-established garden shrubs. When the pit was designated as a County Wildlife Site the pond was dry with annual weeds on the bottom. **See Appendix 3.**

In the north-west corner of the site, a deep, narrow trench has been left unfilled. Two small ponds have developed on the bottom. The larger, c. 8m x 4m, has a dense algal bloom, the smaller, c. 3m x 4m has no alga but has many frog tadpoles. Juvenile frogs were also seen elsewhere in the pit. These two ponds are overhung with trees and are likely to dry out in dry summers. Neither have aquatic vegetation.

4.4 Adjacent areas

The site borders Post Office Road to the north with a steep wooded slope down to the quarry floor. To the east are the rear gardens to houses on Freyden Way which is a fairly new housing development. To the south is a 2-3m bank with a further area of quarry beyond used by a local farmer for storing hay bales. To the south-west is the un-metalled access road with arable fields beyond. To the west is a gas storage depot on part of the old pit floor, with large areas of concrete, small tanks and several sheds. Also to the west are the rear gardens of an older development of bungalows on Harbour Road, above the level of the pit floor.

5 FAUNA

5.1 Mammals - Introduction

Surveys were targeted at those mammal species having statutory protection under the *Wildlife and Countryside Act 1981 (Schedule 5),* those listed in the *U K's Biodiversity: Action Plans* and in national and local Red Data lists. The aim was to use survey techniques to identify the presence or likely occurrence of given species.

5.1.1 Bats

All species of bat and their roots are protected under Section 9 of the *Wildlife and Countryside Act 1981 (Schedule 5)*. Indeed, roosts are protected at all times irrespective of whether bats are present.

No buildings occur on the site, however bats also use holes in trees. Most of the trees present were too young to have the suitable holes or fractures that might support a bat roost. Only an occasional tree hole was noted and there is no significant amount of dead wood or loose bark habitat. However, any bats living in the locality are likely to feed over the area.

5.1.2 Badger

The badger is protected by the *Protection of Badgers Act 1992*. Essentially this prevents actions causing cruelty as it is not rare or threatened with extinction. No signs of badger living on or feeding over the site were seen.

5.2 Amphibians

Frogs occur on site. Tadpoles were abundant in the smallest of the 3 areas of standing water on the site. No sign was found of efts (newt tadpoles) in any of the ponds.

5.3 Reptiles

Reptiles require habitat that offers scrub or bramble cover adjacent to open areas. They utilise holes of small mammals for cover and overwintering. Being cold-blooded they also require basking sites close to cover to enable them to raise their body temperature. No reptiles were seen during the survey. The site is not an optimum one for reptiles however their presence or absence would need to be checked.

5.4 Other animals recorded

Mammals	**Comments**
Grey Squirrel	Single animal close to houses on Post Office Road
Rabbits	Plentiful on site, using mounds of sandy gravel on eastern edge of grassland.
Birds	
Blackbird	Common
Chiff chaff	Singing on north-west boundary

Mallard	Breeding on large pond
Moorhen	On large pond
Robin	Feeding in scrub woodland
Wood pigeon	Common
Insects	
Painted lady	Migrant
Red admiral	Larvae feed mainly on nettle
Large red damselfly	Mating pair on vegetation by smallest water body

6. DISCUSSION

The sandy-gravel overburden appears well-drained and is likely to be fairly acid, as shown by the presence of bracken in places. The chalk waste ameliorates the acidity but has poor drainage. During the working of the pit the waste appears to have been mixed on a haphazard basis giving rise to a mosaic of goat willow and hawthorn/ bramble scrub and grassland. The recent bull-dozing of scrub around the grassland has opened up the edges where the scrub was encroaching on the grassland.

The scrub on the site is at an intermediate stage of development, not yet becoming 'high forest'. Much of it is of recent origin and lacks structure and diversity consisting mainly of goat willow and hawthorn. However, the scrub in the northern portion has undergone management, some of it in the last few months. The scrub has been severely thinned to favour individual trees and allow them to develop without competition. There are scattered oak and ash trees. If the site was left unmanaged for long enough a woodland cover would eventually develop.

Just outside the boundary fence on the southern edge of the site is a 2-3 m high bank. Over a length of approximately 20m, the bank has been colonised by Japanese knotweed. This is a weed under the terms of the Wildlife and Countryside Act Schedule 9 part II. Unfortunately it is beginning to grow through the fence into the site. While it is not illegal for the plant to be left to grow *in situ* it would be illegal to disturb it in such a way as to cause it to grow elsewhere.

The grassland present in the middle of the site is moderately diverse, but it lacks typical chalk grassland species, probably due to the lack of a suitable seed source in the vicinity. Those species that have established would have come from communities established on the neutral to acid gravely sand above the chalk. Common spotted orchid was recorded in the grassland and there is an old record for bee orchid which would have colonised from seed. Orchids often appear on suitable substrates as their seeds are very light and disperse over a wide area. For the grassland habitat to survive active management is needed to keep scrub from encroaching on it.

There is standing water on the site at present, probably as a result of a wet autumn, winter and spring However, it is not a permanent feature. The report on the site produced by the Norfolk Wildlife Trust records the ponds as being dry, with the largest supporting a stand of annual weeds.

As a result of past management there is a series of linking, grassy footpaths through the scrub. Bench seats have been placed at strategic points, one with a rubbish bin. Decorative shrubs and trees have been planted and access points created for at least two houses, one of which maintains a shed and a chicken run on the site. Many of the houses on the boundary, all of which are on the former land level and hence above the level of the pit floor, use the pit for dumping garden waste or for storing items. Clearly the site has been adopted as an amenity by the local community, which appears to regard the pit as its own.

7 RECOMMENDATIONS

The sides of the pit would not be affected by any development proposals. It would be desirable if the mature scrub woodland on the northern part of the site could also be retained, as well as the grassland and the pond sites to form a unit. This unit of land would include all of the habitats currently found on the site and encompass all of the species recorded there. It is also big enough to remain viable as a wildlife site.

The land on the southern boundary of the site, to the south of the pond and the grassland, including that bordering the access road to the west, supports species-poor, scrub woodland, the removal of which would not result in a loss of species or of significant habitat.

If it were possible for the land to the west, currently used as a depot for storing liquid gas, to be included as part of the proposed development site, there would be a definite wildlife gain. The depot area is currently under concrete. If housing replaced the concrete the gardens would form a natural extension to the habitats currently on the pit site. Features could be designed into the plans to create links with the surrounding countryside.

It would seem feasible for a block of habitat, of a size sustainable as a wildlife reserve, to be allocated for recreation/nature conservation. With the co-operation of the parish council and the Norfolk Wildlife Trust this area could continue to be managed for the benefit of both the local inhabitants and the local wildlife. Active management is needed to keep the current balance of habitats. If left entirely un-managed the pit will eventually go to woodland.

8 REFERENCES

Anon 1981 *Wildlife and Countryside Act*

Anon 1991 *Guidelines for the control of Japanese Knotweed.* Welsh Development Agency, Cardiff.

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British Geological Survey 2001 *Solid Geology Map* 4th edition

Clapham, A R, Tutin, T G & Moore, D M (1987) *Flora of the British Isles* 3rd Edition, Cambridge University Press

Norfolk County Council *Norfolk Biodiversity Action Plan* as at 2007

A**PPENDIX 2**

List of plants present Frettenham Old Lime Pit, Norfolk

A = abundant, D = dominant, F = frequent, L = local/locally, O = occasional, R = rare

Scrub woodland

Colloquial name	Scientific name	Frequency
Ash	*Fraxinus excelsior*	O
Blackcurrent	*Ribes nigrum*	R
Bramble	*Rubus fruticosus agg.*	O-LA
Buddleia	*Buddleja davidii*	O
Crack willow	*Salix fragilis*	R
Dog rose	*Rosa canina*	O-LF
Elder	*Sambucus nigra*	F
Cotoneaster	*Cotoneaster* sp	O
Goat willow	*Salix caprea*	D
Gooseberry	*Ribes uva-crispa*	R
Gorse	*Ulex europaeus*	L
Guelder rose	*Viburnum opulus*	R
Hazel	*Corylus avellana*	L
Hawthorn	*Crataegus monogyna*	O-LA
Holly	*Ilex aquifolia*	O
Lilac	*Syringa vulgaris*	R
Norway maple	*Acer platanoides*	R
Oak	*Quercus robur*	O-LF
Silver birch	*Betula pendula*	O-LF
Sycamore	*Acer pseuodoplatanus*	O
Wayfaring tree	*Viburnum lantana*	R
Wild cherry	*Prunus avium*	R

Ground flora to woodland

Bracken	*Pteridium aquilinum*	LF
Common spotted orchid	*Dactylorchis fuchsii*	R
Foetid iris	*Iris foetidissima*	R
Garlic mustard	*Alliaria petiolata*	LF
Ground ivy	*Glelchoma hederacea*	LA
Herb bennet	*Geum urbanum*	O
Herb robert	*Geranium robertianum*	O
Himalayan Balsam	*Impatiens glandulifera*	L
Ivy	*Hedera helix*	LD
Male fern	*Dryopteris filix-mas*	O
Stinging nettle	*Urtica dioica*	O-LA
Sweet violet	*Viola odorata*	LA
Tutsan	*Hypericum androsaemum*	R

Planted species

Cedar	*Cedrus sp.*	R
Cherry laurel	*Prunus laurocerasus*	L
Escallonia	*Escallonia macrantha*	L
Norway spruce	*Picea abiesi* x 25	L
Photinia	*Photinia x fraseri*	L
Purple cherry plum	*Prunus cerasifera*	R
White beam	*Sorbus sp.*	R

Grassland

Colloquial name	Scientific name	Frequency
Cock's-foot	*Dactylis glomerata*	LF
Common bent-grass	*Agrostis capillaris*	LF
Red fescue	*Festuca rubra*	LA
Rough meadow-grass	*Poa trivialis*	LF
Hard rush	*Juncus inflexus*	LF
Yorkshire fog	*Holcus lanatus*	F
Carnation sedge	*Carex flacca*	O
Field woodrush	*Luzula campestris*	O
Bird's-foot trefoil	*Lotus corniculatus*	A
Broad-leaved dock	*Rumex obtusifolius*	O
Common spotted orchid	*Dactylorchis fuchsii*	R
Creeping buttercup	*Ranunculus repens*	LF
Creeping thistle	*Cirsium arvense*	O
Daisy	*Bellis perennis*	O-LF
Dandelion	*Taraxacum officinale*	O
Mouse-ear chickweed	*Cerastium fontanum*	O
Mouse-ear hawkweed	*Hieracium pilosella*	LA
Ragwort	*Senecio jacobaea*	O
Ribwort plantain	*Plantago lanceolata*	A
Selfheal	*Prunella vulgaris*	O-LA
Spear thistle	*Cirsium vulgare*	O
Square-stemmed St John's-wort	*Hypericum perforatum*	O

Disturbed ground

Aarons rod	*Verbascum thapsus*	R
Black medick	*Medicago lupulina*	O
Bracken	*Pteridium aquilinum*	LF
Burdock	*Arctium minus*	O
Cleavers	*Galium aparine*	O-LA
Common centaury	*Centaurium erythraea*	O
Common sowthistle	*Sonchus oleraceus*	O
Common vetch	*Vicia sativa*	O
Cow parsley	*Anthriscus sylvestris*	LF
Creeping buttercup	*Ranunculus repens*	LF
Creeping thistle	*Cirsium arvense*	O
Cut-leaved cranesbill	*Geranium dissectum*	O
Daffodil	*Narcissus* sp.	O
False oat-grass	*Arrhenatherum elatius*	O
Field forget-me-not	*Myosotis arvensis*	O
Field horsetail	*Equisetum arvense*	LF
Foxglove	*Digitalis purpurea*	R
Greater plantain	*Plantago major*	O
Greater willowherb	*Epilobium hirsutum*	O
Hemlock	*Conium maculatum*	LF
Japanese knotweed	*Reynoutria japonica*	L
Lesser trefoil	*Trifolium dubium*	O
Ox-eye daisy	*Leucanthemum vulgaris*	R
Ragwort	*Senecio jacobaea*	O
Rosebay willowherb	*Chamaenerion angustifolium*	LF
Rough hawkbit	*Leontodon hispidus*	F

Swine cress	*Coronopus squatamus*	R
Wall speedwell	*Veronica arvensis*	LF
White campion	*Silene alba*	O
Wild carrot	*Daucus carota*	LF

Large Pond

New Zealand pygmy weed	*Crassula helmsii*	F
Water mint	*Mentha aquatica*	F

Appendix 4

Biodiversity Action Plan for Norfolk June 2007

Habitats and species encouraged within the county

Habitats

Ancient and/or species-rich hedgerows
Aquifer-fed naturally fluctuating water-bodies
Built-up areas and urban green space
Cereal field margins
Chalk rivers
Churchyards and cemeteries
Coastal and floodplain grazing marsh
Coastal sand dunes
Eutrophic standing water
Fens
Littoral and sub-littoral chalk
Lowland calcareous grassland
Lowland heathland and dry acid grassland
Lowland meadows and pastures
Lowland mixed deciduous woodland
Lowland wood-pasture and parkland
Maritime cliff and slopes
Mesotrophic lakes
Reed beds
Saline lagoons
Sea-grass beds
Traditional orchards
Wet woodland

Biodiversity Action Plan for Norfolk - Species

Beetles

Ophonus lalticollis
Harpalus froelichii

Plants

Fen orchid
Floating water-plantain
Greater water parsnip
Holly-leaved naiad
Native black poplar
Pill wort
Red-tipped cudweed
Ribbon-leaved water-plantain
Small-flowered catchfly
Tassel stonewort
Tower mustard

Nail fungus
Starry breck-lichen
Orange-fruited elm-lichen

Liverwort

Norfolk flapwort *Leiocolea vintheana*

Mammals

Bat species
Brown hare
Otter
Water vole

Birds

Bittern
Corn bunting
Grey partridge
Night jar
Skylark
Spotted flycatcher
Stone curlew
Tree sparrow
Turtledove
Woodlark

Amphibians

Great crested newt

Butterflies

Silver studded blue

Crustacean

White clawed crayfish

Molluscs

Depressed river mussel
Desmoulin's whorl snail
Little whirl-pool ram's-horn snail
Narrow-mouth whorl snail
Shining ram's-horn snail

Starlet sea anemone

Appendix 5

Treatment and disposal of Japanese knotweed

Under the Wildlife and Countryside Act, 1981, a number of alien plant species are listed in Schedule 9 Part II. These are species which have become naturalised in Britain, usually as garden escapes. However, they are invasive or dangerous (to humans) and Section 14 (2) of the Act states that an offence is committed *"if any person plants or otherwise causes to grow in the wild any plant* in Schedule 9.

Therefore, as a land owner, if there is an established clone (patch) of such a plant, *eg*. Japanese knotweed, it is not an offence to own it or to ignore it. However, the potential offence concerns doing anything to the area in which the plant grows which could cause the plant to be spread and grow into a new area. It is incumbent on a landowner to ensure that any actions of land management or development do not result in the plant being spread either within the existing site or elsewhere. Any soil or material contaminated with knotweed is regarded as waste under Environmental Protection (Duty of Care) Regulation 1991. Only a few landfill sites have licences to take material which includes Japanese knotweed.

The Secretary of State may authorise inspection of land to detemine whether an offence has been committed. A plant found growing in a cleared developed site could be interpreted as evidence suggesting an offence has been committed.

Treatment of Japanese knotweed prior to development

The plant does not normally set seed in this country but the rhizome (root stock) readily fractures and small pea-sized subterranean buds break off and can rapidly form new clones. These buds can be carried in treads of wellingtons, vehicle tyres or attached to excavator buckets or tracks. We have recorded finding roots, exceptionally, down to 13.3m depth, although in most substrates about 2metres depth is usual. Roots generally pass through well drained materials and form matts when clay or water-logged strata are reached.

There are two principle options for dealing with the plant killing *in situ* or mechanical removal an both have advantages and problems.

1. Killing *in situ*

This is the least costly option and depends on the use of chemical herbicides. Glyphosate is registered as the most effective chemical for use against this plant. This is a systemic herbicide**,** translocated from the leaves throughout the plant. For clones of established knotweed, a rapid kill is unlikely. The plant should be sprayed in mid May when it has grown up to 1.5m high. After about 6-8 weeks, cut and remove the stems and wait for re-growth. When new growth reaches about one metre high, respray. Remove stems in winter about 100mm above ground level and wait until the following May when any re-growth can again be treated. The plant is very persistent and three to four years treatment may be necessary to ensure a complete kill has been achieved. Throughout this time the areas should be fenced to prevent inadvertent mechanical spread.

2. *Mechanical removal*

Careful excavation of the material is practical but costly because of the need to transport material stringent conditions and to tip into a hole which is to have 15m or more of overburden (Welsh Development Agency instruction 1998). However, this method does have the advantage of clearing a site quickly. Great care is needed when digging the soil with roots so that fragments are not dropped or left adhering to a machine. Also a suitable expert is needed to supervise the excavation so that knotweed roots can be identified (due to possible confusion with other plants growing in the area) and the rooting depth and spread can be precisely determined. Approximately 300m extra will need to be taken out below the lowest roots found by inspection and 500-1000mm laterally so as to be certain all plant material has been removed. Because of the high costs involved in digging, transporting and dumping this contaminating material, it is best to use a skilled excavator driver so that a minimum of soil/plant needs to be removed. Deposition on site is often the cheapest option but a licence will be needed from the local authority to permit a deep excavation and the depositing of material.