

Ecological Planning & Research

Our Ref: P10/03-1A

16 February 2010

Mr Ivon Blumer
Ivon Blumer Architects
41 West Drive
Aldwick Bay
West Sussex
PO21 4LZ

Dear Mr Blumer,

Lillies Caravan Park, Barnham, West Sussex

As instructed, I visited the above site and its immediate surroundings on 5 February to identify any potential ecological opportunities and constraints on this proposal. The proposed development site is located on the southern edge of Barnham Village, in West Sussex in a landscape mainly used for arable farming and market gardening, interspersed with villages along the road network – **Map 1**.

The development site comprises of an area of land used as a caravan site that also contains larger mobile homes and holiday lodges. It is surrounded by land used for market gardening on all sides and the land to the west of the site has been allocated as a proposed West Sussex County Council Housing Site of 100 units. The southern edge is bordered by a presumed drainage ditch.

I understand that the proposed development at the above site will entail the construction of 36 residential dwellings, as detailed within the site plan – **Map 2**.

The footprint of the proposed development is not expected to extend beyond the existing site boundary, but it is important to assess the extent of any ecological impacts that may result in biophysical changes to habitats and species which may be present or supported both within the site and beyond. Therefore the zone of influence needs to be identified. As part of the initial desktop assessment several areas have been identified that may be impacted upon as a result of the proposed development, if appropriate mitigation is not in place:

- Watercourses and ditches adjacent to the site may be vulnerable to ecological impacts arising from contaminants reaching the watercourse/ditch during the preparation and construction phases of the development.
- Alteration of the drainage regime of the site will change due to the proposed development and may lead to excess surface water.



- Adjacent hedgerows are vulnerable to ecological impacts arising from increased lighting causing disturbance to wildlife within the site during the construction and operational phases of the development. In addition construction activities can result in disturbance to tree roots through excavations and compaction of surrounding soils.
- Removal of vegetation and buildings that may support protected species resulting in loss of habitat disturbance or injury.

Taking the above into account therefore identifies the zone of influence of the proposals as being the site itself and the adjacent ditch to the south of the site. The zone of influence may change as the project progresses, as a result of the scheme design and introduction of appropriate mitigation.

A biological data search was commissioned from the Sussex Biodiversity Record Centre (SxBRC) concerning designated sites and records of protected and valued species within the area.

Map 1 shows the distribution of protected sites and features in relation to the development site within 2km and 5km to put the site in context with the surrounding area. There are several SNCIs within the 2-5km buffer located to the north and south of the site. Due to the scale of the proposed development and the distance from the protected sites, the potential recreational pressures upon the SNCIs are thought to be minimal, as residents would need to travel to the sites by car in this semi-rural location.

The habitats and features recorded on the site and in the immediate vicinity are shown on **Map 3**.

Buildings

The permanent structures on site consist of the holiday lodges, utility buildings, wooden clad stables and the main house located at the site entrance. The latter two buildings contain features that have the potential to provide roosting spaces for bats, although the main house is not to be incorporated into the proposed scheme design.

The utility buildings consist of a laundry, shower block, toilets and garage. All of these buildings are single-storey and are of breeze block construction, with flat or slightly sloping corrugated plastic roofing. Due to this it is not thought that these buildings have the potential to support protected species.

Habitats

Hedgerows and Trees

The site is surrounded on three sides by an ornamental hedge mainly composed of Garden Privet *Ligustrum ovalifolium*, interspersed with areas of Ivy *Hedera helix*, Hawthorn *Crataegus monogyna*, Dog Rose *Rosa canina* and Bramble *Rubus fruticosus* agg. Several trees occur within the hedgerow particularly in the south east corner of the site and along the southern edge. The group of trees in the south eastern corner consist of two semi-mature Ash *Fraxinus excelsior* trees as well as a mature Cypress *Cupressus* sp – **Photo 5**. The two trees located within the ditch on the southern boundary are two semi-mature Goat Willows *Salix caprea* – **Photo 6**.

The hedgerow has deteriorated in the north western corner of the site and is dilapidated in parts.

Desktop research looking at historical maps has shown that the hedgerow is likely to originate from the early to mid 20th Century, when the original large field was divided into smaller parcels of land. Evidence of this was found on the OS maps of 1938 and 1951 (Old Maps 2010).

As a hedgerow is detailed in the proposed site plan, I presume that this is the existing hedgerow. As the hedge contains mostly Garden Privet the retention of this hedge would be of benefit to wildlife in the locality. The fruit of Privet is of great benefit to birds providing an important seasonal food source for thrushes. Its leaves are also the food plant for the larvae of the Privet Hawkmoth *Sphinx ligustri*. Therefore I would recommend some additional planting in the north western corner where the hedgerow has deteriorated significantly. Such planting should include similar species and additional planting should be positively encouraged and would be considered a biodiversity gain, as well as reinforcing an existing boundary line.

The semi-mature and mature trees occurring within the hedgerow should be retained, particularly the two Goat Willows occurring on the southern boundary. This species of tree is important in ecological terms and serves as a food plant for the larval or adult stages of a large number of insects. It is particularly noted for the number of species of Lepidoptera that are associated with it.

Further consideration should be given to the protection of the hedge and trees contained within, during the preparation and construction phases and once the development is completed. Construction activities taking place near to the hedgerow may result in disturbance to tree roots through excavations and also as a result of soil compaction. Therefore it is recommended that a protection zone is implemented for the length of the hedgerow during the preparation and construction phases of the development.

As the hedgerow will be at the end of the rear gardens of some of the proposed properties, it is advisable to incorporate a fence within these areas to discourage the disposal of household refuse and vegetative waste over such a boundary.

Southern Boundary Ditch

A ditch is located adjacent to the southern boundary of the site and at the time of survey there was no water within it – **Map 3**. According to aerial images the ditch seems to run along the southern boundary of adjoining properties eventually stopping to the west. In the eastern direction the ditch extends towards Hill Lane where it seems to run parallel with this road.

If water flow does occur within the ditch it is likely to fluctuate throughout the year dependant upon weather conditions and the associated surface run-off from adjoining fields and properties. The biodiversity interest of the ditch was considered to be low at time of survey due to the lack of water, level of vegetation growth and refuse within it.

As a precaution care should be taken to avoid pollution of the ditch. Such pollution can occur from oil and other contaminants used during the construction phase. Risks can be avoided by using appropriate storage methods for materials, substances and equipment on site and

implementing a protection zone along the length of the hedgerow on the eastern boundary to avoid contaminants coming into contact with the ditch and associated habitats.

The surface water drainage occurring on the site is unlikely to change considerably due to the design and structure of the proposed development, therefore impacts upon the ditch from this source are likely to be low in the operational phase of the development.

Species

Data Search

From the data supplied by SxBRC it was determined that species records of Slow Worm *Anguis fragilis*, Adder *Vipera berus*, Common (Viviparous) Lizard *Zootoca vivipara* and Grass Snake *Natrix natrix* occurred within 1km of the proposed development site – **Map 4**. As well as these species there have also been records of three bat species within 1km of the site.

Reptiles

The area of ruderal and waste vegetation adjacent to the rear of one of the holiday lodges does have the potential to provide a suitable habitat for common and widespread species of reptiles, such as Slow Worm and Common Lizard – **Photo 7**. Additional habitat is also located in the centre of the site in an area of ornamental planting – **Photo 4**. These reptile species are protected from harm under the *Wildlife and Countryside Act*, 1981, as amended.

The advice for Planning Authorities at paragraph 99 of Government Circular *Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System* is that they must establish the presence of such protected species, and the extent that they may be affected by proposed development, before planning permission is granted.

In the case of this site, due to the very small area of potentially suitable reptile habitat and the relative isolation of the central patch of habitat it is likely that the numbers of any reptiles that might be present would be low. Therefore, I recommend that rather than undertake a full reptile survey, both of these areas are thoroughly searched by a suitably experienced ecologist immediately prior to and during the site clearance stage. Any reptiles found will be re-located into suitably retained habitat within the site boundary.

The suggested area of retained habitat is indicated in **Map 5**. This area should be fenced off prior to the site preparation phase and left to establish a deeper grass sward adjacent to the hedgerow, this in turn will provide a more suitable habitat for any reptiles that may be found during the site clearance stage. Once the development of the site is completed this area should be incorporated as part of the area of public open space and managed to maintain its value for reptiles. This enhancement would also be considered a biodiversity gain in maintaining and providing additional habitat for reptiles, as they are known to occur in the area.

Bats

Three bat species have been recorded within 1km of the site, these being a Long-eared bat species *Plecotus sp.*, Serotine *Eptesicus serotinus* and Common Pipistrelle *Pipistrellus pipistrellus*. Bat species within the area are likely to forage and commute along the remnant

hedgerows scattered across the surrounding landscape and will roost in suitable buildings and trees.

The main house (**Photos 1a** and **1b**) and wooden clad stables (**Photos 2** and **3**) all contain features that have the potential to provide roosting spaces for bats. Such features are cracks and crevices located under roof tiles, soffit boards and cladding.

Although the main house is not to be incorporated into the proposed scheme design, due to containing the features described above and its proximity to the development site an assessment will still need to be completed to assess potential for any impacts on the roost from lighting or interruption of commuting routes and foraging habitat used by significant numbers of bats.

All UK bat species (and their roost sites) are protected by law, listed on Schedule 5 of the Wildlife and Countryside Act, 1981, and subject to provisions of Section 9, and are also included in the Conservation (Natural Habitats &c.) Regulations, 1994, making it an offence to capture or kill a bat, disturb a bat whilst in a place of shelter or rest; or damage or destroy a bat's breeding site or resting place.

It is recommended that a preliminary survey is completed to assess the level of bat potential that these buildings may contain. The best way to proceed will be to conduct an external and (if possible) internal inspection of the buildings in order to search for direct evidence of bats, access and roost potential. This will allow us to provide advice on any potential issues that may have legal or planning implications, and to recommend any further activity surveys that may be necessary. To do this effectively we would need access to any roof spaces and voids within the buildings that can be safely entered.

If evidence of, or potential for bats in the buildings are discovered, it may be necessary to conduct a further two or more evening emergence and dawn re-entry surveys in accordance with current best practice guidelines. Although the initial building inspections can be conducted at any time of year, dusk or dawn surveys must be undertaken during the summer months when bats are active, ideally between May and August. However, the need for such surveys will be dependant upon the findings of the initial assessment.

Should evidence of bats be found within the wooden clad stables, it would be necessary to obtain a European Protected Species (EPS) Licence from Natural England before any works can commence.

Summary

In my preliminary appraisal of the likely impacts arising from the proposed development, I have identified the following areas for further investigation or action.

Feature	Action	Timing
Hedgerow	Implementation of protection zone	Construction phase of development
	Retain and supplement with additional planting	-
Southern boundary	Protection zone implemented	During construction phase of

drainage ditch	to avoid contamination of ditch Appropriate storage of materials, substances and equipment	development
Reptiles	Retention and enhancement of appropriate habitat Ecologist to supervise destructive search of small areas of potential reptile habitat	To be enhanced prior to site clearance stage and maintained during construction and operational phases of development Site clearance stage and between April to September
Bats	Internal and external building inspections (potentially follow up activity/emergence survey)	Anytime of year

I trust that the above is clear and do please call me if you have any queries.

Kind regards

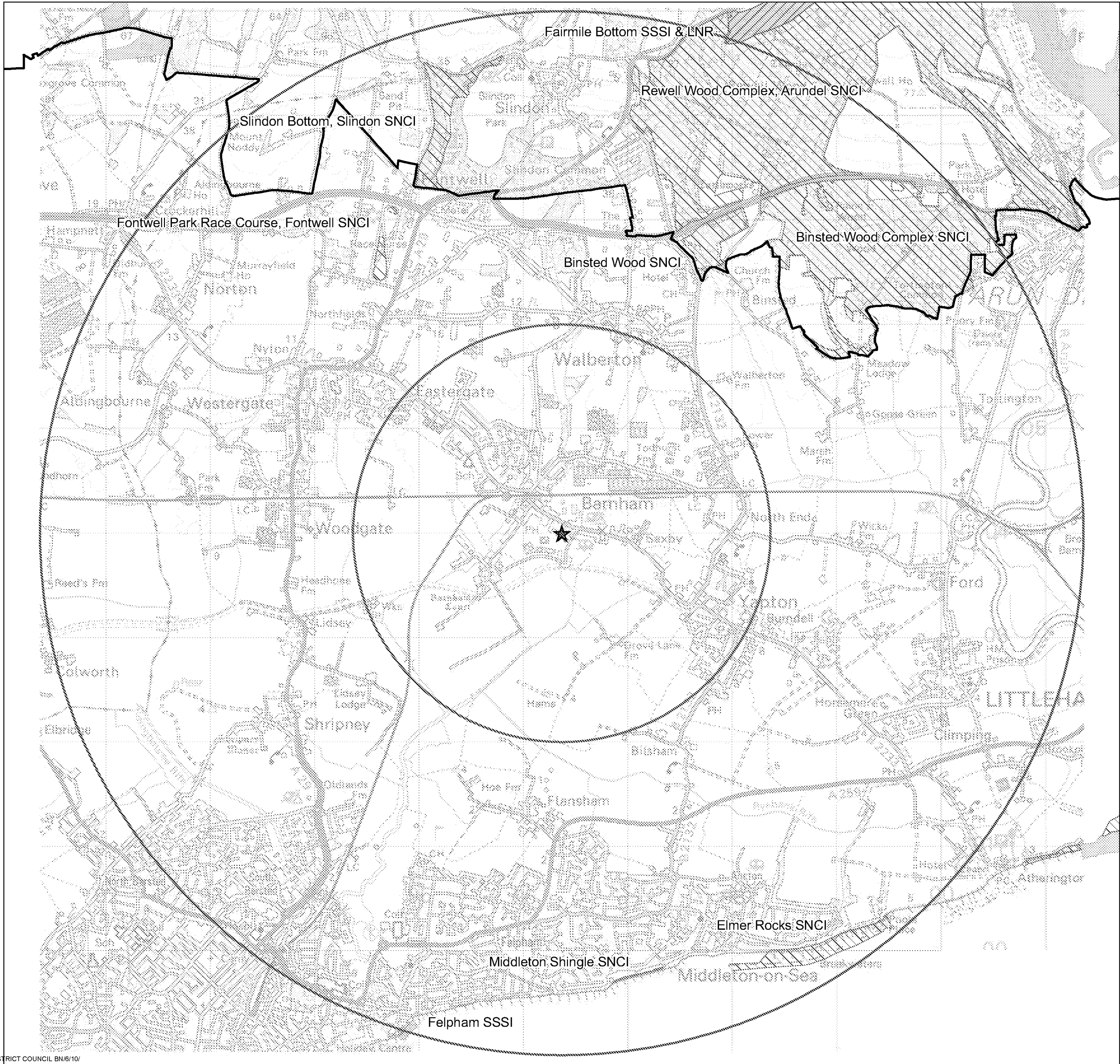
Yours sincerely,

Report Approved for Issue by:



Sarah Morrish BSc AIEEM
Ecologist and Biodiversity Information Officer
Graphics Illustrator

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Senior Consultant

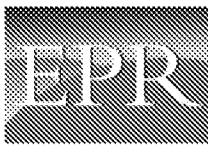


MAP 1 Site Location & Nature Conservation Designations

- KEY
- ★ Site location
 - 2km buffer
 - 5km buffer
 - The South Downs National Park
 - Site of Special Scientific Interest (SSSI)
 - Local Nature Reserve (LNR)
 - Site of Nature Conservation Importance (SNCI)

SCALE: 1:36,000 at A3

0 500 1,000 1,500 2,000 Metres



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CLIENT: Mr Hartrick

PROJECT: Lilies Caravan Park

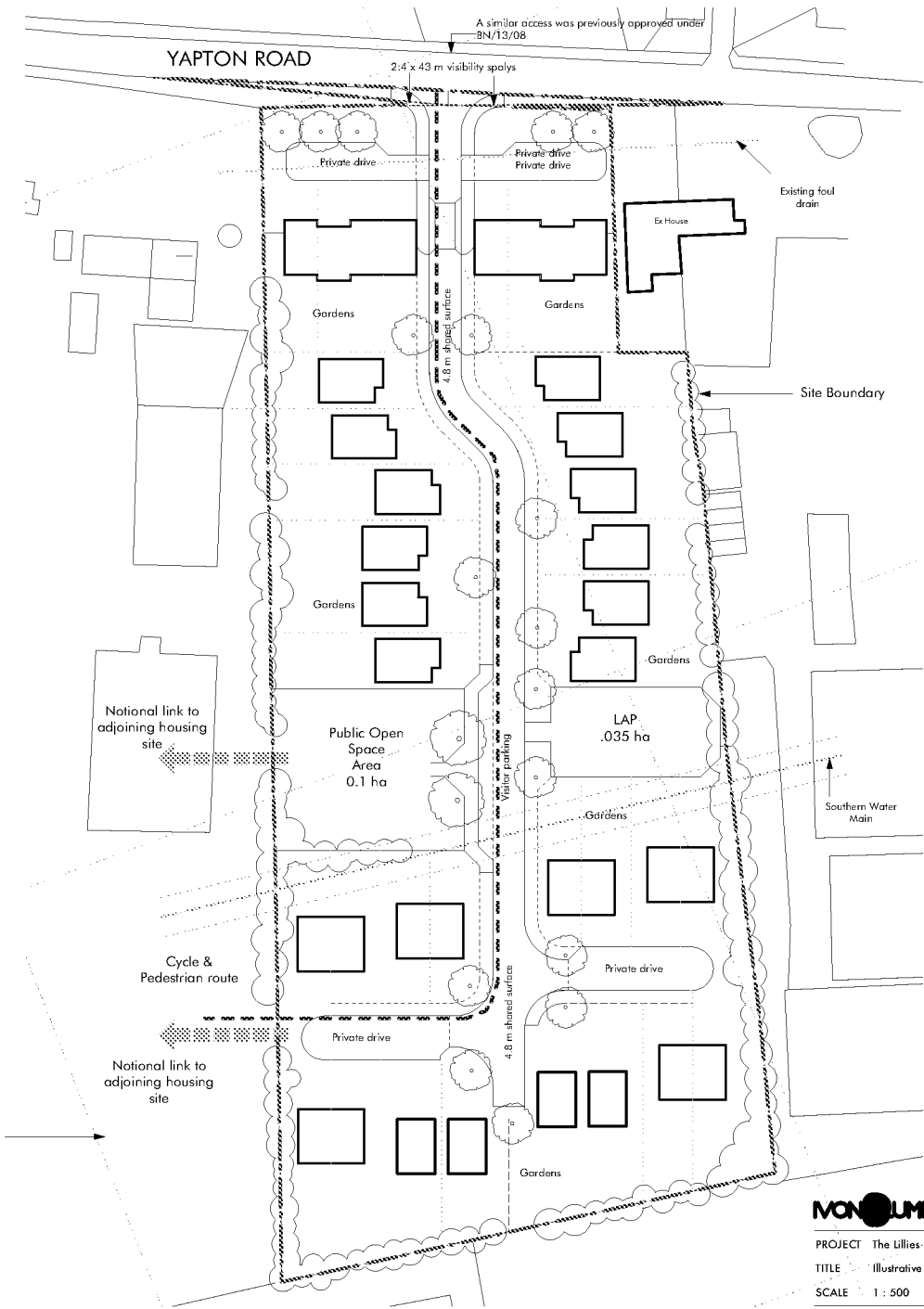
DATE: February 2010

ILLUSTRATIVE SITE LAYOUT

ACCOMMODATION SCHEDULE

Houses
36 two, three and four bedroom 2/2.5 storey detached, semi-detached and terraced houses
Upto 40% Affordable housing
Parking up to a maximum of 100 maximum
Site Area 1.16 ha, overall density 31/ha

Approximate position of proposed houses for illustrative purpose only





PROJECT The Lillies
TITLE Illustrative Site Layout
SCALE 1 : 500

DATE 26/01/10
DRG NO IBA/315/04
REVISIONS -



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MAP 2 Proposed Site Plan



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CLIENT: Mr Hartrick

PROJECT: Lillies Caravan Park

DATE: February 2010

P10/03-1A

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Photo 9



Photo 8



Photo 7



Photo 6



Photo 5



Photo 1a and 1b

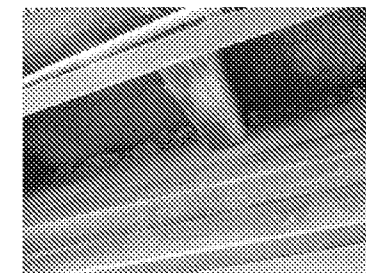


Photo 2



Photo 3

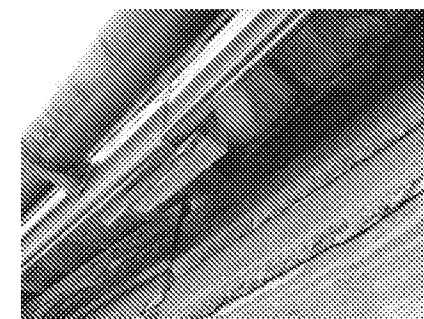
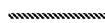


Photo 4

MAP 3 Habitats and Features

KEY

-  Survey area boundary
-  Hardstanding and gravel
-  Permanent buildings
-  Mobile homes
-  Rough ground
-  Ornamental planting / Leylandii
-  Amenity grassland
-  Hedgerow
-  Individual trees
-  Potentially suitable reptile habitat
-  Ditch (dry at time of survey)



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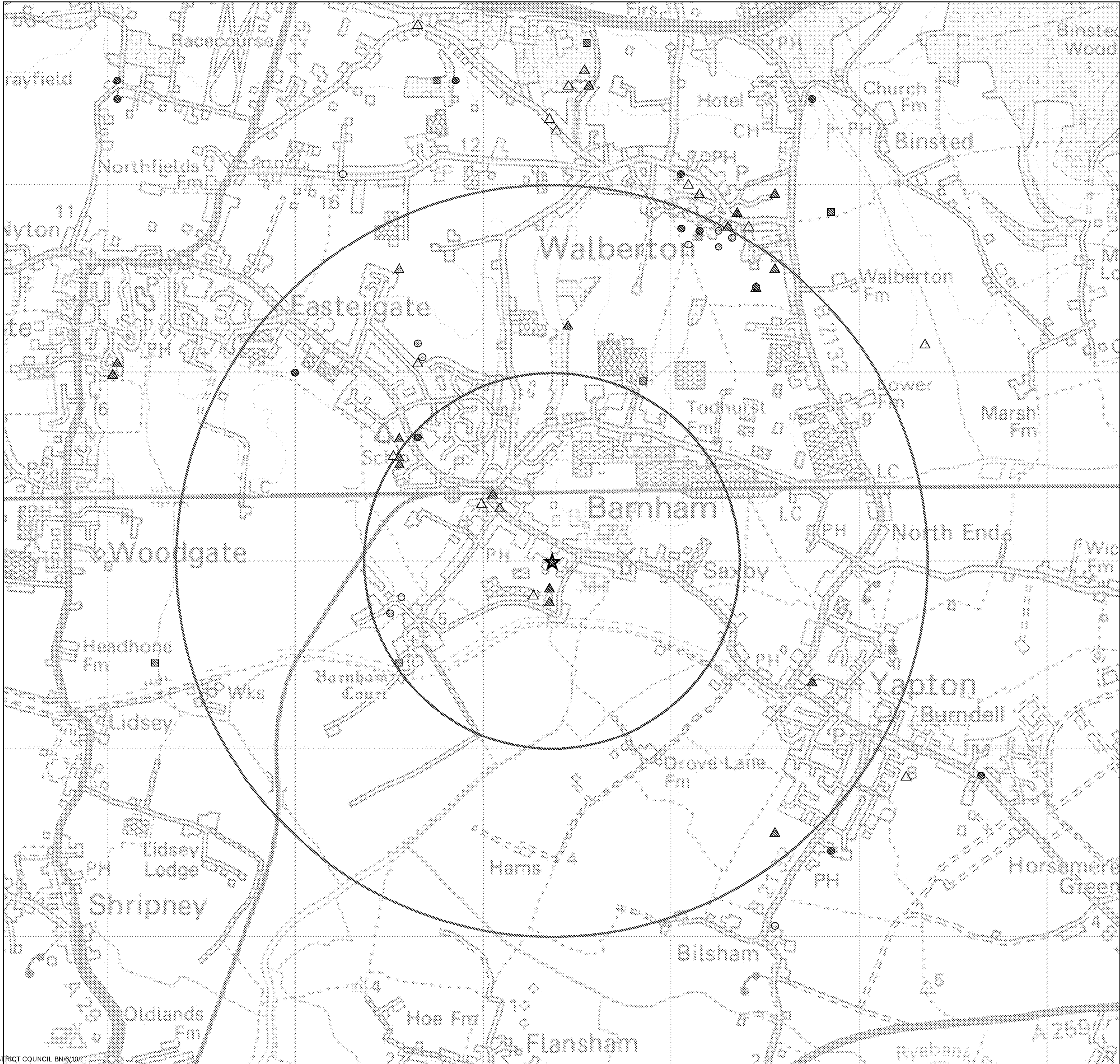
PROJECT: Lillies Caravan Park

DATE: February 2010

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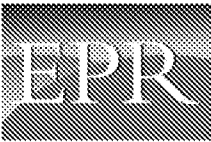


MAP 4 Protected Species Records

- KEY
- ★ Site location
 - 1km buffer
 - 2km buffer
 - ▲ Adder
 - △ Common Lizard
 - △ Slow-worm
 - ▲ Grass Snake
 - ▲ Great Crested Newt
 - European Water Vole
 - Hazel Dormouse
 - Common pipistrelle
 - ⊙ Pipstrelle species
 - Brown Long-eared bat
 - ⊙ Long-eared bat species
 - ⊙ Serotine
 - Unidentified Myotis species
 - Unidentified bat species

SCALE: 1:20,000 at A3

0 200 400 600 800 1,000 Metres



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© Project Data/Lilies Caravan Park/GIS/Map4_ProtectedSpecies_P1003-1A_090210

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ILLUSTRATIVE SITE LAYOUT

ACCOMMODATION SCHEDULE

Houses

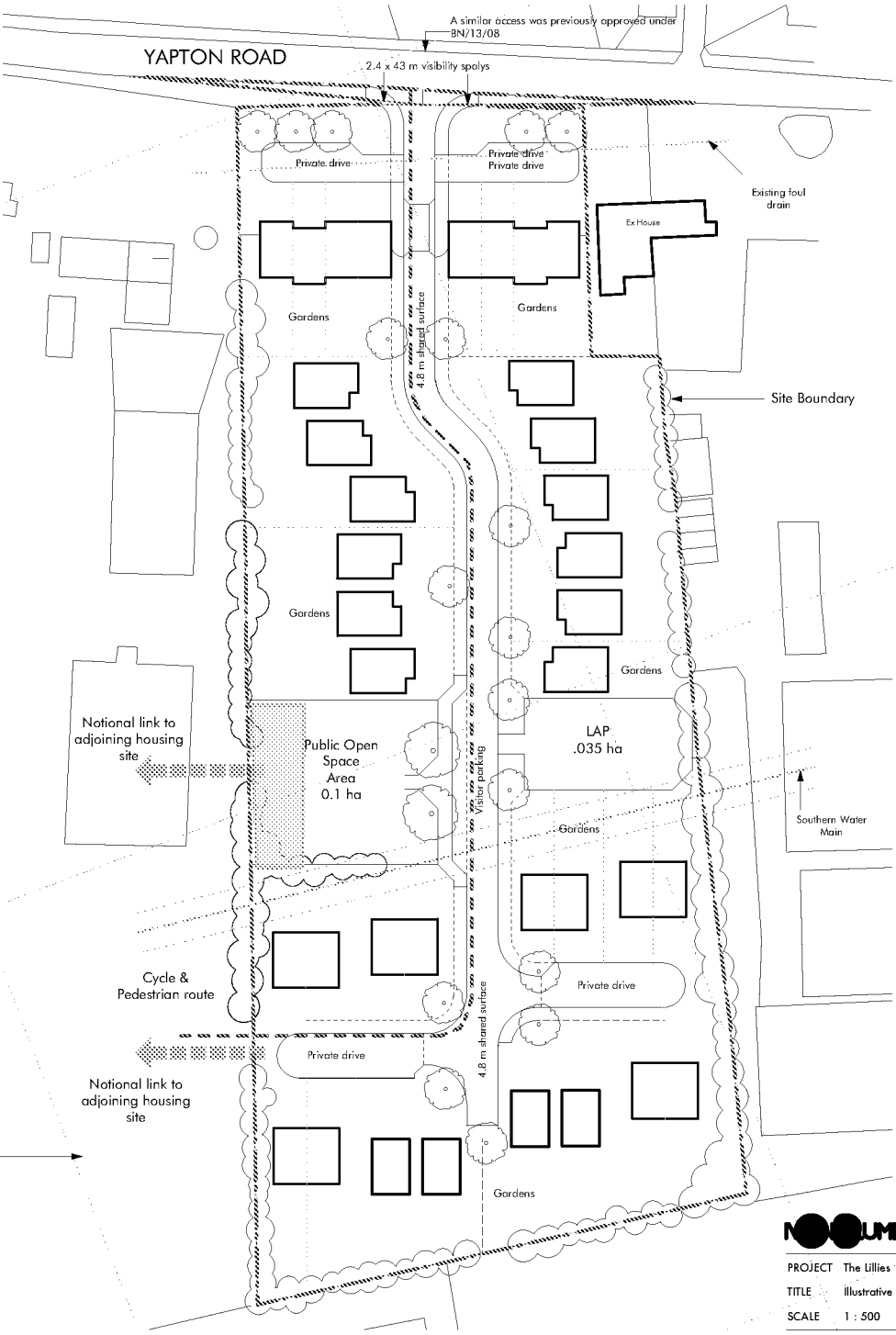
36 two, three and four bedroom 2/2.5 storey detached, semi-detached and terraced houses

Upto 40% Affordable housing

Parking up to a maximum of 100 maximum

Site Area 1.16 ha, overall density 31/ha

Approximate position of proposed houses for illustrative purpose only



Proposed adjoining West Sussex County Council Housing Site - 100 units. See Location Plan



PROJECT The Lillies
TITLE Illustrative Site Layout
SCALE 1 : 500
DATE 26/01/10
DRG NO IBA/315/04
REVISIONS -



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MAP 5 Suggested Habitat Retention for Reptiles

KEY

Habitat to be enhanced and retained during all phases of development



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